No.

BASIC DESIGN STUDY REPORT
ON
THE PROJECT
FOR
IMPROVEMENT OF MEDICAL EQUIPMENT FOR
PRIMARY HEALTH CARE SERVICES IN THE LOCAL AREAS
IN
FORMER YUGOSLAV REPUBLIC OF MACEDONIA

January, 2006

JAPAN INTERNATIONAL COOPERATION AGENCY

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Preface

In response to a request from the Government of Former Yugoslav Republic of Macedonia, the Government of Japan decided to conduct a basic design study on the Project for Improvement of Medical Equipment for Primary Health Care Services in the Local Areas and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Macedonia a study team from July 25 to August 26, 2005.

The team held discussions with the officials concerned of the Government of Tajikistan, 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 Macedonia 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 Former Yugoslav Republic of Macedonia for their close cooperation extended to the teams.

January, 2006

Seiji Kojima
Vice President
Japan International Cooperation Agency

January, 2006

Letter of Transmittal

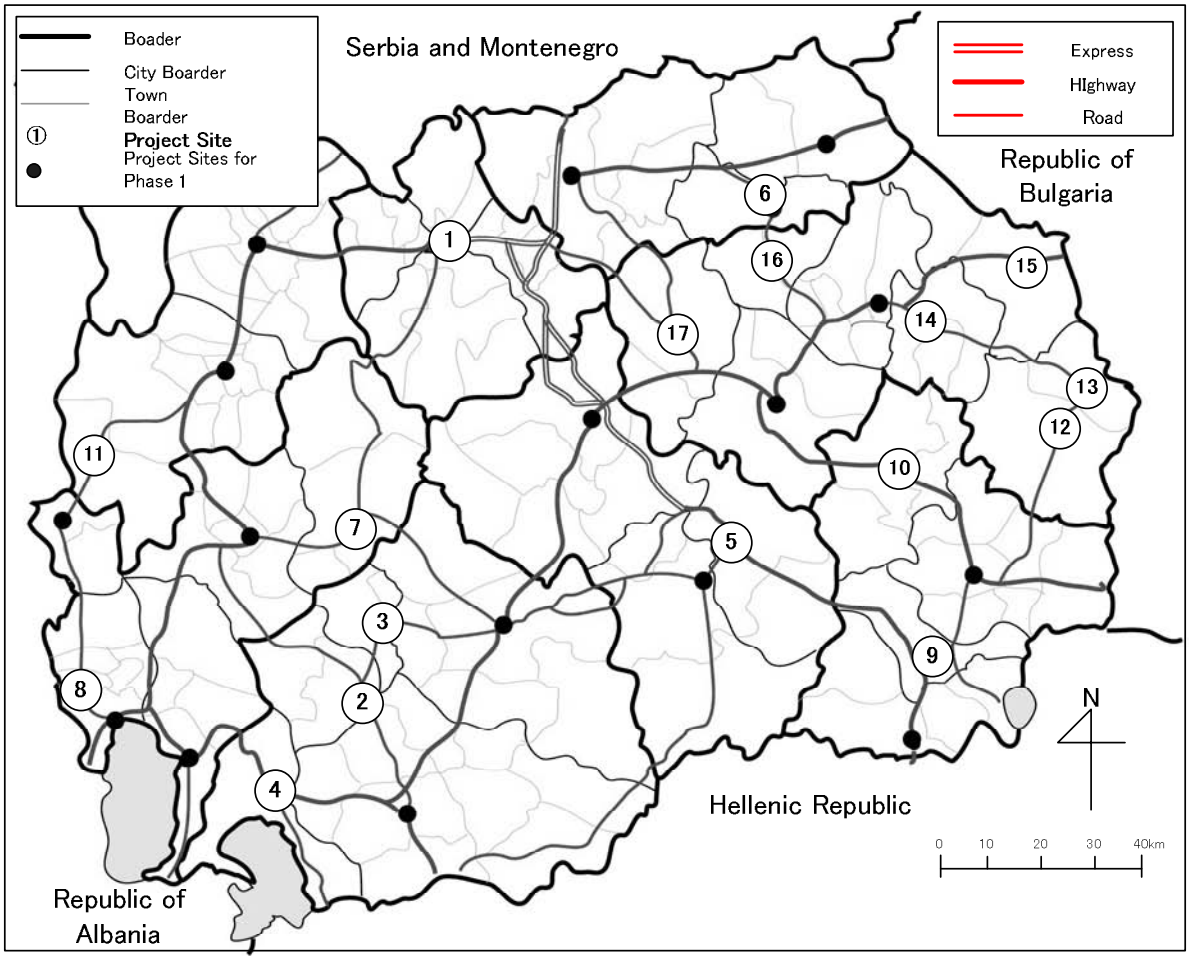
We are pleased to submit to you the basic design study report on the Project for Improvement of Medical Equipment for Primary Health Care Services in the Local Areas in Former Yugoslav Republic of Macedonia.

