

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT
FOR
IMPROVEMENT OF MEDICAL EQUIPMENT FOR MAIN
HOSPITALS
IN
THE REPUBLIC OF SERBIA**

FEBRUARY, 2003

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
INTERNATIONAL TECHNO CENTER CO., LTD.
INTERNATIONAL TOTAL ENGINEERING CORPORATION**

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PREFACE

In response to a request from the Government of Yugoslavia, the Government of Japan decided to conduct a basic design study on the Project for Improvement of Medical Equipment for Main Hospitals in the republic of Serbia and entrusted the study to the Japan International Cooperation Agency (JICA).

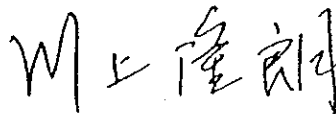
JICA sent to Yugoslavia a study team from August 25 to October 12, 2002.

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

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

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

February, 2003



Takao Kawakami

President

Japan International Cooperation Agency

February, 2003

Letter of Transmittal

We are pleased to you the basic design study report on the Project for Improvement of Medical Equipment for Main Hospitals in the republic of Serbia.

This study was conducted by the joint venture between International Techno Center Co., Ltd. and International Total Engineering Corporation, under a contract to JICA, during the period from August 9, 2002 to March 20, 2003. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Serbia and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

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

Very truly yours,



Kazuhiro Abe
Project Manager,
Basic design study team on
the Project for Improvement of
Medical Equipment for Main Hospitals
in the republic of Serbia
the joint venture between
International Techno Center Co., Ltd. and
International Total Engineering Corporation

Republic of Serbia



NOVI SAD CLINICAL CENTER
SERBIA CLINICAL CENTER
Kragujevc CLINICAL HOPITAL CENTER
NIS CLINICAL CENTER

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Abbreviations

A/P	Authorization to Pay
B/A	Banking Arrangement
BS	British Standard
CC	Clinical Center
CHC	Clinical Hospital Center
DIN	Deutsches Institut für Normung
EAR	European Agency for Reconstruction
E/N	Exchange of Notes
EU	European Union
ICU	Intensive Care Unit
JIS	Japan Industrial Standards
JICA	Japan International Cooperation Agency
ODA	Official Development Assistance
NGO	Non-Governmental Organization
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization

Summary

Summary

In Serbia, conflicts and economic difficulties have increased the number of refugees and internally displaced persons, and also have increased the population at the poverty line. The public service in health sector is a most important issue in the basic social security for the population in line with the reconstruction program by the Serbian government. The government showed the health reform plans at the Donor's Conference in Brussels, including the improvement of medical equipment of public medical facilities.

The Serbian government requested to the Japanese government to extend a grant aid to improve the medical equipment for four top-referral hospitals. The purpose is to improve diagnoses and treatments of common diseases in Serbia, including the diseases of circulatory system of which the mortality rate is quite high.

In response to the request the Japanese government dispatched the project formulation study team in August 2001, and decided to conduct a basic design study based on the result of the project formation study. The Japan International Cooperation Agency (JICA) sent to Serbia a basic design study team from August 25 to October 12, 2002. The draft report was developed based on the study result and further examination in Japan after the team returned. JICA sent the team again from December 8 to 24, 2002 for the explanation of draft report.

The study team examined the health situation of Serbia, priorities of health policy, relevant assistance by other donors, as well as medical activities, facility conditions, and equipment conditions of four hospitals. The scope of project is provision of the medical equipment for the outpatient services, emergency services and important treatments of these hospitals. The project mainly replaces the existing equipment that is too old and deteriorated, procures the equipment to be supplemented, and provides some essential equipment to be introduced for the medical activities of four hospitals. The equipment to be procured will be adequate to their medical level, and the equipment necessary for diagnoses and treatments of serious cases referred from lower-level secondary facilities will be included within the scope.

The basic policies on equipment planning in this project are outlined below.

Viewpoints for Equipment Improvement

Equipment to be replaced

The existing old equipment can be replaced if it is technically and financially feasible to keep the level of medical services of the respective hospitals.

Equipment to be supplemented

The existing equipment quantitatively insufficient can be supplemented if it enhances the diagnoses and treatments services of the respective hospitals.

Equipment to be newly introduced

Newly introduced equipment can be procured only when it is judged consistent with both the medical level and financial capacities of the respective hospitals.

Criteria for priority

- Equipment to be used for common medical activities of the respective hospitals
- Equipment to be shared among multiple departments at the respective hospitals
- Equipment to be used for general diagnoses or treatments of many patients

Criteria for exclusion

- Consumable items, furniture or building-facilities
- Equipment locally available and affordable for the recipient side
- Equipment for which big costs for operation and maintenance can not be assured
- Equipment can not be used efficiently under the current management system
- Equipment that can be used only for the limited number of patients and/or cases
- Equipment that can be used only by some of the medical staff
- Equipment for research and education other than diagnoses and treatments
- Equipment yet to be in wide use in Serbia, and no maintenance service exists there

The main items of equipment to be procured by this project are shown below.

Facility	Description
Clinical Center of Serbia	Anesthesia Apparatus, Biochemical Analyser, Blood Coagulation Analyser, Blood Gas Analyser, CTG monitor, Colono Fiberscope, Pneumatic Bone Drill Set, CT Scanner, Cystoscope, Defibrillator, ECG, Argon Beam Coagulator, Fume Hood, Glucose Analyser, Patient Monitor, Ultrasound Diagnostic Apparatus, Respirator (Ventilator) etc.

Facility	Description
Clinical Center of Novi Sad	Anesthesia Apparatus, Biochemical Analyser, Blood Coagulation Analyser, Blood Gas Analyser, CTG monitor, Colono Fiberscope, Defibrillator, ECG, Argon Beam Coagulator, Steam Sterilizer, Patient Monitor, Ultrasound Diagnostic Apparatus, Electrolyte Analyser, Respirator (Ventilator), X-Ray Unit etc.
Clinical Center of Nis	Anesthesia Apparatus, Biochemical Analyser, Blood Coagulation Analyser, Blood Gas Analyser, CTG monitor, Colono Fiberscope, Defibrillator, ECG, Argon Beam Coagulator, Steam Sterilizer, Patient Monitor, Ultrasound Diagnostic Apparatus, Treadmill, Respirator (Ventilator), X-Ray Unit etc.
Clinical Hospital Center of Kragujevac	Anesthesia Apparatus, Biochemical Analyser, Blood Coagulation Analyser, Blood Gas Analyser, CTG monitor, Colono Fiberscope, Defibrillator, ECG, Argon Beam Coagulator, Steam Sterilizer, Patient Monitor, Ultrasound Diagnostic Apparatus, Electrolyte Analyser, Immunology Analyser (ELISA), Microtome, Treadmill, Respirator (Ventilator), X-Ray Unit etc.

The direct and indirect effects shown below are expected through the implementation of this project.

(1) Direct Effect

- The hospitals' function will be improved both quantitatively and qualitatively.

After the equipment is improved, the hospitals will gain the accuracy of clinical examinations and appropriateness of diagnoses and treatments. Accordingly, the hospitals will perform more examinations or operations smoothly, and the patients will receive appropriate medical care with less waiting time than before. Thus, the hospital's function improves both quantitatively and qualitatively.

(2) Indirect Effect

- The referral system will be strengthened in the respective regions.

The secondary-tertiary services by the four hospitals will be more efficient and accurate, so that they will accept more patients of circulatory diseases, respiratory diseases or other common diseases who are referred from the lower secondary facilities. Thus, the referral system in the regions where the respective hospital leads will be strengthened.

- The medical referral system in the Republic of Serbia as a whole will be strengthened. The satisfying improvement of the four leading hospitals and respective regions will strengthen the medical referral system in the Republic of Serbia as a whole.

Given the expected effects above, the project is justified as a Japan's grant aid based on the followings.

1) The project benefits all the residents in the regions of four hospitals treating two million patients annually.

2) The project contributes the achievement of long-middle term goals of the Serbian government whose policy puts the importance on the establishment of medical system through improvement of public medical facilities.

3) The annual costs of operation and maintenance after the implementation of the project are estimated below, and these costs would be borne by the hospitals with their current budget size of operation and maintenance.

Unit: 1,000 Dinar

	Serbia CC	Novi Sad CC	Nis CC	Kragujevac CHC
Annual budget, 2003, (Increment from previous year)	5,700,000 +26%	1,496,000 +26%	2,052,877 +57%	861,636 +18%
Of which budget for operation and maintenance -- A)	900,000	147,000	255,146	164,183
estimated cost of operation and maintenace for the equipment to be procured by the project -- B)	19,865	17,090	10,631	13,821
B) / A)	2.20%	11.70%	4.10%	8.10%

4) The Serbian side has improved the related buildings and utilities such as electricity, air conditioning, water and sewage of the four hospitals. The necessary measures are taken with regard to disposal of medical waste and sewage and set-up of incinerator to eliminate the negative impact.

For the further improvement of four hospitals and medical service of Serbia, the followings are recommended.

1) Assuring the financial stability

The four hospitals included by the project were always short of budget depending on the payment by the Serbia Medical Insurance Fund that was in financial difficulties because of the effects of economic sanctions against Serbia. Under the current

socioeconomic situation, the performance of insurance fund will gradually recover. However, it is recommended that the hospitals gain the different means of financing other than payment by insurance fund in order to have stable management. It is thought practically available to charge some part of service that is not covered by the insurance, inpatient care with pay bed or others.

2) Restructuring the medical referral system

The referral system in Serbia was established as the system of former Yugoslavia. The four hospitals, which were top referral hospitals in former Yugoslavia, have exceeding beds, medical staff and other physical conditions being the legacy of hospital-oriented concept in the health sector in the past. It is strongly recommended to adjust those and to have close collaboration with lower levels in line with the health reform as other former socialist countries have challenged.

3) Improving the hospital management

The socioeconomic system in Serbia is now changing, and the private sector will participate in the medical service as well as other sectors. The reliable medical care as the public service, especially medical care of the social vulnerable population is the responsibility of the four hospitals. It is crucial to have efficient hospital management in order to provide such public service constantly. Accordingly, it is recommended that the hospitals reform themselves on the organization of institutions and departments, re-staffing, efficient financial management, favorable treatment of patients and others.

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Chapter 1 Background of the Project

Chapter 1 Background of the Project

The social system of Serbia has been under transition ever since the new government put in place the introduction of market economy shortly after taking office in 2000. The government has put the importance on the assurance of social security for the population including the improvement of public service in the health sector.

Under these circumstances, the Japanese government decided to dispatch the project formulation study team in August 2001. The result of study indicated there exists many health care facilities that require some assistance. However it was thought important to avoid the duplication of the projects in the primary health care sector where WHO, UNICEF and other donors had so many inputs. Accordingly, the Serbian government requested the Japanese government to extend a grand aid to improve the medical equipment of following four hospitals, which provides the secondary-tertiary medical care for entire population although having many difficulties at present.

Clinical Center of Serbia (Serbia CC),
Clinical Center of Novi Sad (Novi Sad CC),
Clinical Center of Nis (Nis CC), and
Clinical Hospital Center of Kragujevac (Kragujevac CHC),

In response to this request, the Japanese government decided to conduct a basic design study as a part of the commitment in the Donor's Conference in Brussels in June 2001, and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent Serbia a basic design study team from August 25 to October 12, 2002. The draft report was developed based on the study result and further examination in Japan after the team returned. JICA sent the team again from December 8 to 24, 2002 for the explanation of the draft report.

The project has been designed with the policy to improve the medical services with wider beneficiaries expected. Accordingly, the project replaces or supplements the medical equipment to be used in the outpatient departments, emergency departments and important treatments of these hospitals. The main purpose of project is to improve diagnoses and treatments of common diseases in Serbia, including the diseases of circulatory system, which the mortality rate is quite high.

Chapter 2 Contents of the Project

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

In Serbia, conflicts and economic difficulties have increased the number of refugees and internally displaced persons, and also have increased the population at the poverty line. The public service in health sector is a most important issue in the basic social security for the population in line with the reconstruction program by the Serbian government. The government showed the health reform plans at the Donor's Conference in Brussels, including the improvement of medical equipment of public medical facilities.

This project provides the medical equipment for the four medical facilities; Serbia CC, Novi Sad CC, Nis CC and Kragujevac CHC that are leading hospitals of diagnoses and treatments of common diseases of entire population of Serbia, with the purpose to improve the functions of these hospitals. Accordingly, the scope of project is provision of the medical equipment for outpatient services, emergency services and important treatments of these hospitals. The project mainly replaces the existing equipment that is too old and deteriorated, procures the equipment to be supplemented, and provides some essential equipment to be introduced for the medical activities of these hospitals.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

(1) Selection of Equipment

The project includes the diagnostic equipment at emergency and outpatient departments and the equipment for related treatments at operating rooms and ICUs. The medical equipment shall be adequate for their medical level, accordingly the equipment necessary for diagnoses and treatments of serious cases referred from lower level secondary facilities shall be included within the scope.

There was a tendency of overlapped request of some equipment from the many departments of respective hospitals when the original request was shown by the recipient side. However it was agreed to share some equipment to the utmost possible extent through cooperative usage among the departments.

The equipment plan has been determined through careful examination on the requested items with viewpoints for respective three categories shown below and criteria for priority and exclusion.

Equipment to be replaced

The existing old equipment can be replaced if it is technically and financially feasible to keep the level of medical services of the respective hospitals.

Equipment to be supplemented

The existing equipment quantitatively insufficient can be supplemented if it enhances the diagnosis and treatments services of the respective hospitals.

Equipment to be newly introduced

Newly introduced equipment can be procured only when it is judged consistent with both the medical level and financial capacities of the respective hospitals.

Criteria for priority

- Equipment to be used for common medical activities of the respective hospitals
- Equipment to be shared among multiple departments at the respective hospitals
- Equipment to be used for general diagnoses or treatments of many patients

Criteria for exclusion

- Consumable items, furniture or building-facilities
- Equipment locally available and affordable for the recipient side
- Equipment for which big costs for operation and maintenance can not be assured
- Equipment can not be used efficiently under the current management system
- Equipment that can be used only for a limited number of patients and/or cases
- Equipment that can be used only by some of the medical staff
- Equipment for research and education other than diagnoses and treatments
- Equipment yet to be in wide use in Serbia, and no maintenance service exists there

(2) Conditions of Natural Environment

It is not necessary to consider extra option of medical equipment or special method of

packing and transporting from viewpoints of climate conditions in Serbia and locations of the respective hospitals.

(3) Consideration of Socioeconomic Conditions

It is thought difficult to drastically increase the budget for operation and maintenance of medical equipment of these hospitals at the present circumstances under socioeconomic transition. Consequently, the equipment planning must focus on replacement of existing ones without significant increases of operation and maintenance cost of the hospitals.

(4) Consideration of Procurement

Some medical equipment used to domestically manufactured and marketed in Serbia based on licenses granted by European makers, however, as economic conditions worsened, the former situations have not continued enough so that the technical cooperation between domestic companies and foreign makers have not been renewed. In other words, domestically manufactured medical equipment often falls short of the standards of products of Japan, Europe or US in terms of technique or specification. For that reason, the project procures mainly the Japanese products in accordance with the scheme of Japan's grant aid. However the products of third countries can be procured when the Japanese makers do not have any local agents to provide the necessary services.

(5) Management and Maintenance Capacities of the Executing Agency

The three hospitals other than the Novi Sad CC do not have maintenance departments for medical equipment, and request the maintenance service to the local agents in Serbia. Accordingly, the equipment to be procured by the project shall be a product of makers of whom local agents can provide maintenance service of it. It is necessary to give technical guidance to the hospital staff with respect to adequate usage and daily maintenance when the equipment is handed over to the hospitals. A maintenance contract with local agents is thought necessary for the respective hospitals regarding CT scanner and other radiographic apparatuses.

(6) Grades and Specifications of Equipment

The specifications of equipment to be procured in this project shall be appropriate to the

technical levels of the personnel of the hospitals, and consideration will be given to the affordability of consumable goods to avoid an excessive burden in terms of operational cost. The specification of equipment to be procured was determined with the present situations of the equipment provided so far by the Japanese grass-roots grant aid taken into consideration. The project includes the certain amount of consumable goods and reagents for initial operation of the equipment. The water softening devices maybe considered for the apparatuses that would be affected by the hard water.

(7) Implementation Schedule

The cost for preparation works such as removing the existing equipment and mending the rooms or buildings shall be borne by the Serbian side. In practice, the respective four hospitals have to apply the budget for those works to the Serbia Medical Insurance Fund. The time required for this procedure shall be included in the determination of the implementation schedule of the project.

2-2-2 Basic Plan (Equipment Plan)

Table 2-1 shows the departments to be included by the project.

Table 2-1 Departments to be included by the Project

Hospital	Departments
Serbia CC	Emergency centers (anesthesiology, ICU, operating rooms, wards), Digestive organ consultations (pathology, radiation, anesthesiology, ICU, biochemistry laboratory, operating rooms, wards, ward laboratories), Obstetrics and Gynecology (obstetrics, operating rooms, operating rooms for Caesarian sections, neonatal), Circulatory illnesses (cardiac surgery, vascular surgery, ICU, operating rooms, circulatory system internal medicine, emergency section)
Novi Sad CC	Surgery, Internal medicine, Radiation, Clinical testing, Obstetrics and Gynecology
Nis CC	Biochemistry laboratories, Circulatory systems, Obstetrics and Gynecology, Digestive systems, Immunology/Blood-related illnesses, Surgery, Micro-organism research, Pediatrics, Radiation
Kragujevac CHC	Anesthesia, resuscitation, Emergency center, Radiation, Biochemical laboratory, Digestive systems, Pediatrics, Blood-related, Urology, Cardiac surgery, Neurology, Obstetrics and Gynecology

The requested equipment was examined with the points below. The summary result is shown in Table 2-2.

Consideration of the purpose of requested item (PPS in Evaluation column in table)

O: Equipment consistent with the medical activities of the hospital and department.

X: Equipment inconsistent with the medical activities of the hospital and department,
Item that is accessory of other equipment, or
Equipment that may possibly adversely affect the environment.

Consideration of necessity of requested item (NEC)

O: Replacement of essential equipment, i.e. the existing one is old and deteriorated, or
Supplement or introduction of essential equipment for the hospital's activities.

X: Equipment with less necessity, less cost-effectiveness or less-beneficiary,
General furniture and office equipment,
Goods and materials that is affordable for the recipient side, or
Consumable goods.

Consideration of technical level (TEC)

O: Equipment appropriate for the hospital's current technical level.

X: Highly sophisticated equipment requiring advanced operational technique.

Consideration of operation and maintenance (SER)

O: Equipment for which maintenance is easy or makers' service is available, and/or
Equipment for which consumable items and spare parts can be locally provided.

X: Equipment for which maintenance is difficult and can not be repaired after the
project completed, or consumable items and spare parts are not available locally.

Consideration of cost operating and maintenance (FEE)

O: Equipment that requires less cost for operating or maintenance, or equipment for
which such expenses can be easily borne.

X: Equipment that requires extremely big cost for operating and maintenance and would
give severe burden on their budget.

Consideration of quantities (QTY)

O: Equipment of which quantity is thought adequate against the medical activities, number of patients, number of medical staff and distribution in the hospital.

X: Equipment of which quantity needs to be adjusted or exceeding in the hospital, or
Equipment that can be shared among departments.

Overall judgment (JUD)

O: Equipment that is judged appropriate and shall be procured

X: Equipment that shall be excluded

The departments are located in separate buildings in the hospital's premises, and respective departments made same requests for some equipment. Although reconstruction of buildings or re-layout of departments are out of scope of the project, the equipment planning was determined with intent to integrate some functions of departments as far as possible, and to make the hospital's service activities more efficient.

Table 2-3 shows the functions of departments that will be integrated, and the equipment that will be shared.

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level) SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
I CLINICAL CENTER OF SERBIA																
1 EMERGENCY CENTER																
1 SERVICE FOR ANESTHESIOLOGY AND ICU																
S 1	01 Anesthesia Apparatus	2	A				X	-	-	-	-	-	X	0		
S 1	02 Patient Monitor	2	A				X	-	-	-	-	-	X	0		
S 1	03 Ventilator (MRI)	1	A				O	X	O	O	O	-	X	0		
S 1	04 Defibrillator	2	A		1		O	O	O	O	O	A	O	1	S 1 01	Defibrillator A
S 1	05 Central Monitor (8-Patients)	1	A		1		O	O	O	O	O	O	O	1	S 1 02	Monitoring System, 8 beds
S 1	06 Bed (ICU)	8	A		8		O	O	O	O	O	O	O	8	S 1 03	Bed, ICU
S 1	07 CO2 Gas Monitor	2	A		2		O	O	O	O	O	O	O	1	S 1 04	Gas Monitor, CO2
2 OPERATING ROOM																
S 2	01 Thoraco-Laparoscope System	1	A				O	O	X	O	O	-	X	0		
S 2	02 Pneumatic Bone Drill Set (Craniotomy)	2	A		1	1	O	O	O	O	O	O	O	2	S 2 01	Craniotome
	Anesthesia Apparatus	0	A		2		O	O	O	O	O	O	O	2	S 2 02	Anesthesia Apparatus C
	Patient Monitor	0	A		2		O	O	O	O	O	O	O	2	S 2 03	Patient Monitor B
3 CLINICAL DEPARTMENT																
S 3	01 Defibrillator	2	A		2		O	O	O	O	O	O	O	2	S 3 01	Defibrillator A
S 3	02 Ultrasound Apparatus, Portable	1	A		1		O	O	O	O	O	O	O	1	S 3 02	Ultrasound Diagnostic Apparatus, Portable A
S 3	03 Gastro Fiberscope	1	A		1		O	O	O	O	O	O	O	1	S 3 03	
II INSTITUTE FOR DIGESTIVE SYSTEM DISEASES																
4 DEPARTMENT OF DIGESTIVE SYSTEM PATHOLOGY																
S 4	01 Shaker (Tissue Fixation)	1	B		1		O	O	O	O	O	O	O	1	S 4 01	Shaker, Tissue Fixation
S 4	02 Tissue Processor	1	A		1		O	O	O	O	O	O	O	1	S 4 02	
S 4	03 Paraffin Oven	1	A		1		O	O	O	O	O	O	O	1	S 4 03	
S 4	04 Tissue Processor	1	A				O	O	O	O	O	A	X	0		
S 4	05 Process/Embedding Cassette	1	C				O	X	O	O	O	-	X	0		
S 4	06 Process Cover	4	C				O	X	O	O	O	-	X	0		
S 4	07 Tissue Embedding Set	12	C				O	X	O	O	O	-	X	0		
S 4	08 Paraffin Blocks Cabinet	10	B				O	X	O	O	O	-	X	0		
S 4	09 Centrifuge (Pathology Lab.)	1	A			1	O	O	O	O	O	O	O	1	S 4 04	Centrifuge, Pathology
S 4	10 Microtome (Freezing)	1	A		1		O	O	O	O	O	O	O	1	S 4 05	Microtome, Freezing
S 4	11 Microtome (Rotary)	1	A		1		O	O	O	O	O	O	O	1	S 4 06	Microtome, Rotary
S 4	12 Slide Warmer	1	B		1		O	O	O	O	O	O	O	1	S 4 07	
S 4	13 Slide Warmer (Water Bath and Warming Plate)	1	A		1		O	O	O	O	O	O	O	1	S 4 08	Water Bath, Pathology
S 4	14 Slide Stainer (Automatic)	1	A			1	O	O	O	O	O	O	O	1	S 4 09	Slide Stainer
S 4	15 Fume Hood (Table Top)	1	B		1		O	X	O	O	O	-	X	0		
S 4	16 Microscope (Binocular)	1	A		1		O	O	O	O	O	O	O	1	S 4 10	Microscope, Binocular
S 4	17 Microscope with Digital Camera	1	A			1	O	O	O	O	O	O	O	1	S 4 11	Microscope, Binocular with Camera
S 4	18 Instrument Set (Autopsy)	1	A		1		O	O	O	O	O	O	O	1	S 4 12	Instruments Set, Autopsy
S 4	19 Autopsy Lamp	1	A		1		O	O	O	O	O	O	O	1	S 4 13	
S 4	20 Autopsy Lamp (Fluorescent)	1	A				X	O	O	O	O	-	X	0		
S 4	21 Autopsy Table	1	A		1		O	O	O	O	O	O	O	1	S 4 14	
S 4	22 Photography Apparatus	1	B				X	O	O	O	O	-	X	0		
S 4	23 Co2 Incubator	1	B		1		X	X	O	O	O	-	X	0		
S 4	24 Hot Air Sterilizer	1	B		1		O	O	O	O	O	O	O	1	S 4 15	
S 4	25 Refrigerator with Freezer	1	C				O	O	O	O	O	A	X	0		
S 4	26 Freezer (Ultra-Low Temperature)	1	B			1	O	O	O	O	O	O	O	1	S 4 16	Deep Freezer, Ultra-low A
S 4	27 pH Meter	1	A			1	O	O	O	O	O	O	O	1	S 4 17	
S 4	28 Electronic Balance	1	A			1	O	O	O	O	O	O	O	1	S 4 18	Electronic Balance A
S 4	29 Electronic Balance	1	A		1		O	O	O	O	O	O	O	1	S 4 19	Electronic Balance B
S 4	30 Fume Hood	1	A		1		O	O	O	O	O	O	O	1	S 4 20	
S 4	31 Laboratory Centre Table	1	C				O	X	O	O	O	-	X	0		
S 4	32 Instrument Cabinet	1	C				O	X	O	O	O	-	X	0		
S 4	33 Sink Unit	1	C				O	X	O	O	O	-	X	0		
S 4	34 Mixer	1	C				O	X	O	O	O	-	X	0		
S 4	35 Micropipette Set	3	C				O	X	O	O	O	-	X	0		
5 X-RAY DEPARTMENT																
S 5	01 CT Scanner	1	A		1		O	O	O	O	O	O	O	1	S 5 01	
S 5	02 X-Ray Unit with TV	1	A		1		O	O	O	O	O	O	O	1	S 5 02	X-Ray Unit with TV B
S 5	03 Ultrasound Diagnostic Apparatus (Colour Doppler)	1	A		1		O	O	O	O	O	O	O	1	S 5 03	Ultrasound Diagnostic Apparatus, Colour Doppler B
6 SERVICE FOR ANESTHESIOLOGY AND INTENSIVE CARE																
S 6	01 Anesthesia Apparatus	3	A				X	-	-	-	-	-	X	0		
S 6	02 Patient Monitor	7	A		4	10	O	O	O	O	O	A	O	14	S 6 01	Patient Monitor A
S 6	03 Defibrillator	1	A				X	-	-	-	-	-	X	0		
S 6	04 Patient Monitor	8	A				X	O	O	O	O	A	X	0		
S 6	05 O2 Gas Monitor	3	A				X	O	O	O	O	-	X	0		
S 6	06 Respirator (Ventilator)	3	A		2	1	O	O	O	O	O	O	O	3	S 6 02	Ventilator
S 6	07 Infusion pump	3	A		3		O	O	O	O	O	O	O	3	S 6 03	
	Suction Unit (Chest Drainage)	0	A		2		O	O	O	O	O	O	O	2	S 6 04	Suction Unit, Chest Drainage
7 BIOCHEMICAL LABORATORY																
S 7	01 Hematology Analyser	1	A				O	O	O	O	O	A	-	0		
S 7	02 Blood Coagulation Analyser	1	A			1	O	O	O	O	O	O	O	1	S 7 01	
S 7	03 Electrolyte Analyser	1	A			1	O	O	O	O	O	O	O	1	S 7 02	Flame Photometer
S 7	04 Blood Gas Analyser	1	A				O	O	O	O	O	A	X	0		
S 7	06 Biochemical Analyser	1	A		1		O	O	O	O	O	O	O	1	S 7 03	Biochemical Analyser A

