

JAPAN INTERNATIONAL COOPERATION AGENCY

REPUBLIC OF INDONESIA
MINISTRY OF HEALTH

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT
FOR
THE IMPROVEMENT OF
MEDICAL EQUIPMENT
AT
PERSAHABATAN HOSPITAL
IN
THE REPUBLIC OF INDONESIA**

MARCH, 1985

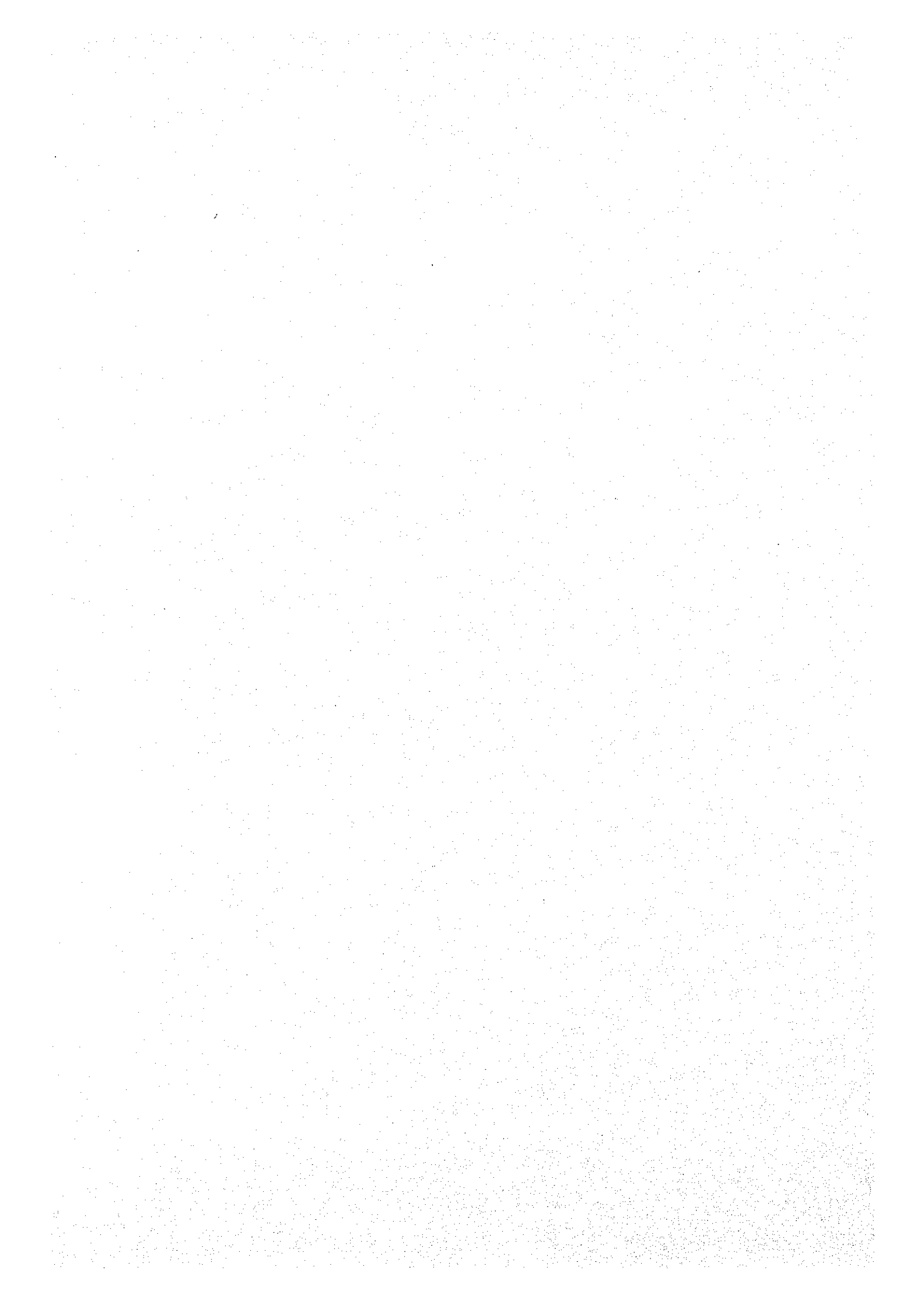
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PREFACE

In response to a request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct a basic design study on the Project for the Improvement of Medical Equipment at Persahabatan Hospital and entrusted the study to the Japan International Cooperation Agency (JICA).

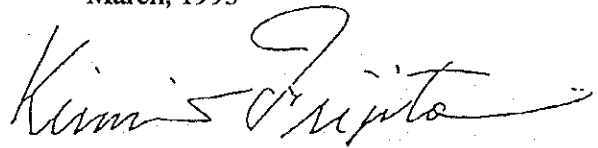
JICA sent to Indonesia a study team headed by Dr. Masayuki Hojo, the Bureau of International Cooperation, International Medical Center of Japan, Ministry of Health and constituted by members of International Techno Center Co., Ltd., from September 25 to October 15, 1994.

The team held discussions with the officials concerned of the Government of Indonesia, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Indonesia in order to discuss a draft report, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Indonesia for their close cooperation extended to the teams.

March, 1995



Kimio Fujita

President

Japan International Cooperation Agency

March, 1995

Mr. Kimio Fujita
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

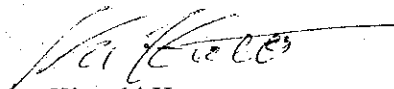
We are pleased to submit to you the basic design report on the Project for the Improvement of Medical Equipment at Persahabatan Hospital in the Republic of Indonesia.

This study was conducted by International Techno Center Co., Ltd., under a contract to JICA, during the period of September 1, 1994 to March 24, 1995. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Indonesia and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, the Ministry of Foreign Affairs and the Ministry of Health and Welfare. We would also like to express our gratitude to the officials concerned of the Ministry of Health of the Republic of Indonesia, the JICA Indonesia office and the Embassy of Japan in Indonesia for their cooperation and assistance throughout our field survey.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,



Kiyoshi Kato

Project manager,

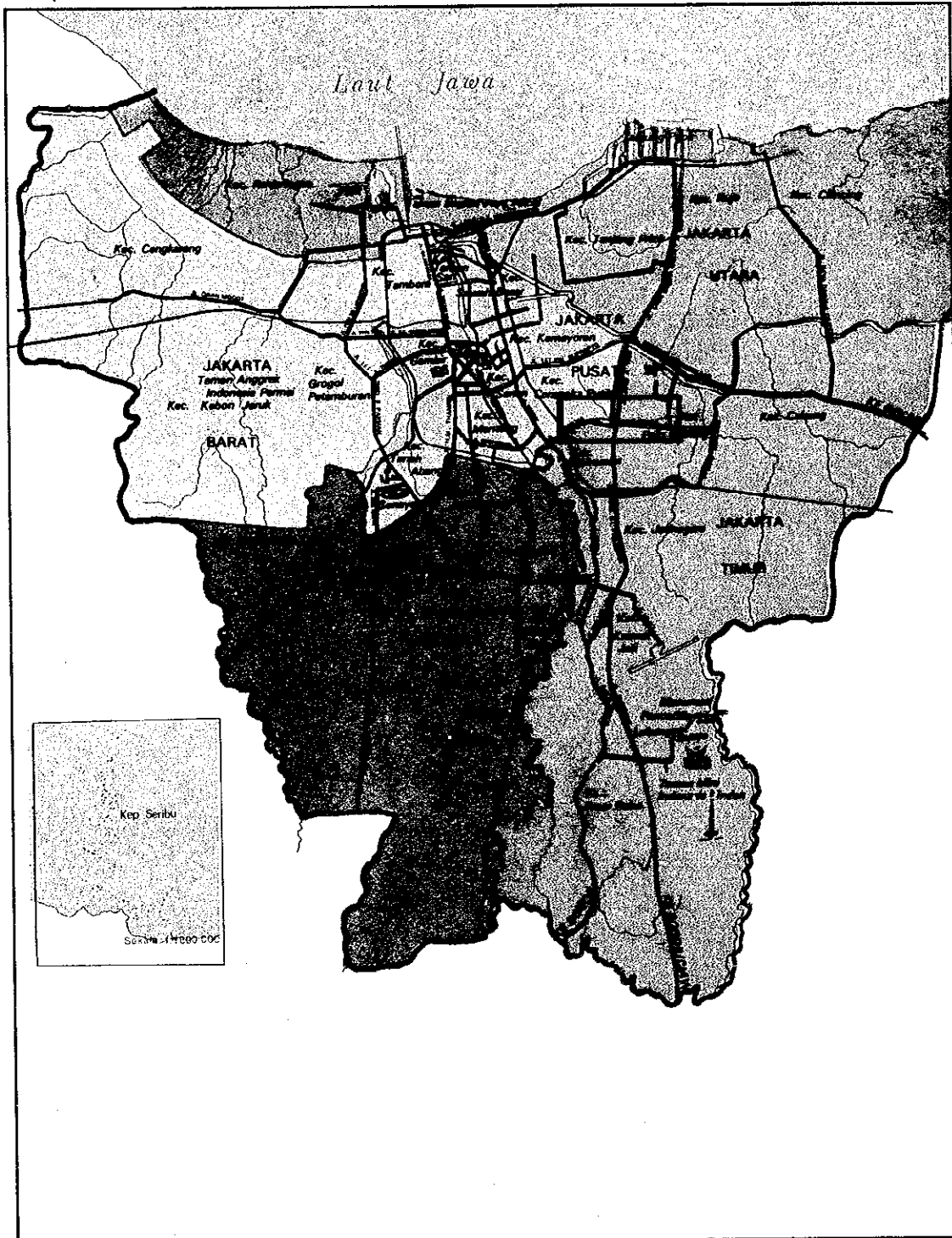
Basic design study team on the Project
for the Improvement of Medical
Equipment at Persahabatan Hospital in
the Republic of Indonesia

