

12) Microbiological laboratory department

CO2 incubators, pH meter, safety cabinets

13) Education and training department

Epidiascope, slide projectors, overhead projectors

2-3-5 Operation and Maintenance Plan

(1) Operation Plan

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.

(2) Maintenance Plan

The repair and maintenance works for the buildings, facilities, and medical equipment of Persahabatan Hospital are done at the workshop of the maintenance department. Broken equipment, which cannot be repaired by the department, is repaired by the engineers dispatched from the local agency of the equipment manufacturer.

The equipment to be supplied through the project is mostly the same type of equipment as that currently used in the hospital except for some radiological apparatus, and will not require additional maintenance staff. The maintenance department consists of 30 staff, including the chief engineer.

Application procedures for purchasing pharmaceutical goods, medical equipment and its spare parts, and expendable supplies are clearly defined: for pharmaceutical items, a request form is submitted once in three months; for medical equipment, at the end of each fiscal year; and for spare parts and consumables, a request form is submitted as needed.

Each clinical department or the pharmaceutical department submits a request form for pharmaceutical goods to the purchase committee, which assesses and checks the application and issues a purchase order. Goods delivered to the hospital are inspected

by the procurement committee, distributed to each clinical department via the pharmaceutical department, and administered or handed to the patients.

Purchase of medical equipment including spare parts and consumable supplies also have to go through similar application, ordering, and delivery procedures; and the pharmaceutical department is responsible for the final delivery of the items to the clinical departments concerned.

The procurement budget for each department is managed and supervised by the deputy director, who is in charge of the operation and management of the hospital and approves each request based on the procurement budget.

(3) Finance Plan

The maintenance cost of the facilities and equipment of Persahabatan Hospital is covered by the maintenance budget of the normal and SWADANA budget. The maintenance budget of the routine budget will be eventually eliminated although the time limit is yet to be established. The amount will be gradually decreased over the next five years.

Table 2-2 The Maintenance Budget of Persahabatan Hospital (1990/1991-1993/1994)

(Unit: thousands rupiahs)

Routine Budget	1990/1991	1991/1992	1992/1993	1993/1994
Salary	2,679,255	3,051,743	4,633,178	4,962,042
Operation	2,022,965	2,547,054	2,776,889	2,698,888
Maintenance	296,666	341,414	335,683	230,015
Training & Travel	2,176	2,679	3,109	4,520
Sub-Total	5,001,062	5,942,890	7,748,859	7,895,465

Swadana	1990/1991	1991/1992	1992/1993	1993/1994
Incentive	0	0	1,338,763	1,875,495
Operation	0	0	507,761	1,687,712
Maintenance	0	0	340,880	772,921
Travel	0	0	8,760	11,157
Sub-Total	0	0	2,196,164	4,347,285
Total	296,666	341,414	676,563	1,002,936

(Source: Persahabatan Hospital)

As shown in Table 2-2, the actual expenditure for maintenance before the implementation of SWADANA system was 296,666 thousands rupiahs in 1990 and 341,414 thousands rupiahs in 1991, both occupied about 4.5% of the total budget. After the implementation of the system, the maintenance cost increased to about 6.5% of the total in 1992. However, nearly twice as much amount or 676,563 thousands rupiahs was allocated as the maintenance budget in 1992, and 1,002,936 thousands rupiahs in 1993, which was three times that for 1991.

Table 2-3 The Maintenance Budget of Persahabatan Hospital (1994/1995-1999/2000)

(Unit: thousands rupiahs)						
Routine Budget	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000
Salary	3,962,866	5,495,387	6,044,925	6,649,418	7,314,360	8,045,796
Operation	2,853,346	2,539,468	2,260,127	2,011,513	1,790,246	1,593,319
Maintenance	186,800	166,583	148,259	131,950	117,436	104,518
Training & Travel	4,540	3,742	3,330	2,964	2,638	2,348
Sub-Total	7,007,552	8,205,180	8,456,641	8,795,845	9,224,680	9,745,981

Swadana	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000
Incentive	2,687,528	3,278,195	4,266,491	5,205,122	6,402,300	7,682,760
Operation	2,419,398	2,464,646	3,312,350	4,042,928	5,204,638	6,247,529
Maintenance	1,109,930	1,447,490	1,783,573	2,176,962	2,449,241	2,940,013
Travel	18,707	21,700	23,870	26,257	28,882	31,770
MOH		72,848	94,810	115,669	142,273	170,728
Sub-Total	6,235,563	7,284,879	9,481,094	11,566,938	14,227,334	17,072,800

Total	1,296,730	1,614,073	1,931,832	2,308,912	2,566,677	3,044,531
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(Source: Persahabatan Hospital)

Table 2-3 shows the changes in the maintenance budget through the year 1999/2000 based on the budgetary changes for the entire hospital for the next five years displayed in Table 2-1 and the changes in the maintenance budget in the past shown in Table 2-2.

Since most of the equipment to be supplied through the proposed project will be maintained and managed by the current staff, no labor-cost increase is taken into account as no additional personnel need to be hired.

As shown in Table 2-4 and 2-5, total of the necessary expenses including those for the depreciation of the main equipment, consumable supplies, and spare parts is 1,517,049 thousands rupiahs (about 70.5 million yen), which is less than the maintenance budget for 1995/1996 of 1,753,783 thousands rupiahs (about 87.6 million yen) according to the budgetary changes until the year 1999/2000 projected in Table 2-3.

Table 2-4 The necessary expenses for the main equipment

	Equipment	Annual Expenses	Annual Revenue
1	CT Scanner	11,365.0	227,300
2	X-Ray Conventional	7,281.0	145,620
3	Mobile X-ray Apparatus	2,518.0	50,360
4	U.S.G	2,699.0	53,980
5	Biochemical Apparatus	24,257.5	485,150
6	Blood Cell auto-analyzer	17,175.5	343,510
7	ELISA Reader	5,524.8	110,496
	Total	70,820.8	1,416,416

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

Table 2-5 The breakdown for the necessary expenses for the main equipment

(Unit: Thousands Japanese Yen)

NO	Item	Maintenance Contract		Spare parts			Consumables			Depreciation	Total	Remarks	
		Unit	QTY	Amount	Parts	Unit	QTY	Amount	Parts				Unit
1	CT SCANNER Operation : 260Days Patients : 8/Day Film : 1Pc./Person Cost : 47,000	Annual		950	Tube	5,000	0.5	2,500	Film	0.25	2,080	520	· Developer will be changed once a two week. · Other will be 1% for equip. cost. · Tube will be used two years.
					Other	660	1.0	660	Developer	10	26	260	
		Total		950	Total			3,160	Total			780	
2	X-Ray Conventional with monitor Operation : 312Days Patients : 30/Day Film : 2Pcs./Person Cost : 14,800	Annual		400	Tube	1,500	0.3	450	Film	0.20	18,720	3,744	· Developer will be used with CT Scanner. · Other will be 1% for equip. cost. · Tube will be used two years.
					Other	252	1.0	252					
		合計		400	Total			702	Total			3,744	
3	Mobile X-Ray Operation : 312Days Patient : 12/Day Film : 2Pcs./Person Cost : 5,560	Annual		150	Tube	900	0.2	180	Film	0.20	7,488	1,498	· Developer will be used with CT Scanner. · Other will be 1% for equip. cost. · Tube will be used two years.
					Other	68.6	1.0	69					
		Total		150	Total			249	Total			1,498	
4	Ultrasound Apparatus Operation : 260Days Patient : 10/Day Cost : 7,400	Annual		150	Probe	600	0.5	300	Gel	3.00	38	180	· Gel will be used 65kg/260Days. · Recording Paper will be used 7,800 sheets/260days. · Other will be 1% for equip. cost.
					Probe	1,000	0.5	500	Paper	3.50	60	133	
		Total		150	Total			800	Total			513	
Total		150	Total			1,456	Total			313	832	2,751	

(Unit: Thousands Japanese Yen)

NO	Item	Maintenance Contract		Spare Parts			Consumables			Depreciation	Total	Remarks
		Unit	QTY	Amount	Parts	Unit	QTY	Amount	Unit			
5	Biochemical Analyzer Operation : 260Days Sample : 150Pcs./Day Cost : 17,000	Annual		340	Small Parts	70	1	70	0.65	36,000	23,400	It will be covered 17 Samples. Other will be 1% for equip. cost.
		Total		340	Total	70		70			23,400	
6	Blood Cell Auto Analyzer Operation : 260Days Sample : 100Pcs./Day Cost : 2,900	Annual		58	Small Parts	22.5	1	22.5	0.65	26,000	16,900	It will be covered 5 Samples. Other will be 1% for equip. cost.
		Total		58	Total	22.5		22.5			16,900	
7	ELISA Reader Operation : 260Days Sample : 7Pcs./Day Cost : 3,200	Annual		64	Small Parts	35	1	35	2.8	1,820	5,096	It will be covered 7 Samples. Other will be 1% for equip. cost.
		Total		64	Total	35		35			5,096	

Annual Total 70,544 Thousands Yen (1,517,049 Thousands Rupiahs)

Depreciation = $\frac{\text{Equipment Cost} \times 90\%}{\text{Period of Depreciation (Equipment Life)}}$

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

Table 2-6 shows the projected income from diagnosis and treatment using the equipment to be supplied versus the maintenance cost. The figures were calculated based on the medical charge table of Persahabatan Hospital and the utilization rate of the equipment listed in Table 2-5. As for medical charges, second-class rate for 1994/1995 was used.

Table 2-6 The Revenue and Expenditure for Main Equipment (Unit: thousands rupiahs)

	Equipment	Conditions	Revenue		Expenditure	
			Unit	Amount	Unit	Amount
1	CT Scanner	2,080Cases/Year	250.0	520,000	218,300	301,144
2	X-Ray Conventional	9,360Cases/Year	62.5	234,000	145,620	93,981
3	Mobile X-ray Apparatus	3,744Cases/Year	17.0	63,648	54,214	9,434
4	U.S.G	2,600Cases/Year	43.0	111,800	59,160	52,640
5	Biochemical Apparatus	39,000Cases/Year	22.0	858,000	553,151	304,849
6	Blood Cell auto-analyzer	26,000Cases/Year	22.0	572,000	343,510	199,813
7	ELISA Reader	1,820Cases/Year	65.0	118,300	119,462	7,804
	Total			2,477,748	1,517,049	1,061,332

(Source: Persahabatan Hospital)

Since Persahabatan Hospital currently does not own a CT scanner, the medical charge rate for CT scanner established by Cipto Mangunhusumo Hospital, a class-A hospital in Jakarta City, was used.

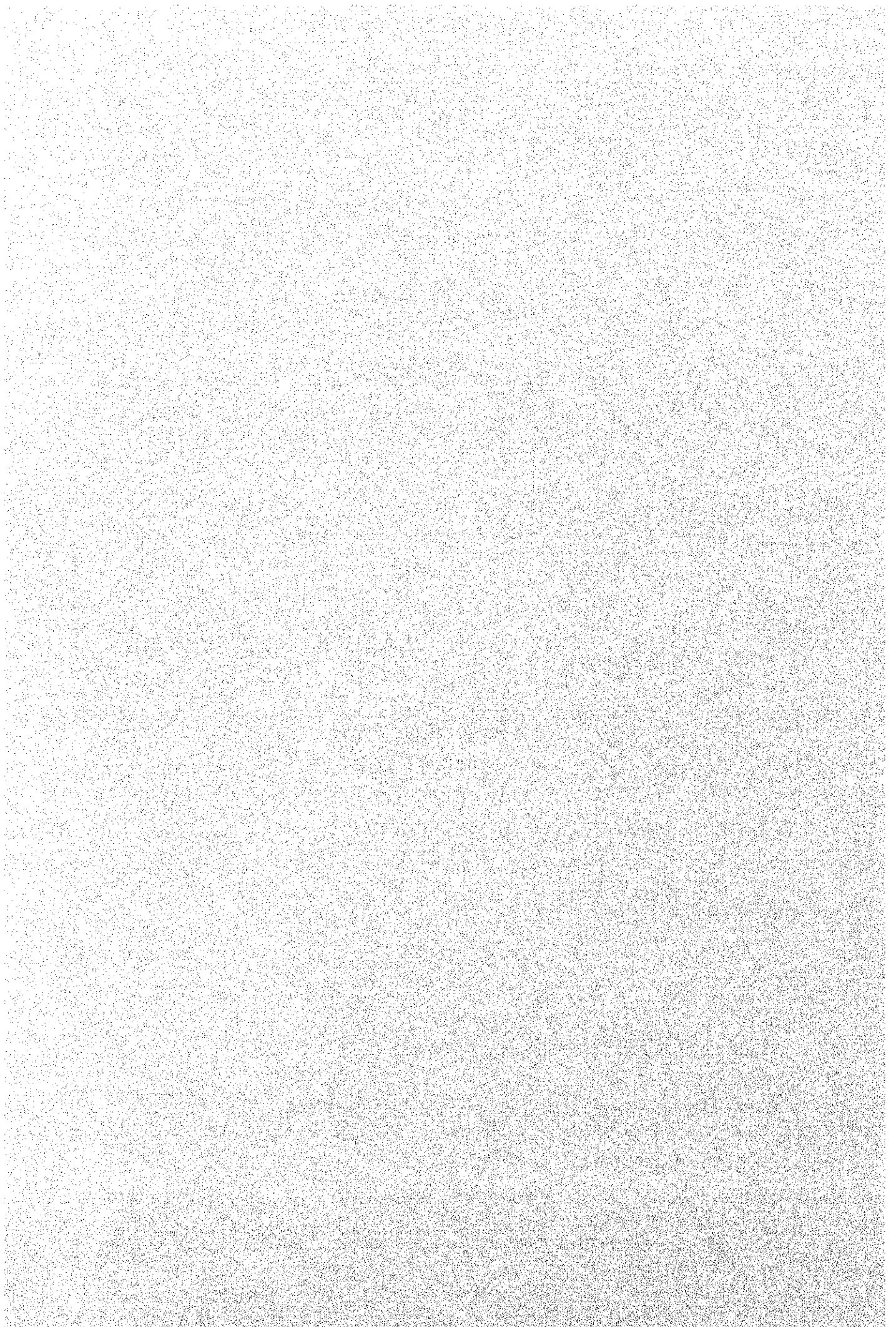
It has to be noted, however, that Persahabatan Hospital offers medical services to low-income residents as a class-B hospital, and about 62.3% of its beds is of the third class. Therefore, it is likely that the actual income from medical charges will be less than those projected above. However, even if the entire income is calculated based on the third-class rate, which is about 80% of that of the second class, the projected income will be 1,982,198 thousands rupiahs (about 99.1 million yen), which is still 465,149 thousands rupiahs (about 21.629 million yen) more than the maintenance cost needed for the equipment to be supplied.