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level) SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
S 7 07	Calorimeter	1	A				O	O	O	O	A	X	0			
S 7 08	Refractometer	1	A				O	O	O	O	A	X	0			
S 7 09	Refrigerator (Blood Bank)	1	A				O	X	O	O	O	-	X	0		
S 7 10	Microscope (Binocular)	1	A				O	O	O	O	A	X	0			
S 7 11	Electronic Balance	1	B				O	X	O	O	O	-	X	0		
S 7 12	Refrigerator with Freezer	1	A				O	X	O	O	O	-	X	0		
S 7 13	Centrifuge	1	A				O	O	O	O	A	X	0			
S 7 14	Washer (Laboratory)	1	A				O	X	O	O	O	-	X	0		
S 7 15	Glucose Analyser	1	A				O	O	O	O	A	X	0			
S 7 16	Microcentrifuge	1	A				O	O	O	O	A	X	0			
S 7 17	Hematocrit Centrifuge	1	A				O	O	O	O	A	X	0			
8	OPERATING ROOM															
S 8 01	Electrosurgical Unit	4	A	4			O	O	O	O	O	O	4	S 8 01		Electro Surgical Unit
S 8 02	Operating Table	4	A	4			O	O	O	O	O	O	4	S 8 02		
S 8 03	Operating Light	4	A	4			O	O	O	O	O	O	2	S 8 03		Operating Light A
	Operating Light		A				O	O	O	O	O	O	2	S 8 04		Operating Light B
S 8 04	Suction Unit (Chest Drainage)	4	A	2			O	O	O	O	A	O	2	S 8 05		Suction Unit, Chest Drainage
S 8 05	Choledochoscope	1	A	1			O	O	O	O	O	O	1	S 8 06		Choledocho Fiberscope
S 8 06	Ultrasound Diagnostic Apparatus (Intraoperative)	1	A			1	O	O	O	O	O	O	1	S 8 07		Ultrasound Diagnostic Apparatus, Intraoperative
S 8 07	Argon Beam Coagulator	1	B	1			O	O	O	O	O	O	0			
S 8 08	Harmonic Scalpel	1	A		1		O	O	O	O	O	O	1	S 8 08		
S 8 09	Tompson Liver Retractor	1	B			1	O	O	O	O	O	O	1	S 8 09		Liver Retractor
S 8 10	Instrument Set (Liver Surgery)	1	C		1		O	O	O	O	O	O	1	S 8 10		Instruments Set, Surgery A
	Instrument Set (Liver Surgery)		C				O	O	O	O	O	O	1	S 8 11		Instruments Set, Surgery B
S 8 11	Heating Mattress (Operating Table)	1	A				O	X	O	O	X	-	X	0		Heating Mattress
S 8 12	X-Ray Unit (C-Arm)	1	A	1			O	O	O	O	O	O	1	S 8 12		X-Ray Unit, C-arm
S 8 13	Thoraco-Laparoscope System	2	A			1	O	O	O	O	O	O	1	S 8 13		
S 8 14	Instrument Set (Laparoscope)	1	A				X	O	O	O	O	-	X	0		
S 8 15	Diathermy	1	C				X	O	O	O	O	-	X	0		
S 8 16	Suction Unit	2	A	4	2		O	O	O	O	A	O	6	S 8 14		
S 8 17	Cellsaver	1	B				O	O	O	O	X	-	X	0		
S 8 18	Fast Sterilizer-Start 100 Plasma or Eschman	1	B			1	O	O	O	O	O	O	1	S 8 15		Sterilizer, Fast, Table Top
S 8 19	Suction Unit	4	A				O	O	O	O	A	X	0			
S 8 20	Needle Holder	50	B	1			O	O	O	O	A	O	1	S 8 16		Instrumetns Set, Needle Holder
S 8 21	Peans	200	B	1			O	O	O	O	A	O	1	S 8 17		Instrumetns Set, Peans
S 8 22	Surgery Scissors	100	B	1			O	O	O	O	A	O	1	S 8 18		Instrumetns Set, Surgery Scissors
S 8 23	Anatomical Forceps	50	B	1			O	O	O	O	A	O	1	S 8 19		Instrumetns Set, Anatomical Forceps
S 8 24	Surgery Pincers	50	B	1			O	O	O	O	A	O	1	S 8 20		Instrumetns Set, Anatomical Forceps
S 8 25	Ultrasonic Cleaner	1	B				O	X	O	O	O	-	X	0		
S 8 26	Autoclave	1	A				O	O	O	O	A	X	0			
S 8 27	Central sterilisation unit OR	1	A	1			O	O	O	O	O	O	1	S 8 21		High Pressure Steam Sterilizer B
	Anesthesia Apparatus	0	A	3			O	O	O	O	O	O	3	S 8 22		Anesthesia Apparatus C
	Patient Monitor	0	A	1			O	O	O	O	O	O	1	S 8 23		Patient Monitor B
	CO2 Gas Monitor	0	A		2		O	O	O	O	O	O	1	S 8 24		Gas Monitor, CO2
	Defibrillator	0	A	1			O	O	O	O	O	O	1	S 8 25		Defibrillator B
9	CLINICAL DEPARTMENT															
S 9 01	Defibrillator	5	A			3	O	O	O	O	A	O	3	S 9 01		Defibrillator A
10	DIAGNOSTICS EQUIPMENT															
S 10 01	Ultrasound Diagnostic Apparatus	2	A			1	O	O	O	O	A	O	1	S 10 01		Ultrasound Diagnostic Apparatus A
S 10 02	Ultrasound Dg. App. (Endoluminal)ECHO-ENDO	1	A				O	O	O	O	A	X	0			
S 10 03	Endoscopic Catheter	1	B				O	O	O	O	O	-	X	0		
S 10 04	Esophageal Dilator	1	B				O	X	O	O	O	X	0			
S 10 05	Suction Unit (Chest Drainage)	2	A			2	O	O	O	O	O	O	2	S 10 02		Suction Unit, Chest Drainage
S 10 06	Gastro Fiberscope	1	A	2			O	O	O	O	A	O	2	S 10 03		
S 10 07	Gastroduedeno Fiberscope with Video System	1	A			1	O	O	O	O	O	O	1	S 10 04		Endoscopy TV System
S 10 08	Colono Fiberscope	1	A			1	O	O	O	O	O	O	1	S 10 05		
S 10 09	Rectoscope	2	A	1	1		O	O	O	O	A	O	1	S 10 06		
S 10 10	Anoscope	4	A	1	3		O	O	O	O	A	O	1	S 10 07		
S 10 11	Light Source	2	A	1	1		O	O	O	O	A	O	1	S 10 08		
S 10 12	Anal Manometer	1	A				O	O	X	X	O	-	X	0		
S 10 13	Perinometer	1	C				O	X	O	O	O	-	X	0		
III	INSTITUTE FOR GYNECOLOGY AND OBSTETRICS															
11	OBSTETRICS DEPARTMENT - LABOR ROOM															
S 11 01	Delivery Table	11	A	11			O	O	O	O	O	O	11	S 11 01		
S 11 02	Piper's Forceps	1	B		1		O	O	O	O	O	O	1	S 11 02		
S 11 03	Chillend's Forceps	1	B		1		O	O	O	O	O	O	1	S 11 03		
S 11 04	Ultrasound Diagnostic apparatus (Portable)	1	A	1			O	O	O	O	O	O	1	S 11 04		Ultrasound Diagnostic Apparatus, Portable B
S 11 05	pH Meter	1	A			1	O	X	O	O	O	-	X	0		
S 11 06	Infant Warmer	1	A	1			O	O	O	O	O	O	1	S 11 05		
S 11 07	Central Monitoring CTG system for LABOR ROOM	1	C				O	X	O	O	O	-	X	0		

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level)
SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
S 11 08	CTG monitor	11	A	4	5		O	O	O	O	O	A	O	9	S 11 06	Cardiotocograph
S 12 01	OPERATING ROOM															
S 12 01	Steam Sterilizer (Central)	1	A	1			O	O	O	O	O	O	O	1	S 12 01	High Pressure Steam Sterilizer B
S 12 02	Autoclave	8	A	4			O	O	O	O	O	A	O	4	S 12 02	Hot Air Sterilizer
S 12 03	Anesthesia Apparatus	4	A	3			O	O	O	O	O	A	O	3	S 12 03	Anesthesia Apparatu A
S 12 04	Instruments Set (Laparotomy)	10	B		1		O	O	O	O	O	A	O	1	S 12 04	Instruments Set, Gynecology
S 12 05	Thermocautery	4	A	4			O	O	O	O	O	O	O	4	S 12 05	Electrosurgical Unit
S 12 06	Laser Surgical Apparatus	1	A	1			O	X	O	X	O	-	X	0		
S 12 07	Operating Light	4	A	4			O	O	O	O	O	O	O	4	S 12 06	Operating Light A
S 12 08	Operating Table (Gynecology)	4	A	4			O	O	O	O	O	O	O	4	S 12 07	Operating Table, Gynecology
S 13 01	OPERATING ROOM FOR CESARIAN SECTION															
S 13 01	Anesthesia Apparatus	1	A		1		O	O	O	O	O	O	O	1	S 13 01	Anesthesia Apparatu A
S 13 02	Instruments Set (Laparotomy)	3	B		3		O	O	O	O	O	O	O	3	S 13 02	Instruments Set, Cesarian Section
S 13 03	Thermocautery	1	A		1		O	O	O	O	O	O	O	1	S 13 03	Electrosurgical Unit
S 13 04	Operating Light	1	A		1		O	O	O	O	O	O	O	1	S 13 04	Operating Light A
S 13 05	Operating Table (Gynecology)	1	A		1		O	O	O	O	O	O	O	1	S 13 05	Operating Table, Gynecology
S 14 01	NEW-BORN															
S 14 01	Patient monitor	12	A		6		O	O	O	O	O	A	O	6	S 14 01	Patient Monitor, Neonate
S 14 02	Baby Weighing Scale	3	B	2			O	O	O	O	O	A	O	2	S 14 02	
S 14 03	Oxygen Inhalation Set	8	A	3			O	O	O	O	O	A	O	3	S 14 03	Ventilator, Neonate
S 14 04	Syringe pump	20	A	3	2		O	O	O	O	O	A	O	5	S 14 04	
S 14 05	Electric Sphygmomanometer	6	B				O	O	O	O	X	-	X	0		
S 14 06	Electric Weighing Balance	6	A		3		O	O	O	O	O	A	O	0		
S 14 07	Pulse Oximeter	5	A		1		O	O	O	O	O	A	O	1	S 14 05	
S 14 08	Infant Care Unit	5	A	2			O	O	O	O	O	A	O	2	S 14 06	Infant Warmer
S 14 09	Apnea monitor	10	A				X	O	O	O	O	-	X	0		
S 14 10	EOG Sterilizer	1	C				X	O	O	O	O	-	X	0		
S 15 01	INSTITUTE FOR CARDIOVASCULAR DISEASES															
S 15 01	CLINIC FOR CARDIOSURGERY/VASCULAR SURGERY															
S 15 01	EKG	2	A				O	O	O	O	O	A	O	1	S 15 01	
S 15 02	Patient Monitor	6	A				O	O	O	O	O	A	O	2	S 15 02	Patient Monitor A
S 15 03	Defibrillator	2	A				O	O	O	O	O	A	O	1	S 15 03	Defibrillator A
S 15 04	Ultrasound Diagnostic Apparatus (Colour Doppler)	2	A				O	O	O	O	O	A	O	1	S 15 04	Ultrasound Diagnostic Apparatus, Colour Doppler A
S 16 01	CENTER FOR VASCULAR SURGERY															
S 16 01	EKG	2	A				O	O	O	O	O	A	X	0		
S 16 02	Patient Monitor	6	A				O	O	O	O	O	A	X	0		
S 16 03	Defibrillator	2	A				O	O	O	O	O	A	X	0		
S 16 04	Ultrasound Diagnostic Apparatus (Portable)	1	A		1		O	O	O	O	O	O	O	1	S 16 01	Blood Flow Meter
S 16 05	Ultrasound Diagnostic Apparatus (Colour Doppler)	1	A				O	O	O	O	O	A	X	0		
S 17 01	INTENSIVE CARE															
S 17 01	EKG	3	A	1			O	O	O	O	O	A	O	1	S 17 01	
S 17 02	Patient Monitor	8	A	8			O	O	O	O	O	O	O	8	S 17 02	Patient Monitor A
S 17 03	Defibrillator	2	A				O	X	O	O	O	-	X	0		
S 17 04	Infusion Pump	6	A		6		O	O	O	O	O	O	O	6	S 17 03	
S 17 05	Ventilator	3	A	3			O	O	O	O	O	O	O	3	S 17 04	
S 17 06	Ultrasound Diagnostic Apparatus	1	A	1			O	O	O	O	O	O	O	1	S 17 05	Ultrasound Diagnostic Apparatus B
S 18 01	OPERATION ROOM															
S 18 01	Defibrillator	2	A	2			O	O	O	O	O	O	O	2	S 18 01	Defibrillator B
S 18 02	Manual Sternotome with Accessories	3	B	2			O	O	O	O	O	A	O	2	S 18 02	
S 18 03	Diathermy	4	B	4			O	O	O	O	O	O	O	4	S 18 03	Electro Surgical Unit
S 18 04	Steam Sterilizer	1	A	1			O	O	O	O	O	O	O	1	S 18 04	High Pressure Steam Sterilizer B
S 18 05	EO Gas Sterilizer	1	A				X	O	O	O	O	-	X	0		
S 18 06	Operating Table	3	A	3			O	O	O	O	O	O	O	3	S 18 05	
S 18 07	Operating Light (2 Satellite)	4	A	4			O	O	O	O	O	O	O	3	S 18 06	Operating Light A
S 18 07	Operating Light (2 Satellite)	4	A	4			O	O	O	O	O	O	O	1	S 18 07	Operating Light B
S 18 08	Ultraviolet Lamp	2	B	2			O	O	O	O	O	O	O	0		
S 18 09	Sterilising Container	2	C				O	X	O	O	O	-	X	0		
S 18 10	Suction Unit	3	C	3			O	O	O	O	O	O	O	3	S 18 08	
S 18 11	Stretcher	3	C	3			O	O	O	O	O	O	O	3	S 18 09	
S 18 12	Instrument Cabinet	3	C				O	X	O	O	O	-	X	0		
S 18 13	Anesthesia Apparatus	3	A	3			O	O	O	O	O	O	O	3	S 18 10	Anesthesia Apparatus A
S 19 01	CLINIC FOR CARDIOLOGY															
S 19 01	EKG	3	A		1		O	O	O	O	O	A	O	1	S 19 01	
S 19 02	Patient Monitor	8	A		1		O	O	O	O	O	A	O	1	S 19 02	Patient Monitor A
S 19 03	Defibrillator	2	A		1		O	O	O	O	O	A	O	1	S 19 03	Defibrillator A
S 19 04	Infusion Pump	8	A		4		O	O	O	O	O	A	O	4	S 19 04	
S 19 05	Central Monitor (8-Patients)	1	A				O	O	O	O	O	A	X	0		
S 19 06	Ultrasound Diagnostic Apparatus	1	A		1		O	O	O	O	O	O	O	1	S 19 05	Ultrasound Diagnostic Apparatus C
S 20 01	EMERGENCY CARDIOLOGY															
S 20 01	EKG	3	A				O	X	O	O	O	-	X	0		
S 20 02	Patient Monitor	6	A	1			O	O	O	O	O	A	O	1	S 20 01	Monitoring System, 6 beds
S 20 03	Defibrillator	3	A	0			O	X	O	O	O	-	X	0		
S 20 04	Central Monitor (6-Patients)	1	A				O	O	O	O	O	A	X	0		

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level)
SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
S 20 05	Ultrasound Diagnostic Apparatus (Portable)	1	A				O	O	O	O	A	X	0			
S 20 06	Ultrasound Diagnostic Apparatus	1	A	1			O	O	O	O	O	O	1	S 20 02	Ultrasound Diagnostic Apparatus C	
V	INSTITUTE FOR MEDICAL BIOCHEMISTRY															
S 21 01	Centrifuge (10.000 rpm)	5	A	6			O	O	O	O	A	O	6	S 21 01	Centrifuge	
S 21 02	Centrifuge (Ultra)	1	A	1			O	O	O	O	O	O	1	S 21 02	Ultracentrifuge	
S 21 03	Hematocrit Centrifuge	3	A	3			O	O	O	O	O	O	3	S 21 03		
S 21 04	Centrifuge (Micro)	2	A	2			O	O	O	O	O	O	2	S 21 04	Micro Centrifuge	
S 21 05	Microscope (Binocular)	6	A	6		1	O	O	O	O	O	O	7	S 21 05	Microscope, Binocular	
S 21 06	Refractometer	2	A			3	O	O	O	O	O	O	3	S 21 06		
S 21 07	Mixer (Roller)	4	A	3			O	O	O	O	O	O	3	S 21 07	Mixer, Roller	
S 21 08	Water Bath	2	A	2			O	O	O	O	O	O	2	S 21 08		
S 21 09	Analytical Balance	2	A	2			O	O	O	O	O	O	2	S 21 09	Electronic Balance B	
S 21 10	Hematology Analyser	2	A	2			O	O	O	O	O	O	2	S 21 10	Hematology Analyser A	
S 21 11	Glucose Analyser	2	A	2			O	O	O	O	O	O	2	S 21 11		
S 21 12	Spectrophotometer	2	A	2			O	O	O	O	O	O	2	S 21 12		
S 21 13	Biochemical Analyser (up to 300 a/h)	1	A	1			O	O	O	O	O	O	1	S 21 13	Biochemical Analyser A	
S 21 14	Biochemical Analyser (over 300 a/h)	1	A				O	X	O	O	O	-	X	0		
S 21 15	Flame Photometer	1	A	1			O	O	O	O	O	O	1	S 21 14		
S 21 16	Electrophoresis Apparatus (Capillary)	1	A				O	O	O	X	O	-	X	0		
S 21 17	pH Meter	1	A	1			O	O	O	O	O	O	1	S 21 15		
S 21 18	Blood Gas Analyser	1	A	1			O	O	O	O	O	O	1	S 21 16		
S 21 19	CO-Oximeter Monitor	1	B	1			O	O	O	O	O	O	1	S 21 17	Blood Gas Analyzer with Co-Oximeter	
S 21 20	Osmometer	1	A	1			O	O	O	O	O	O	1	S 21 18		
S 21 21	Pipette Dilutor	2	A	2			O	O	O	O	O	O	2	S 21 19		
S 21 22	Deep Freezer (at-80C)	2	A			2	O	O	O	O	O	O	2	S 21 20	Deep Freezer, Ultra-low	
S 21 23	Mixer (Magnetic)	1	B	1			O	O	O	O	O	O	1	S 21 21	Mixer, Magnetic	
S 21 24	Platelet Aggregation Analyser	1	B				O	X	O	O	O	-	X	0		
S 21 25	Ca/Mg Analyser	1	A			1	O	X	O	O	O	-	X	0		

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level)
SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.		New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD				
CLINICAL CENTER OF NOVISAD																	
1	INSTITUTE OF SURGERY																
NO 1	Operating Table	6		4			O	O	O	O	O	A	O	4	NO 1	01	
	Operating Table, Electrical	0		2			O	O	O	O	O	O	O	2	NO 1	02	
NO 1	Operating Light	6		5			O	O	O	O	O	O	O	5	NO 1	03	
	Operating Light			1			O	O	O	O	O	O	O	1	NO 1	04	
NO 1	Anesthesia Apparatus	8		5			O	O	O	O	O	A	O	6	NO 1	05	
NO 1	Electrosurgical Unit	10		9			O	O	O	O	O	A	O	9	NO 1	06	
NO 1	Ventilator	8		8			O	O	O	O	O	O	O	8	NO 1	07	
NO 1	Defibrillator	8		4	1		O	O	O	O	O	A	O	2	NO 1	08	
	Defibrillator						O	O	O	O	O	A	O	3	NO 1	09	
NO 1	Endotracheal Set	5			5		O	O	O	O	O	O	O	5	NO 1	10	
NO 1	Suction Unit	6		6			O	O	O	O	O	O	O	6	NO 1	11	
NO 1	Steam Sterilizer (Central)	1		1			O	O	O	O	O	O	O	1	NO 1	12	
NO 1	Patient Monitor	8		5	4		O	O	O	O	O	A	O	6	NO 1	13	
	Patient Monitor						O	O	O	O	O	A	O	3	NO 1	14	
NO 1	Laparoscope Set	1					O	O	X	O	O	O	X	0			
NO 1	ECG	6		4			O	O	O	O	O	A	O	4	NO 1	15	
NO 1	Ultrasound Diagnostic Apparatus	1		1			O	O	O	O	O	O	O	1	NO 1	16	
INSTITUTE OF INTERNAL DISEASES																	
NO 2	Ultrasound Diagnostic Apparatus	1					O	O	O	O	O	A	X	0			
NO 2	Endoscope Video System	1		1			O	O	O	O	O	O	O	1	NO 2	04	
NO 2	Gastroduodeno Fiberscope	3		3			O	O	O	O	O	O	O	3	NO 2	01	
NO 2	Sigmoidoscope	3		2			O	O	O	O	O	A	O	2	NO 2	02	
NO 2	Colono Fiberscope	3		2			O	O	O	O	O	A	O	2	NO 2	03	
NO 2	Sterilizer	2		1			O	O	O	O	O	A	O	0			
NO 2	Defibrillator	2		1	1		O	O	O	O	O	O	O	2	NO 2	06	
NO 2	ECG	8		6			O	O	O	O	O	A	O	6	NO 2	07	
DEPARTMENT OF RADIOLOGY																	
NO 3	Ultrasound Diagnostic Apparatus	2		2			O	O	O	O	O	O	O	1	NO 3	01	
	Ultrasound Diagnostic Apparatus													1	NO 3	02	
NO 3	Ultrasound Diagnostic Apparatus (Colour Doppler)	1		1			O	O	O	O	O	O	O	1	NO 3	03	
NO 3	X-Ray Unit (Digital)	2		1			O	O	O	O	O	A	O	1	NO 3	04	
	X-Ray Unit (Digital)	0		1			O	O	O	O	O	A	O	1	NO 3	05	
NO 3	Film Developing Set	2		2			O	O	O	O	O	O	O	2	NO 3	06	
DEPARTMENT OF LABORATORY MEDICINE																	
NO 4	Hematology Analyser	2		2			O	O	O	O	O	O	O	1	NO 4	01	
	Hematology Analyser													1	NO 4	02	
NO 4	Biochemical Analyser	2		1			O	O	O	O	O	A	O	1	NO 4	03	
NO 4	Blood Coagulation Analyser	1		1			O	O	O	O	O	O	O	1	NO 4	04	
NO 4	Blood Gas and Electrolyte Analyser	3		1			O	O	O	O	O	A	O	1	NO 4	05	
	Electrolyte Analyser	0		1			O	O	O	O	O	A	O	1	NO 4	06	
NO 4	Glucose Analyser	2		1			O	O	O	O	O	O	O	1	NO 4	07	
NO 4	Urea Analyser	2					O	X	O	O	O	-	X	0			
NO 4	Flame Photometer	2		1			O	O	O	O	O	A	O	1	NO 4	08	
NO 4	Spectrophotometer	3		2			O	O	O	O	O	A	O	2	NO 4	09	
NO 4	Centrifuge (10,000rpm)	4		4			O	O	O	O	O	O	O	4	NO 4	10	
NO 4	Hematocrit Centrifuge	3		2	1		O	O	O	O	O	O	O	3	NO 4	11	
NO 4	Microscope (Binocular)	10		9			O	O	O	O	O	A	O	9	NO 4	12	
	Microscope (Binocular)	0			1		O	O	O	O	O	A	O	1	NO 4	13	
NO 4	Osmometer	2			1		O	O	O	O	O	A	O	1	NO 4	14	
NO 4	Sterilizer	2		2			O	O	O	O	O	O	O	2	NO 4	15	
NO 4	Water Distiller	2		2			O	O	O	O	O	O	O	2	NO 4	16	
NO 4	Water Bath	3		3			O	O	O	O	O	O	O	3	NO 4	17	
NO 4	Electrophoresis Apparatus	1		1			O	O	O	O	O	O	O	1	NO 4	18	
NO 4	Densitometer	1			1		O	O	O	O	O	O	O	1	NO 4	19	
NO 4	Shaker	2		2			O	O	O	O	O	O	O	2	NO 4	20	
NO 4	Microscope (Fluorescent)	1			1		O	O	O	O	O	O	O	1	NO 4	21	
NO 4	ELISA reader	1		1			O	O	O	O	O	O	O	1	NO 4	22	
NO 4	pH Meter	1		1			O	O	O	O	O	O	O	1	NO 4	23	
GYNECOLOGY																	
NO 5	Anesthesia Apparatus	2		2			O	O	O	O	O	O	O	2	NO 5	01	
NO 5	Electrosurgical Unit	2		2			O	O	O	O	O	O	O	2	NO 5	02	
NO 5	Operating Light	3		3			O	O	O	O	O	O	O	3	NO 5	03	
NO 5	Operating Table	3		3			O	O	O	O	O	O	O	3	NO 5	04	
NO 5	Gas Sterilizer	1					X	O	O	O	O	-	X	0			
NO 5	Ultrasound Diagnostic Apparatus (Colour Doppler)	1		1			O	O	O	O	O	O	O	1	NO 5	05	
NO 5	Ultrasound Diagnostic Apparatus	1					O	O	O	O	O	A	X	0			
NO 5	Cardiotocograph	6		6			O	O	O	O	O	O	O	6	NO 5	06	
NO 5	Syringe Pump	20			4		O	O	O	O	O	A	O	4	NO 5	07	
NO 5	X-ray Unit (Mobile)	1			1		O	O	O	O	O	O	O	1	NO 5	08	
NO 5	Patient Monitor	3		2			O	O	O	O	O	A	O	2	NO 5	09	