This study was conducted by International Techno Center Co., Ltd., under a contract to JICA, during the period from July, 2005 to February, 2006. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Macedonia 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.

Kazuhiro Abe
Project Manager,
Basic design study team on the Project for Improvement of Medical Equipment for Primary Health Care Services in the Local Areas in Former Yugoslav Republic of Macedonia

Improvement of Medical Equipment for Primary Health Care Services in the Local Areas
In Former Yugoslav Republic of Macedonia

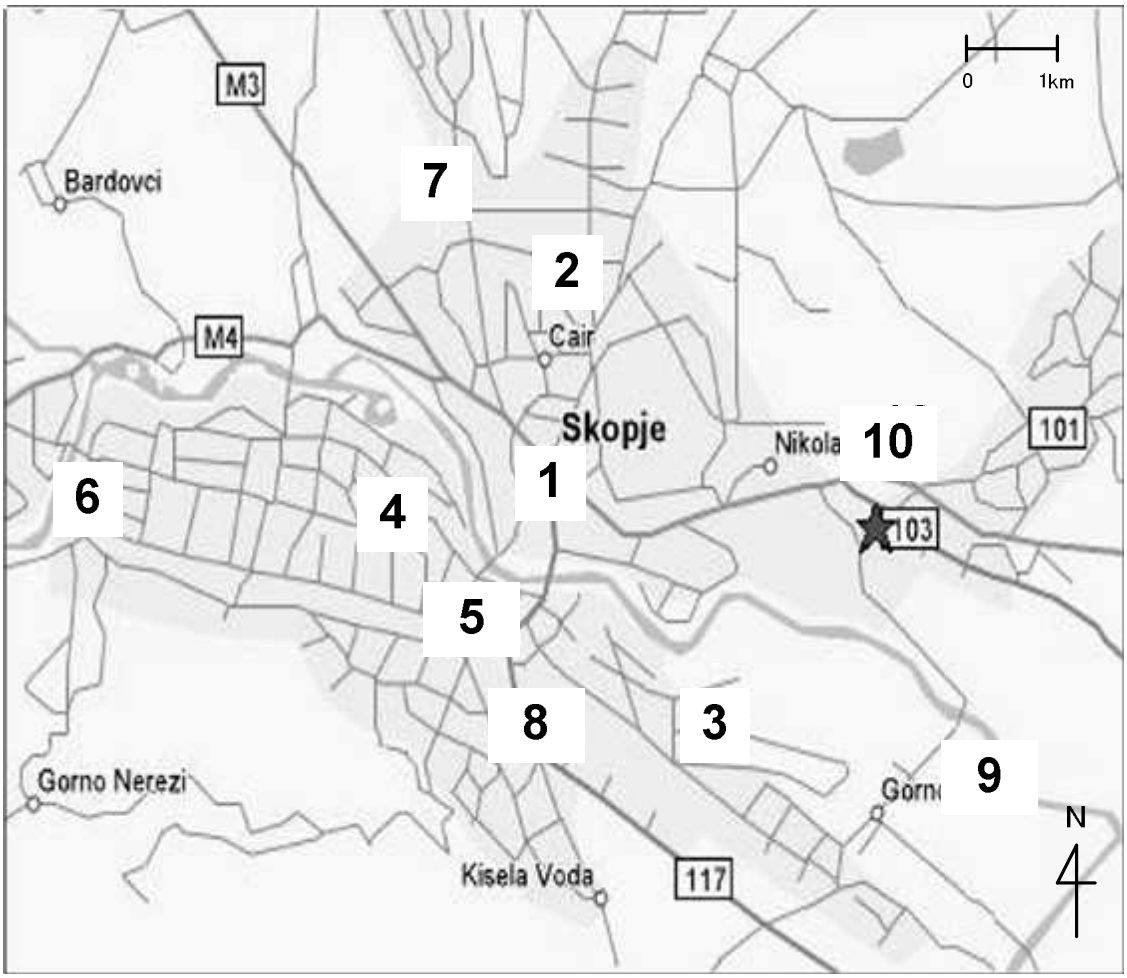


<Project Site>

① Skopje
② Demir Hisar
③ Krusevo
④ Resen
⑤ Negotino
⑥ Kuratovo
⑦ Makedonski Brod
⑧ Vevcane
⑨ Valandov
⑩ Radovic
⑪ Rostusa
⑫ Berovo
⑬ Pehcevo
⑭ Vinica
⑮ Delcevo
⑯ Probistip
⑰ Sveti Nikole

Former Yugoslav Republic of Macedonia

Fomer Yugoslav Republic of Macedonia
Skopje City



Skopje HC

1. Bit Pazar PC
2. Cair PC
3 .Jane Sandanski PC
4 .Bukurest PC
5. Idadija PC
6. Gjorce Petrov PC
7. Suto Orizari PC
8. MVR PC
9. Dracevo PC
10. Chento PC

List Figures & Tables

Abbreviations

A/P	Authorization to Pay
B/A	Banking Arrangement
ECG	Electrocardiograph
E/N	Exchange of Notes
HC	Health Center
HIF	Health Insurance Fund
ISO	International Organization for Standardization
JICA	Japan International Cooperation Agency
OB/GNY	Obstetrics and Gynecology
MKD	Macedonia Denar
PC	Polyclinic
UNICEF	United Nations Children's Fund
VAT	Value Added Tax

Summary

Summary

The former Yugoslavian republic of Macedonia ("Macedonia") lies at the center of the Balkan Peninsula, has a national area of approximately 25,000km^2, and borders Albania, Bulgaria, Greece, and Serbia and Montenegro. Macedonia is a diverse state, with a population that is 64.2% Macedonian, 25.2% Albanian, 3.9% Turkish, 2.7% Roma, 1.78% Serbian, and 0.4% black. According to a 2002 national census, the population was 2,022,547, and the proportions represented by the young population (less than 15 years old) and elderly population (65 years and older) were 22% and 10% respectively. Trends of decrease in the young segment and increase in the elderly segment are predicted to continue.