International Techno Center Co., Ltd.

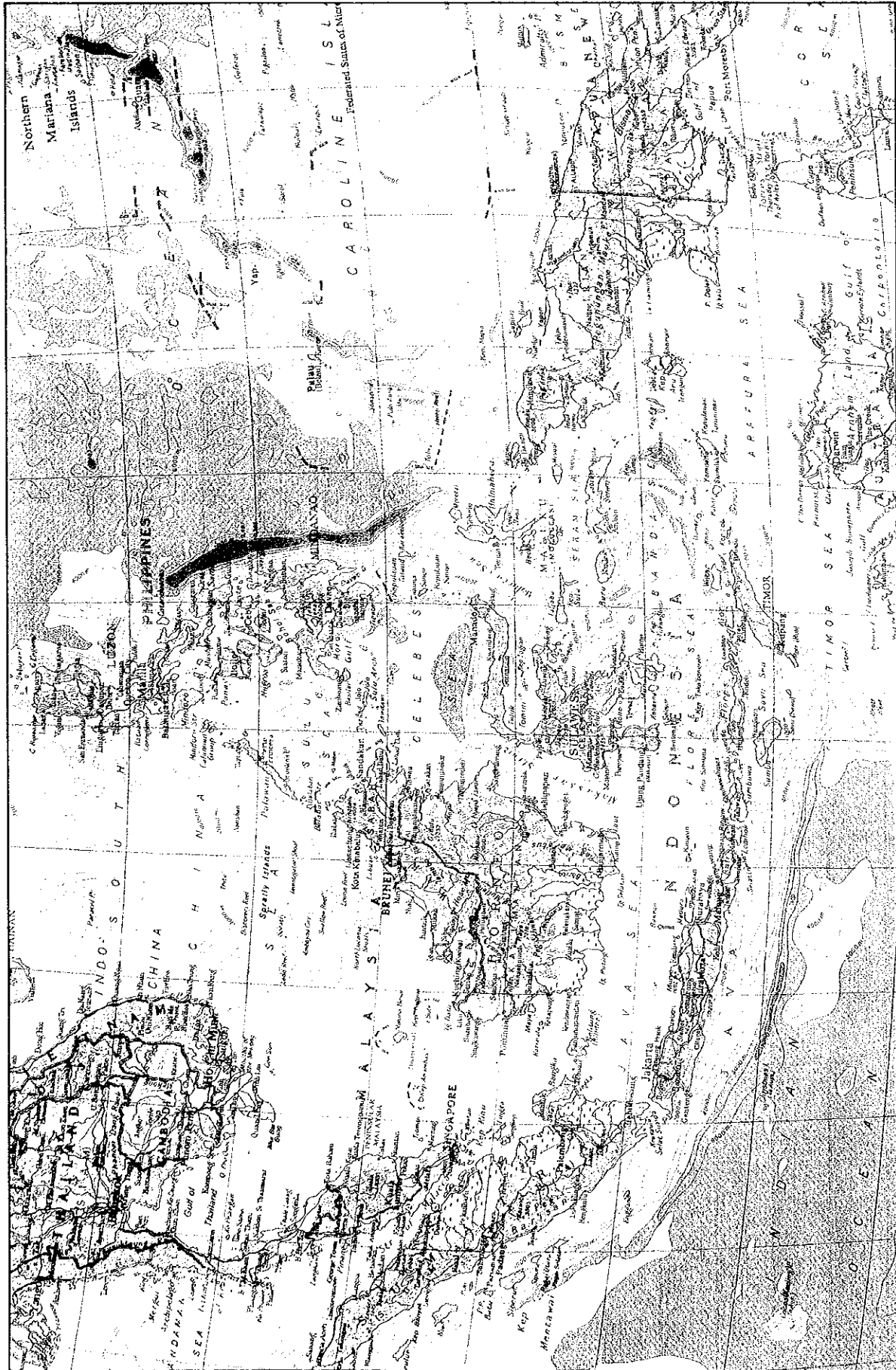
General Map of Indonesia



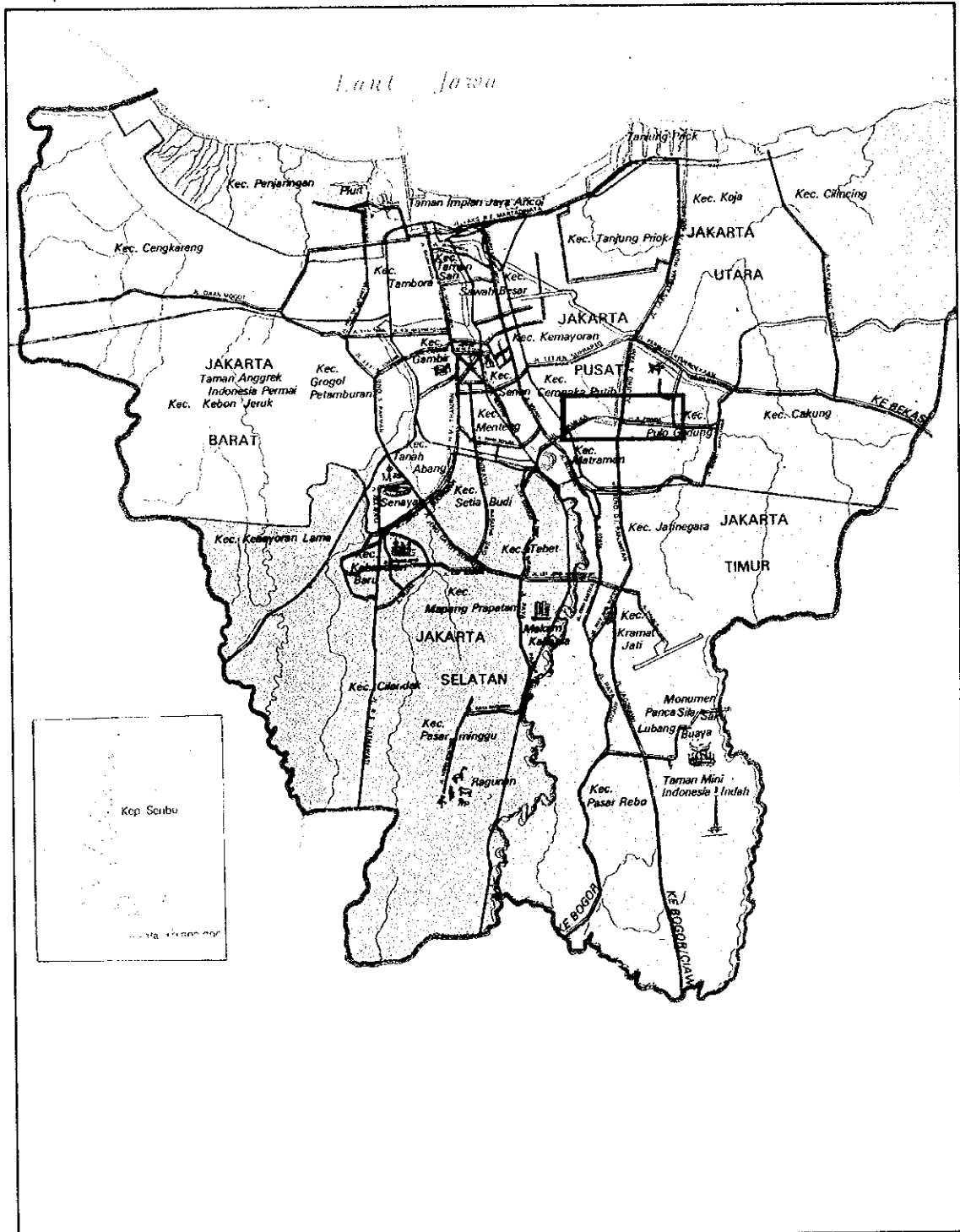
Map of Jakarta City



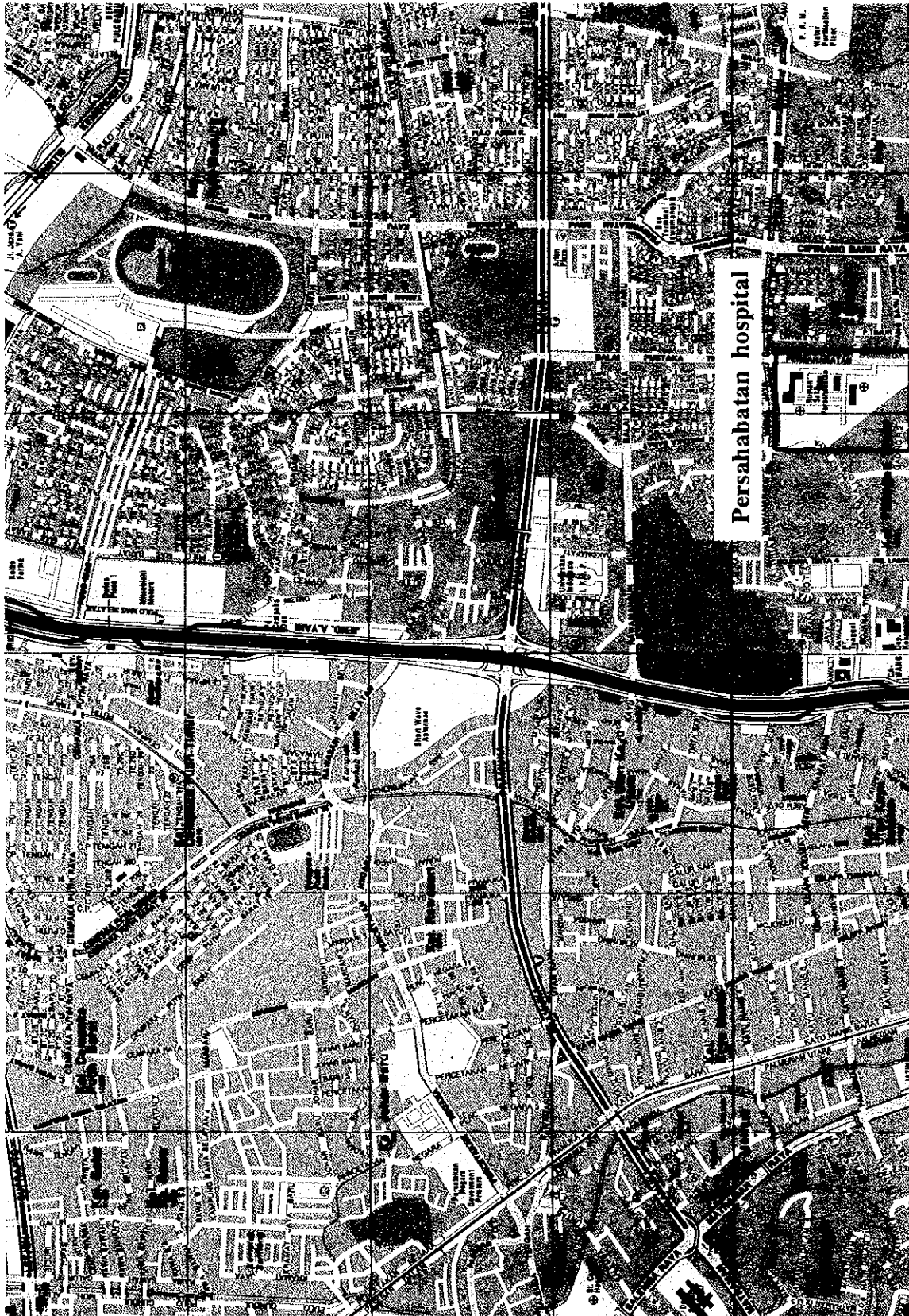
General Map of Indonesia

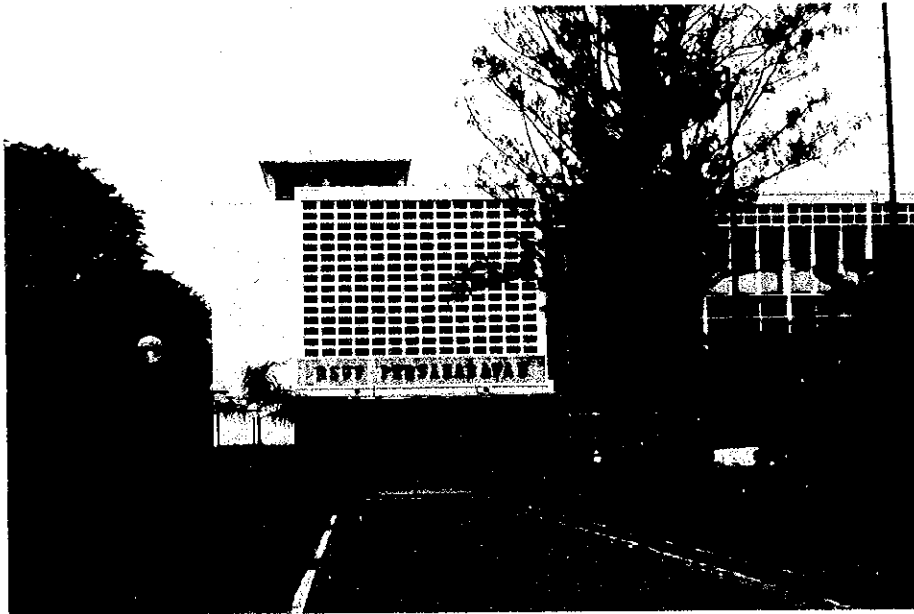


Map of Jakarta City

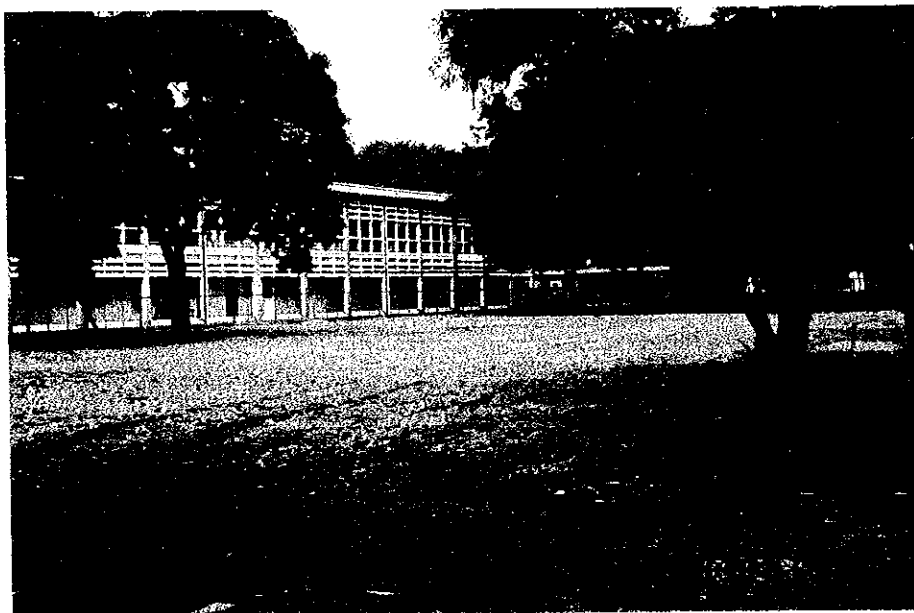


Location Map of Project Site



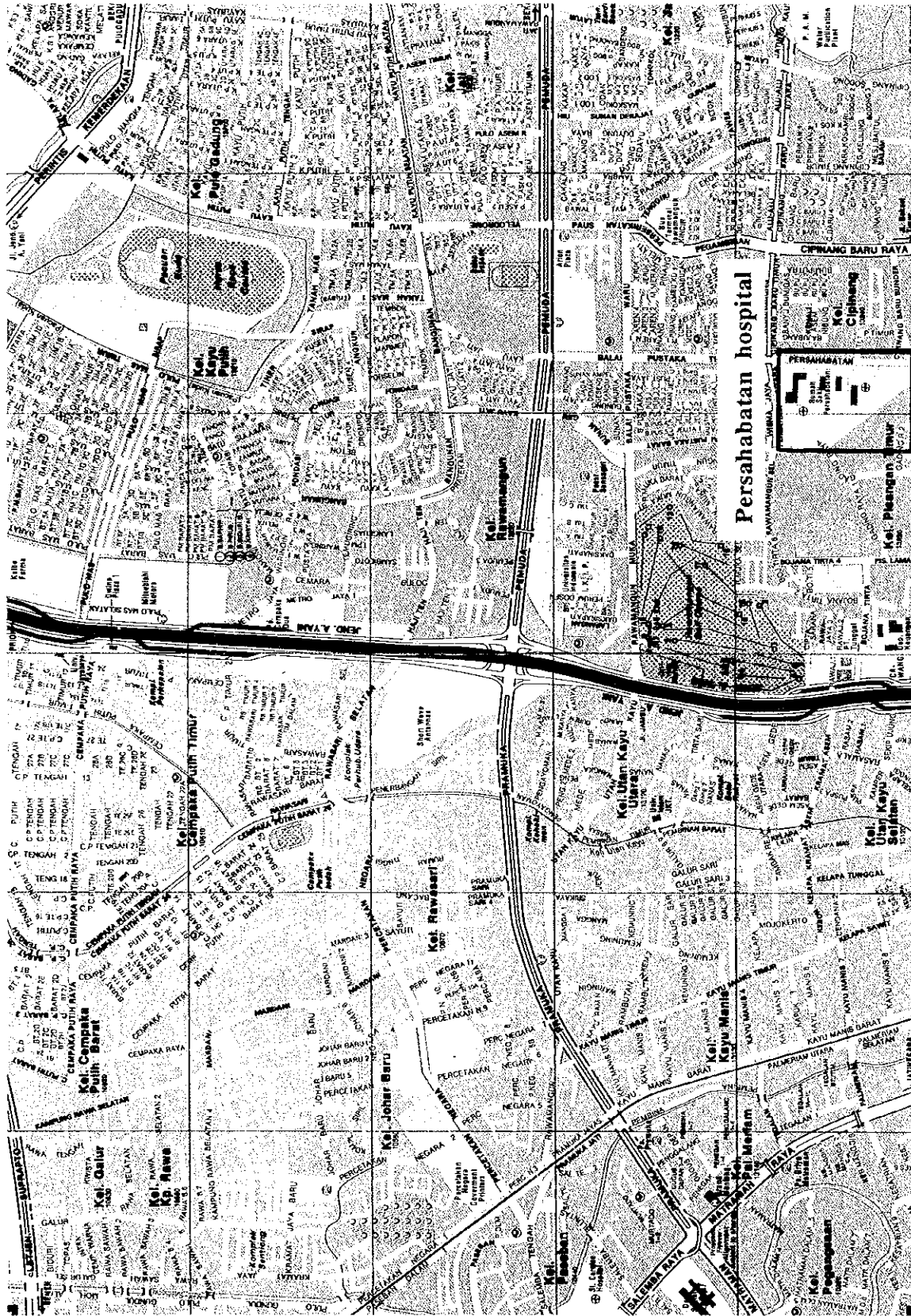


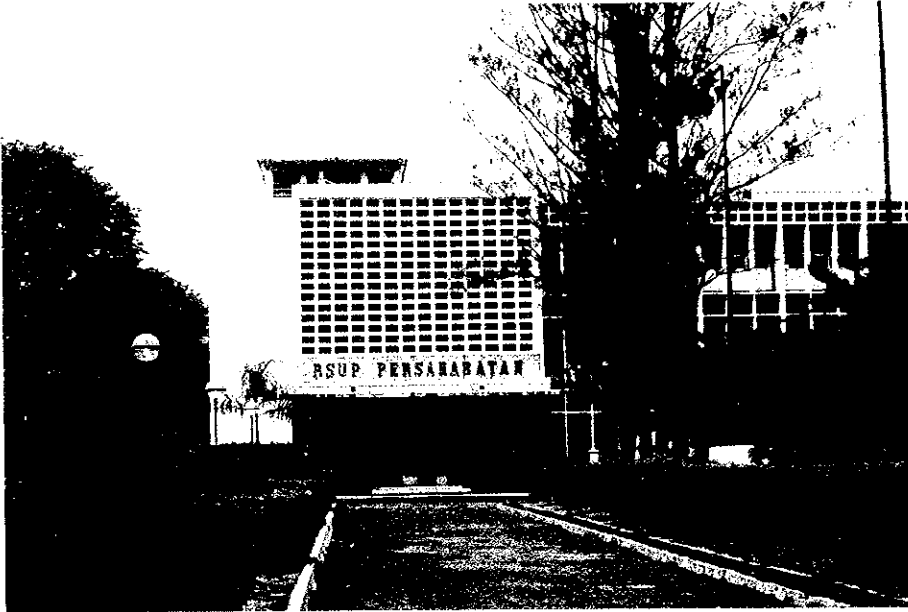
Main Entrance



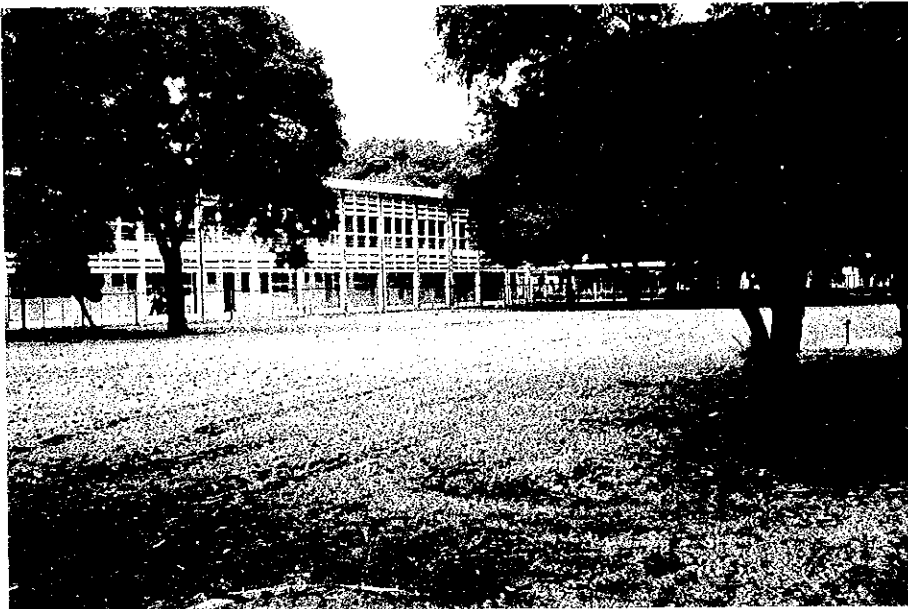
Surgical Ward

Location Map of Project Site





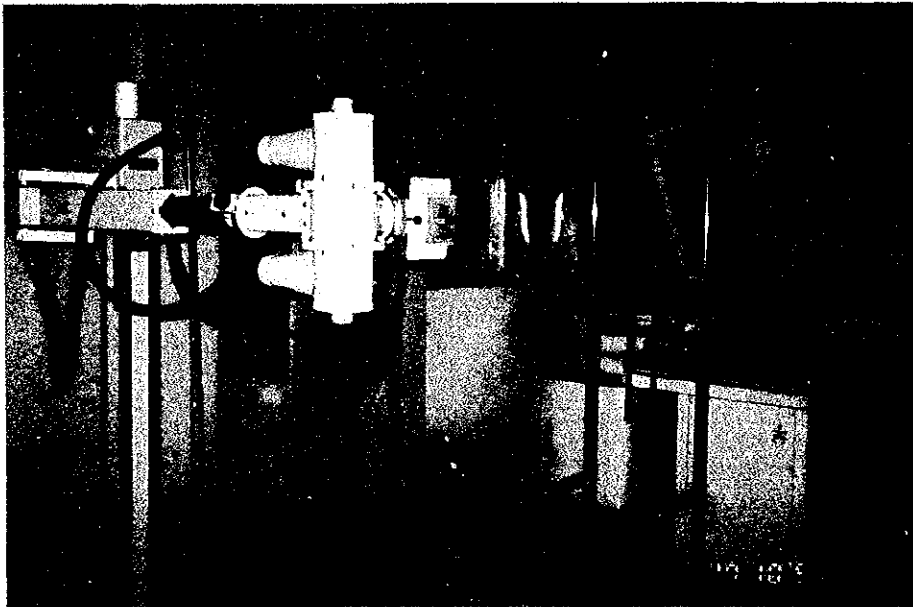
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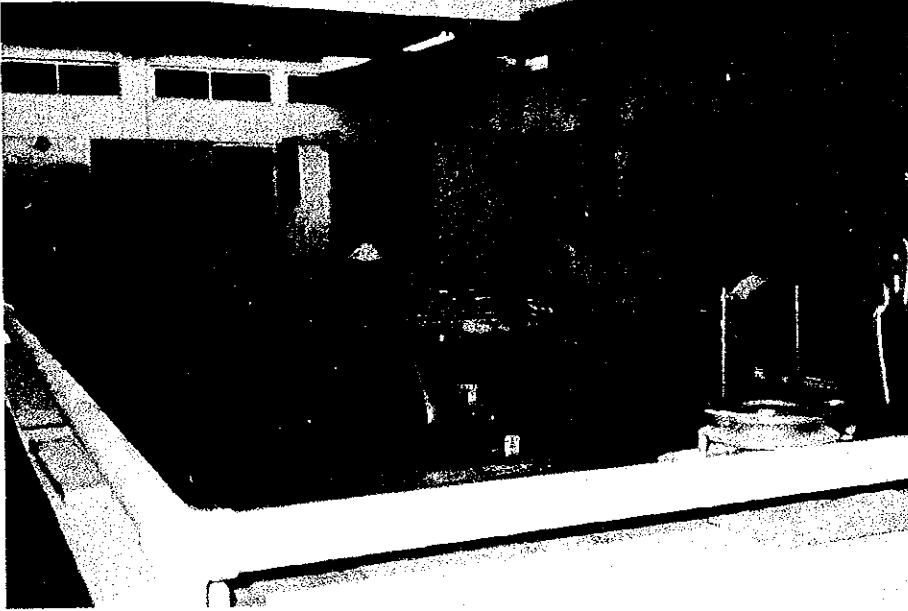
Surgical Ward



Site of New building



X-Ray Room



Maintenance Department



Incinerator

SUMMARY

SUMMARY

In 1993, the National Parliament (MPR), the highest administrative organ of the government of the Republic of Indonesia, developed the second 25-Year Long-Term Development Plan (PJP-II/1994/1995-2019/2020) based on the Basic Guidelines for National Policies (GBHN) and started implementing its first stage, the sixth National Development Five-Year Plan (REPELITA-VI/1994/1995-1998/1999) in April 1994.

The sixth National Development Five-Year Plan aims for "upgrading the qualities of human resources and people's living standard" by assigning top priority to the development of social infrastructure. For the health and medical sector, the plan involves establishing four goals: (1) upgrading the quality of health and medical services; (2) improvement of nutritional standards; (3) strengthening of the roles of specialists, and (4) improvement of management and operation systems for medical services. These goals are targeted at solving the problems listed below:

1. Significant disparities among provinces and between urban and rural areas.
2. High morbidity rate of infectious diseases among low-income people and provincial residents.
3. Deterioration of the environment including air pollution, waste water discharge, and industrial waste as well as an increase in accidents and occupational diseases resulting from the country's industrialization.
4. Increasing health and medical cost due to population growth and the aging society.
5. Malnutrition.