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level)
 SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
CLINICAL CENTER OF NIS																
1 BIOCHEMICAL LABORATORY																
NI 1	01 Biochemical Analyser	1	A	1										1	NI 1	01 Biochemical Analyser
NI 1	02 Immunology Analyser (ELISA)	1												0		Immunology Analyser, ELISA
NI 1	03 Spectrophotometer	2	C	1										1	NI 1	02
NI 1	04 Glucose Analyser	1	A	1										1	NI 1	03
NI 1	05 Urea Analyser	1	A											0		
NI 1	06 Creatine Analyser	1	B											0		
NI 1	07 Blood Gas Analyser	1	A	1										1	NI 1	04 Blood Gas and Electrolyte Analyzer
NI 1	08 Flame Photometer	1	B	1										1	NI 1	05
NI 1	09 Electrolyte Analyser	1												0		
NI 1	10 Timer	1												0		
NI 1	11 Centrifuge (10,000rpm)	3	A	3										3	NI 1	06 Centrifuge
NI 1	12 Hematocrit Centrifuge	2												0		
NI 1	13 Microscope	3												0		
NI 1	14 Analytical Balance	2	B	1										1	NI 1	07 Electronic Balance C
NI 1	15 Hematology Analyser	1												0		
NI 1	16 pH Meter	2	B	1										1	NI 1	08
NI 1	17 Bilirubinometer	1	A			1								1	NI 1	09
NI 1	18 Mixer (Vortex)	2	A	2										2	NI 1	10 Mixer, Vortex
NI 1	19 Mixer	2	B	1										1	NI 1	11
NI 1	20 Freezer	1	B			1								1	NI 1	12 Deep Freezer
NI 1	21 Refrigerator	4												0		
NI 1	22 Water Bath	1	B	1										1	NI 1	13
NI 1	23 Water Distiller	2	B	1										1	NI 1	14 Water Distiller A
NI 1	24 Water Purifier (Ion Exchange)	1												0		
NI 1	25 Micropipette Set	10	B	1										1	NI 1	15 Micropipette Set A
NI 1	26 Personal Computer	3												0		
NI 1	27 Urine Analyser	1												0		
NI 1	28 Autoclave	1	A			1								1	NI 1	16 Autoclave, Desk Top
2 CARDIOLOGY DEPARTMENT																
NI 2	01 ECG	3	A	2										2	NI 2	01
NI 2	02 Defibrillator	2	A	1										1	NI 2	02 Defibrillator A
NI 2	03 Patient Monitor	3	A			3								3	NI 2	03 Patient Monitor B
NI 2	04 Holter ECG Analyser	1	A	1										1	NI 2	04 Holter ECG
NI 2	05 Treadmill	1	B	1										1	NI 2	05 Stress Test System
NI 2	06 Ultrasound Diagnostic Apparatus (Colour Doppler)	2	A	2										1	NI 2	06 Ultrasound Diagnostic Apparatus, Colour Doppler A
	Ultrasound Diagnostic Apparatus (Colour Doppler)													1	NI 2	07 Ultrasound Diagnostic Apparatus, Colour Doppler E
3 GYNECOLOGY																
NI 3	01 Laparoscope Video System	1	B	1										1	NI 3	01 Laparoscope System, Gynecology
NI 3	02 Ultrasound Diagnostic Apparatus (Colour Doppler)	2	A	1										1	NI 3	02 Ultrasound Diagnostic Apparatus, Colour Doppler C
NI 3	03 Patient Monitor (Neonate)	2	A			2								2	NI 3	03 Patient Monitor, Neonate
NI 3	04 Infant Incubator (Transport)	1												0		
NI 3	05 Ventilator (Neonate)	1												0		
NI 3	06 Treatment Table (Gynecology)	1	C	1										1	NI 3	04 Treatment Table, Gynecology
NI 3	07 Infusion Pump	2												0		
NI 3	08 Operating Table	1	B			1								1	NI 3	05
NI 3	09 Operating Light	2	A	1	1									2	NI 3	06 Operating light A
NI 3	10 Patient Monitor	6	A	2	4									4	NI 3	07 Patient Monitor A
	Patient Monitor													2	NI 3	08 Patient Monitor B
NI 3	11 Patient Monitor (Transport)	1												0		
NI 3	12 Anesthesia Apparatus	2	A	2										2	NI 3	09
NI 3	13 Steam Sterilizer	1	B	1										1	NI 3	10 High Pressure Steam Sterilizer
NI 3	14 Microscope	3	B	3										3	NI 3	11 Microscope, Binocular
4 GASTROENTEROLOGY																
NI 4	01 Gastro Fiberscope with Disinfection Unit	1	A			1								1	NI 4	04 Endoscopy TV System
NI 4	02 Colono Fiberscope	1	A	1										1	NI 4	01
NI 4	03 Duodeno Fiberscope	1	A	1										1	NI 4	02
NI 4	04 Gastro Fiberscope	2	B	2										2	NI 4	03
NI 4	05 Rectoscope	1	B			1								1	NI 4	05
NI 4	06 Endoscope Table	3	A	3										3	NI 4	06
NI 4	07 Light Source	2												0		
NI 4	08 Endoscope Sterilizer	1												0		
NI 4	09 Bed (ICU)	6	B	6										6	NI 4	07 Bed, ICU
NI 4	10 Patient Monitor	1	A			1								1	NI 4	08 Patient Monitor A
NI 4	11 Defibrillator	1	A			1								1	NI 4	09 Defibrillator A
NI 4	12 Suction Unit	1	A			1								1	NI 4	10
NI 4	13 ECG (Portable)	1	B	1										1	NI 4	11 ECG
NI 4	14 X-Ray Unit with TV System	1	A	1										1	NI 4	12 X-Ray Unit with TV A
NI 4	15 Film Processor	1	A	1										1	NI 4	13 Film Processor B
5 HEMATOLOGY																
NI 5	01 Hematology Analyser	2	A			1								1	NI 5	01 Hematology Analyser A
NI 5	02 Microscope	5	A/B	5										5	NI 5	02 Microscope, Binocular
NI 5	03 Hematocrit Centrifuge	2	A/B	2										2	NI 5	03

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level) SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.	New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD			
NI 5 04	Bone Punction Set	5					O	X	O	O	O	-	X	0		
NI 5 05	Bone Biopsy Set	2					O	X	O	O	O	-	X	0		
NI 5 06	Infusion Pump	4	B			4	O	O	O	O	O	O	O	4	NI 5 04	
6	SURGERY															
NI 6 01	Ventilator	2	A			2	O	O	O	O	O	O	O	2	NI 6 01	
NI 6 02	Anesthesia Apparatus	2	A	2			O	O	O	O	O	O	O	2	NI 6 02	Anesthesia Apparatus A
NI 6 03	Laparoscope	1	A	1			O	O	O	O	O	O	O	1	NI 6 03	Laparoscope System, Surgery
NI 6 04	Ultrasound Diagnostic Apparatus	1	A				O	O	X	O	O	-	X	0		
NI 6 05	Bronchoscope	1	A			1	O	O	O	O	O	O	O	1	NI 6 04	Broncho Fiberscope
NI 6 06	Colono Fiberscope	1	A				O	O	O	O	O	A	X	0		
NI 6 07	Operating Light	1	B	1			O	O	O	O	O	O	O	1	NI 6 05	Operating Light A
NI 6 08	X-Ray Unit (Mobile)	1	A	1			O	O	O	O	O	O	O	1	NI 6 06	X-Ray Unit, Mobile
NI 6 09	Electrosurgical Unit	1	A	1			O	O	O	O	O	O	O	1	NI 6 07	Electro Surgical Unit
NI 6 10	Infusion Pump	4	B			4	O	O	O	O	O	O	O	4	NI 6 08	
7	LABORATORY FOR MICROBIOLOGY															
NI 7 01	Centrifuge	2	B	1			O	O	O	O	O	A	O	1	NI 7 01	
	Ultracentrifuge	0	A			1	O	O	O	O	O	A	O	1	NI 7 02	
NI 7 02	Liquid Dispenser	2	A				O	X	O	O	O	-	X	0		
NI 7 03	Immunology Analyser (ELISA)	1	A	1			O	O	O	O	O	O	O	1	NI 7 03	Immunology Analyser, ELISA
NI 7 04	Microscope	5	A/B	5			O	O	O	O	O	O	O	5	NI 7 04	Microscope, Binocular
NI 7 05	Microscope (Fluorescent)	2	A				O	X	O	O	O	-	X	0		
NI 7 06	Autoclave	2	B	2			O	O	O	O	O	O	O	2	NI 7 05	
NI 7 07	Hot Air Sterilizer	2	B	2			O	O	O	O	O	O	O	2	NI 7 06	
NI 7 08	Water Bath	2	B	2			O	O	O	O	O	O	O	2	NI 7 07	
NI 7 09	Incubator	3	A	3			O	O	O	O	O	O	O	3	NI 7 08	
NI 7 10	Refrigerator	2	A				O	X	O	O	O	-	X	0		
NI 7 11	Freezer	1	A	1			O	O	O	O	O	O	O	1	NI 7 09	Deep Freezer, Ultra-low
NI 7 12	Water Distiller	1	B			1	O	O	O	O	O	O	O	1	NI 7 10	Water Distiller B
NI 7 13	Water Purifier (Ion Exchange)	1	A				O	O	O	O	X	-	X	0		
NI 7 14	Diluter	2	A				O	X	O	O	O	-	X	0		
NI 7 15	Micropipette Set	7	B	1			O	O	O	O	O	A	O	1	NI 7 11	Micropipette Set B
NI 7 16	Personal Computer	3	A				O	X	O	O	O	-	X	0		
8	PEDIATRICS															
NI 8 01	Ventilator	1	A			1	O	O	O	O	O	O	O	1	NI 8 01	
NI 8 02	X-Ray Unit	1	A	1			O	O	O	O	O	O	O	1	NI 8 02	
NI 8 03	Urodynamic Apparatus	1	A				O	O	O	X	O	-	X	0		
NI 8 04	Infusion Pump	7	B/C	5			O	O	O	O	O	A	O	5	NI 8 03	
NI 8 05	EEG	1	A	1			O	O	O	O	O	O	O	1	NI 8 04	
NI 8 06	Holter ECG	1	A				O	O	O	O	O	A	X	0		
NI 8 07	Infant Warmer	2	A	1			O	O	O	O	O	A	O	1	NI 8 05	
NI 8 08	Infant Incubator	2	A				O	O	O	O	O	A	X	0		
NI 8 09	Phototherapy Unit	2	A				O	O	O	O	O	A	X	0		
NI 8 10	Microscope	1	A				O	O	O	O	O	A	X	0		
NI 8 11	pH Meter	2	A				O	O	O	O	O	A	X	0		
NI 8 12	Spirometer	1	B/C	1			O	O	O	O	O	O	O	1	NI 8 06	
NI 8 13	Colono Fiberscope	1	A				O	O	O	O	O	A	X	0		
9	RADIOLOGY															
NI 9 01	X-Ray Unit	1	A				O	O	O	O	O	A	X	0		
NI 9 02	X-Ray Unit with TV System	1	A	1			O	O	O	O	O	O	O	1	NI 9 01	X-Ray Unit with TV A
NI 9 03	Ultrasound Diagnostic Apparatus (Colour Doppler)	2	A				O	O	O	O	O	A	X	0		
NI 9 04	X-Ray Unit (Mammography)	1	A	1			O	O	O	O	O	O	O	1	NI 9 02	X-Ray Unit, Mammography
NI 9 05	Film Processor	1	B	1			O	O	O	O	O	O	O	1	NI 9 03	Film Processor B
NI 9 06	Personal Computer	3	A				O	X	O	O	O	-	X	0		
NI 9 07	X-Ray Room Accessories	1	A			1	O	O	O	O	O	O	O	1	NI 9 04	

Table 2-2 Evaluation Criteria

Abbreviations: RQ(Minutes q'ty), PRO(Priority), RP(Replace), ADD(Addition), NEW(New), PPS(Purpose), NEC(Necessity), TEC(Technical level) SER(Maintenance), FEE(Maintenance cost), QTY(Q'ty), JUD(Judge), PP(Final q'ty)

Minute No.	Description	RQ	PRO	Category			Evaluation							PP	Project No.		New Name
				RP	ADD	NEW	PPS	NEC	TEC	SER	FEE	QTY	JUD				
CLINICAL HOSPITAL CENTER OF KRAGUJEVAC																	
	1 CENTER OF ANESTHESIOLOGY & REANIMATION																
K 1	01 Anesthesia Apparatus	4		4				O	O	O	O	O	O	O	4	K 1 01	Anesthesia Apparatus B
K 1	02 Patient Monitor	8		3				O	O	O	O	O	O	O	3	K 1 02	Patient Monitor A
K 1	03 Patient Monitor			5				O	O	O	O	O	O	O	5	K 1 03	Patient Monitor B
K 1	03 Ventilator	6		4	2			O	O	O	O	O	O	O	6	K 1 04	
	2 CENTER OF URGENT MEDICINE																
K 2	01 Ultrasound Diagnostic Apparatus (Colour Doppler)	1			1			O	O	O	O	O	O	O	1	K 2 01	Ultrasound Diagnostic Apparatus, Portable A
K 2	02 Defibrillator	1		1				O	O	O	O	O	O	O	1	K 2 02	Defibrillator A
K 2	03 Ventilator	1						O	X	O	O	O	-	X	0		
K 2	04 Patient Monitor	4		1	3			O	O	O	O	O	O	O	4	K 2 03	Patient Monitor A
K 2	05 ECG	2		1				O	O	O	O	O	A	O	1	K 2 04	
K 2	06 X-Ray Unit (Mobile)	1						O	X	O	O	O	-	X	0		
	3 RADIOLOGY																
K 3	01 X-Ray Unit	2		1				O	O	O	O	O	A	O	1	K 3 01	
	X-Ray Unit with TV A	0		1				O	O	O	O	O	A	O	1	K 3 02	
K 3	02 X-Ray Unit (Mammography)	1		1				O	O	O	O	O	O	O	1	K 3 03	X-Ray Unit, Mammography
K 3	03 X-Ray Unit (Dual Energy)	1						O	O	O	X	O	-	X	0		
	X-Ray Unit (Mobile)	0			1			O	O	O	O	O	O	O	1	K 3 04	X-Ray Unit, Mobile
	4 CLINICAL BIOCHEMICAL LABORATORY																
K 4	01 Biochemical Analyser	1		1				O	O	O	O	O	O	O	1	K 4 01	Biochemical Analyser
K 4	02 Flame Photometer	1		1				O	O	O	O	O	O	O	1	K 4 02	
K 4	03 Centrifuge	2		2				O	O	O	O	O	O	O	2	K 4 03	
K 4	04 Spectrophotometer	1		1				O	O	O	O	O	O	O	1	K 4 04	
K 4	05 Microscope	2		2				O	O	O	O	O	O	O	2	K 4 05	Microscope, Binocular
K 4	06 Blood Coagulation Analyser	1						O	O	O	O	O	A	X	0		
K 4	07 Water Distiller	1						O	O	O	O	X	-	X	0		
K 4	08 Blood Gas Analyser	1		1				O	O	O	O	O	O	O	1	K 4 06	Blood Gas and Electrolyte Analyser
K 4	09 Micropipette Set	1		1				O	O	O	O	O	O	O	1	K 4 07	Micropipette Set C
	5 DEPARTMENT OF GASTROENTEROLOGY																
K 5	01 Esophagogastroduodenoscopy	2			2			O	O	O	O	O	O	O	2	K 5 01	Gastro Fiberscope
K 5	02 Recto Colonoscopy	1			1			O	O	O	O	O	O	O	1	K 5 02	Colono Fiberscope
	6 PEDIATRICS CLINIC																
K 6	01 Ultrasound Diagnostic Apparatus (Colour Doppler)	1						O	O	O	O	O	A	X	0		
K 6	02 EEG	1						O	O	O	O	O	A	X	0		
K 6	03 ECG	1		1				O	O	O	O	O	O	O	1	K 6 01	
K 6	04 Ventilator	1		1				O	O	O	O	O	O	O	1	K 6 02	
K 6	05 Gastro Fiberscope	1						O	O	O	O	O	O	O	1	K 6 03	Gastro Fiberscope, Pediatric
K 6	06 Microscope	1		1				O	O	O	O	O	O	O	1	K 6 04	Microscope, Binocular
K 6	07 X-Ray Unit (Mobile)	1			1			O	O	O	O	O	O	O	1	K 6 05	X-Ray Unit, Mobile
	7 CENTER OF HEMATOLOGY																
K 7	01 Hematology Analyser	1			1			O	O	O	O	O	O	O	1	K 7 01	Hematology Analyser A
K 7	02 Microscope	2		2				O	O	O	O	O	O	O	2	K 7 02	Microscope, Binocular
K 7	03 Blood Coagulation Analyser	1			1			O	O	O	O	O	O	O	1	K 7 03	
	8 CENTER OF UROLOGY																
K 8	01 Ultrasound Diagnostic Apparatus	1		1				O	O	O	O	O	O	O	1	K 8 01	Ultrasound Diagnostic Apparatus D
K 8	02 Operating Table	1		1				O	O	O	O	O	O	O	1	K 8 02	
K 8	03 Cystoscope	1		1				O	O	O	O	O	O	O	1	K 8 03	Cysto-Ureteroscope
	9 CENTER OF CARDIOLOGY																
	Ultrasound Diagnostic Apparatus (Colour Doppler)	0			1			O	O	O	O	O	O	O	1	K 9 01	Ultrasound Diagnostic Apparatus, Colour Doppler A
K 9	01 Treadmill	1		1				O	O	O	O	O	O	O	1	K 9 02	Stress Test System
K 9	02 X-Ray Unit (Mobile)	1						O	O	O	O	O	A	X	0		X-Ray Unit, Mobile
K 9	03 Defibrillator	1		1				O	O	O	O	O	O	O	1	K 9 03	Defibrillator A
K 9	04 Patient Monitor	3		3				O	O	O	O	O	O	O	3	K 9 04	Patient Monitor A
	10 CENTER OF VASCULAR SURGERY																
K 10	01 Suction Unit	1		1				O	O	O	O	O	O	O	1	K 10 01	
K 10	02 Ultrasound Diagnostic Apparatus (Colour Doppler)	1		1				O	O	O	O	O	O	O	1	K 10 02	Ultrasound Diagnostic Apparatus, Colour Doppler A
	11 CENTER OF NEUROLOGY																
K 11	01 Patient Monitor	1			1			O	O	O	O	O	O	O	1	K 11 01	Patient Monitor A
K 11	02 Defibrillator	1			1			O	O	O	O	O	O	O	1	K 11 02	Defibrillator A
K 11	03 EEG	1		1				O	O	O	O	O	O	O	1	K 11 03	
	12 CLINIC OF GYNECOLOGY AND OBSTETRICS																
K 12	01 Vacuum Extractor	1		1				O	O	O	O	O	O	O	1	K 12 01	
K 12	02 Suction Unit	2		2				O	O	O	O	O	O	O	2	K 12 02	
K 12	03 Ultrasound Diagnostic Apparatus (Colour Doppler)	2		1				O	O	O	O	O	A	O	1	K 12 03	Ultrasound Diagnostic Apparatus, Colour Doppler D

Tabel 2-3 INTEGRALTION LIST

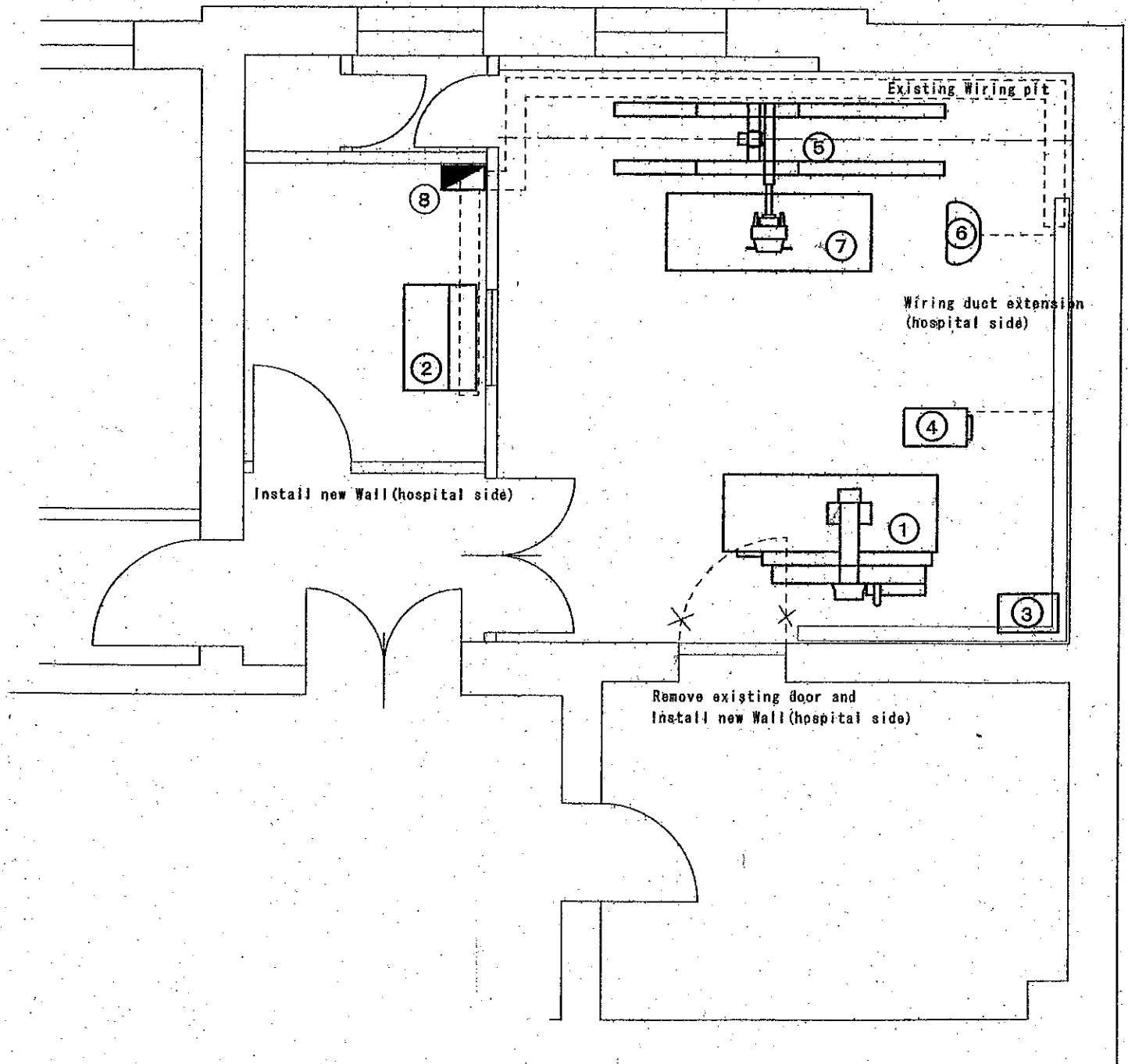
No.	ITEM	Q'TY	FINAL	DEPARTMENT
SERBIA CLINICAL CENTER				
S-7-01	Hematology Analyser	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-03	Electrolyte Analyser	1	1	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-07	Calorimeter	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-08	Refractometer	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-10	Microscope (Binocular)	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-13	Centrifuge	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-15	Glucose Analyser	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-16	Microcentrifuge	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-7-17	Hematocrit Centrifuge	1	0	DEPT OF DIGESTIVE SYSTEM PATHOHISTOLOGY, BIOCHEMICAL LAB
S-9-01	Defibrillator	5	3	INSTITUTE FOR DIGESTIVE SYSTEM DISEASES
S-12-02	Autoclave	8	4	INSTITUTE FOR GYNECOLOGY AND OBSTETRICS, OP ROOM
S-3-02	Ultrasound Diagnostic Apparatus	1	1	EMERGENCY CENTER, WORDS
S-20-05	Ultrasound Diagnostic Apparatus	1	0	INSTITUTE FOR CARDIOVASCULAR DISEASES
NOVI SAD CLINICAL CENTER				
NO-1-06	Defibrillator	8	5	INSTITUTE OF SURGERY
NO-1-12	ECG	6	4	INSTITUTE OF SURGERY
NO-2-08	ECG	8	6	INSTITUTE OF INTERNAL DISEASES
NO-4-04	Blood Gas and Electrolyte Analyser	3	1	DEPARTMENT OF LABORATORY MEDICINE
	Electrolyte Analyser	0	1	DEPARTMENT OF LABORATORY MEDICINE
NO-4-07	Flame Photometer	2	1	DEPARTMENT OF LABORATORY MEDICINE
NO-4-12	Osmometer	2	1	DEPARTMENT OF LABORATORY MEDICINE
NO-5-06	Ultrasound Diagnostic Apparatus(Colour)	1	1	GYNECOLOGY
NO-5-07	Ultrasound Diagnostic Apparatus	1	0	GYNECOLOGY
NO-2-01	Ultrasound Diagnostic Apparatus	1	0	INSTITUTE OF INTERNAL DISEASES
NO-3-01	Ultrasound Diagnostic Apparatus	2	2	DEPARTMENT OF RADIOLOGY
NIS CKINICAL CENTER				
NI-1-01	Immunology Analyser, ELISA	1	0	BIOCHEMICAL LABORATORY
NI-7-03	Immunology Analyser, ELISA	1	1	LABORATORY FOR MICROBIOLOGY
NI-2-01	ECG	3	2	CARDIOLOGY DEPARTMENT
NI-2-02	Defibrillator	2	1	CARDIOLOGY DEPARTMENT
NI-1-15	Hematology Analyser	1	0	BIOCHEMICAL LABORATORY
NI-5-01	Hematology Analyser	2	1	HEMATOLOGY
NI-1-12	Hematocrit Centrifuge	2	0	BIOCHEMICAL LABORATORY
NI-5-03	Hematocrit Centrifuge	2	2	HEMATOLOGY
NI-2-04	Holter ECG	1	1	CARDIOLOGY DEPARTMENT
NI-8-06	Holter ECG	1	0	PEDIATRICS
NI-3-03	Patient Monitor (Neonate)	2	2	GYNECOLOGY
NI-3-04	Infant Incubator (Transport)	1	0	GYNECOLOGY
NI-3-05	Ventilator (Neonate)	1	0	GYNECOLOGY
NI-8-07	Infant Warmer	2	1	PEDIATRICS
NI-8-08	Infant Incubator	2	0	PEDIATRICS
NI-8-09	Phototherapy Unit	2	0	PEDIATRICS
NI-1-13	Microscope, Binocular	3	0	BIOCHEMICAL LABORATORY
NI-5-02	Microscope, Binocular	5	5	HEMATOLOGY
NI-8-10	Microscope, Binocular	1	0	PEDIATRICS
NI-1-16	pH Meter	2	1	BIOCHEMICAL LABORATORY
NI-8-11	pH Meter	2	0	PEDIATRICS
NI-4-02	Colono Fiberscope	1	1	GASTROENTEROLOGY
NI-6-06	Colono Fiberscope	1	0	SURGERY
NI-8-13	Colono Fiberscope	1	0	PEDIATRICS
NI-8-02	X-Ray Unit	1	1	PEDIATRICS
NI-9-01	X-Ray Unit	1	0	RADIOLOGY
NI-4-14	X-Ray Unit with TV A	1	1	GASTROENTEROLOGY
NI-9-02	X-Ray Unit with TV A	1	1	RADIOLOGY
NI-3-02	Ultrasound Diagnostic Apparatus(Colour)	2	1	GYNECOLOGY
KRAGUJEVAC CLINICAL HOSPITAL CENTER				
K-2-06	X-Ray Unit, Mobile	1	0	CENTER OF URGENT MEDICINE
K-9-02	X-Ray Unit, Mobile	1	0	CENTER OF RADIOLOGY
	X-Ray Unit, Mobile	0	1	RADIOLOGY
K-4-06	Blood Coagulation Analyser	1	0	CLINICAL BIOCHEMICAL LABORATORY
K-7-03	Blood Coagulation Analyser	1	1	CENTER OF HEMATOLOGY
K-6-02	EEG	1	0	PEDIATRICS CLINIC
K-11-03	EEG	1	1	CENTER OF RADIOLOGY