In the 30 years from 1971 to 2001, the structure of causes of death among the people of Macedonia has changed greatly, with the number of deaths from infectious disease, respiratory disease, and other such causes decreasing, and the number of deaths from cardiovascular disease and malignant neoplasms rising. The rates of death from respiratory and infectious disease at the start of the 1970s were respectively 12% and 9%, but in 2001, these rates had dropped to 3% and 0.9%. Concurrently, as the population aged, deaths from heart disease, cancer and other such causes doubled, and cardiovascular disease and malignant neoplasms now account for more than 60% of national causes of death. Overall trends in deaths and illness relating to respiratory disease, cardiovascular disease, and malignant neoplasms are understood to reflect the aging of the population with particular clarity.

Infant mortality, the most basic indicator of health, has also continued on a decreasing trend, with deaths declining to less than 20 per thousand live births since 1996. At present, evidence of anemia and vitamin A deficiency in women and children is a problem facing some regions and low income strata. Otherwise, overall risk for obesity, hypertension, and other such noninfectious diseases is also increasing. Current issues in public health care include prevention and early detection and treatment of heart disease, cancer, and other lifestyle-related illnesses; management of chronic illnesses; and appropriate treatment and management of general illnesses, particularly among children and the elderly. In these areas, efforts are needed to reduce the national burdens imposed by disease.

Since independence, unstable economic conditions in Macedonia have made the share of the national budget for health care inadequate, and there has been virtually no improvement in medical facilities and equipment. It has been particularly difficult for the facilities targeted by this plan, health centers ("HC"), to secure a new budget for facilities improvement other than operating costs, and it has not been possible to replace the existing equipment.

To address these conditions, in 1998 in Macedonian government sought general capital grant assistance from Japan to equip 34 health centers. In 2000, Japan prepared a basic design study, and in 2001, the "Project for Improvement of Medical Equipment for Primary Health Care Services in Local Areas (Phase 1)" was implemented in 16 health centers.