Based on these analyses, it can be assumed that Persahabatan Hospital can cover the maintenance cost of the equipment to be provided through the proposed project with the income from diagnosis and treatment, for which medical charge rates are established under the approval of the Ministry of Health, and that the project will enhance the hospital's financial strength and can be continued by the hospital independently.

2-4 Technical Cooperation

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 technical cooperation may not be concerned.

CHAPTER 3 BASIC DESIGN



Chapter 3 Basic Design

3-1 Design Policy

The Indonesian government, in an effort to strengthen its medical service capabilities to cope with respiratory diseases, drafted a medical-equipment improvement plan for Persahabatan Hospital, which is the highest-ranking referral hospital for 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 Basic Design Survey Team established specific goals in order to give a general direction to the project; that is to improve the health and medical situations of the proposed areas around the Persahabatan Hospital, and more specifically, to decrease the morbidity rates of the most prominent and common diseases by supplying equipment that is related not only to tuberculosis and other respiratory diseases, but also to the enhancement of the general capabilities of the entire hospital.

The survey team went to Indonesia, explained about the approach they decided to take, and carried out a field survey in Persahabatan Hospital. The team and the concerned Indonesian parties had a series of discussions and reached the consensus stated below:

Persahabatan Hospital serves as the top-ranking referral hospital for tuberculosis and other respiratory diseases, an educational hospital for the medical faculty of Indonesia University, and a class-B general hospital that provides primary medical care for the residents of East Jakarta, Jakarta. However, 30 years have passed since its establishment and the hospital is struggling to provide expected services with its insufficient facilities and equipment.

Therefore, project's focus should not be limited to the top-referral function for tuberculosis and other respiratory diseases, but rather try to integrate and balance the three major functions of the Persahabatan Hospital: top-referral hospital for respiratory diseases, educational hospital, and class-B national hospital. Thus, the equipment that will bring the maximum results for the whole hospital should be selected. In deciding the scope of the cooperation, the cooperation should be extended only to the areas to which Japan's grant aid is deemed appropriate and viable in terms of necessity, priority, and cost vs. effect, 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-change 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 capability 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 existing medical equipment.
7. The project should not overlap assistance from other aid organizations.

In order to develop the most appropriate equipment-supply plan for the proposed project, we will explain our design policies, which take into account Indonesia's natural and social conditions, the current status of the implementing agency, situations and problems concerning procurement, characteristics of this project, etc..

(1) Policies concerning natural environment

The average monthly temperature in Jakarta is about 26 degree centigrade to 27.6 degree centigrade throughout the year. Temperatures within a day fluctuates only slightly between 23 degree centigrade and 31 degree centigrade; and the humidity, which ranges from 72% to 80%, is also stable throughout the year. Although the annual precipitation is only about 1,799 mm, storms that suddenly cause strong winds and a large amount of rainfall occur during the rainy season. It is said that East Jakarta, where Persahabatan Hospital is located, used to be a swampland, however, no flooding or other types of natural disaster have occurred during the past 10 years.

Thus, in selecting equipment, especially precision instruments, the high atmospheric temperature and humidity need to be taken into consideration.

(2) Policies concerning social conditions

Persahabatan Hospital, which is a class-B national hospital, not only provides diagnosis and treatment for patients covered by medical insurance policies, but also offers free or partially-free medical services to those who cannot afford to buy medical insurance policies or pay for the actual medical charges. Therefore, the equipment-supply plan should be designed in such a way that the new equipment will not raise the medical cost or create additional burden on individual patients.

(3) Policies concerning the utilization of local agents, equipment, and materials

Medical products manufactured in Indonesia are mostly beds, stretchers, and machine cabinets, and hardly any expensive medical equipment is produced in Indonesia. However, many of the Japanese, European, American and other foreign medical-equipment makers have local agencies staffed with qualified engineers capable of servicing their equipment. Also, many of them have branches not only in Jakarta but also in other parts of Indonesia.

Although all of the equipment will be imported from Japan under this project, only those made by the manufacturers that have Indonesian branches that are set up to supply spare parts, periodic replacement parts, and consumable supplies and provide maintenance services.

(4) Policies concerning the maintenance and management abilities of the implementing agency

Delivery of the equipment will be accompanied by the maintenance and management training for those who will be in charge of each item so that the equipment will be properly maintained and managed. Since the equipment will be used in the diagnosis and treatment procedures that are well-established in Persahabatan Hospital, it is not likely that the local staff will encounter problems in dealing with such equipment. In selecting equipment items, those made by such manufacturers who have agencies within Jakarta with comprehensive maintenance service capabilities will be given priority.

(5) Policies concerning the scope and grade of the equipment

In selecting basic equipment which can be used for diagnosis and treatment of some of the most common diseases in Indonesia, such factors as easy and assured maintenance and compatibility with the existing equipment are taken into consideration. Highly sophisticated diagnosis/treatment equipment or equipment used for uncommon diseases will be excluded from the project. As mentioned earlier, the project plan will be developed for 13 departments of Persahabatan Hospital.

Since it will take about three months before Persahabatan Hospital will become able to purchase its own spare parts and supplies, spare parts and supplies for the first three months and those needed for acceptance inspection at the time of delivery will be included in the basic design. Certain peripheral devices that are necessary for the operation of main equipment such as an automatic voltage stabilizer will also be a part of the basic design.

When implementing the project, operation manuals, maintenance manuals, and other related materials will be supplied along with the equipment in addition to a list of the names of the manufacturers of the equipment, their local agencies, and service representatives so that ordering of spare parts or supplies will be expedited.

(6) Policies concerning installation period

In determining the installation period, Indonesia's natural environmental factors and social conditions will be taken into consideration. The installation process will be so designed that interruptions to the normal operation of the hospital due to installation work or other kinds of interference due to a temporary relocation of certain offices, etc. will be minimized. Distribution and installation of various medical equipment and instruments will be undertaken as efficiently and quickly as possible so that the daily operation of the hospital will not be interrupted.

For large-scale instruments that require substantial installation work, the installation procedures will be thoroughly discussed and well organized at the manufacturer's site before shipment, so that they can be installed in the shortest time possible. Since such equipment requires remodeling of certain facilities, appropriate measures need to be taken beforehand such as drafting installation maps and obtaining necessary approvals.

3-2 Study and Examination on Design Criteria

As stated in the previous section, both the Japanese and Indonesian sides agreed that, instead of focusing on the top-referral function for respiratory diseases, equipment should be selected in such a way that Presahabantan Hospital's three major functions as the top referral hospital for respiratory diseases, an educational hospital, and a class-B national hospital would be integrated in a well-balanced manner to achieve optimum results. Based on this cooperation policy, we will examine the content of the request.

(1) Situation of Indonesia as a whole

The Indonesian government, in each of its first through fifth 5-Year National Development Plan (1969/1970 - 1993/1994), set goals to promote equality, improvement of quality of life, and local residents participation. The government made efforts to decrease infectious diseases and other prominent diseases, establish a network to provide health and medical services to all residents including those living in remote areas and islands, improve the quality of medical services in local areas, take measures for low-income citizens, improve nutritional and sanitary situations, and supply pharmaceutical goods.

Through such efforts, a number of positive results were achieved to a certain extent, such as the eradication of smallpox (declared by WHO in 1974), decrease in the incidence of various other diseases, extension of average life expectancy, decrease in mortality rates for infants and pregnant women, improvement in nutrition, and proliferation of health services. However, certain problems such as those listed below still exist and require further improvement:

1. Significant disparities among provinces and between urban and rural areas.
2. High morbidity rates among low-income and provincial residents.
3. Deterioration of the environment such as air pollution, water contaminates, and industrial waste, and increase in accidents and occupational diseases due to industrialization.
4. Increasing health and medical costs due to population growth and the aging society.
5. Malnutrition.
6. Underdeveloped sanitation facilities such as lavatories and the sewerage system.
7. Underdeveloped pharmaceutical and medical equipment industry.

In Indonesia, the incidence of various diseases in urban areas differ from those of rural areas. Nationwide, prominent diseases can be divided into the following categories: (1) infectious diseases (respiratory diseases, diarrhea, malaria, hepatitis, etc.); (2) non-infectious diseases (circulatory diseases, cancer, diabetes, etc.); (3) nutritional disorders (vitamin-A deficiency, anemia, etc.). The morbidity rates of infectious diseases are still high throughout the county, especially in rural areas and low-income districts in urban areas. Infectious diseases (respiratory diseases, diarrhea, malaria, hepatitis, etc.) were the major causes of death in 1980. According to the statistics for 1992, circulatory diseases became the number one cause of death while the deaths caused by infectious diseases declined. This indicates that the country's disease structure is gradually becoming more similar to those of industrialized nations. Deaths caused by respiratory diseases still remain high, occupying two out of the top ten causes of death. Thus, the Persahabatan Hospital has a great responsibility as the top-referral hospital for respiratory diseases.

(2) Situation of East Jakarta, Jakarta

East Jakarta where Persahabatan Hospital is located has the largest population in Jakarta, and its population growth rate is also high. The principal 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 indicates an urban-type disease structure. 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.

(3) Situation of Persahabatan Hospital

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 equipment.

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 common 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 division in 1992, the internal medicine division dealt with the largest number of patients or 12.56% of the total followed by the emergency division with 11.88% and the respiratory division 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 the 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 15,301 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 broken-down by department in 1992, the Obs/Gyn division had the largest number of inpatients or 17.81% of the total followed by the surgical

division with 15.92%, the internal department with 14.57%, and the pediatric division with 14.15%.

According to the statistics by district in 1992, more than 80% of the outpatients 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. The total 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 division 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 division 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.

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-supporting financing system.

Presently, there are five hospitals throughout Indonesia that have adopted this system under the supervision of the Ministry of Health, and Persahabatan Hospital was the first of such hospitals that was appointed to implement the system 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. Because of 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 expand on its own.

Persahabatan Hospital serves also as an educational hospital for the medical school of the 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 divisions, of which 28 were in the respiratory division and 62 in other

divisions. In addition, 850 people participated in training held at the internal medicine, Obs/Gyn, surgical, dermatology, pediatric, and other divisions. 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 division 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 the University of Indonesia.

Therefore, the parties concerned have agreed to revise the original request, in which equipment only to enhance the functions of the respiratory division had been requested, and to enhance the overall capabilities of the hospital and achieve the maximum results by choosing equipment that would strengthen the three functions in a well-balanced manner.

The proposed cooperation would help to reduce the morbidity rates of many of the most common diseases treated in Persahabatan Hospital as well as contributing to the advancement of diagnosis and treatment of respiratory diseases that are among the most prominent diseases in all of Indonesia. The proposed project demonstrates that the Indonesian side has adequate financial and technical capability to take over the project and develop it on its own, and is deemed appropriate for Japan's grant aid in terms of its necessity, priority, and cost effectiveness.

With the above considerations, in terms of expected results and implementation capability of the recipient country, the requested project was deemed appropriate and viable to be carried out under Japan's grant aid system. Therefore, we will examine the outline of the project in the following sections and develop a basic design.