2-2-3 Basic Design Drawing

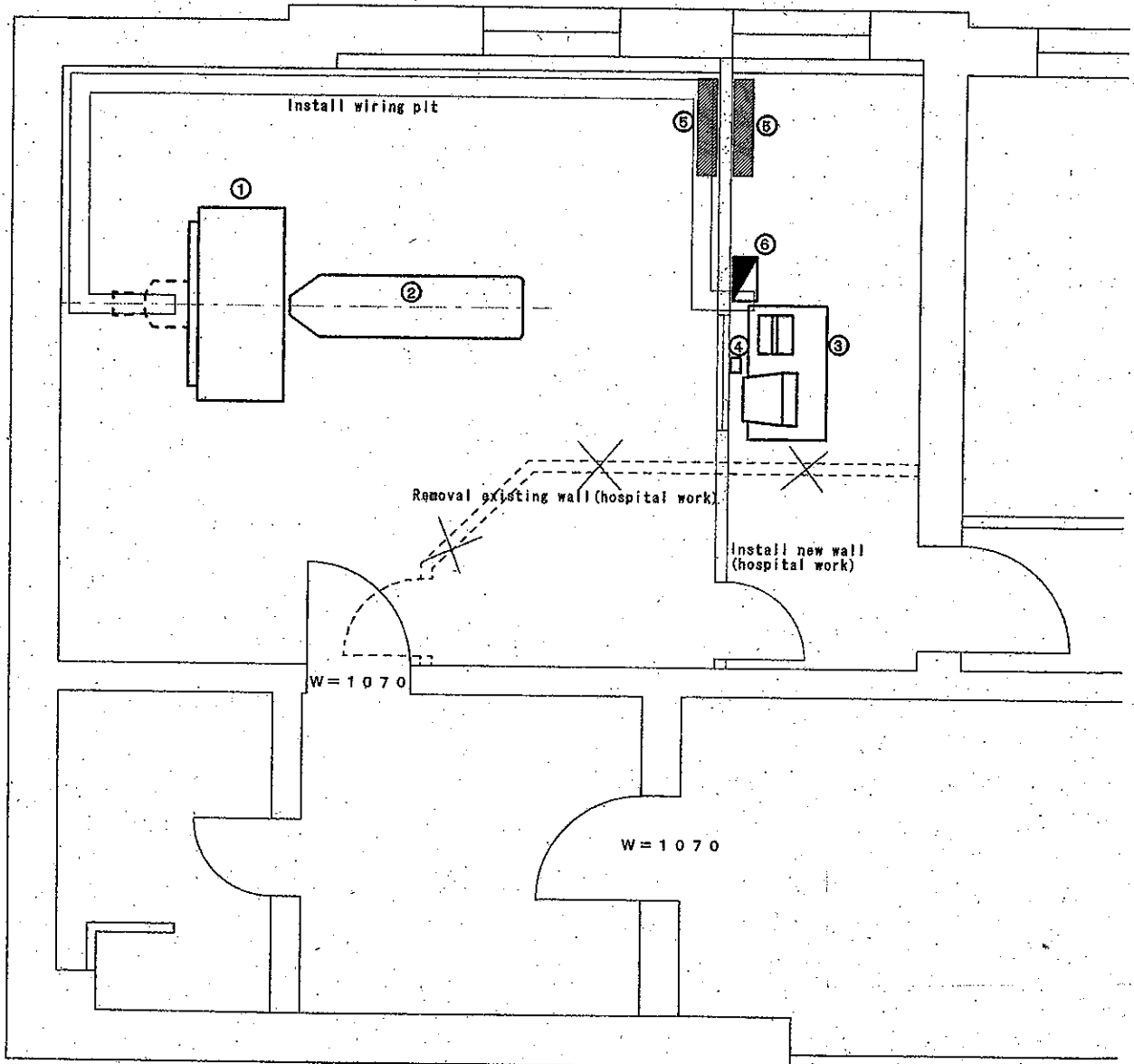
The layout plan for the main equipment that will require installation is as follows.

- Serbia CC

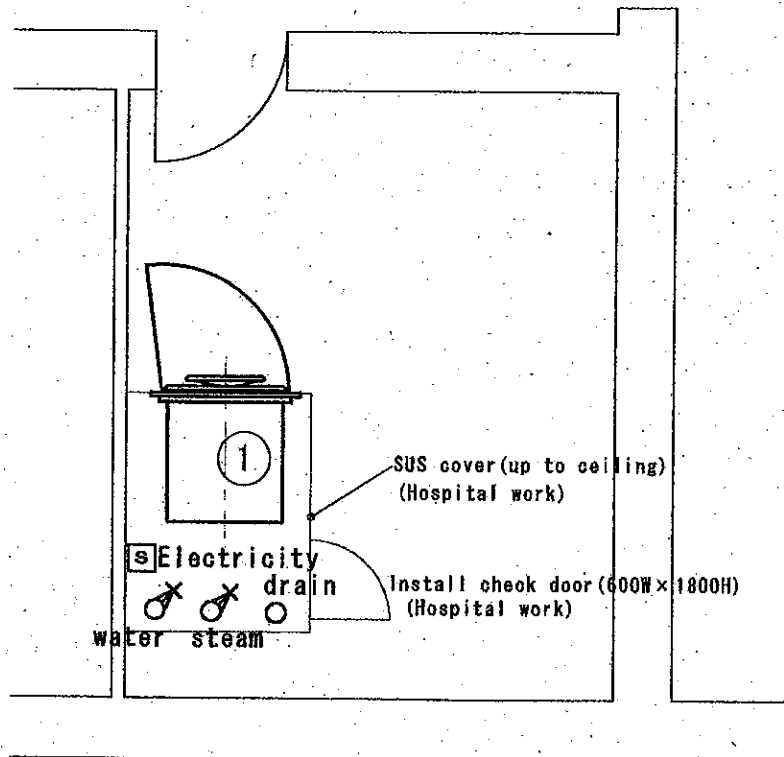
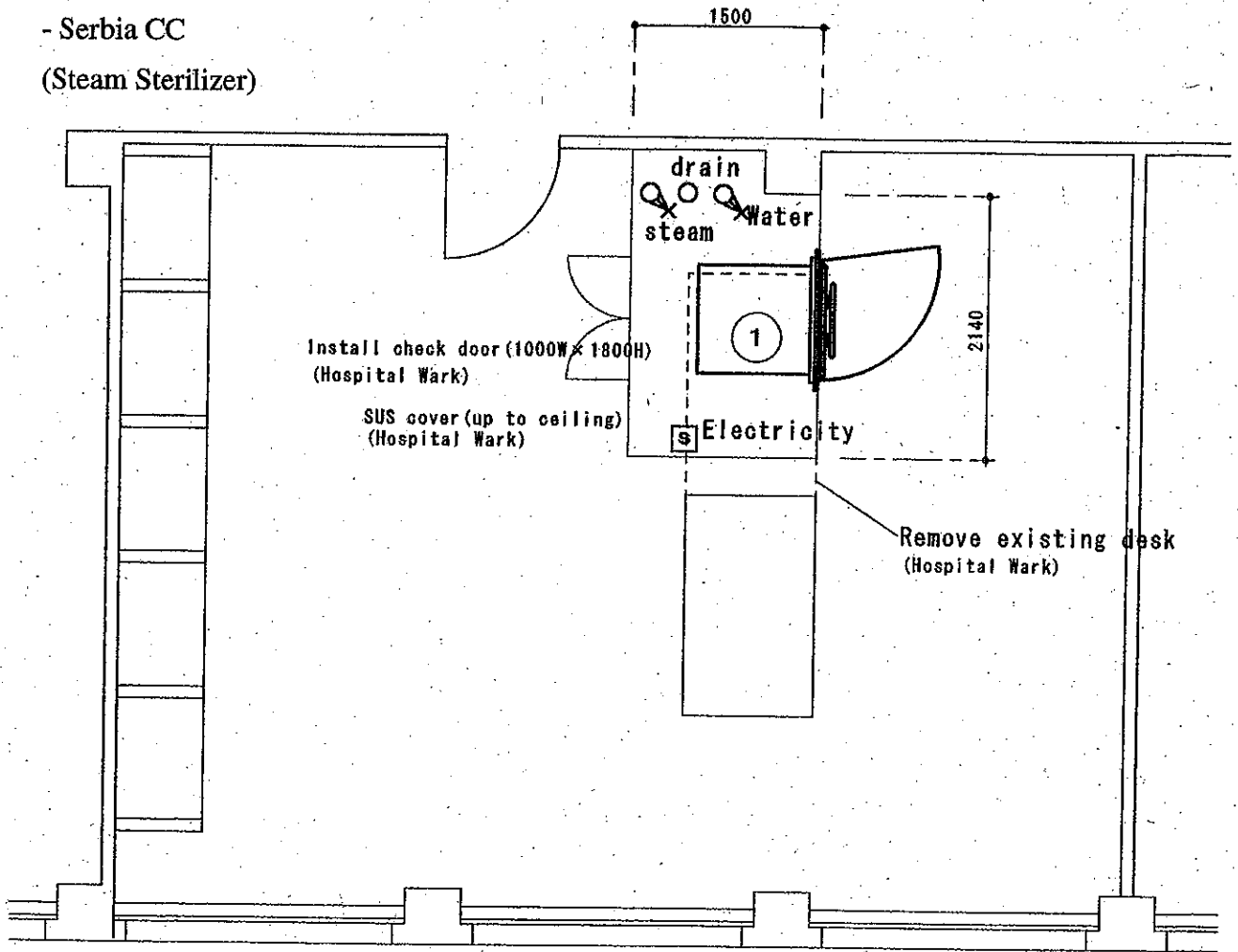
(X-Ray Unit with TV B)



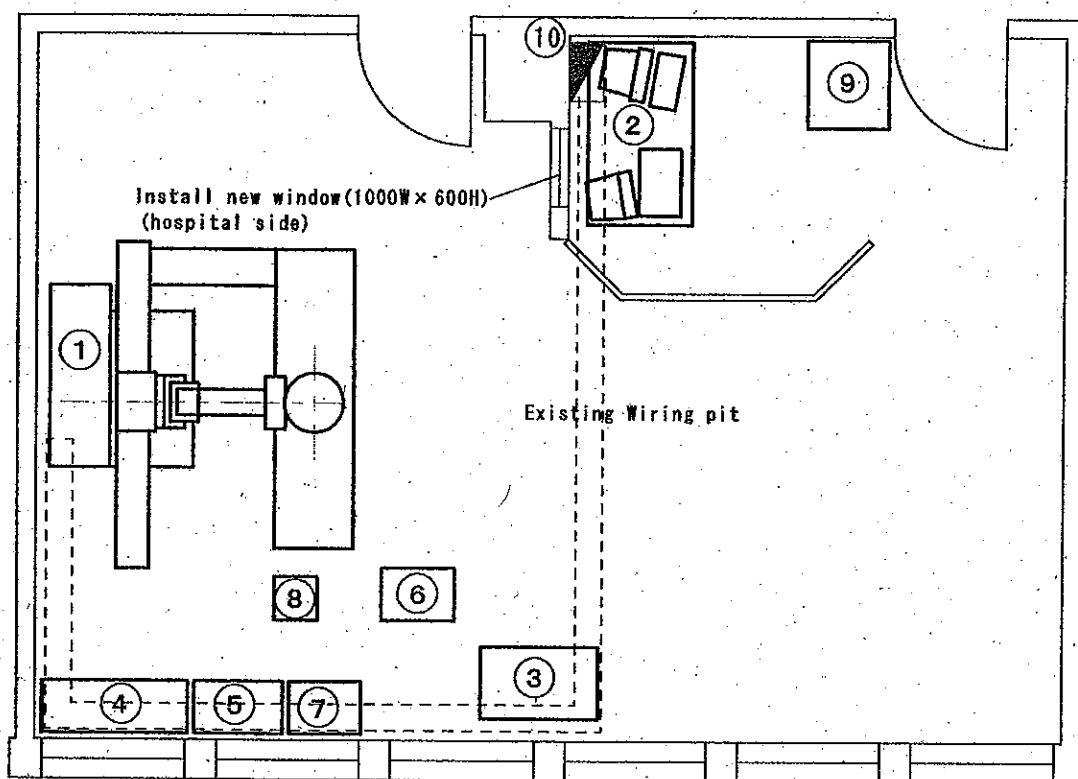
- Serbia CC
(CT Scanner)



- Serbia CC
(Steam Sterilizer)

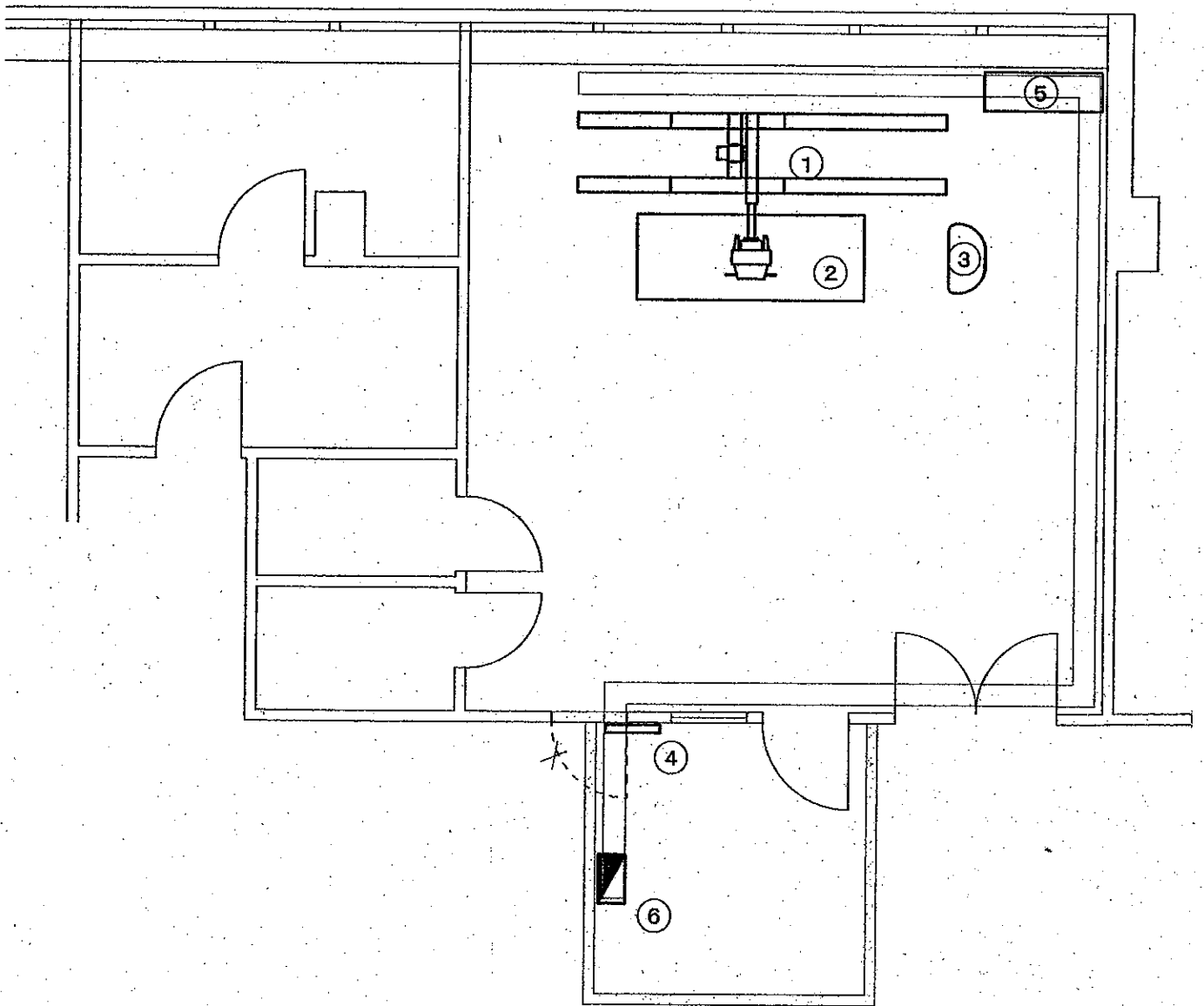


- Novi Sad CC
(X-Ray Unit with TV C)

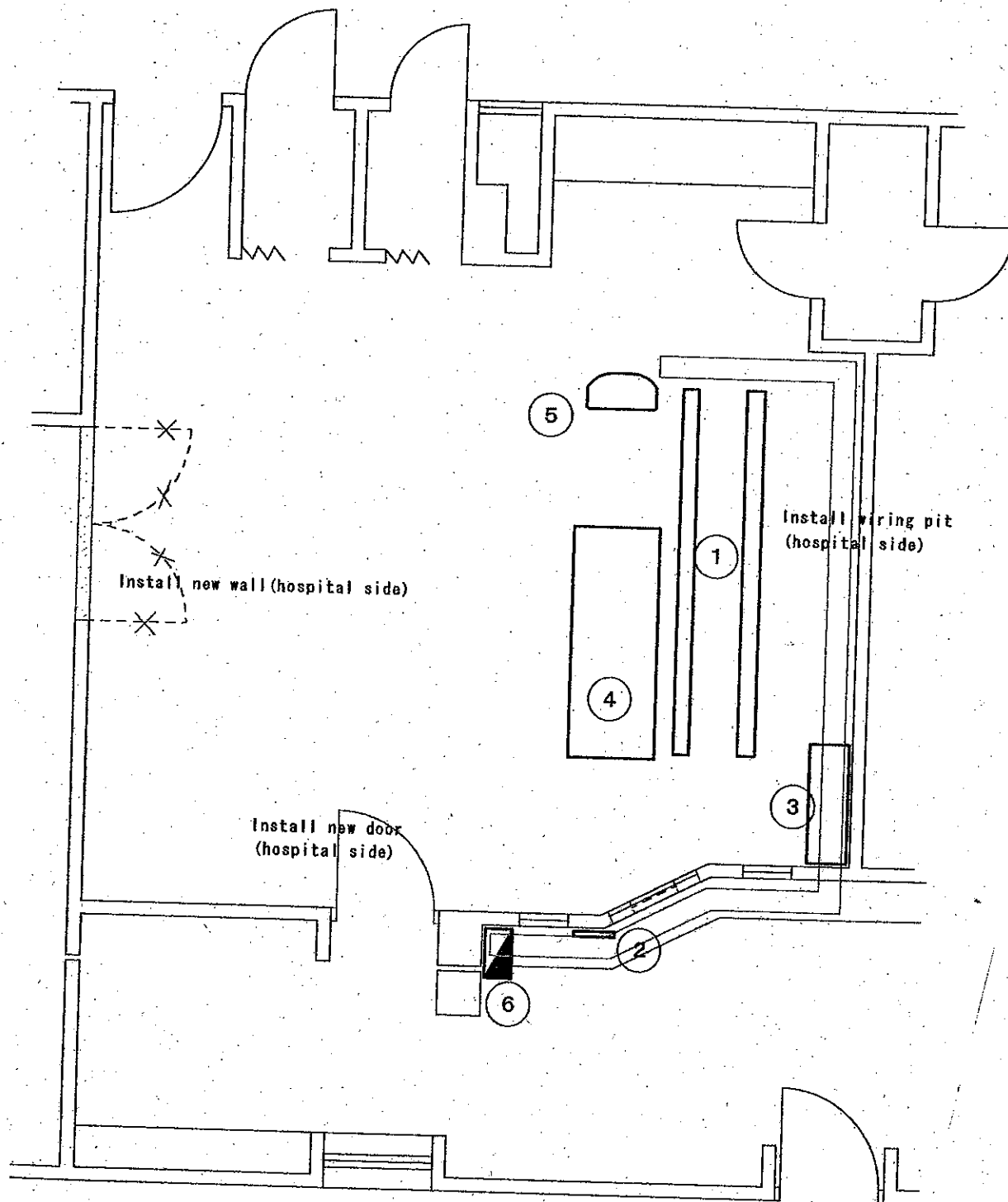


- Nis CC

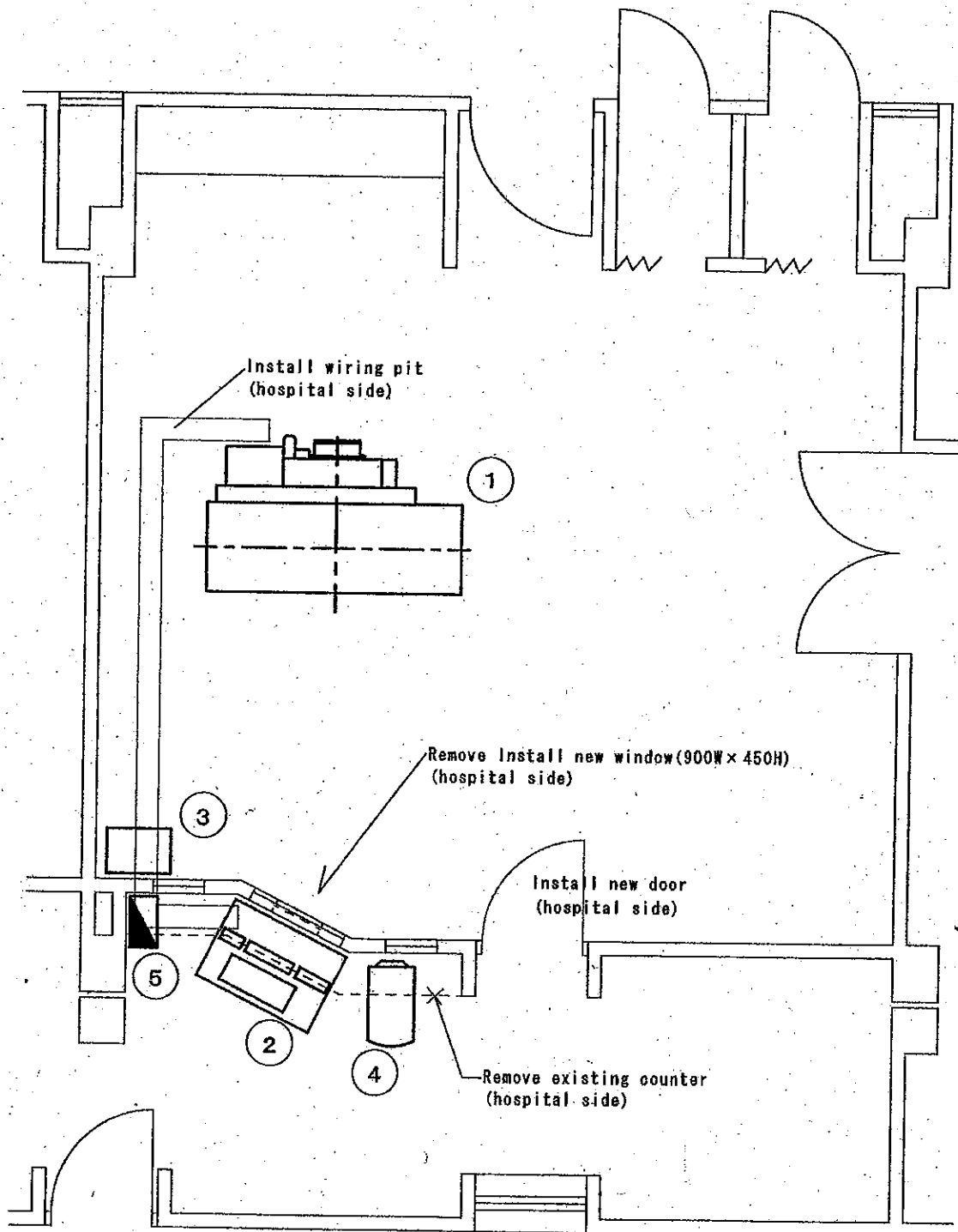
(X-Ray Unit with TV/ X-Ray Unit with TV C)



- Kragujevac CHC
(X-Ray Unit with TV)



- Kragujevac CHC
(X-Ray Unit with TV A)



2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

The project shall be formally implemented in accordance with the grant aid framework of the Japanese government, after the Japanese cabinet has approved the project and an Exchange of Notes (E/N) has been concluded between the governments of Japan and Serbia-Montenegro. After an E/N is concluded, a Japanese consultant firm recommended by the Japan International Cooperation Agency (JICA) shall, in accordance with the grant aid framework of the Japanese government, conclude a consultant agreement with Serbian government. This agreement will come into effect on verification by the Japanese government, and on the basis of this agreement the consultant shall carry out the work relating to tenders and supervision. Procurement of equipment shall be undertaken by a Japanese supplier chosen by tendering who will conclude a contract with the Serbian government. This contract shall also come into effect on verification by the Japanese government. The supplier shall undertake the procurement, transportation, and installation of the equipment, and provide basic instruction in the operation and maintenance of the equipment. In addition, the supplier shall prepare a list of manufacturers and agents, manual, and other necessary information needed for maintenance of the equipment.