6. Underdeveloped sanitation facilities including lavatories and sewage system.
7. Underdeveloped pharmaceutical and medical equipment industry.

Tuberculosis and other respiratory diseases, which are among the most prominent diseases in Indonesia, are especially in need of immediate attention. In order to improve the situation described above and strengthen the medical service functions for treating respiratory diseases, the Indonesian government drafted a project for the improvement of medical for Persahabatan Hospital, which is the highest-ranking referral hospital for respiratory diseases and serves as a class-B national general hospital and educational hospital, and requested the government of Japan for grant aid assistance.

In response to this request, the Japanese government decided to conduct a survey on the proposed project and instructed the Japan International Cooperation Agency to carry out the survey. The Basic Design Survey Team headed by Dr. Masayuki Hojo from the Bureau of International Cooperation, International Medical Center of Japan, Ministry of Health and Welfare, established guidelines for the survey as a part of the preliminary preparation in Japan. The team concluded that the project's efforts should be directed towards "improving the health and medical situations of the proposed areas around the Persahabatan Hospital, and more specifically, decreasing the morbidity rates of the prominent and common diseases. Therefore, in order to achieve such goals, equipment related not only to tuberculosis and other respiratory diseases, but also to the enhancement of the capabilities of the entire hospital should be supplied."

Japan International Cooperation Agency dispatched the survey team from September 25 to October 15, 1994 to assess the possibility of grant aid by surveying.

The survey team, upon return to Japan, analyzed the survey results, drafted a Basic Design Survey Report, and explained key issues outlined in the draft report to the Indonesian parties concerned in January, 1995. Following discussions, the survey team and the Indonesian side reached a consensus.