Thereafter, in October 2002, the Macedonian government drafted the "Project for Improvement of Medical Equipment for Primary Health Care Services in Local Areas (Phase 2)," an effort to equip the remaining 18 health centers left out of Phase 1, and sought capital grant assistance from the Japanese government for funds to purchase the medical equipment needed to implement this plan.

From July 29 to August 2, 2004, a preliminary study team sent by the Japan International Cooperation Agency, an independent administrative corporation, used its study results to assess the status and needs of the health centers and equipment under consideration, ascertain details of the request, and gather information on related assistance activities by other donors and the national plans of Macedonia. The results of the study showed that deterioration of the equipment at each health center was severe and much of the equipment was inoperable, demonstrating clear impediments to the delivery of primary level public health care services.

On this basis, the Japanese government decided to pursue a basic design study in response to the request of the Macedonian government and sent a basic design study team to the country from July 25 to August 26, 2005. An explanation of the draft basic design was then provided on-site from November 6 to November 19, 2005, based on work completed in Japan after the return of the design study team.

The results of the preliminary study and basic design study affirmed a decision to target 17 health centers for assistance in Phase 1 of the plan, omitting only 1 health center

which had been privatized. The goal of the plan was to strengthen primary level health care services by procuring the equipment needed for each health center to provide adult, obstetric, pediatric, and emergency diagnosis and treatment.

This plan targets the Skopje HC and 16 regional HC, a total of 17 HC. The Skopje HC is located in the capital city of Skopje, comprises the ten polyclinics (PC)

Region	Health Distric	NO.	HC/PC	Populations	Average of Annual out-patients
Skopje		①-1	Bit Pazar PC	572,708	1,088,502
		①-2	Cair PC		
		①-3	Jane Sandanski PC		
		①-4	Bukurest PC		
		①-5	Idadija PC		
		①-6	Gorce Petrov PC		
		①-7	Suto Orizari PC		
		①-8	MVR PC		
		①-9	Dracevo PC		
		①-10	Cento PC		
Pelagonia	Demir Hisar	②	Demir Hisar HC	9,497	29,290
Pelagonia	Krusevo	③	Krusevo HC	12,000	44,569
Pelagonia	Resen	④	Resen HC	16,916	102,820
Vardar	Negotino	⑤	Negotino HC	23,757	138,290
North East	Kratovo	⑥	Kratovo HC	10,441	47,345
South West	Makedonski Brod	⑦	Makedonski Brod HC	12,656	35,026
South West	Struga	⑧	Vevcani HC	25,000	67,300
South West	Valandovo	⑨	Valandovo HC	14,000	94,280
South West	Radovis	⑩	Radovis HC	31,128	150,000
Polog	Gostivar	⑪	Rostusa HC	12,000	47,784
East	Berovo	⑫	Berovo HC	16,100	64,213
East		⑬	Pehcevo HC	5,517	32,189
East	Vinica	⑭	Vinica HC	20,153	68,037
East	Delcevo	⑮	Delcevo HC	25,615	136,166
East	Probistip	⑯	Probistip HC	16,239	58,606
East	Sveti Nikole	⑰	Sveti Nikole HC	21,355	113,192
Total				845,082	2,317,609

This plan was drafted based on the objectives indicated below.

① Equipment was selected to provide unity to the plan as a whole, with a focus on basic equipment used in the 5 major examination and treatment services provided by the 17 targeted HC (general diagnostic functions, treatment of pediatric illness, basic diagnosis of adult diseases, emergency services, and sterilization functions).

② The specifications of the equipment to be procured were designated to provide equipment suited to the medical technology level of the medical personnel using the

equipment, and to the number of diagnoses, tests, and other functions of patient demand.

③ To avoid imposition of excessive financial and administrative burdens, the equipment plan took into account the challenging financial and administrative conditions in Macedonia, the operational status of each HC, and operation and maintenance budgets.

Based on these considerations, the equipment to be procured in this plan is as follows.

Functions	Equipment designated for procurement
General diagnosis	General X-ray apparatus, General X-ray apparatus and Fluoroscopy apparatus, X-ray protection apron, X-ray film viewer, Chemical analyzer, Blood cell counter, Binocular microscope, Centrifuge, Pharmaceutical refrigerator
Treatment of pediatric illnesses	Dental X-ray apparatus (Intra-oral), Dental unit, Dental X-ray apparatus (Panorama), Otoscope set, Aspirator, Ultrasonic nebulizer
Basic diagnosis of adult illnesses	Mammography apparatus, Colposcope, Ultrasound apparatus, ECG apparatus
Emergency services	Resuscitation set
Sterilizations	Autoclave (Table top)

Based on the foregoing, the project is estimated to take 13 months to implement, and involve a total expenditure of ¥804 million in total (consisting of ¥792 million to be borne by Japan and ¥12.387 million to be borne by Macedonia.