The responsible ministry of the project is the Ministry of Health of Serbia and is in charge of making the Banking Arrangement (B/A) and issuance of an Irrevocable Authorization to Pay (A/P).

2-2-4-2 Implementation Conditions

In Serbia, because of measures to protect domestic industries, an import tax of 10% is levied when domestically manufactured medical equipment such as ECG is imported for the purpose of selling them. An additional 20% is levied on the total price, including the transportation costs, as an added value tax. Similarly, Serbia also has its own domestic laws governing measurement, and electrocardiograph, sphygmomanometers (mercury column types), weighing scales and syringes must be registered with the authorities when imported.

The Serbian government is requested to take necessary measures for tax exemptions including above, in accordance with the grant aid framework of the Japanese government.

2-2-4-3 Scope of Works

(1) Expenses to be born by the Japanese Government

- Costs related to the procurement of the equipment
- Costs related to the overseas and inland transportation to the project sites
- Costs related to the installation and set-up of the equipment
- Costs related to test run, inspection, and instruction of operation and maintenance

(2) Responsibilities of the Serbian Side

- Provision of information and materials necessary for transportation and installation
- Obtaining of necessary permission for importing the medical equipment
- Cleaning and preparing of the rooms and buildings where the equipment is installed
- Securing of adequate space for unloading the procured equipment
- Securing of adequate space where the equipment can be stored prior to installation
- Securing of physical conditions for carrying-in and installing the equipment
- Removal of the existing equipment and subsequent indoor repairs

2-2-4-4 Consultant Supervision

The consultant will supervise the equipment procurement and other works after carrying out tender to select the supplier of the equipment, to ensure the smooth implementation of the project. The consultant's supervision includes to confirm that the equipment procured by the supplier is consistent with the descriptions laid down in the contract, to inspect the equipment and packing in advance to shipment, to examine the situation of transportation and customs clearance, and to conduct final inspection of the equipment at the project sites. The consultant entrusts a third-party inspecting organization to inspect the entire cargo and packaging at the pre-shipment inspection, and examine there are no discrepancies between the actual contents and those stipulated in the contracts. The consultant endeavors to have a constant grasp of the situation at the work, and provides proper advice and instruction to the executing agency in the Serbia and the supplier.

2-2-4-5 Procurement Plan

Some medical equipment is manufactured in Serbia, however the performance and durability of those products are thought insufficient. For that reason, the project will

basically procure the products of Japan. However, the products of third countries can be procured for the equipment items of which the Japanese makers do not have local agents in Serbia, taking maintenance and other technical service into consideration.

Equipment shipped from Japan shall be packed in containers separately for each hospital. The period of overseas transportation to Thessalonica Port in Greece is estimated approximately 45 days. The equipment shall be transported by truck to Belgrade City in a period of approximately four days, and shall be processed through customs by means of a bonded warehouse in approximately three days. And then, the equipment shall be transported separately by truck to each hospital.

Products from third countries shall be collected at the Hamburg Port in Germany, and shall be transported by truck to Belgrade City, and in the same manners as equipment shipped from Japan, it shall be transported to each hospital by truck after customs clearance.

2-2-4-6 Quality Control Plan

The equipment items to be procured under this project will be selected from ready-made models that have been successfully delivered to medical institutions in various countries. To ensure safety for patients, Japanese equipment shall comply with JIS, and European equipment or US shall comply with BS or DIN standards. The equipment that needs consumables can be obtain easily at the facilities.

2-2-4-7 Implementation Schedule

The implementation process for the project consists of two stages, one of which is tender-related work, and the other of which is equipment procurement and installation work. The following figure shows the implementation schedule from the E/N to the completion of the project.

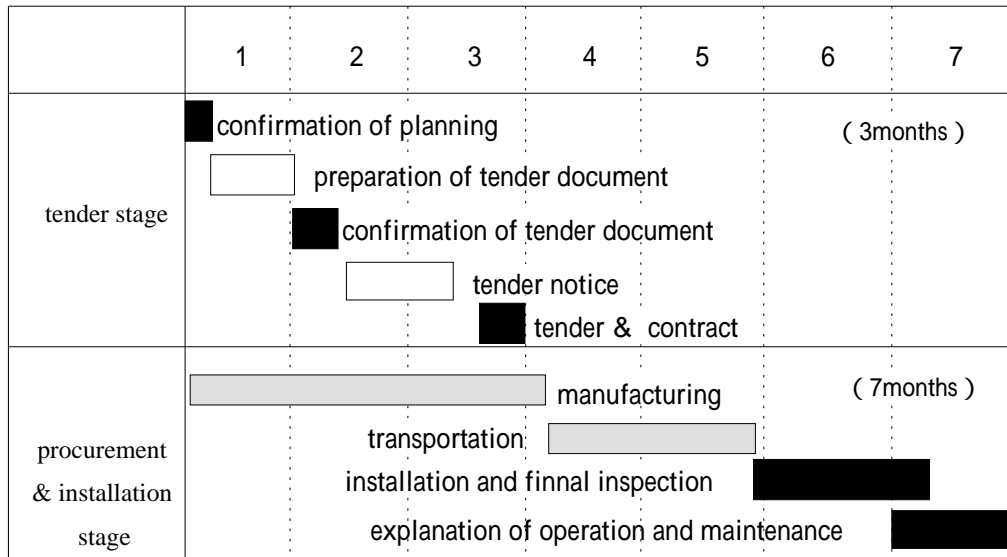


Figure 2-1: Implementation Schedule

2-3 Obligations of Recipient Country

The works to be done by the Serbian side for the implementation of the project are mentioned in section 2-2-4-3 Scope of Works. This is the first grant aid program to be carried out in the health sector in Serbia, so careful attention must be given to the items noted below.

- (1) To make necessary arrangements to expedite procedures for customs clearance and domestic transport of the procured equipment
 - Obtaining of permissions for tax exemption from Customs
 - Obtaining of import licenses
 - Obtaining of permission for the Ministry of Health to import medical equipment
 - Obtaining of permission pertaining to measurement laws
- (2) To exempt the supplier and his affiliates from customs duties and other forms of taxation.
- (3) To furnish Japanese nationals, whose services are required in connection with this project, necessary facilities and ensure their safety.
- (4) To bear of expenses for the Banking Arrangement (B/A) and issuance of the Authorization to Pay (A/P)
- (5) To secure personnel and budget necessary for the implementation of the project.
- (6) To remove the existing equipment and secure space for carrying in and installing the equipment, and to prepare the sites where the equipment will be installed.

The cost of the renovation work for each facility is estimated as follows.

Facilities	Estimated Cost (DINAR)
Serbia Clinical Center	2,000,000
Novi Sad Clinical Center	500,000
Nis Clinical Center	500,000
Kragujevac Clinical Hospital Center	1,000,000
Total	4,000,000

(7) To obtain other permits and licenses necessary for the implementation of the project.

(8) To disclose necessary documents and other information.

2-4 Project Operation Plan

The medical equipment of the hospitals is basically maintained by manufacturers' local agents or an individual technician in Serbia. The hospital staff is responsible for daily maintenance, as is the case in many advanced countries. The financial situation and maintenance cost for each hospital is thought as follows.

(1) Serbia CC

Table 2-4 shows the revenue and expenditure of Serbia CC over the period 2001 - 2003, which are mainly allocated by Serbia Insurance Fund. In 2003, the total revenue reached 26% above one year previous. The total annual costs for consumables and reagent of the medical equipment in 2003 will be 1,260million dinar (25.2million yen) which reached 2 times above one year previous.

Table 2-5 shows the estimated annual costs for consumables and reagent of the major equipment to be procured through this project. The annual maintenance cost associated with this project is estimated to be about 45million dinar (0.91million yen). However, major part of the medical equipment procured on this project is to replace the existing medical equipment, and the actual estimated annual costs for this project is estimated to be about 19million dinar (0.4million yen).

Therefore, the total amount expected for the maintenance cost is not burdensome for Serbia CC, so after the implementation of this project, Serbia CC will be able to manage expenses necessary for maintaining the medical equipment within the present amount of budget.

Table 2-4 Serbia CC/Revenue & Expenditure (UNIT:DIN=1,000Dinar, YEN=Million Yen)

Revenue	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Health Insurance	2,091,559	41.8	2,909,000	58.2	39	4,580,000	91.6	57
Non-Health Insurance	741,459	14.8	1,739,000	34.8	135	1,120,000	22.4	-36
Total Revenue	2,833,018	56.6	4,648,000	93.0	64	5,700,000	114.0	26

Expenditure	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Personnel	1,055,024	21.1	2,050,000	41.0	94	2,100,000	42.0	2
Medicine	362,690	7.3	326,689	6.5	-24	460,000	9.2	42
Blood	116,434	2.3	58,680	1.2	-48	150,000	3.0	150
Dialysis	30,670	0.6	27,580	0.5	-17	80,000	1.6	220
Fuel	118,267	2.4	134,800	2.7	13	230,000	4.6	70
Transportation	780	0.01	720	0.01	0	500	0.01	0
Food	110,713	2.2	110,000	2.2	0	150,000	3.0	36
Renovation	4,861	1.0	410,000	8.2	720	410,000	8.2	0
Others	600,774	12.0	892,705	17.9	49	859,500	17.2	-4
Maintenance								
Consumables	373,192	7.5	407,826	8.0	7	900,000	18.0	125
Maintenance for Equipment	114,212	2.3	229,000	4.6	100	360,000	7.2	57
Total	487,404	9.8	636,826	12.6	29	1,260,000	25.2	100
Grand Total	2,887,617	57.8	4,648,000	93.0	61	5,700,000	114.0	26

Table 2-5 Serbia CC/Maintenance Cost (UNIT:DIN=1,000Dinar, YEN=Million Yen)

	Laboratory			Others			Total		
	DIN	YEN	%	DIN	YEN	%	DIN	YEN	%
Replace	19,486	0.39	59.4	6,101	0.12	48.2	25,587	0.51	56.3
Supplement & New	13,318	0.27	40.6	6,547	0.13	51.8	19,865	0.40	44.7
Total	32,804	0.66	72.2	12,648	0.25	27.8	45,452	0.91	100.0

(2) Novi Sad CC

Table 2-6 shows the revenue and expenditure of Novi Sad CC over the period 2001 - 2003, which are mainly allocated by Serbia Insurance Fund. In 2003, the total revenue reached 22% above one year previous. The total annual costs for consumables and reagent of the medical equipment in 2003 will be 280million dinar (5.6million yen) which reached 40% above one year previous.

Table 2-7 shows the estimated annual costs for consumables and reagent of the major equipment to be procured through this project. The annual maintenance cost associated with this project is estimated to be about 34million dinar (0.69million yen). However, major part of the medical equipment procured on this project is to replace the existing medical equipment, and the actual estimated annual costs for this project is estimated to

be about 17million dinar (0.34million yen).

Therefore, the total amount expected for the maintenance cost is not burdensome for Novi Sad CC, so after the implementation of this project, Novi Sad CC will be able to manage expenses necessary for maintaining the medical equipment within the present amount of budget.

Table 2-6 Novi Sad CC/Revenue & Expenditure (UNIT:DIN=1,000Dinar, YEN=Million Yen)

Revenue	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Health Insurance	881,325	17.6	1,089,454	21.8	24	1,330,000	26.6	22
Non-Health Insurance	189,445	3.7	138,202	2.8	-27	166,000	3.3	17
Total Revenue	1,070,770	21.3	1,227,656	24.6	47	1,496,000	29.9	22

Expenditure	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Personnel	589,994	11.8	593,165	11.9	0	670,000	13.4	13
Medicine	104,935	2.1	116,882	2.3	15	145,000	2.9	26
Blood	43,902	0.9	38,637	0.8	-12	50,000	1.0	25
Dialysis	48,185	0.9	44,945	0.9	0	51,000	1.0	11
Fuel	39,618	0.8	42,966	0.9	13	55,000	1.1	22
Transportation	18,203	0.4	20,761	0.4	0	37,000	0.7	75
Food	37,477	0.7	33,003	0.7	0	42,000	0.8	14
Maintenance								
Consumables	98,511	1.9	108,506	2.2	16	147,000	2.9	32
Others	89,945	1.8	90,589	1.8	0	133,000	2.7	50
Total	188,456	3.7	199,095	4.0	8	280,000	5.6	40
Grand Total	1,070,770	21.3	1,089,454	21.9	3	1,330,000	26.6	21

Table 2-7 Novi Sad CC/Maintenance Cost (UNIT:DIN=1,000Dinar, YEN=Million Yen)

	Laboratory			Others			Total		
	DIN	YEN	%	DIN	YEN	%	DIN	YEN	%
Replace	14,436	0.29	46.6	3,295	0.065	86.2	17,731	0.35	62.5
Supplement & New	16,561	0.33	53.4	529	0.011	13.8	17,090	0.34	37.5
Total	30,997	0.62	89.1	3,824	0.076	10.9	34,821	0.69	100.0

(3) Nis CC

Table 2-8 shows the revenue and expenditure of Nis CC over the period 2001 - 2003, which are mainly allocated by Serbia Insurance Fund. In 2003, the total revenue reached 57% above one year previous. The total annual costs for consumables and reagent of the medical equipment in 2003 will be 473million dinar (9.5million yen) which reached 2 times above one year previous.

Table 2-9 shows the estimated annual costs for consumables and reagent of the major

equipment to be procured through this project. The annual maintenance cost associated with this project is estimated to be about 28million dinar (0.57million yen). However, major part of the medical equipment procured on this project is to replace the existing medical equipment, and the actual estimated annual costs for this project is estimated to be about 11million dinar (0.21million yen).

Therefore, the total amount expected for the maintenance cost is not burdensome for Nis CC, so after the implementation of this project, Nis CC will be able to manage expenses necessary for maintaining the medical equipment within the present amount of budget.

Table 2-8 Nis CC/Revenue & Expenditure (UNIT:DIN=1,000Dinar, YEN=Million Yen)

Revenue	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Health Insurance	881,792	17.6	1,197,341	23.9	36	1,888,647	37.8	58
Non-Health Insurance	174,429	3.5	113,866	2.3	-34	164,230	3.3	43
Total Revenue	1,055,855	21.1	1,311,207	26.2	24	2,052,877	41.1	57

Expenditure	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Personnel	469,845	9.4	711,580	14.2	51	958,828	19.2	35
Medicine	139,353	2.8	148,117	3.0	7	311,845	6.2	106
Blood	40,762	0.8	51,656	1.0	25	59,404	1.2	20
Dialysis	65,218	1.3	89,216	1.8	38	119,316	2.4	33
Fuel	50,790	1.0	54,282	1.1	10	55,000	1.1	0
Transportation	18,030	0.4	28,840	0.6	50	39,215	0.8	33
Food	21,179	0.4	26,840	0.5	25	35,943	0.7	40
Maintenance								
Consumables	112,286	2.4	121,186	2.4	0	255,146	5.1	112
Others	138,392	2.8	79,490	1.6	-43	218,180	4.4	340
Total	250,678	5.2	200,676	4.0	-23	473,326	9.5	137
Grand Total	1,055,855	21.1	1,311,207	26.2	24	2,052,877	41.1	57

Table 2-9 Nis CC/Maintenance Cost (UNIT:DIN=1,000Dinar, YEN=Million Yen)

	Laboratory			Others			Total		
	DIN	YEN	%	DIN	YEN	%	DIN	YEN	%
Replace	6,685	0.13	43.8	11,220	0.22	84.4	17,905	0.36	60.8
Supplement & New	8,564	0.17	56.2	2,067	0.04	15.6	10,631	0.21	39.2
Total	15,249	0.30	53.4	13,287	0.26	46.6	28,536	0.57	100.0

(4) Kragujevac CHC

Table 2-10 shows the revenue and expenditure of Kragujevac CHC over the period 2001 - 2003, which are mainly allocated by Serbia Insurance Fund. In 2003, the total revenue reached 18% above one year previous. The total annual costs for consumables

and reagent of the medical equipment in 2003 will be 238million dinar (4.7million yen) which reached 2 times above one year previous.

Table 2-11 shows the estimated annual costs for consumables and reagent of the major equipment to be procured through this project. The annual maintenance cost associated with this project is estimated to be about 27million dinar (0.55million yen). However, major part of the medical equipment procured on this project is to replace the existing medical equipment, and the actual estimated annual costs for this project is estimated to be about 13million dinar (0.27million yen).

Therefore, the total amount expected for the maintenance cost is not burdensome for Kragujevac CHC, so after the implementation of this project, Kragujevac CHC will be able to manage expenses necessary for maintaining the medical equipment within the present amount of budget.

Table 2-10 Kragujevac CHC/Revenue & Expenditure (UNIT:DIN=1,000Dinar, YEN=Million Yen)

Revenue	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Health Insurance	484,910	9.7	651,456	13.0	34	751,456	15.0	15
Non-Health Insurance	66,124	1.3	89,663	1.8	38	110,180	2.2	22
Total Revenue	551,034	11.0	741,119	14.8	35	861,636	17.2	16

Expenditure	2001		2002			2003		
	DIN	YEN	DIN	YEN	%	DIN	YEN	%
Personnel	324,559	6.5	332,656	6.7	3	382,554	7.7	15
Medicine	43,532	0.9	81,413	1.6	87	93,625	1.9	15
Blood	7,714	0.2	9,796	0.2	26	11,265	0.3	50
Dialysis	30,307	0.6	37,511	0.8	33	43,138	0.9	13
Fuel	29,756	0.6	32,000	0.6	8	36,800	0.7	15
Transportation	10,470	0.2	21,913	0.4	109	25,200	0.5	15
Food	23,143	0.5	26,856	0.5	16	30,884	0.6	15
Maintenance								
Consumables	41,328	0.8	142,767	2.9	262	164,183	3.3	14
Others	40,225	0.8	56,207	1.1	38	73,987	1.5	36
Total	81,553	1.6	198,974	4.0	143	238,170	4.7	18
Grand Total	551,034	11.0	741,119	14.8	35	861,636	17.2	16

Table 2-11 Kragujevac CHC/Maintenance Cost (UNIT:DIN=1,000Dinar, YEN=Million Yen)

	Laboratory			Others			Total		
	DIN	YEN	%	DIN	YEN	%	DIN	YEN	%
Replace	12,394	0.25	48.1	1,567	0.03	48.2	13,961	0.28	50.3
Supplement & New	13,360	0.27	51.9	461	0.009	51.8	13,821	0.27	49.7
Total	25,754	0.52	99.9	2,028	0.039	0.1	27,782	0.55	100.0

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

The purpose of project is to improve the functions of the four hospitals in terms of the diagnoses and treatments of common diseases at the secondary-tertiary level of medical services. The project effects and extent of improvement of present situation are shown in the Table 3-1.

Table 3-1 Effects and improvement to be brought by the implementation of the project

Present situation and problems	Relevant measures to be taken in the project (work covered by the grant)	Project effect and extent of improvement
<p>4 hospitals can not replace their equipment that is too old and deteriorated because of insufficient budget under the current socioeconomic condition.</p> <p>Under such circumstances, the hospitals can not provide adequate medical services, although they lead the medical care of common diseases in Serbia including diseases of circulatory system or respiratory system.</p>	<p>To replace or supplement of the equipment in the departments of outpatient, emergency and related treatments of the 4 hospitals.</p> <p>Serbia CC (202 items for 22 departments) , Novi Sad CC (57 items for 5 departments) Nis CC (115 items for 9 departments) , Kragujevac CHC (48 items for 12 departments)</p>	<p>The functions of each department and secondary-tertiary service of hospitals improve. The hospitals perform tests and operations smoothly, and accept more patients from lower facilities. The full functioning of 4 hospitals improve the medical service of whole Serbia, providing care with good quality for the population.</p> <p>The improvement of diagnoses and treatments of 4 hospitals will be shown by the indices below.</p> <ul style="list-style-type: none"> - Number of X-ray examinations - Number of ultrasound diagnoses - Number of endoscopic tests - Numbers of above per 100 patients - Average hospital stay (Serbia CC) - Number of examinations with CT - CT exams per 100 patients

The direct and indirect effects shown below are expected through the implementation of this project.

(1) Direct Effect

- The hospitals' function will be improved both quantitatively and qualitatively.

After the equipment is improved, the hospitals will gain the accuracy of clinical examinations and appropriateness of diagnoses and treatments. Accordingly, the hospitals will perform more examinations or operations smoothly, and the patients will receive appropriate medical care with less waiting time than before. Thus, the hospital's function improves both quantitatively and qualitatively.

(2) Indirect Effect

- The referral system will be strengthened in the respective regions.

The secondary-tertiary services by the four hospitals will be more efficient and accurate, so that they will accept more patients of circulatory diseases, respiratory diseases or other common diseases who are referred from the lower secondary facilities. Thus, the referral system in the regions where the respective hospital leads will be strengthened.

- The medical referral system in the Republic of Serbia as a whole will be strengthened. The satisfying improvement of the four leading hospitals and respective regions will strengthen the medical referral system in the Republic of Serbia as a whole.

3-2 Recommendations

(1) Issues and Recommendations

1) Assuring the financial stability

The four hospitals included were always short of budget depending on the payment by the Serbia Medical Insurance Fund that was in financial difficulties because of the effects of economic sanctions against Serbia. Under the current socioeconomic situation, the performance of insurance fund will gradually recover. However, it is recommended that the hospitals gain the different means of financing other than payment by insurance fund in order to have stable management. It is thought practically available to charge some part of service that is not covered by the insurance, inpatient care with pay bed or others.

2) Restructuring the medical referral system

The referral system in Serbia was established as the system of former Yugoslavia. The four hospitals, which were top referral hospitals in former Yugoslavia, have exceeding beds, medical staff and other physical conditions being the legacy of hospital-oriented concept in the health sector in the past. It is strongly recommended to adjust those and to have close collaboration with lower levels in line with the health reform as other former socialist countries have challenged.

3) Improving the hospital management

The socioeconomic system in Serbia is now changing, and the private sector will participate in the medical service as well as other sectors. The reliable medical care as the public service, especially medical care of the social vulnerable population is the responsibility of the four hospitals. It is crucial to have efficient hospital management in order to provide such public service constantly. Accordingly, it is recommended that the hospitals reform themselves on the organization of institutions and departments, re-staffing, efficient financial management, favorable treatment of patients.

(2) Aspects of Technical Cooperation or Other Donors' Assistance

This project can be implemented with the current situations of the four hospitals. However, it is desirable that the hospital staff who attended the training course of hospital management in Japan would be assigned effectively.

The four hospitals, which are improved by this project, are required to have close cooperation with the PHC level where WHO, EAR and other international organizations are providing technical assistance to further improve the medical referral system in Serbia towards the greater progress of Serbian health sector.