After the analysis of the field survey and the establishment of the general direction for the project, it was agreed not to simply focus on the Persahabatan Hospital's top-referral function for respiratory diseases but to find a balance in all three functions: the top-referral hospital for respiratory diseases, an educational hospital, and a class-B national hospital in order to achieve the maximum results. Therefore, the objective of the project is to supply equipment that will be utilized for diagnosis and treatment of the diseases that are prominent among the hospital's patients.

After reviewing the request, we have decided to extend assistance to the following 13 departments, including those that directly deal with the most prominent diseases, those that support such departments, or those that provide education and training to the medical personnel in Persahabatan Hospital.

- 1) Obs/Gyn department
- 2) Otolaryngology department
- 3) Respiratory department
- 4) General Surgical department
- 5) Rehabilitation department
- 6) Cardiology department
- 7) Radiology department
- 8) Dermatology department
- 9) ICU department
- 10) Clinical examination department
- 11) Pathological laboratory department
- 12) Microbiological laboratory department
- 13) Education and training department

In deciding the scope of the cooperation, the cooperation should be extended only to those areas to which Japan's grand aid is deemed appropriate and viable in terms of necessity, priority, and cost vs. impact, and which the Indonesian side can sustain and develop independently from the financial and technical standpoints stated below:

Financial aspects

1. Viability of fund reserve plan for replacement and repair cost of the equipment.
2. Financial viability in terms of medical-charge revenue and O/M cost.
3. Viability of the short-term, medium-term, and long-term operational plans of the hospital.

Technical aspects

1. Selection of equipment suitable for the function and capability of each facility.
2. Selection of equipment that is technically compatible and can be integrated with the existing equipment and its peripherals.
3. Selection of equipment that is suitable for the technical levels of the medical staff.
4. Determination of capacity of the testing equipment based on the number of samples.

5. Selection of testing equipment which compiles data that can be utilized for diagnosis and treatment in the area.
6. Choosing the number of instruments to avoid duplication of the existing instruments.