3-3 Basic Plan

3-3-1 Equipment Plan

The project's policy for selecting equipment is not to focus simply on the hospital's role of the top-referral hospital for respiratory diseases, but to integrate the three functions of the hospital (i.e., top-referral for respiratory diseases, educational hospital, and class-B national hospital) in a well-balanced manner in order to achieve the optimum results.

Therefore, based on the following principles, the medical equipment and instruments listed in the subsequent section were carefully selected:

- a. It does not contribute to basic medical services.
- b. It is not suitable for the level and the function of the target department.
- c. It would not be utilized fully as its usage rate is low.
- d. It can be procured from local sources easily using the hospital's own budget.
- e. Maintenance is deemed difficult from financial and technical standpoints.
- f. It belongs to the category of consumable and reagents.
- g. Similar equipment is already requested in the proposal.
- h. It is included as a component of another requested equipment or has the same function as that of another requested equipment.
- i. It is no longer needed as the same type of equipment has been procured or a budget has been allocated after the submission of the proposal.
- j. It has been substituted with less advanced and easier-to-operate equipment that does not require high precision.
- k. There are no (or hardly any) agents within the country that can supply consumable and spare parts.
- l. No appropriate equipment can be found to suit the need.
- m. It has been substituted with more up-dated equipment that is commonly used today.

The requested equipment was selected by explained principles.

1. First Request
2. Second Request
3. Final List

NO.	ITEM	1	2	3	REASON													
					a	b	c	d	e	f	g	h	i	j	k	l	m	
1	Lapaloscope set for Gyn/Obs		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
2	MicroSurgery set for Obs/Gyn		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
3	Panoramic Histeroscope		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
4	Endoscopic sinus Surgery set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
5	Flow cyto meter(spesification unavailable)	<input checked="" type="radio"/>			<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>							<input checked="" type="radio"/>		
6	Bronchofiberscope(Adult)	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
7	Bronchofiberscope(children)	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
8	Continuous Suction unit		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
9	Equipment for Local Anaesthesy	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
10	Accessories for Biopsy forceps, aspiration Needle	<input checked="" type="radio"/>											<input checked="" type="radio"/>					
11	Pulse-oxymeter	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
12	Connector for BAL procedure	<input checked="" type="radio"/>								<input checked="" type="radio"/>								
13	Teaching scope	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
14	Thoracoscopy set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
15	TV Endoscopy System	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
16	Portable Nebulizer		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
17	Laser apparatus for bronchoscopic examination	<input checked="" type="radio"/>							<input checked="" type="radio"/>							<input checked="" type="radio"/>		
18	Portable Spirometer		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
19	Astograph		<input checked="" type="radio"/>						<input checked="" type="radio"/>									
20	Body phletysmograph		<input checked="" type="radio"/>						<input checked="" type="radio"/>									
21	Lapaloscope set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
22	MiniSurgery set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
23	Small bone Surgery set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
24	Plastic microSurgery set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
25	Plastic microSurgery set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														

NO.	ITEM	1	2	3	REASON														
					a	b	c	d	e	f	g	h	i	j	k	l	m		
26	Arthroscope		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
27	Heart lung machine		<input checked="" type="radio"/>			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>								<input type="radio"/>		
28	Overhead suspension exercise		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
29	Microwave therapy apparatus		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
30	Tredmil		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
31	Postural Drainage Bed		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
32	Tredmil (Stress system)		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
33	Defibrillator for Tredmil (Stress system)		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
34	Portable U.S.G. + (W/Puncture Probe)		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
35	Chest X-ray biplane with TV fluoroscopy monitor 850mA	<input checked="" type="radio"/>				<input type="radio"/>	<input type="radio"/>		<input type="radio"/>								<input type="radio"/>		
36	X-ray Conventional W/Monitor		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
37	Automatic film processor	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
38	Portable X-ray apparatus		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
39	Whole body CTscanner High Resolution	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
40	Tomogram		<input checked="" type="radio"/>										<input type="radio"/>						
41	Dermabrader		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
42	Pulse-oxymeter	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
43	Capnography (CO2 Monitor)		<input checked="" type="radio"/>						<input type="radio"/>								<input type="radio"/>		
44	PCR equipment with auxillaries material	<input checked="" type="radio"/>				<input type="radio"/>			<input type="radio"/>										
45	Bottle top dispenser 0.5-5.9ml	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
46	Material for PCR examination	<input checked="" type="radio"/>							<input type="radio"/>										
47	Hematocrit centrifuge		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
48	DNA probe and Biochemical differential kit for Mycobacterium	<input checked="" type="radio"/>							<input type="radio"/>										

NO.	ITEM	1	2	3	REASON														
					a	b	c	d	e	f	g	h	i	j	k	l	m		
49	Micro pipet (adjustable) 5-50ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
50	Resistance kit for Mycobacterium	<input checked="" type="radio"/>								<input checked="" type="radio"/>									
51	Micro pipet (adjustable) 50-200ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
52	Micro pipet (adjustable)200-1,000ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
53	Micro pipet (fix volume)	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
54	pH meter		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
55	Automatic Coagulator	<input checked="" type="radio"/>				<input checked="" type="radio"/>	<input checked="" type="radio"/>												
56	Refrigerator	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
57	Rotator		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
58	Electrolyte analyzer for Na, K, CL	<input checked="" type="radio"/>												<input checked="" type="radio"/>					
59	Blood Sell Auto-Analyzer		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
60	Chemistry Auto-Analyzer		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
61	Binocular Microscope	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
62	Centrifuge (Macro)	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
63	Enzyme immunoassay unit	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
64	Automatic Pipet Washer		<input checked="" type="radio"/>												<input checked="" type="radio"/>				
65	Blood Sedimentation Unit		<input checked="" type="radio"/>												<input checked="" type="radio"/>				
66	Hemoglobinmeter		<input checked="" type="radio"/>											<input checked="" type="radio"/>					
67	Automatic Coagulator		<input checked="" type="radio"/>			<input checked="" type="radio"/>	<input checked="" type="radio"/>												
68	Printer	<input checked="" type="radio"/>													<input checked="" type="radio"/>				
69	Laboratory building (2 stories)	<input checked="" type="radio"/>																	
70	Electron microscope	<input checked="" type="radio"/>				<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>		<input checked="" type="radio"/>					<input checked="" type="radio"/>				
71	aparatus for tissue culture	<input checked="" type="radio"/>												<input checked="" type="radio"/>					
72	Apparatus for monoclonal antibody examination	<input checked="" type="radio"/>									<input checked="" type="radio"/>								

NO.	ITEM	1	2	3	REASON														
					a	b	c	d	e	f	g	h	i	j	k	l	m		
73	Microbiology analyzer	<input checked="" type="radio"/>			<input type="radio"/>	<input type="radio"/>				<input type="radio"/>							<input type="radio"/>		
74	Automated Ast Reader	<input checked="" type="radio"/>											<input type="radio"/>						
75	Media Preparator and Autoclave	<input checked="" type="radio"/>											<input type="radio"/>						
76	Fully automated immunoassy analyzer	<input checked="" type="radio"/>			<input type="radio"/>	<input type="radio"/>				<input type="radio"/>							<input type="radio"/>		
77	BACTEC Apparatus	<input checked="" type="radio"/>			<input type="radio"/>	<input type="radio"/>				<input type="radio"/>							<input type="radio"/>		
78	Slide Warming		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
79	Automatic photomicrographic system		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
80	Cryotome		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
81	Cytospin		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
82	Floating bath		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
83	Histocenter tissue embedding		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
84	Microtome		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
85	Sputum homogenizer		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
86	Binocular Microscope	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
87	Tissue processor		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
88	Knife/blade for microtome		<input checked="" type="radio"/>							<input type="radio"/>									
89	Tissue embedding cassette		<input checked="" type="radio"/>							<input type="radio"/>									
90	CO2 Incubator	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
91	pH meter		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
92	Safety Cabinet		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
93	Colony counter	<input checked="" type="radio"/>		<input checked="" type="radio"/>															
94	Shaking and rotating agitator		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
95	Slide box		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
96	Slide rapid-dryer cabinet		<input checked="" type="radio"/>	<input checked="" type="radio"/>															
97	Personal computer w/Printer	<input checked="" type="radio"/>		<input checked="" type="radio"/>															

NO.	ITEM	1	2	3	REASON															
					a	b	c	d	e	f	g	h	i	j	k	l	m			
98	Incubator (for Culturing)		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
99	Micro pipets w/tips 5-20ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
100	Micro pipets w/tips 10-100ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
101	Micro pipets w/tips 200-1000ul	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
102	Mini Centrifuge	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
103	Clock timer		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
104	Hot air sterilizer		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
105	Liquid dispenser for delivery 2-5		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
106	Teaching Microscope		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
107	Fluorescet Microscope		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
108	Lab.Counter		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
109	Hemacytometer		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
110	Anaerobic system cabinet	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
111	Steam pressure autoclave Stand type	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
112	Specimens Transport Carry		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
113	Water bath		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
114	Vortex mixer		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
115	Tube racks 15mm		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
116	Tube racks 18mm		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
117	Tube racks 20mm		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
118	Tube rack 60 tube : Dia. 2.5cm		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
119	Tube rack(supine position)		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
120	Automatic slide stainer	<input checked="" type="radio"/>		<input checked="" type="radio"/>																
121	Fluorescent Microscope w/Photograph system		<input checked="" type="radio"/>	<input checked="" type="radio"/>																
122	Binocular Microscope W/Photograph-unit		<input checked="" type="radio"/>	<input checked="" type="radio"/>																

NO.	ITEM	1	2	3	REASON													
					a	b	c	d	e	f	g	h	i	j	k	l	m	
123	Waterdistilled Apparatus		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
124	Binocular Microscope	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
125	Tabletop Centrifuge 10,000rpm		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
126	Centrifuge (Macro)		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
127	Steam pressure autoclave Table top		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
128	Electronic analytic balance		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
129	Electric Balance		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
130	Inverted microscope		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
131	Refrigerator for Medium w/ Observation window		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
132	Centrifuge Refrigerated		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
133	Strage freezer(minimum temp. -20Deg. C)		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
134	Inspissator / Te-Her Full Full Auto Coagulator		<input checked="" type="radio"/>		<input type="radio"/>	<input type="radio"/>												
135	Heat proof gloves		<input checked="" type="radio"/>							<input type="radio"/>								
136	Tripod		<input checked="" type="radio"/>					<input type="radio"/>										
137	Bunsen burner		<input checked="" type="radio"/>					<input type="radio"/>										
138	Apparatus for tissue culture		<input checked="" type="radio"/>								<input type="radio"/>							
139	Automatic Petri Disk Filler		<input checked="" type="radio"/>				<input type="radio"/>					<input type="radio"/>						
140	Local Area Network Computer System		<input checked="" type="radio"/>		<input type="radio"/>								<input type="radio"/>					
141	Sound and Slide Projector	<input checked="" type="radio"/>																<input type="radio"/>
142	Audio vidual set		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
143	Epidiascope		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
144	Overhead projector	<input checked="" type="radio"/>		<input checked="" type="radio"/>														
145	Copy Board	<input checked="" type="radio"/>			<input type="radio"/>	<input type="radio"/>												
146	Slide porjector		<input checked="" type="radio"/>	<input checked="" type="radio"/>														
147	Personal computer w/Printer	<input checked="" type="radio"/>		<input checked="" type="radio"/>														

NO.	ITEM	1	2	3	REASON													
					a	b	c	d	e	f	g	h	i	j	k	l	m	
148	Data Display Panel	<input checked="" type="radio"/>			<input type="radio"/>		<input type="radio"/>											
149	High resolution color monitor	<input checked="" type="radio"/>										<input type="radio"/>						
150	Color scanner	<input checked="" type="radio"/>			<input type="radio"/>		<input type="radio"/>											
151	Computerised Data file system	<input checked="" type="radio"/>			<input type="radio"/>		<input type="radio"/>											
152	CD Rom	<input checked="" type="radio"/>			<input type="radio"/>		<input type="radio"/>											

The medical equipment and instruments to be supplied through the proposed project are listed below:

	Department	Item	Q'ty
1	Obs/Gyn Dept.	Laparoscope Set	1
2		MicroSurgery Set for Obs/Gyn	1
3		Panoramic Histeroscope	1
4	ENT-Dept.	Endoscopic Sinus Surgery Set	1
5	Pulmo-Dept.	Bronchofiberscope (Adult)	2
6		Bronchofiberscope (Children)	1
7		Suction Unit	22
8		Equipment For Local Anaesthesia	2
9		Pulse-Oxymeter	2
10		Teaching Scope	1
11		Thoracoscopy Set	1
12		TV Endoscopic System	1
13		Portable Nebulizer	12
14		Portable Spirometer	1
15	Surg-Dept.	Laparoscope Set	1
16		MiniSurgery Set	1
17		Plastic MicroSurgery Set	1
18		Small Bone Surgery Set	1
19		Arthroscope	1
20	Reha-Dept.	Overhead Suspension Exercise	1
21		Shortwave Therapy Apparatus	1
22		Treadmil	1
23		Postual Drainage Bed	1
24	Cardio-Dept.	Treadmil (Stress System)	1
25	Radio-Dept.	Portable U.S.G. + (W/Puncure Probe)	1
26		X-Ray Conventional W/Monitor	1
27		Automatic Film Processor	2
28		Portable X-Ray Apparatus	1
29		Whole Body CT Scanner High Resolution	1
30	Derm-Dept.	Dermabrader	1
31	I.C.U. Dept.	Pulse-Oxymeter	5