[Appendices]

1. Member List of the Study Team

2. Study Schedule

3. List of the Parties Concerned in the Recipient Country

4. Minutes of Discussion

5. Other Relevant Data

6. Reference

[Appendixs]

1. Member List of the Study Team

(1) Basic Design Study

Mr. Susumu UEDA	Team Leader Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs
Dr. Yoshiko TSUYUKI	Technical Adviser Bureau of International Cooperation International Medical Center of Japan
Mr. Kazuhiro ABE	Project Manager/Regional Health Planner International Techno Center Co., Ltd.
Mr. Kazumi AKITA	Hospital Management Planner International Total Engineering Corp.
Mr. Akio KANEKO	Equipment Planner I International Techno Center Co., Ltd.
Mr. Shigehito AKAGI	Equipment Planner II International Total Engineering Corp.
Mr. Yasuo HORIGOME	Facility Planner I International Techno Center Co., Ltd.
Mr. Tatsuya SHIMODA	Facility Planner II International Techno Center Co., Ltd.
Mr. Shuichi MURASHITA	Cost and Procurement Planner International Techno Center Co., Ltd.

(2) Explanation of Draft Final Team

Mr. Keiichi MURAOKA	Team Leader Resident Representative Austria Office Japan International Cooperation Agency
Dr. Yoshiko TSUYUKI	Technical Adviser Bureau of International Cooperation International Medical Center of Japan
Mr. Kazuhiro ABE	Project Manager/Regional Health Planner International Techno Center Co., Ltd.
Mr. Akio KANEKO	Equipment Planner I International Techno Center Co., Ltd.
Mr. Shigehito AKAGI	Equipment Planner II International Total Engineering Corp.
Mr. Yasuo HORIGOME	Facility Planner I International Techno Center Co., Ltd.

2. Study Schedule

(1) Basic Design Study

NO.	Date	Team Leader Susumu UEDA	Technical Advisor Dr.Keiko Tsuyuki	Project Manager / Regional Health Planner Kazuhiro ABE	Hospital Management Planner Kazumi Akita	Equipment Planner I Akio KANEKO	Equipment Planner II Shigehito AKAGI	Facility Planner I Yasuo HORIGOME	Facility Planner II Tatsuya SHIMODA	Cost and Procurement Planner / Shuichi MURASHITA
1	25-Aug	Sun		Narita Vienne						
2	26-Aug	Mon		Courtesy Call to JICA Vienna Vienna Belgrade Courtesy Call to Japanese Embassy	Narita Frankfrut Belgrade			Narita Zurich		
3	27-Aug	Tue		Courtesy Call to Federal Ministry of Foreign Affairs Ministry of International Economic Relations, Serbia Federal Ministry for Foreign Economic Relations Ministry of Health of Serbia				Zurich Belgrade		
4	28-Aug	Wed		Serbia CC				Serbia CC		
5	29-Aug	Thu		Novi Sad CC				Novi Sad CC		
6	30-Aug	Fri		Kragujevac CHC				Kragujevac CHC		
7	31-Aug	Sat		Nis CC				Nis CC		
8	1-Sep	Sun	Narita Munich Belgrade	Internal Meeting				Internal Meeting		
9	2-Sep	Mon		Federal Ministry of Foreign Affairs Ministry of International Economic Relations, Serbia Federal Ministry for Foreign Economic Relations Ministry of Health of Serbia	Serbia CC	EBRD		Novi Sad CC		
10	3-Sep	Tue		Republic Institute of Health Insurance, Serbia Serbia CC Japanese Embassy				Novi Sad CC		
11	4-Sep	Wed		Ministry of International Economic Relations, Serbia Ministry of Health of Serbia				Serbia CC		
12	5-Sep	Thu		Serbia CC Kragujevac CHC Novi Sad CC Nis CC Japanese Embassy Signature for Minutes of Discussion Serbia CC	Ministry of Health	Serbia CC Kragujevac CHC Novi Sad CC Nis CC Japanese Embassy Serbia CC		Serbia CC		
13	6-Sep	Fri		Report to Japanese Embassy Belgrade Vienna	Republic Institute of Health Insurance, Serbia			Serbia CC		
14	7-Sep	Sat		Vienna	Internal Meeting		Narita Zurich	Internal Meeting		Narita Zurich
15	8-Sep	Sun		Narita	Internal Meeting		Zurich Belgrade	Internal Meeting		Zurich Belgrade
16	9-Sep	Mon						Nis CC		Serbia CC
17	10-Sep	Tue						Nis CC		Survey
18	11-Sep	Wed		Ministry of Health Novi Sad CC	Serbia CC Republic Institute of Health Insurance, Serbia	Novi Sad CC		Nis CC Serbia CC		Novi Sad CC
19	12-Sep	Thu		Novi Sad CC Novi Sad DZ Zrenjanin GH	Serbia CC	Novi Sad CC Novi Sad DZ Zrenjanin GH		Kragujevac CHC		Novi Sad CC Survey
20	13-Sep	Fri						Kragujevac CHC		Survey
21	14-Sep	Sat						Belgrade Zurich		Internal Meeting
22	15-Sep	Sun						Zurich		Internal Meeting
23	16-Sep	Mon						Nis CC		Nis CC
24	17-Sep	Tue		Nis DZ Survey Leskovac GH		Nis CC				Nis DZ Survey Leskovac GH
25	18-Sep	Wed						Nis CC		Nis CC
26	19-Sep	Thu						Kragujevac CHC		Kragujevac CHC
27	20-Sep	Fri		Kragujevac CHC Stanov DZ Cupria ZC		Kragujevac CHC				Survey
28	21-Sep	Sat								Internal Meeting
29	22-Sep	Sun								Internal Meeting
30	23-Sep	Mon		Survey		Kragujevac CHC				Survey
31	24-Sep	Tue		Serbia CC	Novi Sad CC	Serbia CC				Survey
32	25-Sep	Wed		Bezanijska Kosa CHC	Novi Sad CC	Serbia CC				Survey
33	26-Sep	Thu		Serbia CC Ministry of Finance	Novi Sad CC	Serbia CC				Survey
34	27-Sep	Fri								Survey
35	28-Sep	Sat								Belgrade Zurich
36	29-Sep	Sun								Zurich
37	30-Sep	Mon						Nis CC		Narita

NO.	Date	Team Leader Susumu UEDA	Technical Advisor Dr.Keiko Tsuyuki	Project Manager / Regional Health Planner Kazuhiro ABE	Hospital Management Planner Kazumi Akita	Equipment Planner I Akio KANEKO	Equipment Planner II Shigehito AKAGI	Facility Planner I Yasuo HORIGOME	Facility Planner II Tatsuya SHIMODA	Cost and Procurement Planner / Shuichi MURASHITA
38	1-Oct	Tue		Kragujevac CHC		Kragujevac CHC				
39	2-Oct	Wed		Novi Sad CC		Novi Sad CC				
40	3-Oct	Thu		Ministry of Health		Ministry of Health				
41	4-Oct	Fri		ECHO		ECHO	Belgrade Zurich			
				EAR		EAR				
42	5-Oct	Sat		Internal Meeting		Internal Meeting	Zurich			
43	6-Oct	Sun		Internal Meeting		Belgrade Munich	Narita			
44	7-Oct	Mon		Japanese Embassy		Narita				
45	8-Oct	Tue		Ministry of Health						
46	9-Oct	Wed		Japanese Embassy						
47	10-Oct	Thu		Ministry of International Economic Relations, Serbia CC						
				Belgrade Vienna						
48	11-Oct	Fri		JICA Vienna Vinnna						
49	12-Oct	Sat		Narita						

(2) Explanation of Draft Final Report

NO.	Date	Team Leader Keiichi MURAOKA	Technical Advisor Dr.Keiko Tsuyuki	Project Manager / Regional Health Planner	Equipment Planner I Akio KANEKO	Facility Planner I Yasuo HORIGOME	
1	7-Dec	Sat				Narita Zurich	
2	8-Dec	Sun		Narita Vienne	Narita Munich Belgrade	Zurich Belgrade	
3	9-Dec	Mon		Courtesy Call to JICA Vienna Vienna Belgrade Courtesy Call to Japanese Embassy	Serbia CC		
4	10-Dec	Tue		Courtesy Call to Federal Ministry of Foreign Affairs Ministry of International Economic Relations, Serbia Federal Ministry for Foreign Economic Relations Ministry of Health of Serbia	Serbia CC		
5	11-Dec	Wed			Nis CC		
6	12-Dec	Thu			Nis CC		
7	13-Dec	Fri			Novi Sad CC		
8	14-Dec	Sat			Novi Sad CC		
9	15-Dec	Sun		Narita Vienne	Internal Meeting		
10	16-Dec	Mon		Courtesy Call to JICA Vienna Vienna Belgrade Courtesy Call to Japanese Embassy	Kragujevac CHC		
11	17-Dec	Tue		Courtesy Call to Federal Ministry of Foreign Affairs Ministry of International Economic Relations, Serbia Federal Ministry for Foreign Economic Relations Ministry of Health of Serbia	Kragujevac CHC		
12	18-Dec	Wed		Minutes of Discussion			Belgrade Zurich
13	19-Dec	Thu		Minutes of Discussion			Zurich
14	20-Dec	Fri		Signature for Minutes of Discussion Report to Japanese Embassy			Narita
15	21-Dec	Sat	Belgrade Vienna	Belgrade Munich	Serbia CC		
16	22-Dec	Sun		Narita	Belgrade Vienna	Belgrade Munich	
17	23-Dec	Mon		JICA Vienna Vinnna	Narita		
18	24-Dec	Tue		Narita			

3. List of the Parties Concerned in the Recipient Country

FEDERAL MINISTRY OF FOREIGN AFFAIRS

ZORAN JEREMIC	DIRECTOR OF DEPARTMENT FOR ECONOMIC BILATERAL RELATIONS
MILISAV PAIC	DIRECTOR GENERAL OF ASIAN PACIFIC
VERA MAVRIC	ASSISTANT DIRECTOR OF DEPARTMENT FOR ECONOMIC BILATERAL RELATIONS
NADA DRAGIC	MANAGER, JAPAN DESK

FEDERAL MINISTRY FOR FOREIGN ECONOMIC RELATIONS

IVAN ARANDJEROVIC	SENIOR ADVISOR
-------------------	----------------

MINISTRY OF INTERNATIONAL ECONOMIC RELATIONS, REPUBLIC OF SERBIA

GORDANA LAZAREVIC	ASSISTANT MINISTER
MIRJANA JELIC	CONSULTANT

MINISTRY OF FINANCE, REPUBLIC OF SERBIA

DUSKO STOJKOV	SENIOR TAX POLICY ADVISOR
---------------	---------------------------

MINISTRY OF HEALTH, REPUBLIC OF SERBIA

TOMICA MILOSAVLJEVIC	MINISTER
DRAGOMIR MARISAVLJEVIC	DEPUTY MINISTER
IVAN JOVANOVIC	ASSISTANT MINISTER
VASILJE ANTIC	ASSISTANT MINISTER
SNEZANA SIMIC	ADVISER

REPUBLIC INSTITUTE OF HEALTH INSURANCE, REPUBLIC OF SERBIA

MIJAT SAVIC	GENERAL DIRECTOR
DANICA RADOSAVLJEVIC	ASSISTANT GENERAL MANAGER

SERBIA CLINICAL CENTER

VOJKO DJUKIC	GENERAL MANAGER
PREDRAG PESKO	VICE DIRECTOR & DIGESTIVE DISEASE
IVAN M. JEKIC	MANAGEMENT CONSULTANT
SAISA PAVLOVIC	CHAIRMAN, CARDIO VASCULATR
DUSAN KOSTIC	DUPTY CHAIRMAN, CARDIO VASCULATR
NADA MAJKICSINGH	CHAIRMAN, BIOCHEMISTRY
DORDJE SARANOVIC	CHIEF, RADIOLOGY
MARJAN MICEV	CHIEF, HISTOPATHOLOGY
IVAN PALIBRK	ANESTHSIA
ALEKSANDAR LJUBIC	GYNECOLOGY
DEJAN STOJANOV	GYNECOLOGY
LJIRJANA STOJANOVIC	DIRECTOR OF OFFICE AFFAIRS
ANA SIJACKI	HEAD OF DEPT. FOR RESEARCH AND DEVELOPMNET
GORDANA DIMIC	MEDIA CENTER
PREDRAG UROSEVIC	MEDIA CENTER
BRANKO LAZIC	ENGINEERING DEPT.
IVAN KITANOVIC	ENGINEERING DEPT.
JELENA STOJKOVIC	ENGINEERING DEPT.
IVAN MARJANSKI	ENGINEERING DEPT
DRAGOMIR TOMAS	ENGINEERING DEPT
VELIBOR KALICHANIN	ENGINEERING DEPT
SAVKA MLADENOVIC	ENGINEERING DEPT

NOVI SAD CLINICAL CENTER

PAVLE MILOSEVIC	DIRECTOR
ZORAN STOSIC	ASSISTANT DIRECTOR
ZORAN MRADJA	DIRECTOR OF SURGERY
SLOBODAN VUCUROVIC	CHIEF OF RADIOLOGY
VUKASIN VISNJEVAC	DIRECTOR OF GYNECOLOGY
MILICA MITROVIC	HEAD OF POSTNATAL WARD
EVGENIJE SEGEDI	SURGERY

BEBA GUDURIC	ANESTESIOLOGY
DRAGAN MALINOVIC	MAINTENANCE
SVETRLANA LUKOVAC	CHIEF OF CONSTRUCTION DEPT.
MILAN MICACIC	CHIEF OF MECHANICAL MAINTENANCE
MIROSLAV SUROVI	ELECTRICAL ENGINEER RADIOLOGY
VLADIMIR TRNINIC	CHIEF OF ENGINEERING, COUST AND DEVELOPMENT
MILAN STOJISAVLJEVIC	CHIEF OF THE DEPT. FOR SERVICES

NIS CLINICAL CENTER

MIROSLAV JEREMIC	GENERAL MANAGER
MIODRAG VUCIC	ASSISTANT MANAGER
BORISLAV KAMENOV	DIRECTOR OF CHILDREN INTERNAL CLINIC
ALEKSANDAR NAGORNI	DIRECTOR OF GASTROENTEROLOGY
ZORICA PETKOVIC	DIRECTOR OF RADIOLOGY
BRANISLAVA KOCIC	DIRECTOR OF INSTITUTE OF MICROBIOLOGY
DRAGAN STOSIC	ASSISTANT DIRECTOR OF GYNECOLOGY
VIDOSAVA DJORDJEVIC	DIRECTOR OF MEDICAL BIOCHEMISTRY
SNEZANA MILJKOVIC	MANAGER
VESNA SAVIC	HEAD NURSE
NATALIJA SIMBOVSKI	PHARMACIST
MILOS SPASIC	OFFICER OF INSTALLATION
SLAVKO KONSTANTINOVIC	CHIEF OF ANESTESIOLOGY
VEROLJUB PEJICIC	SURGERY
ALEKSANDAR MIHAJLOVIC	CARDIOLOGY
BRANISLAVA KOCIC	MICROBIOLOGY
VIDOSAVA DJORDJEVIC	BIOCHEMISTRY
LJILJANA PEJICIC	PEADIATRIC
ALEKSANDAR NAGORNI	GASTROENTEROLOGY
SLOBODAN MILATOVIC	RADIOLOGY
SLADIANA PETROVIC	RADIOLOGY
DORAGOJLO GMIJOVIC	SURGERY
LANA MACUKANOVIC	HEMATOLOGY

KRAGUJEVAC CLINICAL HOSPITAL CENTER

RADOMIRU PAVLOVIC	DIRECTOR
GORAN MIHAJLOVIC	VICE DIRECTOR
LILJANA MIJATOVIC	VICE DIRECTOR
TOMISLAV STOJILJKOVIC	VICE DIRECTOR
PREDRAG SAZDANOVIC	ADVISOR
SANJA MILOJEVIC	DIRECTOR OF RADIOLOGY
DRAGAN CELIKOVIC	DIRECTOR OF INTERNAL CLINIC
MOMCILO MILORADOVIC	HEAD OF CARDIOLOGY
SVETLANA MILETIC	CARDIOLOGY
ZARKO SRETENIVIC	CARDIOLOGY
ZORAN VUCKOVIC	HEAD OF CENTRAL LABORATORY
JASNA JEVDJIC	DIRECTOR OF ICU
SLOBODAN OBRADOVIC	HEAD OF PEADIATRIC
BILJANA VULETIC	PEADIATRIC
ZORICA SAVOVIC	EMERGENCY DEPT.
DRAGO CELIKOVIC	HEAD OF INTERNAL MEDICINE
BLIJANA VELJKOVIC	HEAD OF
NEBOJSA ANDELKOVIC	HISTOPATHOLOGY
MIROSLAV STOJADINOVIC	UROKOLOGY
NEDELJKO VEZMAR	UROKOLOGY
SVETLANA MILETIC	NUROSURGERY
MIRJANA VARJACIC	GYNECOLOGY
NADA GRUJICIC	HEAD NURSE
MIRJANA GAJIC	ADVISOR ECONOMIC
PREDRAG VRACARIC	ELECTRICAL ENGINEER
RADMILO ILIC	MECHANICAL ENGINEER

BEZANIJSKA KOSA CLINICAL HOSPITAL CENTER

TOMISLAV RANDELOVIC	DIRECTOR
---------------------	----------

CUPRIJA HEALTH CENTER

MIROSLAV STOJANOVIC	DIRECTOR
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LESKOVAC HEALTH CENTER

PREDRAG SALIHGER	DIRECTOR
ZORAN ANDELKOVIC	ORTHOPEDIC
MILAN STOJKOVIC	INTERNAL MEDICINE
BRANKO DORIC	ANETHSESIA

NIS PRIMARY HEALTH CENTER

TOMISLAV PTULOVIC	DIRECTOR
-------------------	----------

JUGORENDGEN

BRANIMIR MILIVOJEVIC	GENERAL DIRECTOR
----------------------	------------------

ELEKTROMEDICINA

ZORAN STOJANOVIC	GENERAL DIRECTOR
------------------	------------------

EUROPEAN UNION

HUMANITARIAN AID OFFICE (ECHO)

IVAN FERLEZ	MEDICAL PROGRAMME ASSISTANT
-------------	-----------------------------

EUROPEAN AGENCY FOR RECONSTRUCTION

DONATELLA LINARI	PROGRAMME MANAGER-HEALTH
------------------	--------------------------

THE WORLD BANK

MARINA PETROVIC	HUMAN DEVELOPMENT SECTOR UNIT
-----------------	-------------------------------

EMBASSY OF JAPAN

YOSHIKI MINE	AMBASSADOR
HARUO OKAMOTO	MINISTER
MINORU KURITA	COUSELOR/MEDICAL AATTACHE
MASAYUKI FUKUYOSHI	SECOND SECRETARY/COUSUL
TAKAAKI SAITO	SECOND SECRETARY
YUKIHIRO TAKEYA	SECOND SECRETARY

JICA AUSTRIA OFFICE

KEIICHI MURAOKA

AKIHIKO SUZUKI

YASUAKI AIHARA

AYU IDEMITSU

RESIDENT REPRESENTATIVE

ASSISTANT REPRESENTATIVE

PROJECT FORMULATION ADVISOR

PROJECT FORMULATION ADVISOR

JICA BELGRADE OFFICE

MILAN MARINOVIC

NATIONAL COORDINATOR

4. Minutes of Discussion

(1) Basic Design Study

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF MEDICAL EQUIPMENT
FOR MAIN HOSPITALS IN REPUBLIC OF SERBIA

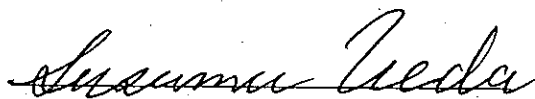
In response to a request from the Government of the Federal Republic of Yugoslavia (hereinafter referred to as "Yugoslavia"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Medical Equipment for Main Hospitals in Republic of Serbia (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Yugoslavia the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Susumu Ueda, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs, and is scheduled to stay in the country from August 26 to October 10, 2002.

The Team held discussions with the officials concerned of the Government of Yugoslavia and conducted a field survey at the study area.

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

Belgrade, September 5, 2002



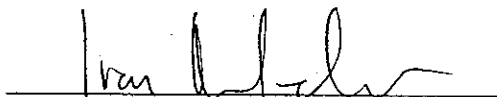
Mr. Susumu Ueda
Leader
Basic Design Study Team
Japan International Cooperation Agency



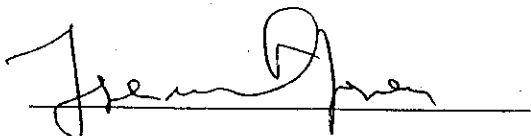
Dr. Ivan Jovanovic
Assistant Minister
Ministry of Health
Republic of Serbia



Ms. Gordana Lazarevic
Assistant Minister
Ministry of International Economic Relations
Republic of Serbia



Mr. Ivan Arandjelovic
Senior Adviser
Ministry of International Economic Relations
Federal Republic of Yugoslavia



Mr. Zoran Jeremic
Ambassador
Ministry of Foreign Affairs
Federal Republic of Yugoslavia

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve and strengthen the medical service in Republic of Serbia, through the procurement of medical equipment.

2. Project sites

The sites of the Project are Clinical Center of Serbia, Clinical Hospital Center "Kragujevac", Clinical Center "Nis", Clinical Center "Novi Sad".

3. Responsible and Implementing Agency

3-1. Responsible Agency

Ministry of External Economic Relations, Republic of Serbia

3-2. Implementing Agency

Ministry of Health, Republic of Serbia

4. Items requested by the Government of Yugoslavia.

After discussions with the Team, the items described in Annex-1 were finally requested by the Yugoslavian side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1 The Yugoslavian side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex -2.

5-2 The Yugoslavian side will take the necessary measures, as described in Annex-3, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

6-1 The consultants will proceed to further studies in Republic of Serbia until October 10, 2002.

6-2 JICA will prepare the draft report in English and dispatch a mission in order to explain its contents in December 2002.

6-3 In case that the contents of the report is accepted in principle by the Government of Yugoslavia, JICA will complete the final report and send it to the Government of Yugoslavia around March, 2003.

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7. Other relevant issues

- 7-1 The Yugoslavian side has agreed to secure and allocate the enough budgets to operate and maintain the medical equipment supplied by the Grant Aid properly and effectively.
- 7-2 The both parties confirmed the necessity for the integration of each department function as to improve medical service. The Yugoslavian side agreed to proceed on internal consultations regarding integration. The Team's further study will be based on the concept previously mentioned.