7. The project should not duplicate assistance from other aid organizations.

The main equipment articles to be supplied through the proposed project are listed below:

- 1) Obs/Gyn department
Laparoscope set, gynecological micro-surgery set, hysteroscope
- 2) Otolaryngology department
Endoscope set for otolaryngology
- 3) Respiratory department
Bronchoscopes for adults, bronchoscopes for children, continuous suction units, pulse oxymeter
- 4) Surgical department
Laparoscope set
- 5) Rehabilitation department
Overhead suspension exercise, microwave therapy apparatus, treadmills
- 6) Cardiology department
Treadmill (stress system)
- 7) Radiology department
CT scanner, X-ray conventional w/monitor, portable X-ray apparatus, U. S. G.
- 8) Dermatology department
Dermabrader
- 9) ICU department
Pulse-oxymeter
- 10) Clinical laboratory department
Biochemical analyzer, blood cell auto-analyzer, enzyme immunoassay unit

- 11) Pathological laboratory department
Automatic photomicrographic system, cryotome, cyptospin
- 12) Microbiological laboratory department
CO2 incubators, pH meter, safety cabinets
- 13) Education and training department
Epidiascope, slide projectors, overhead projectors

This project is to provide medical equipment to Persahabatan Hospital, which is the top-referral hospital for tuberculosis and other respiratory diseases, an educational hospital for the University of Indonesia, and a class-B national hospital to provide basic medical services to the residents of East Jakarta, Jakarta.

Thus, in drafting the basic design, we estimated the budgetary changes until 1999/2000 based on the actual expenditures from 1992/1993, the year SWADANA was implemented, through 1994/1995. Based on the calculation as well as the examination result of the maintenance and operation plan, we concluded that the hospital would be able to sufficiently cover the operation cost including the maintenance cost after the implementation of the project.

Also, no additional personnel needs to be hired since most of the equipment to be supplied under the project will be used to aid the diagnosis and treatment procedures which are already established in the Persahabatan Hospital, and thus the current medical personnel are already familiar with the procedures and can sufficiently handle the equipment.