No.	Department	Item	Q'ty
32	C-Lab.	Bottle Top Dispenser 0.5-5.9ml	2
33		Hematocrit Centrifuge	1
34		Micro pipet (adjustable) 5-50ul	2
35		Micro pipet (adjustable) 5-200ul	2
36		Micro pipet (adjustable) 200-1,000ul	2
37		Micro pipet (fix volume)	2
38		pH Meter	1
39		Refrigerator	2
40		Rotator	1
41		Blood Cell Auto-Anaylzer	1
42		Chemisry Auto-Anaylzer	1
43		Binocular Microscope	6
44		Centrifuge (Macro)	2
45		Enzyme Immunoassay Unit	1
46	Patho-Lab.	Slide Warming	1
47		Automatic Photomicrographic System	1
48		Cryotome	1
49		Cytospin	1
50		Floating Bath	2
51		Histocenter Tissue Embedding	1
52		Microtome	1
53		Sputum Homogenizer	1
54		Binocular Microsopce	1
55		Tissue Processor	1
56	M-Lab.	CO2 Incubator	2
57		pH Meter	1
58		Safety Cabinet	2
59		Colony Counter	1
60		Shaking and Rotating Agitator	1
61		Slide Box	10
62		Slide Rapid-Dryer Cabinet	1
63		Personal Computer with Printer	1
64		Incubator (for Culturing)	3

No.	Department	Item	Q'ty
65	M-Lab.	Micro Pipets with tips 5-20ul	2
66		Micro Pipets with tips 10-100ul	2
67		Micro Pipets with tips 200-1,000ul	2
68		Centrifuge (Macro)	2
69		Clock Timer	2
70		Hot Air Sterilizer	1
71		Liquid Dispenser for delivery 2-5	1
72		Teaching Microscope	1
73		Fluorescent Microscope	1
74		Lab. Counter	1
75		Hemocytometer	5
76		Anaerobic System Cabinet	1
77		Steam Pressure Autoclave (Stand Type)	2
78		Specimens Transport Carry	2
79		Water Bath	2
80		Vortex Mixer	4
81		Tube Racks 15mm	10
82		Tube Racks 18mm	10
83		Tube Racks 20mm	20
84		Tube Rack 60 Tube: Dia.2.5cm	10
85		Tube Rack (supine position)	10
86		Automatic Slide Stainer	1
87		Fluorescent Microscope with Photograph	1
88		Binocular Microscope with Photograph-unit	1
89		Water Distilled Apparatus	1
90		Binocular Microscope	8
91		Table Top Centrifuge 10,000rpm	1
92		Mini Centrifuge	1
93		Steam Pressure Autoclave (Table Top)	1
94		Electronic Analytic Balance	1
95		Electric Balance	1
96		Inverted Microscope	1
97		Refrigerator for Medium with Observation	2

No.	Department	Item	Q'ty
98	M-Lab.	Centrifuge Refrigerated	2
99		Storage Freezer (Minium Temp. -20 Deg. C)	2
100	Train. Dept.	Audio Vidual Set	1
101		Epidiascope	1
102		Overhead Projector	3
103		Slide Projector	2
104		Personal Computor with Printer	1

3-4 Implementation Plan

3-4-1 Conditions for Each Department

Based on the design policies described in the previous section, we will examine the design criteria for each of the 13 departments to be covered by the proposed project.

(1) Obs/Gyn department

This department was established in 1968 with one midwife caring outpatients only. Subsequently, the division became equipped with 34 inpatient beds and staffed with an obstetrician from University of Indonesia and nine midwives. As of 1994, the department has 11 Obs/Gyn doctors, 32 nurses, 16 midwives, and 11 clerical workers along with 49 inpatient beds and 15 beds for family members attending newborn babies. Its special outpatients clinics consist of obstetrics, gynecology, tumor clinic, infertility counseling room, and perennial clinic.

The department's main medical practices include observation and diagnosis of fetuses using ultrasonic devices, treatment of infertility with hydrotubation and laparoscopes, judgment of latent fetal distress using a cardiotachograph, treatment of tumors and cervical erosions by cryogenic surgery, observation and diagnosis of fetuses with Doppler heart sound monitoring, diagnosis of infertility, treatment and removal of tumors, and determination of perennial cycles. Its main focus for the future is on the infertility treatment and enhancement of the perennial and tumor clinics.

On the equipment list, three set of items are requested: laparoscope set, micro-surgery set for Obs/Gyn, and hysteroscope, all of which are basic equipment needed for diagnosis and treatment in the hospital.

(2) Otolaryngology department

When the hospital opened in 1965, the division was operated by an ENT doctor borrowed from Cipto Mangunhusumo Hospital. In 1970, two physicians became full-time staff of the department. As of 1994, the division consists of four ENT doctors, one general doctor, 19 medical technicians, and six clerical workers. Whereas the department was only offering a basic kind of medical care in the early days, it has become able to perform comprehensive otolaryngological diagnosis and treatment since 1993 when it started endoscopic sinus surgeries as the latest treatment for sinus inflammation, etc.. For outpatients, such medical care is performed as diagnosis and

treatment of hearing impairment using audiometer method or nasal endoscope, biopsy for pathological test, and minor surgeries using nasal endoscopes.

There are nine second-class and third-class inpatient beds, and the division conducts health examinations at the VIP periodic checkup clinic situated within the site.

Surgeries are performed at the central surgery unit using surgical microscopes as is the case with other types of microsurgery. It has an adequate setup to admit emergency patients 24 hour a day. Another special service it offers is an endoscopic sinus surgery. The department has adequate facilities for diagnosis and treatment of sinusitis and inflammation of middle ear, which plague most of its outpatients and inpatients.

The department is equipped with audiometer and other microsurgical equipment, microscopes for diagnosis, nasal endoscopes, endoscopic sinus surgery set, and surgical microscopes.

On the equipment list, an endoscopic sinus surgery set is requested, which is to replace the existing equipment and is a basic instrument needed for the diagnosis and treatment in the hospital.

(3) Respiratory department

When the hospital was established, the division was engaged in medical practice as a satellite facility of the respiratory department of Indonesia University. It became independent from the university later, and presently the division is staffed with 16 respiratory doctors, 30 interns to be specialized in respiratory diseases, 80 medical staff, and 30 clerical workers.

The department has a total of 89 inpatient beds in addition to two beds in the special recovery room. The hospital has attained a prestigious position not only as the top-referral hospital for diagnosis and treatment of various respiratory diseases in Indonesia but also as a research institute.

The three-story Asthma Ward, which was constructed through donation from the Indonesian Asthma Foundation in 1991, offers diagnosis and treatment of bronchial asthma and related information; it is run by the respiratory doctors specialized in asthma, other medical staff, and clerical workers.

At the outpatient clinic, pulmonary function test, bronchiole induction test, and test for abnormal contraction of the smooth muscles using bronchodilator drugs are conducted. Also, diagnosis, biopsy, removal of foreign substances, and allergic reaction test are conducted using bronchoscopes. Oxygen therapy and aspiration therapy are also offered along with diagnosis.

Each Saturday, the department organizes a meeting where asthma patients and their families can exchange information and talk about their problems. Also, an Asthma Patient Circle was initiated, and it developed its own set of exercise for asthma patients, which is widely accepted as "Indonesian Asthma Exercise" in the local community.

On the equipment list, bronchoscopes for adults, bronchoscope for children, continuous suction units, local anesthesia equipment, pulse-oxymeters, teaching scope, thoracoscopy set, TV endoscopy system, nebulizers, portable spirometer, etc. are requested. All of these articles will be replacing existing instruments and will be needed for the diagnosis and treatment such as lung function test and contrast enhancement of bronchiole.

(4) Surgical department

The department initially handled 10 to 15 patients with 12 inpatient beds. Since 1978, when the emergency reception was added, facilities, equipment, and personnel have been increased at different phases. A full-time orthopedist was assigned to the department in 1980, and more beds were added to the ward in 1982. Presently, the division operates with two orthopedists, a doctor specialized in tumors, two surgeons, a neurosurgeon, 51 other medical staff, and 14 non-medical staff. Outpatient clinics include general surgery and such specialized surgical fields as digestive, pediatric, tumor, plastic, orthopedic, and neurosurgery.

There are a total of 96 beds, of which 36 are second class, 31 are third-A class, and 29 are third-B class. The emergency reception is always attended by a surgeon and operates 24 hours a day.

The neurosurgery department is especially eager and constantly tries to develop new technologies and upgrade the skill levels for microsurgery including nerve tissue transplant and other methods for the appropriate treatment of traumatic diseases.

As requested items, a minisurgery set, plastic microsurgery set, small bone surgery set, and arthroscope are listed on the equipment list. These are the most basic kind of

instruments used in the division, thus the donation of these items will not likely cause any problems. Also, CT scanner requested by the radiology department will serve a huge demand within the hospital created by the increase in the number of accidents and other causes.

(5) Rehabilitation department

The department is operated by a staff of three specialized doctors, 12 physical therapists, two occupational therapists, one rehabilitation trainer, one speech therapist, and a few other workers.

Persahabatan Hospital is a B-class hospital and the top-referral hospital for respiratory diseases in Indonesia, and many of the increasing number of respiratory patients are needing rehabilitation by physical therapy. Also, due to a large number of patients who suffer from strokes, arthritis, neurological diseases, and orthopedic diseases, the department needs various types of rehabilitation equipment.

As requested items, an overhead suspension exercise, microwave therapy apparatus, treadmill, and postural drainage bed are listed on the equipment list. These will be replacing the existing equipment and are needed for basic diagnosis and treatment.

(6) Cardiology department

The department consists of a circulatory doctor, four interns to be specialized in circulatory diseases, three cardiac/internal doctors, 27 medical staff, and eight clerical workers. In 1990, the cardiac care unit with 32 beds was established through the assistance from France. The department has a regular outpatient clinic, special outpatient clinic for circulatory diseases, and circulatory emergency clinic. It also offers periodic physical examination for VIPs, pacemaker implants, and other types of medical care.

The department is requesting a stress-system treadmill, with which it plans to cope with the increasing number of circulatory disease patients in Jakarta including East Jakarta by upgrading the cardiac stress test for determining the range where the ischemia occurs in coronary heart disease patients.

(7) Radiology department

The department consists of five radiologists, one radiotherapy doctor, and 15 radiologic technicians. Its activities are divided into diagnosis and treatment, and the main

equipment currently used for diagnosis include an X-ray machine, mammography, three portable-type X-ray machines, and two automatic film processors.

The department is requesting a CT scanner, X-ray machine, portable X-ray apparatus, and automatic film processors. Except for the CT scanner, all these instruments will be replacing present equipment and needed for basic diagnosis and treatment.

Although the conventional-type X-ray machine, tomography machine, and X-ray machine with monitor, which were donated by Japan about nine years ago, have been maintained well, some machines cannot produce clear enough images for accurate assessment due to aging.

One of the portable-type X-ray machines was made in 1960 and is not usable today. Since another X-ray machine is used in the physical examination clinic for VIPs in a separate building, and another is used as a backup in the radiology department and also for inpatients in serious conditions, the current X-ray equipment is hardly sufficient to cope with increasing demand.

Demand for CT scanner is also rising. All clinical divisions including emergency divisions send patients who need CT scan to private and public hospitals in the vicinity, and most of the patients are sent to Cipto Mangunhusumo Hospital, a class-A national hospital. However, because even Cipto Mangunhusumo Hospital can handle so many patients at a time, about 100 patients are usually on the waiting list and have to wait for at least a few days. As for maintenance, since two of the five radiologists use a CT scanner at a private hospital outside their normal working hours, the training to be offered at the time of installation will be sufficient for them to learn about the operation of the equipment and interpretation of images. However, outside vendors will be contracted to do the repair and inspection of the CT scanner as is the case with other X-ray machines.

(8) Dermatology department

Since the opening of the hospital in 1963, the department had been offering medical services with a dermatologist dispatched periodically from University of Indonesia until 1974, when a full-time dermatologist was assigned to the department. Currently, the department is comprised of seven dermatologists, who treat general skin disorders including skin allergy as well as performing cosmetic surgeries and skin surgeries and treating a wide range of uncommon diseases such as STD, leprosy, and malignant tumors.

The department can accommodate inpatients and perform various tests and treatment such as electrotony, hormone injection therapy, allergic reaction test, treatment of facial skin, and cryogenic surgery.