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Annex-1 Equipment List

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CLINICAL CENTER OF SERBIA – CCS - Belgrade

1. EMERGENCY CENTER

Item No.		Description	Qty
I EMERGENCY CENTER			
	1	SERVICE FOR ANESTHE SIOLOGY AND ICU	
S	1	01 Anesthesia Apparatus	
S	1	02 Patient Monitor	2
S	1	03 Ventilator (MRI)	2
S	1	04 Defibrillator	1
S	1	05 Central Monitor (8-Patients)	2
S	1	06 Bed (ICU)	1
S	1	07 CO2 Gas Monitor	8
			2

	2	OPERATING ROOM	
S	2	01 Thoraco-Laparoscope System	
S	2	02 Pneumatic Bone Drill Set (Craniotome)	1
			2

	3	CLINICAL DEPARTMENT	
	3	01 Defibrillator	
	3	02 Ultrasound apparatus portable	2
	3	03 Gastro Fiberscope	1
			1

2. INSTITUTE FOR DIGESTIVE SYSTEM DISEASES

Item No.		Description	Qty
II INSTITUTE FOR DIGESTIVE SYSTEM DISEASES			
	4	DEPT. OF DIGESTIVE SYSTEM PATHOHISTOLOGY	
S	4	01 Shaker (Tissue Fixation)	
S	4	02 Tissue Processor	1
S	4	03 Paraffin Oven	1
S	4	04 Tissue Processor	1
S	4	05 Process/Embedding Cassette	1
S	4	06 Process Cover	1
S	4	07 Tissue Embedding Set	4
S	4	08 Paraffin Blocks Cabinet	12
S	4	09 Centrifuge (Pathology Lab.)	10
S	4	10 Microtome (Freezing)	1
S	4	11 Microtome (Rotary)	1
S	4	12 Slide Warmer	1
S	4	13 Slide Warmer (Water Bath and Warming Plate)	1
S	4	14 Slide Stainer (Automatic)	1
S	4	15 Fume Hood (Table Top)	1
S	4	16 Microscope (Binocular)	1
S	4	17 Microscope with Digital Camera	1
S	4	18 Instrument Set (Autopsy)	1
S	4	19 Autopsy Lamp	1
S	4	20 Autopsy Lamp (Fluorescent)	1
S	4	21 Autopsy Table	1
S	4	22 Photography Apparatus	1
S	4	23 Co2 Incubator	1
S	4	24 Hot Air Sterilizer	1
S	4	25 Refrigerator with Freezer	1
S	4	26 Freezer (Ultra-Low Temperature)	1
S	4	27 PH Meter	1
S	4	28 Electronic Balance	1
S	4	29 Electronic Balance	1
S	4	30 Fume Hood	1
S	4	31 Laboratory Centre Table	1
			1

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S	4	32	Instrument Cabinet	1
S	4	33	Sink Unit	1
S	4	34	Mixer	1
S	4	35	Micropipette Set	3

Item No.	Description		Q'ty
5	X-RAY DEPARTMENT		
S	5	01 CT Scanner	1
S	5	02 X-Ray Unit with TV	1
S	5	03 Ultrasound Diagnostic Apparatus (Color Doppler)	1

Item No.	Description		Q'ty
6	SERVICE FOR ANESTHESIOLOGY		
S	6	01 Anesthesia Apparatus	3
S	6	02 Patient Monitor	7
S	6	03 Defibrillator	1
S	6	04 Patient Monitor	8
S	6	05 O2 Gas Monitor	3
S	6	06 Respirator (Ventilator)	3
S	6	07 Infusion pump	3

Item No.	Description		Q'ty
7	BICHEMICAL LABORATORY		
S	7	01 Hematology Analyzer	1
S	7	02 Blood Coagulation Analyzer	1
S	7	03 Electrolyte Analyzer	1
S	7	04 Blood Gas Analyzer	1
S	7	06 Biochemical Analyzer	1
S	7	07 Calorimeter	1
S	7	08 Refractometer	1
S	7	09 Refrigerator (Blood Bank)	1
S	7	10 Microscope (Binocular)	1
S	7	11 Electronic Balance	1
S	7	12 Refrigerator with Freezer	1
S	7	13 Centrifuge	1
S	7	14 Washer (Laboratory)	1
S	7	15 Glucose analyzer	1
S	7	16 Microcentrifuge	1
S	7	17 Hematocrit Centrifuge	1

Item No.	Description		Q'ty
8	OPERATING ROOM		
S	8	01 Electrosurgical Unit	4
S	8	02 Operating Table	4
S	8	03 Operating Light	4
S	8	04 Suction Unit (Chest Drainage)	4
S	8	05 Choledochoscope	1
S	8	06 Ultrasound Diagnostic Apparatus (Intraoperative)	1
S	8	07 Argon Beam Coagulator	1
S	8	08 Harmonic Scalpel	1
S	8	09 Tompson Liver Retractor	1
S	8	10 Instrument Set (Liver Surgery)	1
S	8	11 Heating Mattress (Operating Table)	1
S	8	12 X-Ray Unit (C-Arm)	1
S	8	13 Thoraco-Laparoscope System	2
S	8	14 Instrument Set (Laparoscope)	1
S	8	15 Diathermy	1
S	8	16 Suction Unit	2
S	8	17 Cellsaver	1
S	8	18 Fast Sterilizer-Start 100 Plasma or Eschman	1
S	8	19 Suction Unit	4
S	8	20 Needle Holder	50
S	8	21 Peans	200

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S	8	22	Surgery Scissors	
S	8	23	Anatomical Forceps	100
S	8	24	Surgery Pincers	50
S	8	25	Ultrasonic Cleaner	50
S	8	26	Autoclave	1
S	8	27	Central sterilisation unit OR	1
				1

	9	CLINICAL DEPARTMENT			
S	9	01	Defibrillator	5	
	10	DIAGNOSTICS EQUIPMENT			
S	10	01	Ultrasound Diagnostic Apparatus		
S	10	02	Ultrasound Dg. App. (Endoluminal)ECHO-ENDO	2	
S	10	03	Endoscopic Catheter	1	
S	10	04	Esophageal Dilatator	1	
S	10	05	Suction Unit (Chest Drainage)	1	
S	10	06	Gastro Fiberscope	2	
S	10	07	Gastroduedeno Fiberscope with Video System	1	
S	10	08	Colono Fiberscope	1	
S	10	09	Rectoscope	1	
S	10	10	Anoscope	2	
S	10	11	Light Source	4	
S	10	12	Anal Manometer	2	
S	10	13	Perinometer	1	
				1	

3. INSTITUTE FOR GYNECOLOGY AND OBSTETRICS

Item No.	Description		Q'ty
III	INSTITUTE FOR GYNECOLOGY AND OBSTETRICS		
	11	OBSTETRICS DEPARTMENT-LABOR ROOM	
S	11	01 Delivery Table	
S	11	02 Piper's Forceps	11
S	11	03 Chillend's Forceps	1
S	11	04 Ultrasound Diagnostic apparatus (Portable)	1
S	11	05 Ph Meter	1
S	11	06 Infant Warmer	1
S	11	07 Central Monitoring CTG sistem for LABOR ROOM	1
S	11	08 CTG monitor	1
			11

	12	OPERATING ROOM		
S	12	01	Steam Sterilizer (Central)	
S	12	02	Autoclave	1
S	12	03	Anesthesia Apparatus	8
S	12	04	Instruments Set (Laparotomy)	4
S	12	05	Thermocautery	10
S	12	06	Laser Surgical Apparatus	4
S	12	07	Operating Light	1
S	12	08	Operating Table (Gynecology)	4
				4

	13	OPERATING ROOM FOR CESARIAN SECTION		
S	13	01	Anesthesia Apparatus	
S	13	02	Instruments Set (Laparotomy)	1
S	13	03	Thermocautery	3
S	13	04	Operating Light	1
S	13	05	Operating Table (Gynecology)	1
				1

	14	NEWBORN		
S	14	01	Patient monitor	
S	14	02	Baby Weighing Scale	12
S	14	03	Oxygen Inhalation Set	3
S	14	04	Syringe pump	8
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S	14	05	Electric Sphygmomanometer	
S	14	06	Electric Weighing Balance	6
S	14	07	Pulse Oximeter	6
S	14	08	Infant Care Unit	5
S	14	09	Apnea monitor	5
S	14	10	EOG Sterilizer	10
				1

4. INSTITUTE FOR CARDIOVASCULAR DISEASES

Item No.	Description		Qty
IV	INSTITUTE FOR CARDIOVASCULAR DISEASES		
	13	CLINIC FOR CARDIOSURGERY	
S	13	01 ECG	
S	13	02 Patient Monitor	2
S	13	03 Defibrillator	6
S	13	04 Ultrasound Diagnostic Apparatus (Color Doppler)	2
			2

	14	CENTER FOR VASCULAR SURGERY	
S	14	01 ECG	
S	14	02 Patient Monitor	2
S	14	03 Defibrillator	6
S	14	04 Ultrasound Diagnostic Apparatus (Portable)	2
S	14	05 Ultrasound Diagnostic Apparatus (Color Doppler)	1
			1

	15	INTENSIVE CARE	
S	15	01 ECG	
S	15	02 Patient Monitor	3
S	15	03 Defibrillator	8
S	15	04 Infusion Pump	2
S	15	05 Ventilator	6
S	15	06 Ultrasound Diagnostic Apparatus	3
			1

	16	OPERATION ROOM	
S	16	01 Defibrillator	
S	16	02 Manual Sternotome with Accessories	2
S	16	03 Diathermy	3
S	16	04 Steam Sterilizer	4
S	16	05 EO Gas Sterilizer	1
S	16	06 Operating Table	1
S	16	07 Operating Light (2 Satellite)	3
S	16	08 Ultraviolet Lamp	4
S	16	09 Sterilizing Container	2
S	16	10 Suction Unit	2
S	16	11 Stretcher	3
S	16	12 Instrument Cabinet	3
S	16	13 Anaesthesia apparatus	3
			3

	17	CLINIC FOR CARDIOLOGY	
S	17	01 ECG	
S	17	02 Patient Monitor	3
S	17	03 Defibrillator	8
S	17	04 Infusion Pump	2
S	17	05 Central Monitor (8-Patients)	8
S	17	06 Ultrasound Diagnostic Apparatus	1
			1

	18	EMERGENCY CARDIOLOGY	
S	18	01 ECG	
S	18	02 Patient Monitor	3
S	18	03 Defibrillator	6
S	18	04 Central Monitor (6-Patients)	3
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S	18	05	Ultrasound Diagnostic Apparatus (Portable)	1
S	18	06	Ultrasound Diagnostic Apparatus	1

5. INSTITUTE FOR MEDICAL BIOCHEMISTRY

Item No.			Description	Total Q'ty	P	EC	II
V INSTITUTE FOR MEDICAL BIOCHEMISTRY							
S	21	01	Centrifuge (10.000 rpm)	5	2	3	
S	21	02	Centrifuge (Ultra)	1	1		
S	21	03	Hematocrit Centrifuge	3	1	1	1
S	21	04	Centrifuge (Micro)	2	1	1	
S	21	05	Microscope (Binocular)	6	2	2	2
S	21	06	Refractometer	2	1	1	
S	21	07	Mixer (Roller)	4	1	2	1
S	21	08	Water Bath	2	1	1	
S	21	09	Analytical Balance	2	1		1
S	21	10	Hematology Analyser	2	1	1	
S	21	11	Glucose Analyzer	2	1	1	
S	21	12	Spectrophotometer	2	1	1	
S	21	13	Biochemical Analyser (up to 300 a/h)	1		1	
S	21	14	Biochemical Analyser (over 300 a/h)	1		1	
S	21	15	Flame Photometer	1		1	
S	21	16	Electrophoresis Apparatus (Capillary)	1		1	
S	21	17	PH Meter	1	1		
S	21	18	Blood Gas Analyzer	1	1		
S	21	19	CO-Oximeter Monitor	1		1	
S	21	20	Osmometer	1		1	
S	21	21	Pipete Dilutor	1		1	
S	21	22	Deep Freezer (at -80°C)	2	1	1	
S	21	23	Mixer (Magnetic)	2	1	1	
S	21	24	Platelet Aggregation Analyzer	1	1		
S	21	25	Ca/Mg Analyzer	1	1		

P - polyclinic - central building

EC - emergency central laboratory

II - biochemistry lab of the Institute for Cardiovascular diseases

* list for biochemistry laboratory of the Institute for Digestive diseases is attached to the Institute list

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Item No.	Description	Q'ty
CLINICAL HOSPITAL CENTER OF KRAGUJEVAC		
1	CENTER OF ANESTHESIOLOGY & REANIMATION	
K 1 01	Anesthesia Apparatus	4
K 1 02	Patient Monitor	8
K 1 03	Ventilator	6
2	CENTER OF URGENT MEDICINE	
K 2 01	Ultrasound Diagnostic Apparatus (Colour Doppler)	1
K 2 02	Defibrillator	1
K 2 03	Ventilator	1
K 2 04	Patient Monitor	4
K 2 05	ECG	2
K 2 06	X-Ray Unit (Mobile)	1
3	RADIOLOGY	
K 3 01	X-Ray Unit (Digital)	2
K 3 02	X-Ray Unit (Mammography)	1
3 03	X-Ray Unit (Dual Energy Absorptiometry)	1
4	CLINICAL BIOCHEMICAL LABORATORY	
K 4 01	Biochemical Analyzer	1
K 4 02	Flame Photometer	1
K 4 03	Centrifuge	2
K 4 04	Spectrophotometer	1
K 4 05	Microscope	2
K 4 06	Blood Coagulation Analyzer	1
K 4 07	Water Distiller	1
K 4 08	Blood Gas Analyzer	1
K 4 09	Micropipette Set	1
5	DEPARTMENT OF GASTROENTEROGY	
K 5 01	Esophagogastroduedonoscope	2
K 5 02	Recto Colonscope	1
6	PEDIATRICS CLINIC	
K 6 01	Ultrasound Diagnostic Apparatus (Colour Doppler)	1
K 6 02	EEG	1
K 6 03	ECG	1
K 6 04	Ventilator	1
K 6 05	Gastro Fiberscope	1
K 6 06	Microscope	1
K 6 07	X-Ray Unit (Mobile)	1
7	CENTER OF HEMATOLOGY	
K 7 01	Hematology Analyzer	1
K 7 02	Microscope	2
K 7 03	Blood Coagulation Analyzer	1
8	CENTER OF UROLOGY	
K 8 01	Ultrasound Diagnostic Apparatus	1
K 8 02	Operation Table	1
K 8 03	Cystoscope	1
9	CENTER OF CARDIOLOGY	
K 9 01	Treadmill	1
K 9 02	X-Ray Unit (Mobile)	1
K 9 03	Defibrillator	1
K 9 04	Patient Monitor	3
10	CENTER OF VASCULAR SURGERY	
K 10 01	Suction Unit	1
K 10 02	Ultrasound Diagnostic Apparatus (Colour Doppler)	1
11	CENTER OF NEUROLOGY	
K 11 01	Patient Monitor	1
K 11 02	Defibrillator	1
K 11 03	EEG	1
12	CLINIC OF GYNECOLOGY AND OBSTETRICS	
K 12 01	Vacuum Extractor	1
K 12 02	Suction Unit	2
K 12 03	Ultrasound Diagnostic Apparatus (Colour Doppler)	2

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Item No.	Description	Qty
CLINICAL CENTER OF NIS		
1	BIOCHEMICAL LABORATORY	
NI 1 01	Biochemical Analyzer	1
NI 1 02	Immunology Analyzer (ELISA)	1
NI 1 03	Spectrophotometer	2
NI 1 04	Glucose Analyzer	1
NI 1 05	Urea Analyzer	1
NI 1 06	Creatine Analyzer	1
NI 1 07	Blood Gas Analyzer	1
NI 1 08	Flame Photometer	1
NI 1 09	Electrolyte Analyzer	1
NI 1 10	Timer	1
NI 1 11	Centrifuge (10,000rpm)	3
NI 1 12	Hematocrit Centrifuge	2
NI 1 13	Microscope	3
NI 1 14	Analytical Balance	2
NI 1 15	Hematology Analyzer	1
NI 1 16	pH Meter	2
NI 1 17	Bilirubinometer	1
NI 1 18	Mixer (Vortex)	2
NI 1 19	Mixer	2
NI 1 20	Freezer	1
NI 1 21	Refrigerator	4
NI 1 22	Water Bath	1
NI 1 23	Water Distiller	2
NI 1 24	Water Purifier (Ion Exchange)	1
NI 1 25	Micropipette Set	10
NI 1 26	Personal Computer	3
NI 1 27	Urine Analyzer	1
NI 1 28	Autoclave	1
2	CARDIOLOGY DEPARTMENT	
NI 2 01	ECG	3
NI 2 02	Defibrillator	2
NI 2 03	Patient Monitor	3
NI 2 04	Holter ECG Analyzer	1
NI 2 05	Treadmill	1
NI 2 06	Ultrasound Diagnostic Apparatus (Colour Doppler)	2
3	GYNECOLOGY	
NI 3 01	Laparoscope Video System	1
NI 3 02	Ultrasound Diagnostic Apparatus (Colour Doppler)	2
NI 3 03	Patient Monitor (Neonate)	2
NI 3 04	Infant Incubator (Transport)	1
NI 3 05	Ventilator (Neonate)	1
NI 3 06	Treatment Table (Gynecology)	1
NI 3 07	Infusion Pump	2
NI 3 08	Operating Table	1
NI 3 09	Operating Light	2
NI 3 10	Patient Monitor	6
NI 3 11	Patient Monitor (Transport)	1
NI 3 12	Anesthesia Apparatus	2
NI 3 13	Steam Sterilizer	1
NI 3 14	Microscope	3
4	GASTROENTEROLOGY	
NI 4 01	Gastro Fiberscope with Disinfection Unit	1
NI 4 02	Colono Fiberscope	1
NI 4 03	Duodeno Fiberscope	1
NI 4 04	Gastro Fiberscope	2
NI 4 05	Rectoscope	1
NI 4 06	Endoscope Table	3
NI 4 07	Light Source	2
NI 4 08	Endoscope Sterilizer	1
NI 4 09	Bed (ICU)	6
NI 4 10	Patient Monitor	1

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Item No.	Description	Q'ty
NI 4 11	Defibrillator	1
NI 4 12	Suction Unit	1
NI 4 13	ECG (Portable)	1
NI 4 14	X-Ray Unit with TV System	1
NI 4 15	Film Processor	1
5	HEMATOLOGY	
NI 5 01	Hematology Analyzer	2
NI 5 02	Microscope	5
NI 5 03	Hematocrit Centrifuge	2
NI 5 04	Bone Punction Set	5
NI 5 05	Bone Biopsy Set	2
NI 5 06	Infusion Pump	4
6	SURGERY	
NI 6 01	Ventilator	2
NI 6 02	Anesthesia Apparatus	2
NI 6 03	Laparoscope	1
NI 6 04	Ultrasound Diagnostic Apparatus	1
NI 6 05	Bronchoscope	1
NI 6 06	Colono Fiberscope	1
NI 6 07	Operating Light	1
NI 6 08	X-Ray Unit (Mobile)	1
NI 6 09	Electrosurgical Unit	1
NI 6 10	Infusion Pump	4
7	LABORATORY FOR MICROBIOLOGY	
NI 7 01	Centrifuge	2
NI 7 02	Liquid Dispenser	2
NI 7 03	Immunology Analyzer (ELISA)	1
NI 7 04	Microscope	5
NI 7 05	Microscope (Fluorescent)	2
NI 7 06	Autoclave	2
NI 7 07	Hot Air Sterilizer	2
NI 7 08	Water Bath	2
NI 7 09	Incubator	3
NI 7 10	Refrigerator	2
NI 7 11	Freezer	1
NI 7 12	Water Distiller	1
NI 7 13	Water Purifier (Ion Exchange)	1
NI 7 14	Diluter	2
NI 7 15	Micropipette Set	7
NI 7 16	Personal Computer	3
8	PEDIATRICS	
NI 8 01	Ventilator	1
NI 8 02	X-Ray Unit	1
NI 8 03	Urodynamic Apparatus	1
NI 8 04	Infusion Pump	7
NI 8 05	EEG	1
NI 8 06	Holter ECG	1
NI 8 07	Infant Warmer	2
NI 8 08	Infant Incubator	2
NI 8 09	Phototherapy Unit	2
NI 8 10	Microscope	1
NI 8 11	PH Meter	2
NI 8 12	Spirometer	1
NI 8 13	Colono Fiberscope	1
9	RADIOLOGY	
NI 9 01	X-Ray Unit	1
NI 9 02	X-Ray Unit with TV System	1
NI 9 03	Ultrasound Diagnostic Apparatus (Colour Doppler)	2
NI 9 04	X-Ray Unit (Mammography)	1
NI 9 05	Film Processor	1
NI 9 06	Personal Computer	3
NI 9 07	X-Ray Room Accessories	1

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Item No.	Description	Q'ty
CLINICAL CENTER OF NOVISAD		
1	INSTITUTE OF SURGERY	
NO 1 01	Operating Table	6
NO 1 02	Operating Light	6
NO 1 03	Anesthesia Apparatus	8
NO 1 04	Electrosurgical Unit	10
NO 1 05	Ventilator	8
NO 1 06	Defibrillator	8
NO 1 07	Endotracheal Set	5
NO 1 08	Suction Unit	6
NO 1 09	Steam Sterilizer (Central)	1
NO 1 10	Patient Monitor	8
NO 1 11	Laparoscope Set	1
NO 1 12	ECG	6
NO 1 13	Ultrasound Diagnostic Apparatus	1
2	INSTITUTE OF INTERNAL DISEASES	
NO 2 01	Ultrasound Diagnostic Apparatus	1
NO 2 02	Endoscope Video System	1
NO 2 03	Gastroduodeno Fiberscope	3
NO 2 04	Sigmoidoscope	3
NO 2 05	Colono Fiberscope	3
NO 2 06	Sterilizer	2
NO 2 07	Defibrillator	2
NO 2 08	ECG	8
3	DEPARTMENT OF RADIOLOGY	
NO 3 01	Ultrasound Diagnostic Apparatus	2
NO 3 02	Ultrasound Diagnostic Apparatus (Colour Doppler)	1
NO 3 03	X-Ray Unit (Digital)	2
NO 3 04	Film Developing Set	2
4	DEPARTMENT OF LABORATORY MEDICINE	
NO 4 01	Hematology Analyzer	2
NO 4 02	Biochemical Analyzer	2
NO 4 03	Blood Coagulation Analyzer	1
NO 4 04	Blood Gas and Electrolyte Analyzer	3
NO 4 05	Glucose Analyzer	2
NO 4 06	Urea Analyzer	2
NO 4 07	Flame Photometer	2
NO 4 08	Spectrophotometer	3
NO 4 09	Centrifuge (10,000rpm)	4
NO 4 10	Hematocrit Centrifuge	3
NO 4 11	Microscope (Binocular)	10
NO 4 12	Osmometer	2
NO 4 13	Sterilizer	2
NO 4 14	Water Distiller	2
NO 4 15	Water Bath	3
NO 4 16	Electrophoresis Apparatus	1
NO 4 17	Densitometer	1
NO 4 18	Shaker	2
NO 4 19	Microscope (Fluorescent)	1
NO 4 20	ELISA reader	1
NO 4 21	PH Meter	1
5	GYNECOLOGY	
NO 5 1	Anesthesia Apparatus	2
NO 5 2	Electrosurgical Unit	2
NO 5 3	Operating Light	3
NO 5 4	Operating Table	3
NO 5 5	Gas Sterilizer	1
NO 5 6	Ultrasound Diagnostic Apparatus (Colour Doppler)	1
NO 5 7	Ultrasound Diagnostic Apparatus	1
NO 5 8	Cardiotocograph	6
NO 5 9	Syringe Pump	20
NO 5 10	X-ray Unit (Mobile)	1
NO 5 11	Patient Monitor	3

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Japan's Grant Aid Program

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

Application (request made by a recipient country)

Study (Basic Design Study conducted by JICA)

Appraisal & Approval (appraisal by the Government of Japan and approval by the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments)

Implementation (implementation of the Project)

(2) Firstly, an application or a request for a Grant Aid project submitted by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Japan's Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

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

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

Fourth, the project approved by the cabinet becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.

Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

(1) Contents of the Study

The purpose of the Basic Design Study conducted by JICA on a requested project is to provide a basic document necessary for appraisal of the project by the

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Japanese Government. The contents of the Study are as follows:

- a) confirmation of the background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) evaluation of the appropriateness of the project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) confirmation of items agreed on by the both parties concerning a basic concept of the project,
- d) preparation of a basic design of the project,
- e) estimation of cost of the project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request. Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selection of Consultants

For smooth implementation of the study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on the proposals submitted by the interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds to procure the equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials or such.

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(2) Exchange of Notes (E/N)

Both Governments concerned extend Japan's Grant Aid in accordance with the Exchange of Notes in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid etc., are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings Required to the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

a) to secure land necessary for the sites of the project prior to the installation work in case the project is providing equipment,

b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,

c) to secure buildings prior to the installation work in case the project is providing equipment,

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d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,

e) 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,

f) 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 equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for the operation and maintenance as well as to bear all expenses other than those covered by the Grant Aid.

(8) Re-export

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

(9) Banking Arrangement (B/A)

a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank in Japan. The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the Verified Contracts.

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.

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Annex-3

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		●

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(2) Explanation of Draft Final Report

MINUTES OF DISCUSSIONS ON BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF MEDICAL EQUIPMENT

(EXPLANATION ON DRAFT REPORT)

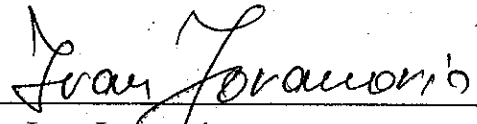
From August through October 2002, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Improvement of Medical Equipment for Main Hospitals in Republic of Serbia (hereinafter referred to as "the Project") to the Federal Republic of Yugoslavia (hereinafter referred to as "Yugoslavia"), and has prepared the draft report of the study through discussion, field survey, and technical examination of the results in Japan.

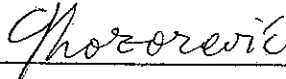
In order to explain and to consult with the Yugoslavian side on the components of the draft report, JICA sent to Yugoslavia, the Draft Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. Keiichi Muraoka, Resident Representative, JICA Austria Office from December 8, 2002 to December 23, 2002.


In the course of discussions, both parties confirmed the main items described on the attached sheets.

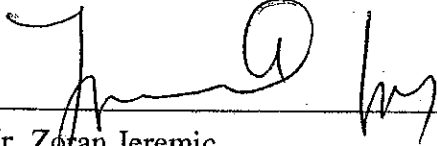
Belgrade, December 19, 2002


Mr. Keiichi Muraoka
Leader/Technical Advisor
Draft Report Explanation Team
Japan International Cooperation Agency


Dr. Ivan Jovanovic
Assistant Minister
Ministry of Health
Republic of Serbia


Ms. Gordana Lazarevic
Assistant Minister
Ministry of International Economic Relations
Republic of Serbia


Mr. Ivan Arandjelovic
Senior Adviser
Ministry of International Economic Relations
Federal Republic of Yugoslavia


Mr. Zoran Jeremic
Ambassador
Ministry of Foreign Affairs
Federal Republic of Yugoslavia

1. Components of the Draft Report

The Government of Yugoslavia has agreed and accepted in principle the components of the draft report explained by the Team. The items described in ANNEX-I, are finally requested by the Government of Yugoslavia after the discussion of both parties. Both parties confirmed that the items to be included in the Project would be finalized after further analysis in Japan.

2. Japan's Grant Aid Scheme

The Yugoslavian side understands the Japan's Grant Aid Scheme and necessary measures to be taken by the Government of Yugoslavia explained by the Team, described in Annex-2 and Annex-3 of the Minutes of Discussions signed by both parties on September 5, 2002.

3. Schedule of the Study

3-1. The consultant members will proceed to conduct further study in Yugoslavia until December 23, 2002.

3-2. JICA will complete the final report in accordance with the confirmed item and send it to the Government of Yugoslavia around April 2003.

4. Other Relevant Issues

4-1. The both parties confirmed that the Yugoslavian side should secure and allocate enough budgets to operate and maintain the medical equipment to be procured through the Grant Aid properly and effectively.