Judging from the above facts, the feasibility of the project in terms of operation system, budgetary allocation, and management plan is high; and no particular problems are found in the viability of the project as the self-sufficiency of Persahabatan Hospital is expected to be achieved in the course of the future plan of the Ministry of Health in Indonesia.

As mentioned earlier, the primary objective of the project is to improve the medical equipment of Persahabatan Hospital, which is the top-referral hospital for tuberculosis and other respiratory diseases, an educational hospital for the University of Indonesia, and a class-B national hospital that serves the residents of East Jakarta, Jakarta; thus, about 2.5 million people, who are concentrated in and around the East Jakarta area of Jakarta, as well as an estimated number of 600,000 tuberculosis patients throughout the

country are expected to benefit from this project. It is considered appropriate and extremely meaningful to implement the project through Japan's grant aid assistance as the project is expected also to contribute greatly to the improvement of the health and medical service standards in Indonesia.

In addition to the significant benefits described above, the project will contribute to the fostering of medical personnel by enhancing the hospital's role as the education and training facility for the University of Indonesia.

The implementation of this project under Japan's grant aid assistance program is considered possible as the project is so designed as to achieve the maximum results with the minimum assistance by taking into account the medical and other situations in Indonesia, and is deemed appropriate as the project is to support basic human needs.

Lastly, the following recommendations are presented so that the project can be materialized without delay, and so that the proposed equipment can be operated smoothly and effectively after installation to attain the intended objectives.

(1) Prompt arrangements by the Indonesian side

This project will be implemented within the framework of Japan's grant aid assistance which imposes a time limit. For this reason, necessary procedures should be carried out promptly such as the signing of the Exchange of Notes, concluding a consulting service agreement, approving the detail design documents that will be produced based on this basic design study report, and concluding contracts for equipment procurement.

(1) Financial Aspects

1) Although the project is aiming for the Self-financing system (SWADANA System), strong financial support from the government is still needed.

* Continue subsidy.

* Examine ways to exempt taxation.

2) For advanced equipment, a maintenance agreement (with charge) needs to be concluded.

(2) Establishment of equipment maintenance/management system

In order to prevent breakdowns or difficulties with the equipment supplied, it is essential that each division receiving equipment will manage and maintain the

equipment properly. Thus, it is desirable that the personnel in charge of equipment in each division as well as the maintenance division will establish a system, under which they can grasp the status of each equipment item and the stock status of spare parts by preparing necessary forms such as daily, weekly, and monthly report forms and maintenance ledger so that the situations concerning the equipment are always identifiable.

(3) Smooth implementation of construction work by the Government of Indonesia

Since the basic design study team has already explained the mechanism of Japan's grant aid system to their counterparts in the Government of Indonesia, it is expected that the Government of Indonesia will ensure the execution of the construction work for the building for the new equipment to be carried out by the Indonesian side. The government of Indonesia is requested to allocate necessary budget at an appropriate time for each fiscal year of the Government of Indonesia, and the construction work should be completed before the delivery of the equipment.

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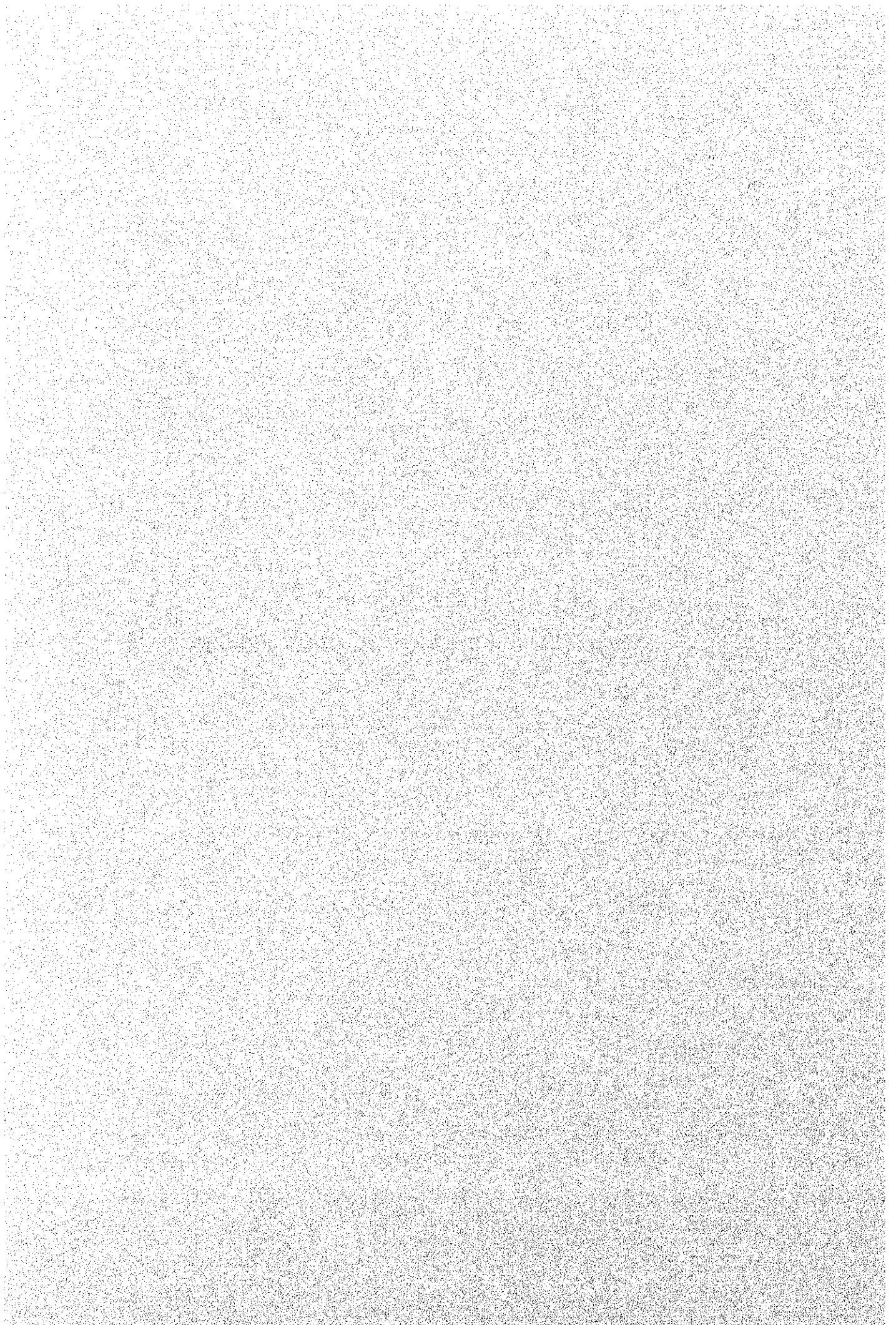
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CHAPTER 1 BACKGROUND OF THE PROJECT



Chapter 1 Background of the Project

1-1 Background of the Project

In 1993, the National Parliament (MPR), the highest administrative organ of the government of the Republic of Indonesia, developed the second 25-Year Long-Term Development Plan (PJP-II/1994/1995-2019/2020) based on the Basic Guidelines for National Policies (GBHN) and started implementing its first stage, the sixth National Development Five-Year Plan (REPELITA-VI/1994/1995-1998/1999) in April 1994.

The sixth National Development Five-Year Plan aims for "upgrading the qualities of human resources and people's living standard" by assigning the top priority to the development of social infrastructure. For the health and medical sector, the plan involves establishing four goals: (1) upgrading the quality of health and medical services; (2) improvement of nutritional standards; (3) strengthening of the roles of specialists; and (4) improvement of management and operation systems for medical services. These goals are aiming at solving the problems listed below:

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4. Increasing health and medical cost due to population growth and aging society.
5. Malnutrition.
6. Underdeveloped sanitation facilities including lavatories and sewage system.
7. Underdeveloped pharmaceutical and medical equipment industry.

Tuberculosis and other respiratory diseases, which are among the most prominent diseases in Indonesia, are especially in need of immediate attention. In order to improve the situation described above and strengthen the medical service functions for treating respiratory diseases, the Indonesian government drafted a project for the improvement of medical equipment for Persahabatan Hospital, which is the highest-ranking referral hospital for respiratory diseases and serves as a class-B national general hospital and educational hospital, and requested the government of Japan for grant aid assistance.