The department is requesting a dermabrader, which will be replacing the presently used dermabrader and is needed for basic diagnosis and treatment.

(9) ICU department

This is the hospital's newest department, which was established in 1990 through the assistance extended from France. Of a total of 13 beds in this division, eight are for general intensive care and five are assigned exclusively for respiratory patients. The department admitted a total of 710 patients between 1990 and 1993, and its bed occupancy rate of 70% exceeds the average rate for the entire hospital. It has a setup to perform blood-gas analysis and other emergency measures 24 hours a day and is equipped with respirators, an intensive monitor, and mobile X-ray machine.

The department is requesting five pulse-oxymeters, which will be allocated to the five beds for respiratory patients and are needed for the basic diagnosis and treatment of the department.

(10) Clinical laboratory department

The department is run by two specialized doctors, two doctors, 21 medical technologists, and five clerical workers. Biochemical tests, urine analyses, and other types of tests are conducted daily in the department, and it can perform emergency tests 24 hours a day.

The department is requesting a biochemical auto-analyzer, macro centrifuges, enzyme immunoassay unit, and hematocrit centrifuge, all of which are the replacement of the currently-used equipment and needed for basic diagnosis and treatment. Although the biochemical analyzer, which was donated by Japan nine years ago, has been maintained well and is operating normally, it has to be replaced as it is becoming increasingly difficult to obtain repair parts.

(11) Pathological laboratory department

When the hospital was established in 1964, the department was allocated only one room where only one medical technologist performed pathological tests. Later in 1970, the examination ward was constructed through a donation from the local council in Jakarta. Since 1975, two pathologists, two doctors, 21 medical technologists, and five clerical workers have been working in the department, where such regular tests as blood-cell test and blood test are conducted, and emergency tests can be carried out at any time of the day.

The department is requesting a binocular microscope, slide warmer, automatic photomicrographic system, cryotome, cyptospin, floating bath, tissue embedding console, microtome, and homogenizer; these are basic items for the pathological department and support testing procedures that have been already established in the hospital.

(12) Microbiological laboratory department

The department was started as an annex facility of the Lungs Surgery Department, which received cooperation from Japan in 1972. Today, it is a designated testing institution under the National Tuberculosis Control Program, and various studies and researches are carried out based on its extensive experience in the field. It was also designated by WHO as collaborating testing institution for tuberculosis. The department's operation has been expanding since, and it increased the number of microscopic tests on sputum from 25,159 in 1988 to 26,125 in 1992.

The department started conducting microbiological tests other than for tubercle bacilli in 1991, it is run by a doctor specialized in respiratory organs, two doctors in charge of public hygiene, eight medical technologists, and two non-medical workers. It offers education and training for medical students as well as for respiratory interns, medical technologists, and paramedics who come from all corners of Indonesia.

Regular tests include AFB smear test, Gram stain test, and culture test, resistance test, and sensitivity test for tubercle bacilli and other microorganisms. Also, resistance test against various drugs, tubercle bacilli identification test, and test for determining the effectiveness of a certain drug against certain bacteria are carried out as needed. Other activities include production of a clinical-examination manual for tuberculosis and participation in various domestic and international events concerning tuberculosis.

Most of the requested instruments are those of a basic kind such as centrifuge, binocular microscope, and incubators for culturing.

The department is requesting CO₂ incubators, pH meter, safety cabinets, colony counter, shaker, slide boxes, and slide dryer, which will be replacing currently-used instruments. Vitalization of the division achieved through the provision of these articles under the proposed project will be extremely effective considering the fact that the hospital is a WHO's collaborating institution for tuberculosis and an educational hospital.

13) Education and training department

This department, which is under the direct supervision of the Deputy Director of the hospital who is in charge of medical affairs, is responsible for the education and training of medical students and interns taught by full-time doctors and teachers at University of Indonesia. In 1993, 549 medical students, 135 doctors, and 100 other medical workers have received such education and training.

The department is requesting slide projectors, overhead projectors, and an epidiascope, which will be replacing the currently-used instruments. Vitalization of the division through the provision of these tools will effectively enhance its role as an educational hospital.

3-4-2 Implementation Method

This project will be implemented in accordance with the grant aid assistance system of the Government of Japan. The grant aid assistance for this project will be commenced formally after its approval by the Government of Japan and the Government of Indonesia and signing of an Exchange of Notes (E/N) by the governments of both countries.

Subsequently, the Government of Indonesia will select a Japanese consultant firm to work out basic design for the implementation of the project. When the documentation for the implementation plan is completed, procurement and installation of the equipment will be carried out by a Japanese company (or companies) which were selected through competitive tendering. The outline of the implementing procedures and points to be noted are described in the following section.

(1) Implementing system

The implementing agency in charge of the execution of the project will be the Ministry of Health of the Republic of Indonesia. Persahabatan Hospital, which is the proposed site of the requested project, falls under the jurisdiction of the Ministry of Health.

(2) Consultant

Promptly after the signing of the Exchange of Notes by the governments of Japan and Indonesia, a Japanese consultant firm will enter into a consultant service agreement with the Ministry of Health of Indonesia in accordance with Japan's grant aid assistance system. Based on said agreement, which will become effective upon verification by the Government of Japan, the consultant firm will provide the following services:

- 1) Detail design phase:
preparation of detail design documents and other technical documents
- 2) Tendering phase
assistance in selecting and contracting companies to procure the equipment
- 3) Procurement/installation phase
supervision of procurement and installation of the equipment and training in operation and maintenance thereof

Consultants will be comprised of two staff: Project Chief and Equipment Planner. Their respective assignments are as follows:

Project Chief: is responsible for supervision of all operations from the preparation of detail design through the completion of the project and for coordinating respective discussions with the governments of Japan and Indonesia.

Equipment Planner: serves as an assistant to the Project Chief and is in charge of preparation of documents to be submitted to the governments of Indonesia and Japan such as detail design specifications.

(3) Equipment procuring contractor

An equipment procuring contractor, which will be selected through tender, will sign an agreement with the Ministry of Health of Indonesia. The contractor, in accordance with the agreement which will be also made effective by the verification of the Japanese government, will procure and deliver necessary equipment and provide technical

training concerning the installation, operation, and maintenance of the equipment. They will also establish a maintenance system including the provision of spare parts and expendable supplies and technical training after the transfer of the equipment.

3-4-3 Supervisory Plan

In accordance with the grant aid system of the Government of Japan, Japanese consultant firm will enter into a consultant service agreement with the executing agency of the Indonesian government, and will carry out detail design and supervise the construction and equipment works. The objectives of the supervision of the above-mentioned works are to verify whether or not the equipment procurement is carried out according to the design documents and to improve qualities of the works by providing guidance, advice, and coordination throughout the project implementation from an impartial position in order to ensure that the procurement of the equipment will be carried out in strict accordance with the agreement. The supervisory activities include the followings:

(1) Assistance with tender procedure and contracting

To select a Japanese company to undertake the procurement/ installation work of the equipment, the consultant firm will prepare necessary tender documents, announce the tender publicly, accept application for participation in tender, examine the qualifications of applicants, issue tender documents to tenderer, accept tenders offered, evaluate the results, and give advice on the procurement of equipment to the Indonesian implementing agency and the chosen contractor.

(2) Guidance, advice and coordination for the contractor

The consultant will examine the equipment procurement and installation plan, and provide guidance, advice, and coordination for the contractor.

(3) Examination and approval of working drawings and installation drawings

The consultant will examine the installation drawings, working drawings, and other documents submitted by the contractor, and will give necessary guidance and approval.

(4) Confirmation and approval of medical equipment

The consultant will confirm the consistency of the medical equipment to be procured by the contractor with the contracted documents, and approve the procurement of said equipment.

(5) Plant inspection

If necessary, the consultant will witness the equipment inspection at the manufacturer's site in order to assure quality and performance.

(6) Pre-shipment inspection

If necessary, the consultant will inspect the packaging of the complete equipment for proper protection against moisture and high temperature during ocean and inland transportation.

(7) Reporting on the progress of the work

The consultant will report the progress of the installation work to the organizations concerned of both countries based on the situation at the project site.

(8) Inspection and trial operation upon completion

Some items of equipment to be installed will require basic operation and maintenance skills. Accordingly, it will be necessary to train the Indonesian medical personnel and maintenance technicians in operation, troubleshooting, and repair at the installation site during the period of installation, adjustment, and trial operation. The consultant will give necessary guidance and advice in the training program.

The consultant will dispatch engineers to the site for inspection, guidance, and coordination as needed according to the progress of the work. The consultant will also establish a system in Japan, in which the engineers in charge will keep in contact with and support the local counterparts. The consultant will report to the Japanese government agencies concerned on the progress of work, disbursement, completion, transfer, etc. of the project. Two supervisors comprised of Project Chief and Equipment Planner will be dispatched to the site to perform spot-check during the execution of the project.

3-4-4 Procurement Plan

The following points should be noted in procuring equipment for use in the project:

(1) Local procurement

Equipment, which can be procured from Indonesian manufacturers, will be sourced locally since the Indonesian government may not permit the importation of such equipment due to its promotion policy for domestic industries. In order to expedite maintenance work after delivery of the equipment, manufacturers that are staffed with qualified maintenance engineers and can supply maintenance parts to Djakarta, Indonesia will be selected.

(2) Procurement by importation

When a certain locally procured item of equipment is found to be problematic in quality, or when it is short in supply, it will be imported from Japan upon discussion with Indonesian government, provided that such Japanese manufacturer has a local agent in Indonesia. In this case, the contractor should contact the Indonesian executing agency concerning the importation and custom clearance procedures so that such procedures will proceed smoothly.

(3) Procurement from third country

Equipment, which are not obtainable from Indonesian or Japanese manufacturers, will be procured from DAC or OECD countries upon approval by the Government of Japan, provided that such third-country manufacturer has a local agent in Indonesia.

3-4-5 Implementation Schedule

After the signing of Exchange of Notes by the governments of Indonesia and Japan, the project implementation schedule will be divided into three stages: detail design, tender, and equipment procurement.

(1) Detail Design

After execution of a consulting service agreement with the Indonesian project implementing agency and verification of the agreement by the Government of Japan, the consultant will start drafting detail design. At the detail design stage, a set of design documents for tender including detail design drawings, technical specifications, and a list of tender requirements will be produced. In the course of this stage, the consultant will confer with the Indonesian side on the content of the equipment and obtain the final approval of the tender design documents from the Indonesian side. The time required for detail design work is estimated at about 3 months.

(2) Tender

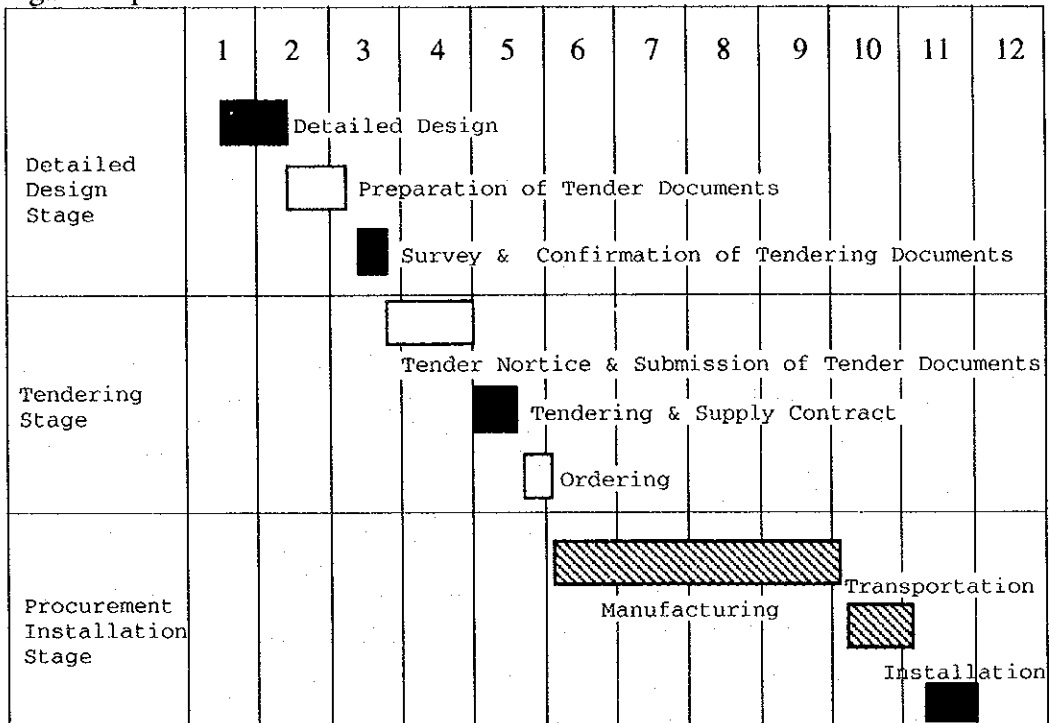
A contractor to undertake the equipment procurement will be selected through tender. The tender will be carried out in the following order: public announcement of tender, acceptance of applications for participating in tender, distribution of tender documents, acceptance of tenders, evaluation of tenders offered, nomination of an equipment procuring contractor, and signing of an equipment procurement contract. It is estimated that this stage will take about 3 months.