ANNEX-I. List of equipment requested by the Yugoslavian side

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ANNEX-I. List of equipment requested by the Yugoslavian side

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Item No.	Description	Q'ty
CLINICAL CENTER OF SERBIA		
I EMERGENCY CENTER		
1 SERVICE FOR ANESTHESIOLOGY AND ICU		
S 1 01	Defibrillator A	1
S 1 02	Monitoring System, 8 beds	1
S 1 03	Bed, ICU	8
S 1 04	Gas Monitor, CO2	1
2 OPERATING ROOM		
S 2 01	Craniotome	2
S 2 02	Anesthesia Apparatus C	2
S 2 03	Patient Monitor B	2
3 CLINICAL DEPARTMENT		
S 3 01	Defibrillator A	2
S 3 02	Ultrasound Diagnostic Apparatus, Portable A	1
S 3 03	Gastro Fiberscope	1
II INSTITUTE FOR DIGESTIVE SYSTEM DISEASES		
4 DEPARTMENT OF DIGESTIVE SYSTEM PATHOHISTOLOGY		
S 4 01	Shaker, Tissue Fixation	1
S 4 02	Tissue Processor	1
S 4 03	Paraffin Oven	1
S 4 04	Centrifuge, Pathology	1
S 4 05	Microtome, Freezing	1
S 4 06	Microtome, Rotary	1
S 4 07	Slide Warmer	1
S 4 08	Water Bath, Pathology	1
S 4 09	Slide Stainer	1
S 4 10	Microscope, Binocular	1
S 4 11	Microscope, Binocular with Camera	1
S 4 12	Instruments Set, Autopsy	1
S 4 13	Autopsy Lamp	1
S 4 14	Autopsy Table	1
S 4 15	Hot Air Sterilizer	1
S 4 16	Deep Freezer, Ultra-low A	1
S 4 17	pH Meter	1
S 4 18	Electronic Balance A	1
S 4 19	Electronic Balance B	1
S 4 20	Fume Hood	1
5 X-RAY DEPARTMENT		
S 5 01	CT Scanner	1
S 5 02	X-Ray Unit with TV B	1
S 5 03	Ultrasound Diagnostic Apparatus, Colour Doppler B	1
6 SERVICE FOR ANESTHESIOLOGY AND INTENSIVE CARE		
S 6 01	Patient Monitor A	14
S 6 02	Ventilator	3
S 6 03	Infusion pump	3
S 6 04	Suction Unit, Chest Drainage	2
7 BIOCHEMICAL LABORATORY		
S 7 01	Blood Coagulation Analyser	1
S 7 02	Flame Photometer	1
S 7 03	Biochemical Analyser	1
8 OPERATING ROOM		
S 8 01	Electro Surgical Unit	4

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Item No.	Description	Q'ty
S 8 02	Operating Table	4
S 8 03	Operating Light A	2
S 8 04	Operating Light B	2
S 8 05	Suction Unit, Chest Drainage	2
S 8 06	Choledocho Fiberscope	1
S 8 07	Ultrasound Diagnostic Apparatus, Intraoperative	1
S 8 08	Harmonic Scalpel	1
S 8 09	Liver Retractor	1
S 8 10	Instruments Set, Surgery A	1
S 8 11	Instruments Set, Surgery B	1
S 8 12	X-Ray Unit, C-arm	1
S 8 13	Thoraco-Laparoscope System	1
S 8 14	Suction Unit	6
S 8 15	Sterilizer, Fast, Table Top	1
S 8 16	Instrumetns Set, Needle Holder	1
S 8 17	Instrumetns Set, Peans	1
S 8 18	Instrumetns Set, Surgerv Scissors	1
S 8 19	Instrumetns Set, Surgerv Pincers	1
S 8 20	Instrumetns Set, Anatomical Forceps	1
S 8 21	High Pressure Steam Sterilizer B	1
S 8 22	Anesthesia Apparatus C	3
S 8 23	Patient Monitor B	1
S 9 24	Gas Monitor, CO2	1
S 10 25	Defibrillator B	1
9	CLINICAL DEPARTMENT	
S 9 01	Defibrillator A	3
10	DIAGNOSTICS EQUIPMENT	
S 10 01	Ultrasound Diagnostic Apparatus A	1
S 10 02	Suction Unit, Chest Drainage	2
S 10 03	Gastro Fiberscope	2
S 10 04	Endoscopy TV System	1
S 10 05	Colono Fiberscope	1
S 10 06	Rectoscope	1
S 10 07	Anoscope	1
S 10 08	Light Source	1
III	INSTITUTE FOR GYNECOLOGY AND OBSTETRICS	
11	OBSTETRICS DEPARTMENT - LABOR ROOM	
S 11 01	Delivery Table	11
S 11 02	Piper's Forceps	1
S 11 03	Chillend's Forceps	1
S 11 04	Ultrasound Diagnostic Apparatus, Portable B	1
S 11 05	Infant Warmer	1
S 11 06	Cardiotocograph	9
12	OPERATING ROOM	
S 12 01	High Pressure Steam Sterilizer B	1
S 12 02	Hot Air Sterilizer	4
S 12 03	Anesthesia Apparatus A	3
S 12 04	Instruments Set, Gynecology	1
S 12 05	Electro Surgical Unit	4
S 12 06	Operating Light A	4
S 12 07	Operating Table, Gynecology	4

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Item No.	Description	Q'ty
13 OPERATING ROOM FOR CESARIAN SECTION		
S 13 01	Anesthesia Apparatus A	1
S 13 02	Instruments Set, Cesarian Section	3
S 13 03	Electro Surgical Unit	1
S 13 04	Operating Light A	1
S 13 05	Operating Table, Gynecology	1
14 NEW-BORN		
S 14 01	Patient Monitor, Neonate	6
S 14 02	Baby Weighing Scale	2
S 14 03	Ventilator, Neonate	3
S 14 04	Syringe pump	5
S 14 05	Pulse Oximeter	1
S 14 06	Infant Warmer	2
IV INSTITUTE FOR CARDIOVASCULAR DISEASES		
15 CLINIC FOR CARDIOSURGERY VASCULAR SURGERY		
S 15 01	ECG	1
S 15 02	Patient Monitor A	2
S 15 03	Defibrillator A	1
S 15 04	Ultrasound Diagnostic Apparatus, Colour Doppler A	1
16 CENTER FOR VASCULAR SURGERY		
S 16 01	Blood Flow Meter	1
17 INTENSIVE CARE		
S 17 01	ECG	1
S 17 02	Patient Monitor A	8
S 17 03	Infusion Pump	6
S 17 04	Ventilator	3
S 17 05	Ultrasound Diagnostic Apparatus B	1
18 OPERATION ROOM		
S 18 01	Defibrillator B	2
S 18 02	Manual Sternotome with Accessories	2
S 18 03	Electro Surgical Unit	4
S 18 04	High Pressure Steam Sterilizer B	1
S 18 05	Operating Table	3
S 18 06	Operating Light A	3
S 18 07	Operating Light B	1
S 18 08	Suction Unit	3
S 18 09	Stretcher	3
S 18 10	Anesthesia Apparatus A	3
19 CLINIC FOR CARDIOLOGY		
S 19 01	ECG	1
S 19 02	Patient Monitor A	1
S 19 03	Defibrillator A	1
S 19 04	Infusion Pump	4
S 19 05	Ultrasound Diagnostic Apparatus C	1
20 EMERGENCY CARDIOLOGY		
S 20 01	Monitoring System, 6 beds	1
S 20 02	Ultrasound Diagnostic Apparatus C	1
V INSTITUTE FOR MEDICAL BIOCHEMISTRY		
S 21 01	Centrifuge	6
S 21 02	Ultracentrifuge	1
S 21 03	Hematocrit Centrifuge	3
S 21 04	Micro Centrifuge	2

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Item No.	Description	Q'ty
S 21 05	Microscope, Binocular	7
S 21 06	Refractometer	3
S 21 07	Mixer, Roller	3
S 21 08	Water Bath, pathology	2
S 21 09	Electrical Balance B	2
S 21 10	Hematology Analyser A	2
S 21 11	Glucose Analyser	2
S 21 12	Spectrophotometer	2
S 21 13	Biochemical Analyser	1
S 21 14	Flame Photometer	1
S 21 15	pH Meter	1
S 21 16	Blood Gas Analyser	1
S 21 17	Blood Gas Analyser with CO-Oximeter	1
S 21 18	Osmometer	1
S 21 19	Pipette Dilutor	2
S 21 20	Deep Freezer, Ultra-low B	2
S 21 21	Mixer, Magnetic	1

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Item No.	Description	Q'ty
CLINICAL CENTER OF NOVISAD		
1 INSTITUTE OF SURGERY		
NO 1 01	Operating Table	4
NO 1 02	Operating Table, Electrical	2
NO 1 03	Operating Light A	5
NO 1 04	Operating Light B	1
NO 1 05	Anesthesia Apparatus B	6
NO 1 06	Electro Surgical Unit	9
NO 1 07	Ventilator	8
NO 1 08	Defibrillator A	2
NO 1 09	Defibrillator B	3
NO 1 10	Endotracheal Set	5
NO 1 11	Suction Unit	6
NO 1 12	High Pressure Steam Sterilizer A	1
NO 1 13	Patient Monitor A	6
NO 1 14	Patient Monitor B	3
NO 1 15	ECG	4
NO 1 16	Ultrasound Diagnostic Apparatus A	1
2 INSTITUTE OF INTERNAL DISEASES		
NO 2 01	Gastro Fiberscope	3
NO 2 02	Sigmoid Fiberscope	2
NO 2 03	Colono Fiberscope	2
NO 2 04	Endoscopy TV System	1
NO 2 05	Defibrillator A	2
NO 2 06	ECG	6
3 DEPARTMENT OF RADIOLOGY		
NO 3 01	Ultrasound Diagnostic Apparatus A	1
NO 3 02	Ultrasound Diagnostic Apparatus E	1
NO 3 03	Ultrasound Diagnostic Apparatus, Colour Doppler A	1
NO 3 04	X-Ray Unit	1
NO 3 05	X-Ray Unit with TV C	1
NO 3 06	Film Processor A	2
4 DEPARTMENT OF LABORATORY MEDICINE		
NO 4 01	Hematology Analyser A	1
NO 5 02	Hematology Analyser B	1
NO 4 03	Biochemical Analyser	1
NO 4 04	Blood Coagulation Analyser	1
NO 4 05	Blood Gas and Electrolyte Analyser	1
NO 4 06	Electrolyte Analyser	1
NO 4 07	Glucose Analyser	1
NO 4 08	Flame Photometer	1
NO 4 09	Spectrophotometer	2
NO 4 10	Centrifuge	4
NO 4 11	Hematocrit Centrifuge	3
NO 4 12	Microscope, Binocular	9
NO 4 13	Microscope, Binocular with Camera	1
NO 4 14	Osmometer	1
NO 4 15	Hot Air Sterilizer	2
NO 4 16	Water Distiller A	2
NO 4 17	Water Bath	3
NO 4 18	Electrophoresis Apparatus	1
NO 4 19	Densitometer	1

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Item No.	Description	Q'ty
NO 4 20	Mixer A	2
NO 4 21	Microscope, Fluorescent	1
NO 4 22	Immunology Analyser, ELISA	1
NO 4 23	pH Meter	1
5	GYNECOLOGY	
NO 5 01	Anesthesia Apparatus B	2
NO 5 02	Electro Surgical Unit	2
NO 5 03	Operating Light A	3
NO 5 04	Operating Table	3
NO 5 05	Ultrasound Diagnostic Apparatus, Colour Doppler C	1
NO 5 06	Cardiotocograph	6
NO 5 07	Syringe Pump	4
NO 5 08	X-Ray Unit, Mobile	1
NO 5 09	Patient Monitor A	2

Item No.	Description	Qty
CLINICAL CENTER OF NIS		
1 BIOCHEMICAL LABORATORY		
NI 1 01	Biochemical Analyser	1
NI 1 02	Spectrophotometer	1
NI 1 03	Glucose Analyser	1
NI 1 04	Blood Gas and Electrolyte Analyser	1
NI 1 05	Flame Photometer	1
NI 1 06	Centrifuge	3
NI 1 07	Electronic Balance C	1
NI 1 08	pH Meter	1
NI 1 09	Bilirubinometer	1
NI 1 10	Mixer, Vortex	2
NI 1 11	Mixer B	1
NI 1 12	Deep Freezer	1
NI 1 13	Water Bath	1
NI 1 14	Water Distiller A	1
NI 1 15	Micropipette Set A	1
NI 1 16	Autoclave, Desk Top	1
2. CARDIOLOGY DEPARTMENT		
NI 2 01	ECG	2
NI 2 02	Defibrillator A	1
NI 2 03	Patient Monitor B	3
NI 2 04	Holter ECG	1
NI 2 05	Stress Test System	1
NI 2 06	Ultrasound Diagnostic Apparatus, Colour Doppler A	1
NI 2 06	Ultrasound Diagnostic Apparatus, Colour Doppler E	1
3 GYNECOLOGY		
NI 3 01	Laparoscope System, Gynecology	1
NI 3 02	Ultrasound Diagnostic Apparatus, Colour Doppler F	1
NI 3 03	Patient Monitor, Neonate	2
NI 3 04	Treatment Table, Gynecology	1
NI 3 05	Operating Table	1
NI 3 06	Operating Light A	2
NI 3 07	Patient Monitor A	4
NI 3 08	Patient Monitor B	2
NI 3 09	Anesthesia Apparatus A	2
NI 3 10	High Pressure Steam Sterilizer A	1
NI 3 11	Microscope, Binocular	3
4 GASTROENTEROLOGY		
NI 4 01	Colono Fiberscope	1
NI 4 02	Duodeno Fiberscope	1
NI 4 03	Gastro Fiberscope	2
NI 4 04	Endoscopy TV System	1
NI 4 05	Rectoscope	1
NI 4 06	Endoscope Table	3
NI 4 07	Bed, ICU	6
NI 4 08	Patient Monitor A	1
NI 4 09	Defibrillator A	1
NI 4 10	Suction Unit	1
NI 4 11	ECG	1
NI 4 12	X-Ray Unit with TV A	1
NI 4 13	Film Processor B	1

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Item No.	Description	Q'ty
5	HEMATOLOGY	
NI 5 01	Hematology Analyser A	1
NI 5 02	Microscope, Binocular	5
NI 5 03	Hematocrit Centrifuge	2
NI 5 04	Infusion Pump	4
6	SURGERY	
NI 6 01	Ventilator	2
NI 6 02	Anesthesia Apparatus A	2
NI 6 03	Laparoscope System, Surgery	1
NI 6 04	Broncho Fiberscope	1
NI 6 05	Operating Light A	1
NI 6 06	X-Ray Unit, Mobile	1
NI 6 07	Electro Surgical Unit	1
NI 6 08	Infusion Pump	4
7	LABORATORY FOR MICROBIOLOGY	
NI 7 01	Centrifuge	1
NI 7 02	Ultracentrifuge	1
NI 7 03	Immunology Analyser, ELISA	1
NI 7 04	Microscope, Binocular	5
NI 7 05	Autoclave	2
NI 7 06	Hot Air Sterilizer	2
NI 7 07	Water Bath	2
NI 7 08	Incubator	3
NI 7 09	Deep Freezer, Ultra-low B	1
NI 7 10	Water Distiller B	1
NI 7 11	Micropipette Set B	1
8	PEDIATRICS	
NI 8 01	Ventilator	1
NI 8 02	X-Ray Unit	1
NI 8 03	Infusion Pump	5
NI 8 04	EEG	1
NI 8 05	Infant Warmer	1
NI 8 06	Spirometer	1
9	RADIOLOGY	
NI 9 01	X-Ray Unit with TV A	1
NI 9 02	X-Ray Unit, Mammography	1
NI 9 03	Film Processor B	1
NI 9 04	X-Ray Room Accessories	1

Item No.	Description	Qty
CLINICAL HOSPITAL CENTER OF KRAGUJEVAC		
1 CENTER OF ANESTHESIOLOGY & REANIMATION		
K 1 01	Anesthesia Apparatus B	4
K 1 02	Patient Monitor A	3
K 1 03	Patient Monitor B	5
K 1 04	Ventilator	6
2 CENTER OF URGENT MEDICINE		
K 2 01	Ultrasound Diagnostic Apparatus, Portable A	1
K 2 02	Defibrillator A	1
K 2 03	Patient Monitor A	4
K 2 04	ECG	1
3 RADIOLOGY		
K 3 01	X-Ray Unit	1
K 3 02	X-Ray Unit with TV A	1
K 3 03	X-Ray Unit, Mammography	1
K 3 04	X-Ray Unit, Mobile	1
4 CLINICAL BIOCHEMICAL LABORATORY		
K 4 01	Biochemical Analyser	1
K 4 02	Flame Photometer	1
K 4 03	Centrifuge	2
K 4 04	Spectrophotometer	1
K 4 05	Microscope, Binocular	2
K 4 06	Blood Gas and Electrolyte Analyser	1
K 4 07	Micropipette Set C	1
5 DEPARTMENT OF GASTROENTEROLOGY		
K 5 01	Gastro Fiberscope	2
K 5 02	Colono Fiberscope	1
6 PEDIATRICS CLINIC		
K 6 01	ECG	1
K 6 02	Ventilator	1
K 6 03	Gastro Fiberscope, Pediatric	1
K 6 04	Microscope, Binocular	1
K 6 05	X-Ray Unit, Mobile	1
7 CENTER OF HEMATOLOGY		
K 7 01	Hematology Analyser A	1
K 7 02	Microscope, Binocular	2
K 7 03	Blood Coagulation Analyser	1
8 CENTER OF UROLOGY		
K 8 01	Ultrasound Diagnostic Apparatus D	1
K 8 02	Operating Table	1
K 8 03	Cysto-Ureteroscope	1
9 CENTER OF CARDIOLOGY		
K 9 01	Ultrasound Diagnostic Apparatus, Colour Doppler A	1
K 9 02	Stress Test System	1
K 9 03	Defibrillator A	1
K 9 04	Patient Monitor A	3
10 CENTER OF VASCULAR SURGERY		
K 10 01	Suction Unit	1
K 10 02	Ultrasound Diagnostic Apparatus, Colour Doppler A	1
11 CENTER OF NEUROLOGY		
K 11 01	Patient Monitor A	1
K 11 02	Defibrillator A	1

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5. Other Relevant Data

Title	Source	Year
1. Health Statistic, Belgrade	Belgrade City, Health Office	2001
2. Health Statistic	Federation of Yugoslavia	2001

Interim Report of the findings on Hospital Management System

September 26, 2002

Major issues are found through the interviews which have been carried out on the self-assessment sheet. While most are found commonly among the 4 clinical centers, some are typical to each.

1. General Situation

- **High morale of hospital staff**

Many health personnel are still maintaining high morale to dedicate themselves to provide professional services in spite of fierce social and economic difficulties.

- **Inadequate hospital resources**

While so-called 'Market mechanism' is just being introduced to the public health system, clinical centers have very limited and poor physical and human resources to meet the needs of the new times.

- **Slow recovery of diagnostic services**

Although the amount of patients has been recovering rapidly from the bottom level in 1999, diagnostic services have not caught up with such increase of patient's needs at all due to financial constraints.

- **Uncertain outlook of hospital finance**

Hospitals have barely got out of the financial depths at present, however their future prospects are still uncertain and serious for comfort.

- **Dispersed hospital buildings**

Allocation of many scattered buildings on a vast site brings an extremely inefficient operation and management to every hospital.

- **Rigid payment system of the insurance**

Contract system with Health Insurance Fund based on the results for the last year brings no incentive for the hospital to make efforts for profits by cutting costs.

2. Strength and Weakness of 4 hospitals in the project

2.1 Strength

- **CC Novi Sad, CC Nis, CHC Kragujevac:** They have no rival for the time being in providing the people in the region with specialist's services and around the clock emergency services covering almost medical fields. CC Serbia is recognized as a superior tertiary institution, however, it has a strong rival of the Military Academy.

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- CC Novi Sad, CHC Kragujevac: Top management is leading a complex hospital to change its organization and to rationalize its services with a clear vision for medium-term development.
- CC Novi Sad: It has a completed facilities for outpatient clinics and maintains buildings better to compare with other hospitals. CHC Kragujevac also has a relatively compact and centralized diagnostic facilities. In addition, every hospital has a uncompleted huge building on the site.

2.2 Weakness

- Hospital development plan for medium and long term:
Top management should show the direction the hospital will go forward through formulating an idea and concept for the future.
Serbia: it stays at concept level and not documented yet.
Novi Sad, Kragujevac: it stays at concept level but documented partially.
Nis: it has not formulate any concept yet.
- Dispersion of common service facilities:
Scattered OT, ICU, Laboratory, X-ray, Ultrasound, and Endoscopic diagnostic functions on many individual buildings – is hindering from efficient usage/allotment of equipment and staff.
Serbia, Nis: most scattered about many buildings.
Novi Sad, Kragujevac: less scattered and already integrated partially.
- Segmented human resources by institute and clinic
Dispersed facilities by institute or clinic make the sub-organization of nurses, technical staff of laboratory and X-ray and other non-medical staff.
Serbia: it has already integrated.
Novi Sad, Kragujevac: it has just started and already integrated partially.
Nis: Not yet.
- Information system for visitors are not customer oriented at all.
 - 1) Visible sign/guide-map/building-name/symbol-mark to show the way visitors go to should be set in place clearly through out the site. Especially the emergency facilities needs to improve its sign schedule and reception/guidance facilities.
 - 2) Explanation on standard treatment procedures, hospital rule and patient's right at admission based on prepared documents, and monitoring by top management on patient's or families complaints of services.

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- Information system for the top management remains at primitive level.
It is essential to make decisions quickly, based on accurate figures and analysis about clinical and financial performance, patient's complaint and marketing information, etc.

- Executive cash reception is not established not only at Outpatient Clinic but at Inpatient ward.
It is an essential facilities when you begin to provide non-standard charged services.

3. Recommendation

The result of the project will definitely depend on the realization of these recommendations.

- Make new laws and system as early as possible quickly to guide hospitals to the market mechanism smoothly. And show the guidelines to define the non-standard services which may not be covered the insurance fund. This kind of income from non-standard services will be crucial to maintain the use of medical equipment by the project.

- Introduce a new funding system to give hospitals a strong incentive to cut cost by managing efficiently. And allow them to use the profits produced by their efforts in order to improve the patient services.

- Encourage hospitals to start formulating its medium and long term development plan which involves not only physical development but organizational/managerial reform strategy, which are shown below.
And press them to show the JICA team the results of feasibility study, and hopefully a draft plan when they will visit you again on coming December, 2002.
 - (a) Physical integration of dispersed facilities – Outpatient polyclinic, Emergency services, OT, ICU, Laboratory, X-ray, Ultrasound, Endoscope and other diagnostic functions.
 - (b) Organizational integration to make the most of human resources - Nurses, Laboratory technician, X-ray technicians and other non-medical staff.

- Information system for visitors:
 - (a) Support the hospitals financially to start preparation works immediately on the visible sign/guide-map/building-name/symbol-mark plan.
 - (b) Press the hospitals to improve the information system for patients and top management. And support them to set up a computer network system technically and financially.
 - (c) Set up a central cashier system and reception.

Sheet for Quick Assessment of Hospital Organization and its Management Performance

I. This sheet is prepared to show the result of a quick assessment of the current hospital management system.

Remind that assessment items do not cover all the management area,

with concentrating on following four areas which are related closely to the project target.

II. Following four-grade system is adopted for the assessment.

na means 'Questioning item is Not Applicable to the target hospital or institution'.

3 - is executed properly or aggressively or regularly/ is existing in proper form

2' - is just commenced/ measures are now under review to improve

2 - is executed but partially or in a passive manner or rarely/ is existing but in a poor condition


1 - is not appropriate / is not existing / is not being executed

note: 2' is added after the interviews because many reform activities are found to have been started since 2001.

[Summary of Quick Assessment]		Serbia	Nis	Novi Sad	Kragujevac
1. Hospital overall administration					
1.1.	Structural set-up of the organization is charted and documented	3	3	3	3
1.2.	Budget is executed according to the annual activity plans	3	3	3	3
1.3.	Staff requirement and compensation system is fulfilled	3	3	2'	2
1.4.	Meetings are held to coordinate related activities among institutions	3	3	3	3
1.5.	Hospital improvement plan or idea for medium or long term is drawn up	2	1	2'	2'
1.6.	Activities are summerized annually in a hospital publication	2	2	2	2
1.7.	Health check for hospital staff is made to detect potential infections	3	3	3	3
2. Promotion of health referral system *					
2.1.	Meeting on regional referral system with other hospitals is held	na	na	2'	na
2.2.	Hospital facilities are open for private hospitals/practioners to use by an agreement	na	na	na	na
2.3.	Training for capacity building is provided to local health personnel	3	na	2	na
2.4.	Activities for Health promotion and Public education are executed	na	na	na	na
2.5.	Specialist doctors visit hospitals in remote area to responde to local needs	na	na	na	na
3. Efficient management of the hospital					
3.1.	Staff allocation is reviewed based on actual workloads	2'	2	3	3
3.2.	Finance and accounting is executed and managed	3	3	3	3
3.3.	Bed control system to utilize beds maxmally is working	2	3	3	3
3.4.	Supply of drugs and medical necessities is managed and monitored	3	3	3	3
3.5.	Intensive use of equipment and facilities are promoted throughout the hospital	3	2	3	3
3.6.	Medical equipment is maintained across the hospital	3	3	2	3
3.7.	Effort to outsource non-medical services is made for quality services	2	1	2	na**
3.8.	Hazardout medical waste is treated and disposed	3	2'	3	3
3.9.	Staff working (duty) hours is kept punctually and monitored	2	3	2	2
3.10.	Record of fundamental services is reported to top management on daily/weekly base	2	2	2	2
4. Outpatient clinics and Emergency Unit					
4.1.	Screening is carried out for new visitors to outpatient clinics	3	3	3	3
4.2.	Time appointment system is adopted for consultations and examinations	3	2	3	2
4.3.	Reception and registration of outpatients is organized and managed	3	2	3	3
4.4.	Orientation to out-patients on services procedure is given	3	2	3	3
4.5.	Triage is carried out to every emergency patient by trained doctors	3	3	3	3
4.6.	Staff for emergency services is assigned for 24 hours all the year	3	3	3	3
4.7.	Supporting system for emergency staff is prepared for 24 hours	3	3	3	3
4.8.	Patient's and their family's complaints of services are monitored	2'	2	2'	2'
4.9.	Explanation to in-patients and their families is provided at admission	2	2	2	3

* : Not applicable because most of these activities are not assigned to the hospital by any regulation.

** : Not applicable due to shortcomings of budget to outsource and absence of service provider in the area.

 Shows the areas which could be considered as common weaknesses to the hospitals.