In the past, the Japanese government has extended technical cooperation assistance to the Lungs Surgery Department of the Persahabatan Hospital in a variety of ways. This was initiated with the acceptance of trainees in 1969. Subsequently, project-type technical cooperation was extended and continued until 1973. An after-care survey team for the Lungs Surgery Department was dispatched in 1988 to conduct a field survey in the hospital and to donate bronchoscopes, mobile-type X-ray equipment, fully-automated blood-gas analyzer, anesthesia equipment, and others. Later on, a doctor specializing in internal medicine was dispatched to the hospital as a short-term specialist from March to June in 1993, and another doctor specialized in respiratory organs was dispatched as a long-term specialist in July 1994 for a two-year period.

1-2 Outline of the Request and Main Components

(1) Objectives of the request

In order to strengthen the medical service capabilities of Persahabatan Hospital, which is the top referral hospital for tuberculosis, bronchitis, and other respiratory diseases that are still among the most prominent diseases in the Republic of Indonesia.

(2) Executing agency

Directorate of Public Hospital and Education, Directorate General of Medical Care, the Ministry of Health of the Republic of Indonesia

(3) Proposed facility

Persahabatan Hospital (Pulo Gadung, East Jakarta, Jakarta)

The proposed hospital is a general hospital with 526 beds, and serves the residents of the East Jakarta, Jakarta. It is the highest-ranking referral hospital in the field of respiratory diseases and serves as a class-B national general hospital and an educational hospital.

(4) Content of the proposed project

The project will be focusing on the provision of medical equipment for examination and research in the respiratory department of the hospital including bronchoscopes and other diagnosis instruments, radiological diagnosis equipment such as CT scanner, and microscopes, slide projectors and other educational instruments to be used for the training of the medical staff.

(5) Descriptions of the departments to receive the requested equipment

Under the proposed project, medical equipment will be provided to the following three division in addition to providing educational equipment for the medical staff working in various divisions.

1) Clinical Laboratory Department

This department is designated by WHO as the regional examination facility of general bacillus. It also carries out biochemical examinations on blood and urine samples of its outpatients and inpatients as well as on those sent from other facilities. It is set up to conduct emergency examinations 24 hours a day and serves also as the blood bank of the Indonesian Red Cross. The main equipment in this department includes an automatic biochemical analyzer and blood gas analyzer that were donated through Japan's technical cooperation.

2) Respiratory Department

This department, which consists of 16 doctors specialized in respiratory organs, 30 interns, 80 paramedical staff, and 30 clerical staff, has a tuberculosis clinic, an asthma polyclinic, and a counseling room for people who wish to quit smoking. It also has 89 inpatient beds and a special room with two beds. Various types of equipment has been

donated to this division from Japan through project-type technical cooperation and an after-care survey. The main equipment includes bronchoscopes, fiberscope cleansing equipment, spirometer, and treadmill.

3) Radiology Department

This department consists of 6 radiologists and 15 radiological technicians; its activities are divided into two categories of diagnosis and treatment. Its existing equipment includes X-ray machines donated through Japan's technical cooperation as well as a mammography machine, mobile-type X-ray machine. The radiation therapy room has a cobalt-60 radiation generator, which was donated by the former Soviet Union, and the film processing room has an automatic film processor.

(6) Outline of requested equipment

1) Examination and research equipment

This includes examination and research equipment to be used in general clinical examination and tests for tuberculin bacillus and lung cancer as well as a computer for processing test data. Equipment requested includes PCR, DNA probe and resistance test kit for acid-fast bacteria, electron microscope, and electrolyte analyzer.

2) Radiology equipment

Requested equipment includes a CT-scanner that can be used not only in the respiratory department but also in other departments, 2-way fluoroscope to be used in the cardiology department, and an automatic film processing machine that can develop films in a short time.

3) Equipment for respiratory internal department

Flow cytometer, bronchoscopes, endoscopes for educational use and TV-endoscope which will be used not only for diagnosis and treatment but also for training of the medical staff are being requested.

4) Equipment for education and training

This includes visual aids such as slide projectors and OHPs as well as computers and scanners that process data.

1-3 Project and/or Program of Other Donors

In the past, Persahabatan Hospital had been supported by the former Soviet Union and French as the project basis, however there are no plans for some Project based assistance at present and in the near future.

Only WHO decided to assist the Tuberculosis Control Program in Indonesia from 1995 to 1996 as a technical cooperation.

CHAPTER 2 OUTLINE OF THE PROJECT

Chapter 2 Outline of the Project

2-1 Objectives of the Project

As explained in Chapter 1, the Indonesian government, in an effort to strengthen its medical service capabilities to cope with respiratory diseases, drafted a project for the improvement of medical equipment for Persahabatan Hospital,, which is the highest-ranking referral hospital in the field of respiratory diseases and serves as a class-B national general hospital and an educational hospital, and requested the government of Japan for grant aid assistance.

In response to this request, the Japanese government decided to conduct a survey on the proposed project and instructed the Japan International Cooperation Agency to carry out the survey. The Basic Design Survey Team headed by Dr. Masayuki Hojo from the Bureau of International Cooperation, International Medical Center of Japan, Ministry of Health and Welfare, established guidelines for the survey as a part of the preliminary preparation in Japan. The team concluded that the project's efforts should be directed towards "improving the health and medical situations of the proposed areas around the Persahabatan Hospital, and more specifically, decreasing the morbidity rates of the prominent and common diseases. Therefore, in order to achieve such goals, equipment related not only to tuberculosis and other respiratory diseases, but also to the enhancement of the capabilities of the entire hospital should be supplied."

Japan International Cooperation Agency dispatched the survey team from September 25 to October 15, 1994 to assess the possibility of grant aid by surveying the following matters:

- (1) Current situation of Persahabatan Hospital;
- (2) Current situation of related medical facilities;
- (3) Examination of the necessity for the requested equipment;
- (4) Confirmation of the implementing system of the project, personnel requirement, operational and administrative costs, and construction project to be carried out by the Indonesian side;
- (5) Infrastructure of Persahabatan Hospital;
- (6) Medical-equipment industry situation in Indonesia.

The survey team, upon return to Japan, analyzed the survey results, drafted a Basic Design Survey Report, and explained the draft report to the Indonesian parties concerned in January, 1995. After discussions, the team and the Indonesian side reached a consensus.

This report summarizes the results of the survey described above. Member list of the survey team, field survey schedule, list of the Indonesian parties involved, and copies of the minutes of meetings are provided in the appendix attached.

2-2 Study and Examination on the Request

The original request was primarily for the examination and research equipment for the respiratory disease department. However, after the analysis of the field survey and the establishment of the general direction for the project, it was agreed not to simply focus on the Persahabatan Hospital's top-referral function for respiratory diseases but to find a balance in all three functions: the top-referral hospital for respiratory diseases, an educational hospital, and a class-B national hospital in order to achieve the maximum results. Therefore, the objective of the project is to supply equipment that will be utilized for diagnosis and treatment of the diseases that are prominent among the hospital's patients.

After reviewing the request in the previous section, we have decided to extend assistance to the following 13 departments, including those that directly deal with the most prominent diseases, those that support such departments, or those that provide education and training to the medical personnel in Persahabatan Hospital.

- 1) Obs/Gyn department
- 2) Otolaryngology department
- 3) Respiratory department
- 4) General Surgical department
- 5) Rehabilitation department
- 6) Cardiology department
- 7) Radiology department
- 8) Dermatology department
- 9) ICU department
- 10) Clinical laboratory department
- 11) Pathological laboratory department
- 12) Microbiological laboratory department
- 13) Education and training department

2-3 Project Description

2-3-1 Execution Agency and Operational Structure

Executing agency is the Directorate of Public Hospital and Education, Directorate General of Medical Care, the Ministry of Health of the Republic of Indonesia and the proposed facility is Persahabatan Hospital (Pulo Gadung, East Jakarta, Jakarta) which is a general hospital with 526 beds, and serves the residents of the East Jakarta, Jakarta. It is the highest-ranking referral hospital in the field of respiratory diseases and serves as a class-B national general hospital and an educational hospital.

2-3-2 Plan of Operation

The 13 target departments have been in existence for some time and the equipment to be supplied will be mostly that of a basic kind and will be used in the diagnosis and treatment procedures that have been already established in Persahabatan Hospital. Most of the educational and training equipment will also be of a basic kind. Therefore, the current system will be sufficient to carry out the project requiring no organizational change or additional personnel including maintenance staff.

(1) Financial Plan

The operation and administrative characteristics of the hospital is found in its SWADANA system implemented in 1992. This is a new hospital management system, which replaces old accounting, personnel, and data management systems so that each hospital can have a self-financing system.