(3) Equipment procurement and facility construction

After the signing of the equipment procurement contract and the verification thereof by the Japanese government, the work will be started. As a result of the calculation of the period of the work, which took into account the scale and details of the facilities and the present situation of the local construction industry, and assuming that no "force-majeure" will take place during the period of the work, the time required for the completion of the work is estimated at 7 months.

The project implementation schedule after the signing of E/N until the completion of the project is shown in Fig. 3-1.

Fig.3-1 implementation schedule



3-4-6 Scope of Work

This project is to be implemented jointly by both countries in accordance with Japan's grant aid assistance system. The scope of work to be carried out by each side is as follows:

(1) Work by Indonesian side

Indonesian side will undertake the construction of new facilities necessary for the installation of the equipment to be supplied under the project including electrical and water supply/discharge system and the supervision thereof. If the construction work cannot be completed by the end of December 1995, the work will be substituted by the renovation of existing facilities, which needs to be completed also by the end of December 1995.

The scope of work to be carried out by Indonesian side is as follows:

- Arrangements, expenses, etc.
 - To bear necessary expenses associated with signing of a banking agreement and issuance of Authorization to Pay.
 - To pay all taxes for customs clearance, unloading, port charge, and inland transportation of imported materials and equipment.
 - To ensure prompt customs clearance and inland transportation
 - To exempt Japanese nationals involved in the project from customs, 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 and to pay value added taxes.
 - To accord Japanese nationals who will be providing services in accordance with the verified contracts such facilities as may be necessary for their entry into Indonesia and stay therein for the duration of their work.
 - To obtain necessary permissions for the project and bear necessary commissions for these permissions.
 - To bear necessary maintenance expenses for the proper and effective use of the equipment to be provided under the project.
 - To bear other expenses for the project, other than those to be borne by Japan's grant aid.

(2) Work by Japanese side

Since there are a large number of outpatients and inpatients in the hospital, the installation work has to be done while giving consideration to such patients in terms of noise and hygiene. Also, safety precautions must be taken especially when carrying in the equipment.

In Jakarta and its environs, the rainy season lasts for about six month from November to April. When unpacking or carrying in the equipment, certain measures need to be taken so that the equipment will not get wet by the rain water.

The scope of work to be carried out by the Japanese side is as follows:

- Equipment
 - Procurement of the equipment listed in the basic design report as that to be procured by the Japanese side.
 - Installation of the above-mentioned equipment.

- Necessary procedures for the project
- Packing, insurance, loading, marine transportation, unloading, and inland transportation of equipment and materials to be exported from Japan to Indonesia.

CHAPTER 4 PROJECT EVALUATION AND CONCLUSION

Chapter 4 Project Evaluation and Conclusion

4-1 Expected Effects of the Project

The following table summarizes the effects and improvements that can be expected from the project if the equipment procured under the project is operated and managed properly by the Indonesian side.

Present situation and problems	Measures to be taken under the project	Extent of expected effects and improvements
<p>1. The hospital, which was established 30 years ago to provide primary medical care for the residents of East Jakarta, Jakarta as a B-class national hospital of Indonesia, is struggling to provide adequate diagnosis and treatment services due to insufficient equipment and facilities, a large portion of which is outdated and needs to be replaced</p>	<p>To provide medical equipment to the divisions that carry out diagnosis and treatment of the most prominent diseases that are suffered by or cause deaths to its outpatients and inpatients.</p>	<p>The project will benefit about 2.5 million people living in East Jakarta, which is the hospital's service area, by enhancing the early detection and treatment of major diseases that are suffered by or cause deaths to its outpatients and inpatients and by lowering the mortality rates of such diseases; it will also contribute to the SWADANA (self-supporting finance system) by making it possible to perform certain diagnoses, which are currently undertaken by other facilities.</p>
<p>2. Persahabatan Hospital, which is the top referral hospital for respiratory diseases in Indonesia, carries a large responsibility for diagnosis and treatment of respiratory diseases, which are among the most prominent diseases in the country. However, because some of its medical equipment is aging and need to be replaced, the hospital is unable to offer adequate medical services.</p>	<p>To provide the respiratory division as well as various examination divisions including the clinical examination division and the microbiological laboratory with equipment necessary for their diagnosis and treatment.</p>	<p>It will contribute to the diagnosis and treatment of respiratory diseases that are some of the most prominent diseases in Indonesia, and will decrease the morbidity and mortality rates of respiratory diseases. There are about 600,000 patient throughout the country who suffer from tuberculosis, which is one of the most prominent respiratory diseases.</p>

<p>3. Persahabatan Hospital serves as an educational hospital for University of Indonesia and offer education and training not only for medical students but also for resident physicians. It is also contributing to the enhancement of the country's medical service capabilities by accepting doctors from other national hospitals and dispatching its house physicians to other parts of the country. However, some of the training equipment is becoming obsolete.</p>	<p>To provide such educational tools as slide projector as well as computers to process various medical data.</p>	<p>Provision of education/training equipment will contribute to the enhancement of its educational activities for medical students (549 students in 1993) and resident doctors (235 doctors in 1993) as well as to the accumulation of useful medical data.</p>
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4-2 Examination and Verification of Appropriateness

Below is the result of our examination and verification of the appropriateness of the project for grant aid assistance in terms of extent of the expected results, nature of the project, and feasibility of the operation and management plan.

In verifying the appropriateness for Japan's grant aid assistance, the following points were taken into consideration:

1. A large number of people, including low-income residents are expected to benefit from the project.
2. The project is related to basic human needs and contributes to the development of human resources, or serves the urgent need for stabilization of people's welfare and improvement of their living standards.
3. In principle, the project can be operated, managed, and maintained with Indonesia's own financial, technical, and human resources.
4. The project will contribute to the realization of the objectives established under Indonesia's medium-term and long-term development plans.
5. In principle, the project's profitability must be low. If any profit is expected, the project has to either serve as a model site or a site for experimentation, or use the profit for the smooth maintenance, management, and replacement of the equipment and facilities.
6. The project will not cause any damage to the environment or is taking appropriate measures to eliminate such damages.

7. The project can be implemented through grant aid assistance from Japan without major difficulties.

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 primary 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 (self-supporting financial system) 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 adequately cover the operation costs including the maintenance cost after the implementation of the project.

Also, no additional personnel need to be hired since most of the equipment to be supplied under the project will be used for the diagnosis and treatment procedures that are already established in Persahabatan Hospital.

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 Indonesian Health Ministry. Detailed examinations of the operation plan, budgetary allocation, and maintenance plan are described below:

(1) Operation plan

Persahabatan Hospital operates under the jurisdiction of the Medical Affairs Agency of the Ministry of Health, the Republic of Indonesia. The equipment to be supplied through the project will be used in the diagnosis and treatment procedures that are already established in Persahabatan Hospital, and will be consistent with the existing equipment.

These factors, combined with the fact that no additional personnel is required after the implementation of the project, lead us to conclude that the project would be operated without particular problems under the current system.

(2) Budgetary allocation

The total annual cost for maintaining the major equipment to be supplied under the project is estimated at 1,517,049 thousands rupiahs (about 70.5 million yen) while 1,753,783 thousands rupiahs (about 87.6 million yen) are allocated for the maintenance budget for 1995/1996 according to the calculation based on the average budgetary increase rate after the implementation of SWADANA system in 1992/1993.

The income from the medical charges utilizing the supplied equipment based on the second-class rate is estimated at 2,477,748 thousands rupiahs (about 123.8 million yen), which substantially exceeds the total maintenance cost of 1,517,049 thousands rupiahs (about 70.5 million yen).

However, the actual income will likely be less than the above-mentioned amount, since the hospital, about 60% of whose beds are those of the third class, provides medical services to low-income people as a class-B hospital. But even the income form medical charges are calculated based entirely on the third-class rate, which is about 80% of the second rate, the income is estimated at 1,982,198 thousands rupiahs (about 99.1 million yen), which is 465,149 thousands rupiahs (about 21.629 million yen) more than the maintenance cost. Therefore, it is considered that the current budgetary allocation will be sufficient to carry on the project.

(3) Maintenance plan

The equipment supply plan was drafted by giving consideration to the easy maintenance by the maintenance division of Persahabatan Hospital as well as to the maintenance service system established in the local area by the equipment manufacturers of such equipment as CT scanner that required advanced technology for maintenance.

Our field survey confirmed that even when the hospital encountered serious troubles that could not be repaired by the maintenance division, a qualified engineers would be dispatched to the hospital within the same day as the hospital was located in Djakarta, the capital city of Indonesia, where many agents of the equipment manufacturers were situated.

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 and other respiratory-disease 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 is considered possible as the project is so designed as to achieve the optimum 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.

4-3 Recommendations

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.

Short Term

(1) 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 budgets at an appropriate time in each fiscal year, and the construction work should be completed before the delivery of the equipment.

(2) 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 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.

Medium and Long Term

1. Financial Aspects

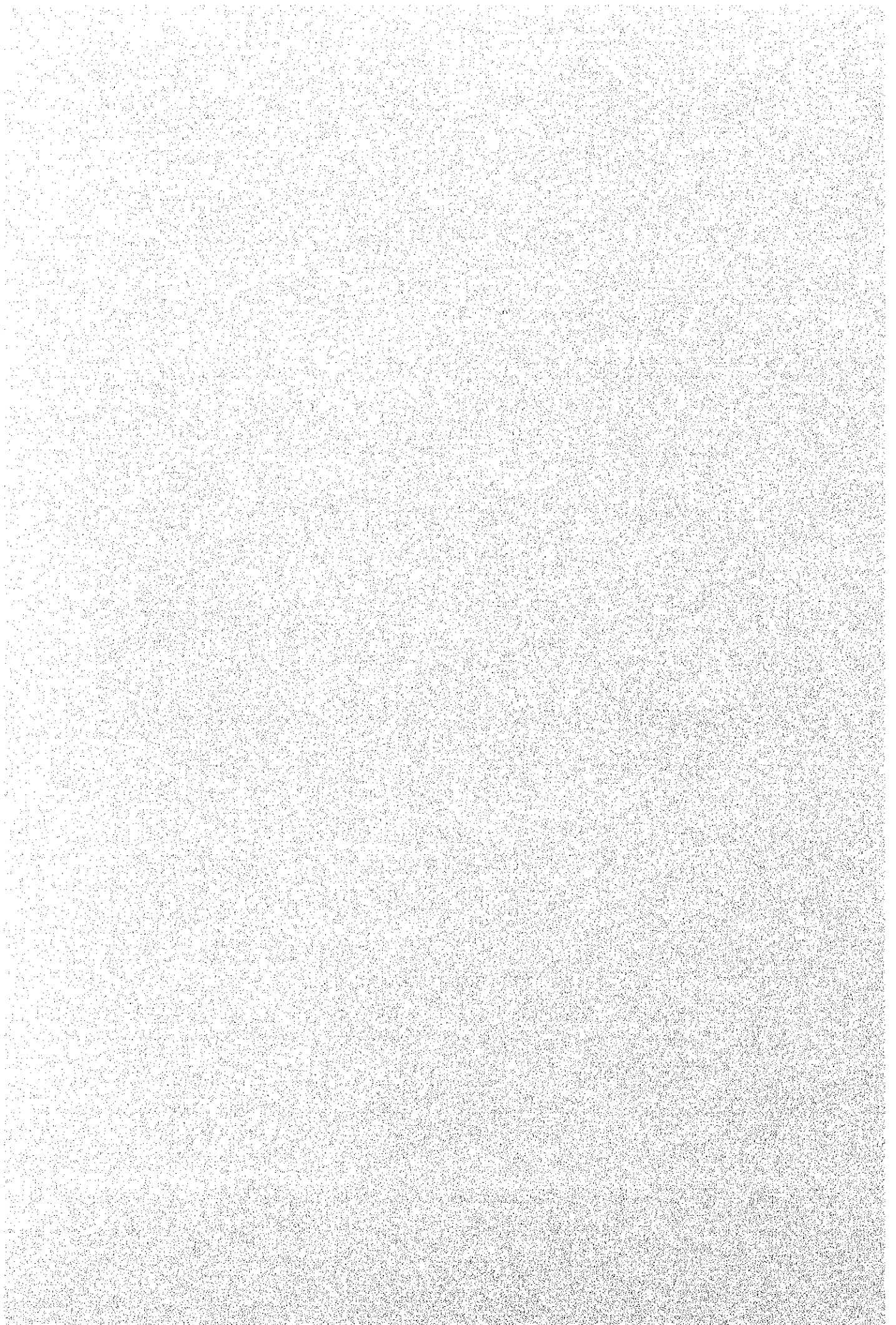
1) Although the project is targeting the self-financing system (SWADANA System), strong financial support from the government is needed.

* Continuities of subsidy.

* Examination of ways to exempt taxation.

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

APPENDICES



1. Minutes of Discussion
Basic Design Study

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

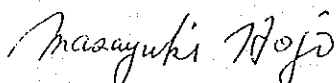
In response to the request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct a Basic Design Study (hereinafter referred to as "the Study") on the Project for the Improvement of Medical Equipment at Persahabatan Hospital (hereinafter referred to as "the Project") and entrusted the Study to the Japan International Cooperation Agency (JICA).

JICA sent to the Republic of Indonesia the Basic Design Study Team headed by Dr. Masayuki HOJO, Bureau of International Cooperation, International Medical Center of Japan, Ministry of Health and Welfare, from September 25 to October 3, 1994.

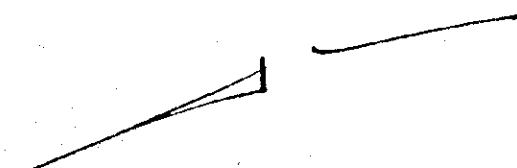
The Team had a series of discussions with the officials concerned of the Government of Indonesia and conducted a field survey at the study area.

As a result of discussions and field survey, both sides have confirmed the main items described in the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.

Jakarta, October 3, 1994



Dr. Masayuki HOJO
Leader
Basic Design Study Team
JICA



Dr. Soejoga
Director General
for Medical Care
Ministry of Health

ATTACHMENT

1. Objective

The objective of the project is to improve the medical services at its targetted areas centering around Persahabatan Hospital by procurement of the necessary equipment for Persahabatan Hospital.

2. Project Site

The Project site is Persahabatan Hospital, located at Jakarta.

3. Responsible Ministry and Executing Agency

Responsible Ministry: Ministry of Health

Executing Agency: Persahabatan Hospital

4. Items requested by the Government of Indonesia

After discussions with the Basic Design Study team, items described in ANNEX I with priority were finally requested by the Indonesian side. However, the final items of the Project will be decided after further studies.

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

The Japanese side will analyze the requested items on ANNEX I based on the following criteria :

- a) Basic equipment necessary for basic care
- b) Equipment that is simple to operate and can be handled with established technologies
- c) Equipment that are obsolete or in shortage and need to be replaced or supplemented
- d) Equipment for which the demand can be verified through the examination of the prominent diseases in Indonesia (number of patients, samples, etc.) and the necessity and appropriateness are apparent
- e) Equipment that require the minimum O/M cost (manual-type is given priority over automatic-type)

f) Equipment whose O/M cost can be easily born by the Indonesian side

g) Equipment which has high cost-effectiveness

h) Equipment, operation of which may not result in the infringement of the laws or regulations of Indonesia or Japan that are related to the treatment of sewage water or other waste matters or the handling of X-ray, and equipment that does not use environmentally harmful substances such as CFCs

6. Japan's Grant Aid system

- 1) The Indonesian side understands the system of Japan's Grant Aid in ANNEX II as explained by the team.
- 2) The Indonesian side will take necessary measures, as described in ANNEX III for the smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

7. Other relevant issues

On condition that Japan's Grant Aid is extended to the Project;

- 1) The Government of Indonesia expressed the necessity of construction of new facilities by Indonesian side and also expressed that construction is finished by the end of 1995 according to the construction schedule described in ANNEX IV. Indonesian side agreed that in case construction delayed, the equipment should be installed to the existing facilities, and also renovation of the existing facilities necessary for installation is finished by the end of 1995 by Indonesian side. Indonesian side will submit the periodical progress report of facility preparation to JICA Jakarta office from Oct. 1994 to the time of completion of the facility preparation.

- 2) The Government of Indonesia will allocate the necessary budget and personnel for the Project for securing sustainable and proper operation and maintenance of the equipment included in the Project.
- 3) The Hospital will maintain adequate performance and utilization data on the facilities included in the Project. These data will be submitted annually through the Ministry of Health to the Embassy of Japan.
- 4) The Hospital will make an inventory list on the equipment and spare parts included in the Project. And the list will be renewed in accordance with the conditions of the equipment and the consumption of the spare parts. After the completion of the Project, the Hospital will submit annual report on the condition of the Project through Ministry of Health to the Embassy of Japan.

8. Schedule of the Study

- 1) The consultant will proceed to further studies in Indonesia until October 15, 1994.
- 2) Based on the Minutes of Discussions and the results of the study, JICA will compile a draft report and dispatch a mission in order to explain its contents in January, 1995.
- 3) Upon approval of the said draft report by the Indonesian side, JICA will complete the final report and send it to the Government of Indonesia around April, 1995.

Priority A

Clinical Lab.

Automatic Pipet Washer
Blood Sedimentation Unit
Hemoglobinmeter

I.C.U. Dep.

Pulse-oxymeter

Microbiology Lab.

Auto Coagulator
Automated Ast reader
Automatic slide stainer
Binocular Microscope
Binocular Microscope W/Photograph-unit
Bottle top dispenser 0.5-5.9ml
Bottle top dispenser Dispensette 2-10cc
Bunsen burner
Centrifuge (Macro)
Centrifuge Refrigerated
Centrifuge(for small size tube)
Clock timer
Colony counter
Fluorescet Microscope
Heat proof gloves
Hematocrit centrifuge
Hot air sterilizer
Incubator (for Culturing)
Inverted Microscope
Liquid dispenser for delivery 2-5 cc(9 high viscosity fluid)
Micro pipet (adjustable) 5, 50, 200 and 1,000ml
Micro pipet (adjustable) 5-50, 5-200
Micro pipet (fix volume) 10, 20, 50, 100, 250, x 1000 UI/set
Micro pipet 5, 10, 25, 100, 250 and 500 ml
pH meter
Refrigerator
Rotator
Shaking and rotating agitator
Slide box
Slide rapid-dryer cabinet
Slide Warming
Steam pressure autoclave
Strage freezer(minimum temp. -20Deg. C)
Teaching Microscope
Tripod

ANNEX I

Items finally requested by Indonesian side

Tube rack 60 tube : Dia. 2.5cm
Tube rack 60 tube : Dia. 2cm
Tube rack(stainless steel, supine position)
Vortex mixer
Water bath

Obstetric/Gynecology Dep.

Lapaloscope set
MicroSurgery set
Panoramic Histeroscope

Pulmonology Dep.

Bronchofiberscope(Adult)
Bronchofiberscope(children)
Continuous Suction
Equipment for Local Anaesthesia
IPPB
Pulse-oxymeter
Teaching scope

Radiology Dep.

Portable U.S.G. + (W/Puncture Probe)
Tomogram
X-ray Conventional W/Monitor

Rehabilitation Dep.

Overhead suspension exercise
Shortwave therapy apparatus
Tredmil

Surgery Dep.

Lapaloscope set
MiniSurgery set
Plastic microSurgery set
Small bone Surgery set

Training Dep.

Epidiascope
Overhead projector
Slide porjector
Sound and Slide projector

Priority B

Dermatology Dep.
Dermabrader

M. Hof

+

Items finally requested by Indonesian side

ENT Dep.

Endoscopic sinus Surgery set

Microbiology Dep.

CO2 Incubator

Electronic analytic balance

Refrigerator for Medium w/ Observation window

Safety Cabinet

Pulmonology Dep.

Rigid Bronchoscope

Thoracoscopy set (W/Monitor)

Tracheal & Bronchial Stents

True Cut (Lung) Biopsy

TV Endoscopy system

Radiology Dep.

Automatic film processor

Portable X-ray apparatus

Whole body Computerized Tomography scanner High Resolution

Surgery Dep.

Arthroscope

Training Dep.

Laser Printer

Personal Computer

Priority C

Cardiology Dep.

Oxymetry (PO2 Monitor)

Clinical Lab.

Automatic Coagulometer

Blood Cell Auto-Analyzer

Chemistry Auto-Analyzer

Microbiology Lab.

Anaerobic system cabinet

Apparatus for monoclonal antibody examination

Apparatus for tissue culture

Automatic Petri Disk Filler

Microloop + Holder

Personal computer

Printer

M. H. H.

f

Items finally requested by Indonesian side

PCR equipment w/ auxillaries

Pathology Dep.

Automatic photomicrographic system

Cryotome

Cytopspin

Flattening bath

Microtome

Mistocenter tissue embedding

Sputum homogenizer

Pulmonology Dep.

Cope Needles

Rehabilitation Dep.

Postural Drainage Bed

Priority D

Cardiology Dep.

Angio X-ray Apparatus

Treadmil

I.C.U. Dep.

Capnography (CO2 Monitor)

Microbiology Dep.

Enzyme immunoassay unit (ELISA -Reader)

Flow-cyto meter

Local Area Network Computer System

Microbiology analyser

Pathology Dep.

Knife/blade for microtome

Tissue embedding cassette

Pulmonology Dep.

Astograph

Body plethysmography

Laser apparatus for bronchoscopic examination

Transesophageal Ultrasonography

Surgery Dep.

Heart lung machine

M. How

+

ANNEX I

Items finally requested by Indonesian side

Training Dep.

Copy board

Remarks : Items are divided into 4 categories (from A to D) with a view point from necessity and appropriateness.

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M. H. D.

Japan's Grant Aid

1. Japan's Grant Aid Procedures

The Japan's Grant Aid Program is extended in the following procedures.

- 1) Application (A request made by the recipient country)
- Study (the Basic Design Study conducted by JICA)
- Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet)
- Determination of Implementation (the Notes exchanged between both Governments)
- Implementation (Implementation of the Project)

- 2) At the first step, application, a request made by the recipient country, is examined by the Government of Japan (the Ministry of Foreign Affairs), whether or not it is suitable for Grant Aid. If the request is confirmed that it has the high priority as the Project for Grant Aid; the Government of Japan instructs JICA to conduct the Study.

At the second step, the Study (the Basic Design Study) is conducted by JICA basically under contracts with a Japanese consulting firm to carry out.

At the third step (appraisal & approval), the Government of Japan appraise whether or not a project is suitable for Japan's Grant Aid Program based on a Basic Design Study report prepared by JICA and is then submitted for approval of the Cabinet.

At the fourth step the Project approved by the Cabinet is officially determined to implement by signing the Exchange of Notes between both Governments.

In the course of implementation of the Project, JICA will take charge of expediting the execution by assisting the recipient country in terms of the procedures of tender, contract and others.

2. Contents of the Study

1) Contents of the Study

The aim of the Study (the Basic Design Study), conducted by JICA, is to provide basic document necessary for the appraisal whether or not a project is viable for Japan's Grant Aid Program. The contents of the Study are as follows.

- a) to confirm the background of the request, objectives, effects of the Project and maintenance ability of the recipient country necessary for the implementation
- b) to evaluate the appropriateness of the Grant Aid from the technological, social and economical points of views.
- c) to confirm the basic concept of the plan mutually agreed upon by discussion between the both sides
- d) to prepare a basic design of the Project
- e) to estimate the cost of the Project

The contents of the request are not necessarily approved as the contents of the Grant Aid. The basic design of the Project is confirmed along the Japanese Grant Aid scheme.

In the implementation of the Project, the Government of Japan requests the Recipient country to take the necessary measures in order to promote the recipient country's self-reliance. This measures must be guaranteed even if the recipient implementing agency do not have jurisdiction. Lastly the implementation of the Project are confirmed by all relevant organizations in the recipient country by minutes.

2) Selection of Consultants

For the smooth implementation of the study, JICA selects the consultant among the consultants registered for JICA by evaluating proposals submitted by those consultants. The consultant carries out the Basic Design Study and composes the Report based upon the terms of reference made by JICA.

At the stage of concluding the contract between a consultant and the recipient country after the Exchange of Notes, JICA recommends the same consultant which participated in the Basic Design Study in order to maintain the technical consistency between the Basic Design Study and the Detailed Design and to avoid the undue delay caused by the selection of a new consultant.

3. Japan's Grant Aid Scheme

1) *What is Grant Aid?*

The Grant Aid Programme provides the recipient country with non-reimbursable funds needed to procure the facilities, equipments and services (labor or transportation, etc.) for economic and social development in that country under the following principals in accordance with the relevant laws of Japan. The Grant Aid is not extended in a form of donation in kind to the recipient country.

2) *Exchange of Notes (E/N)*

The Japan's Grant Aid is extended in accordance with the Notes Exchanged between the both Governments, in which the Objectives of the Project, Period, Conditions and Amount of the Grant etc. are confirmed.

- 3) "The period of the Grant" is within the fiscal year in which the Cabinet approved the Project. Within the fiscal year, all procedure such as exchanging of the Notes, concluding the contract with the consultant and contractor and the final payment to them must be completed.

However in case of the delay of the delivery, installation or construction due to events such as weather, the period of the Grant can be extended for one fiscal year at most by mutual agreement between the both Governments.