Presently, there are five hospitals throughout Indonesia that have adopted this system under the supervision of the Ministry of Health, and Persahabatan was the first of these hospitals that was appointed to implement the system and to become a model hospital. Through implementation of the SWADANA system, the hospital's budget increased dramatically by about 57% whereas the rate of increase was around 12% before the implementation. Owing to the SWADANA, the hospital was able to build financial strength and increase its maintenance budget. Because of this system, the hospital is expected to gain financial independence and the ability to grow on its own. Under the SWADANA system, Persahabatan Hospital will be cut off from the Health Ministry's budget in the near future and start paying for its own expenses except for the salaries of the staff relying solely on the revenue from medical charges paid by patients or medical insurance organizations.

The hospital's annual budget for 1994/1995 is 16,681,331 thousands rupiahs, of which 3,962,866 thousands rupiahs or 25% of the total budget is allocated for salaries. Currently, 6,235,563 thousands rupiahs or about 40% of the total comes from patients; this means that additional 35% has to be generated from medical charges and other sources under the SWADANA system. Thus, the project aims to increase its revenue by improving the financial system under SWADANA system as well as the administration, personnel, and information systems and restructuring the medical charge system in addition to increasing the number of inpatients and outpatients by upgrading the medical services.

Table 2-1 below shows the projected budget changes for the next five years starting in 1995/1996, the year the project will be implemented, based on the budgetary records of 1993/1994 and 1994/1995. Since the routine budget and development budget will not be completely eliminated by the year 2000, decrease rates, which were calculated based on the figures in 1993/1994 and 1994/1993, were applied in calculating the normal and developments budgets for the following years.

Table 2-1 The Budget of Persahabatan Hospital for successive 5 years (Unit: thousands rupiahs)

	1993/1994	1994/1995	1995/1996	1996/1997	1997/1998	1999/2000
Routine	7,895,465	8,040,493	8,205,180	8,456,641	8,795,845	9,224,680
Swadana	4,347,285	6,235,563	7,284,879	9,481,098	11,566,939	14,227,334
Development	1,955,169	1,785,400	1,624,714	1,478,490	1,345,426	1,224,337
Op. & Maint.	747,709	599,875	600,000	0	0	0
JKT Govern.	0	20,000	0	0	0	0
Total	14,945,628	16,681,331	17,714,773	19,416,229	21,708,210	24,676,351
% of Swadana	37.4%	41.1%	48.8%	53.3%	57.7%	61.1%

(Source: International Techno Center Co., Ltd.)

As shown in the above table, the percentage of the SWADANA budget will increase from 41.1% in 1994/1995 to about 61.1% in 1999/2000, which indicates that, except for the salaries of the member of staff, the hospital will become very close to achieving financial self-sufficiency, which is one of the objectives of the Ministry of Health. The figures also indicate that the operational and maintenance budget will increase steadily without any budgetary problems after the implementation of the project in 1995/1996.

2-3-3 Location and Conditions of the Project Site

East Jakarta where Persahabatan Hospital is located has the biggest population in Jakarta, and its population growth rate is also high. Main statistics for this area are listed below:

Total land area	: 271.8 square kilometers
Total population	: 2,479,526 people
Population density	: 9,123/square kilometer
Population growth rate	: 3.89%/year

Infectious diseases have the highest incidence among the diseases suffered by the people in Jakarta including East Jakarta. Injuries, drug dependency, dystocia, cancers, respiratory diseases, and circulatory diseases are also among the most prominent diseases, which shows an urban-type disease proportions. For reference, the morbidity rate of tuberculosis is 22%, which ranks 15th and that of malaria is 0.1% ranking 35th.

According to the statistics for 1991, there are 29 medical facilities in East Jakarta, and Persahabatan Hospital is the largest-scale hospital in this region.

Persahabatan Hospital consists of 50 different buildings that are situated over a total land area of 134,666 square meters with a total floor area of 40,290 square meters. Since its original construction in 1963, some of the buildings have been renovated and additional facilities have been constructed. However, about 30% of the facilities are more than 30 years old, and some of the medical instruments need to be replaced with new ones.

National medical facilities in Indonesia are operated under the medical referral system that was established based on the decree issued by the Ministry of Health in 1972. Persahabatan Hospital (526 beds), which is the site for the proposed project, has a class B-2 status and provides primary medical care as a central hospital in East Jakarta.

Among the 10 major diseases that plagued the hospital's outpatients in 1993, the common cold was the most popular ailment suffered by 25,986 patients, followed by pulmonary tuberculosis with 15,301 patients and lacerated wounds with 9,374 patients; and asthma patients ranked fifth (7,123 people). As evident in these figures, there are a large number of patients who suffer from respiratory diseases, and the number is growing each year. According to the numbers of patients cared for by each department

in 1992, the internal medicine department dealt with the largest number of patients or 12.56% of the total followed by the emergency department with 11.88% and the respiratory department with 10.81%.

According to the hospital's 1992 statistics for patients coming from different districts, more than 90% of the outpatients were from East Jakarta. In 1988, only 0.83% came from outside of Jakarta, and the number increased to 3.46% in 1992. The statistics indicate the progress of the development in transportation system in Indonesia as well as the importance of Persahabatan Hospital as the top referral hospital for respiratory diseases.

Among the 10 major diseases that plagued inpatients in 1993, infectious diseases were the most prominent and suffered by 1,155 patients, followed by pulmonary tuberculosis with 829 patients and typhoid fever with 610 patients. The fourth place, as was the case with outpatients, was taken by bronchitis (385 patients) and the ninth place by lung cancer (260 patients). A large number of patients, who suffer from respiratory diseases including the pulmonary tuberculosis ranking second, is characteristic of this hospital. According to the statistics by department in 1992, the Obs/Gyn department had the largest number of inpatients or 17.81% of the total followed by the surgical department with 15.92%, the internal department with 14.57%, and the pediatric department with 14.15%.

According to the statistics by district in 1992, more than 80% of the inpatients came from East Jakarta. The percentage of the inpatients, who came from outside of Jakarta, increased from 4.78% in 1988 to 6.48% in 1992. Numbers of inpatients coming from Central, Southern, and Northern Jakarta are about 2% more than outpatients coming from these areas.

As for the average number of days spent by a patient in each department in 1993, the pulmonary surgical department had the longest stay of 18.26 days, followed by the respiratory department of 13.93 days and the dermatology department of 12.93%. The average for the whole hospital was 7.11 days.

Of the ten major causes of death, although abnormal labor was the biggest contributor, many were caused by various respiratory diseases such as pulmonary tuberculosis and bronchopneumonia. This is due to the fact that the hospital admits many respiratory patients in serious conditions because of its position as the top referral hospital for respiratory diseases.

Persahabatan Hospital serves also as an educational hospital for the medical school of University of Indonesia, offering a place for the hospital's physicians and university professors to provide training and education. In 1990, a total of 452 students received training in the hospital and a total of 90 post-graduate students were trained as resident trainees in various departments, of which 28 were in the respiratory department and 62 in other departments. In addition, 850 people participated in training held at the internal, Obs/Gyn, surgical, dermatology, pediatric, and other departments. In 1993, 549 students, 135 doctors, and 100 medical staff received training. The hospital regularly dispatches physicians to Central Java, Western Sumatra, and other areas to give training in diagnosis and surgery for respiratory diseases. Moreover, as mentioned earlier, the hospital's central examination department is designated by WHO to serve as a regional testing facility and offers training in examination techniques to the workers of the public health agencies in surrounding areas.

Thus, Persahabatan Hospital is performing three major functions: a central regional hospital that offers primary medical care to those living in East Jakarta, Jakarta; the top-referral hospital for tuberculosis and other respiratory diseases; and an educational and training facility for the medical students of University of Indonesia as well as medical doctor and paramedical staff from several part of Indonesia.

2-3-4 Outline of Equipment

As explained earlier in this report, there are 13 departments, including those that directly deal with the most prominent diseases, those that support such departments, or those that provide education and training to the medical personnel in Persahabatan Hospital.

The following medical equipment and instruments were requested for the 13 departments the following main equipment articles was requested:

1) Obs/Gyn department

Laparoscope set, gynecological micro-surgery set, hysteroscope

2) Otolaryngology department

Endoscope set for otolaryngology

3) Respiratory department

Bronchoscopes for adults, bronchoscope for children, continuous suction units, pulse oxymeter

4) General Surgical department

Laparoscope set

5) Rehabilitation department

Overhead suspension exercise, microwave therapy apparatus, treadmills

6) Cardiology department

Treadmill (stress system)

7) Radiology department

CT scanner, X-ray conventional w/monitor, portable X-ray apparatus, U. S. G.

8) Dermatology department

Dermabrader

9) ICU department

Pulse-oxymeter

10) Clinical laboratory department

Biochemical analyzer, blood cell auto-analyzer, enzyme immunoassay unit

11) Pathological laboratory department

Automatic photomicrographic system, cryotome, cyptospin