- 4) The Grant is used properly and exclusively for the purchase of the products, in principle, of Japan or the recipient country and the services of the Japanese or the recipient country's nationals. The term "Japanese nationals" means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.

When the two Governments deem it necessary, the Grant may be used for the purchase of the products or services of the third country (other than Japan or the recipient country).

However in terms of the principle of the Grant, the Prime contractors, that is the Consultant, Contractor and Procurement firm, necessary for the implementation of the Grant are limited to "Japanese nationals".

5) *Necessity of the "Verification"*

The Government of recipient country or its designated authority will conclude into the contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is necessary because the source of the Grant is the taxes of Japanese nationals.

6) *Undertakings required of the Government of recipient country*

In the implementation of the Grant, the recipient country is required to undertake the following necessary measures.

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

(7) *"Proper Use"*

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

(8) *"Re-export"*

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

(9) *Banking Arrangement (B/A)*

- a) The Government of the recipient country or its designated authority should open an account in the name of Government of the recipient country in an authorized foreign exchange bank of Japan

(9) *Banking Arrangement (B/A) (contd..)*

(hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the contracts verified.

- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX III

Necessary measures to be taken by the Indonesian side on condition that Japan's Grant Aid is extended;

1. To provide the land for temporary site office, warehouse and stock yard during the implementation of the Project
2. To provide facilities for the Project site such as a distribution of electricity and other incidental facilities
3. To exempt taxes and to take the necessary measures for customs clearance of the equipment brought for the Project at the port of disembarkation
4. 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
5. To accord Japanese Nationals, whose services may be required in connection with the supply of products and the services under the verified contracts, such facilities as may be necessary for their entry into Indonesia and stay therein for the duration of their work
6. To use and maintain properly and effectively all the equipment purchased under the Grant
7. To bear all the expenses other than those to be borne by the Grant

M. Hojo

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ANNEX IV

CONSTRUCTION SCHEDULE OF THE NEW FACILITIES AT PERSAHABATAN HOSPITAL FOR THE INSTALATION OF EQUIPMENT OBTAINED THROUGH JAPANS GRANT AID.

SEPT. 26, 1994

APPROVAL OF THE BUDGET FOR THE NEW FACILITIES FROM BAPPENAS
(DR. FAZLI DJALAL, PHD.)

SEPT. 29, 1994

INFORMATION FROM THE DIRECTORATE GENERAL OF MEDICAL CARE ABOUT THE ABOVE BUDGET.
(Dr. ADJI MUSLIHUDDIN)

PERSAHABATAN HOSPITAL HAS TO CHANGE ITS PRIORITY IN ITS DEVELOPMENT IN THE 1995/1996 FISCAL YEAR.

BUILDING THE NEW FACILITIES BECOME THE TOP PRIORITY.

OCT 1994 - MARCH 1995

DETAILED PLANNING OF THE PROPOSED BUILDING AND OBTAINING THE PERMIT TO BUILD FROM THE MINISTRY OF PUBLIC WORKS.
ATTENTION SHOULD BE GIVEN TO SOME EQUIPMENT THAT NEEDS ADJUSTMENT WITH THE BUILDING IN THEIR INSTALATION.

APRIL 1, 1995

- NEW FISCAL YEAR
- REALIZATION OF THE BUDGET

APRIL-MAY 1995

TENDER PROCESS OF THE NEW FACILITIES (BUILDING).

JUNE-DEC 1995

THE PROCESS OF BUILDING OF THE NEW FACILITIES.

DEC, 1995

THE NEW FACILITIES COMPLETED

JAKARTA, OCT 3, 1994

PERSAHABATAN HOSPITAL
DIRECTOR,



DR. H. M. DANARSO DAWUD, MHA.

M. 770/7

2. List of Member of Survey Team

(1) Basic Design Study (September 25 - October 25, 1994)

Dr. Masayuki Hojo	Team Leader	Bureau of International Cooperation International Medical Center of Japan Ministry of Health and Welfare Japan Government
Mr. Masaya Fujimoto	Grant Aid Planner	Planning Division Planning Department Japan International Cooperation Agency (JICA)
Mr. Kiyoshi Kato	Project Manager	International Techno Center Co., Ltd.
Mr. Yoichi Sugiura	Sanitary Engineer	International Techno Center Co., Ltd.
Mr. Kazuhiro Abe	Medical Equipment	International Techno Center Co., Ltd.

(2) Explanation of Draft Final Report (January 9 - January 17, 1995)

Dr. Masayuki Hojo	Team Leader	Bureau of International Cooperation International Medical Center of Japan Ministry of Health and Welfare Japan Government
Mr. Hikoyuki Ukai	Grant Aid Planner	First Project Management Division Grant Aid Project Management Department Japan International Cooperation Agency (JICA)
Mr. Kiyoshi Kato	Project Manager	International Techno Center Co., Ltd.
Mr. Kazuhiro Abe	Medical Equipment	International Techno Center Co., Ltd.

3. Survey Schedule

(1) Basic Design Team (September 25 - October 14, 1994)

NO.	Date	Schedule
1	Sept. 25 (Sun)	Lv. Tokyo (Dr. Hojo, Mr. Fujimoto, Mr. Kato, Mr. Sugiura, Mr. Abe) Ar. Jakarta
2	Sept. 26 (Mon)	08:30 Meeting at Embassy of Japan 09:40 Meeting at JICA Office 14:45 Meeting at Ministry of Health 16:15 Meeting at BAPPENAS
3	Sept. 27 (Tue)	09:00 Meeting at Persahabatan Hospital 17:00 Meeting at JICA Office
4	Sept. 28 (Wed)	09:00 Survey of Persahabatan Hospital 14:00 Survey of Fatmawati Hospital 17:00 Meeting at JICA Office
5	Sept. 29 (Thu)	09:00 Survey of Persahabatan Hospital 14:00 Meeting at WHO 16:00 Meeting at Ministry of Health 17:00 Meeting at JICA Office
6	Sept. 30 (Fri)	10:00 Meeting at Ministry of Health 13:30 Survey of Persahabatan Hospital
7	Oct. 1 (Sat)	09:00 Meeting at Persahabatan Hospital 16:00 Team Meeting
8	Oct. 2 (Sun)	Team Meeting, Review the collected data
9	Oct. 3 (Mon)	12:00 Signing of Minutes of Discussion at Ministry of Health 15:00 Report the results to JICA 16:00 Report the results to Embassy of Japan Lv. Jakarta (Dr. Hojo, Mr. Fujimoto)
10	Oct. 4 (Tue)	09:00 Survey of Persahabatan Hospital 15:00 Survey of Medical Equipment
11	Oct. 5 (Wed)	09:00 Survey of Persahabatan Hospital 14:00 Survey of Cipto Mangunhusumo Hospital
12	Oct. 6 (Thu)	09:00 Survey of Persahabatan Hospital 15:00 Survey of Medical Equipment
13	Oct. 7 (Fri)	09:00 Survey of Persahabatan Hospital 16:30 Survey of Medical Equipment
14	Oct. 9 (Sat)	09:00 Survey of Persahabatan Hospital 15:00 Survey of Medical Equipment
15	Oct. 9 (Sun)	Team Meeting, Review the collected data

NO.	Date	Schedule
16	Oct. 10 (Mon)	09:00 Survey of Persahabatan Hospital 16:00 Survey of Medical Equipment
17	Oct. 11 (Tue)	09:00 Survey of Persahabatan Hospital 15:00 Survey of Medical Equipment
18	Oct. 12 (Wed)	09:00 Survey of Persahabatan Hospital 16:00 Survey of Medical Equipment
19	Oct. 13 (Thu)	09:00 Survey of Persahabatan Hospital 15:30 Survey of Medical Equipment
20	Oct. 14 (Fri)	09:00 Report the results to MOH 10:30 Report the results to Dr. Uehara 14:00 Report the results to JICA 15:00 Report the results to Embassy of Japan Lv. Jakarta (Mr. Kato, Mr. Sugiura, Mr. Abe)
21	Oct. 15 (Sat)	Ar. Tokyo

(2) Explanation of Draft Final Report (January 9 - January 15, 1995)

NO.	Date	Schedule
1	Jan. 9 (Mon)	Lv. Tokyo (Dr. Hojo, Mr. Ukai, Mr. Kato, Mr. Abe) Ar. Jakarta
2	Jan. 10 (Tue)	10:00 Meeting at JICA Office 11:00 Meeting at Ministry of Health 14:00 Meeting at BAPPENAS
3	Jan. 11 (Wed)	09:00 Survey of Persahabatan Hospital 17:00 Meeting at JICA Office
4	Jan. 12 (Thu)	09:00 Survey of Persahabatan Hospital
5	Jan. 13 (Fri)	09:00 Survey of Persahabatan Hospital
6	Jan. 14 (Sat)	Team Meeting, Review the collected data
7	Jan. 15 (Sun)	Team Meeting, Review the collected data
8	Jan. 16 (Mon)	12:00 Meeting at Persahabatan Hospital 14:00 Signing of Minutes of Discussion at Ministry of Health 15:30 Report the results to JICA 16:30 Report the results to Embassy of Japan
9	Jan. 17 (Tue)	09:00 Team Meeting Lv. Jakarta (Dr. Hojo, Mr. Ukai, Mr. Kato, Mr. Abe)

4. Member list of party concerned in the recipient country

(1) Ministry of Health

Dr. H. Soejoga, MPH	Director General of Medical Care
Dr. Ingerani, MPH.	Secretary of Directorate General of Medical Care
Dr. Adji Mushihuddin	Director of Public Hospital and Education
Dr. Ali Alkatiri, MSC.	Head of Division of planning and Evaluation
Dr. Abdul Manaf, SKM	Head of TB Control, CDC & EH
Dr. Gunawan Yamin	Head, Division of Microbiology Centre for Health Laboratry
Dr. Hadi M. Abednego , SKM	Director General of CDC and Enviromental Health

(2) BAPPENAS

Dr. Fasli Djala	Chief of Bureau for Health and Nutrition
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(3) Cipto Mangunkusumo Hospital

Dr. Bambang Budyatmoko MD	Head, Radiology Dept.
Dr. Marnansyah D. Rachman	Radiology Dept.

(4) Fatmawati Hospital

Dr. Erwin P. Sunggono	Vice Director for Medical Services & Nursing
Dr. Gerry Heryati	Head, Medical Rehabilitation Dept.
Indradi Roosheroe	Head, Orthopaedic Surgery Dept.

(5) University of Indonesia

Dr. Anwar Yusuf	Senior Staff, Dept. of Pulmology
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(6) WHO

Dr. Bambang Winardi, MD, MPH	Programme Developmet Officer
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(7) Persahabatan Hospital

Dr. Yudanarso Dawud, MHA	Director
Dr. Hadiarto Mangunegoro	Vice Director
Dr. Abu Purwanto	Vice Director
Dr. Tjandra Yoga Aditama	Vice Director
Dr. Erwin Sainan	Head, Division of Planning
Dr. Ismail Tukimin	Head, Medical Services Dept.
Dr. Al Djufri	Head, Clinical Laboratory
Dr. Avidyana Dewayanti	Head, Medical Record Sub-Dept.
Dr. Sutjahjo Endardjo	Head, Pathology Anatomy Dept.
Dr. Moh. Nurhidajat	Head, Radiology Dept.
Dr. Somono Handoyo	Head, Emergency Dept.
Dr. Yusuf Ibrahim	Head, Obstetric & Gynecology Dept.
Dr. Husni Hasbullah	Head, Surgery Dept.
Dr. Minarsih	Head, Medioccal Support Dept.
Dr. Sri Haryani Parikesit	Head, Medical Rehabilitation Dept.
Dr. Wirda Aziz	Head, Dermatology Dept.
Dr. Rokiah, SKM, MHA.	Head, Secretary Dept.
Dr. Suranto Gitowiryono	Head, ENT Dept.
Dr. Syamsudin, BE	Head, Maintenance Dept.
Dr. Setyowati	Clinical Laboratory
Dr. Valvia Ri	Clinical Laboratory
Dr. Daniati KS.	Pulmonology
Dr. Nirwan Arief, M.D.	Pulmonology
Dr. Sardikin G.	Pulmonology
Dr. Menaldi Rasmin	Pulmonology
Dr. Thamrin	Surgical Dept.
Dr. Erwin Sainan	Dermatology Dept.
Dr. Adityawarma	Dermatology Dept.
Dr. D. Manurung	Cardiology Dept.
Dr. Sutrisno	Cardiology Dept.
Dr. Tati	Cardiology Dept.
Dr. Syahrial Achmad	ICU Dept.
Dr. Julianti Gunawan	Microbiology Lab. Dept.
Dr. M. Nurhidayat	Radiology Dept.
Dr. Firman Boerma	Training Dept.
Dr. Azis Abudan	Peadiatric Dept.
Mr. Syamsudin, BE.	Maintenance Dept.