The following effects are expected to result from the implementation of this project:

1) Direct effects

① Implementation of the plan will result in recovery of primary level public health care service functions provided by each targeted HC, allow more accurate diagnosis, and improve both the quality and quantity of primary level health care services in each administrative unit.

② Recovery of various diagnostic functions resulting from implementation of the plan will allow accurate diagnosis and receipt of treatment at targeted HC in each region and will also alleviate physical and economic burdens from causes previously faced by the local population, including a lack of nearby trustworthy facilities.

2) Indirect effects

Procurement of equipment under the plan will serve as a compendium of assistance previously provided by Japan to secondary and tertiary medical facilities and

contribute to enhancement of the medical referral system in Macedonia

Each of the foregoing anticipated effects will play a major role in strengthening the HCs that provide primary-level diagnosis for cardiovascular diseases and malignant neoplasms, which account for 60% of all deaths in Macedonia. The direct benefit target encompasses approximately 840,000 residents (approximately 42% of total population) in the Macedonian capital of Skopje and its general environs.

The share of total annual expenditures occupied by consumables needed for the medical equipment to be procured under this plan ranges from 1.5% to 6.0% at the individual HCs, and the analogous figures for replacement parts are 0.03% to 0.56%. The results of on-site surveys showed that budgets for consumables and replacement parts at the individual HCs are on average 18% of total expenditures, and because the equipment to be procured under this plan will also update the basic diagnostic equipment in current use, these costs are substantially within a range fully supportable by current budgets. Procurement of the equipment will also increase the growing numbers of diagnoses and tests, and this development will in turn increase insurance revenues and is anticipated to improve financial conditions.

(Unit:Dinar)

NO.	HC	2003	Annual consumables expenditure		Annual Spare parts expenditure	
		Expenditure	Consumables	%	Spare parts	%
①	Skopje	1,997,289,000	64,680,073	3.2%	623,740	0.03%
②	Demir Hisar	43,216,377	2,586,413	6.0%	111,580	0.26%
③	Krusevo	44,140,882	2,670,517	6.0%	198,380	0.45%
④	Resen	87,056,328	1,415,540	1.6%	111,580	0.13%
⑤	Negotino	92,425,640	3,213,863	3.5%	198,380	0.21%
⑥	Kuratovo	39,230,332	1,070,272	2.7%	198,380	0.51%
⑦	Makedonski Brod	35,174,544	1,159,842	3.3%	198,380	0.56%
⑧	Vevcani	53,753,968	3,023,313	5.6%	198,380	0.37%
⑨	Valandovo	62,265,500	2,078,730	3.3%	198,380	0.32%
⑩	Radovis	79,671,206	3,210,090	4.0%	198,380	0.25%
⑪	Rostusa	26,770,179	672,665	2.5%	111,580	0.42%
⑫	Berovo	51,348,759	2,017,250	3.9%	198,380	0.39%
⑬	Pehcevo	28,125,563	1,238,563	4.4%	111,580	0.40%
⑭	Vinica	60,106,270	1,796,280	3.0%	198,380	0.33%
⑮	Delcevo	102,970,646	5,497,830	5.3%	198,380	0.19%
⑯	Probistip	52,100,762	1,341,887	2.6%	198,380	0.39%
⑰	Sveti Nikole	73,432,489	2,591,187	3.5%	198,380	0.27%

Based on the survey results discussed above, we believe that this plan is a valid assistance initiative for Japanese capital grant assistance.

Finally, smooth implementation of the plan and effective and sustained use of the equipment procured requires consideration of the following several points.

The issues and proposals to be considered by Macedonia are the following.

① Further improvement of medical facility operation in a market economy

Privatization of pharmacy, dentistry, and some other functions and other transition to a market economy is underway at the HC targeted by this plan. However, personnel levels remain high at some HC, and various improvements are needed in the interest of greater efficiency in facilities management, including redeployment of human resources, development of financial control systems, and enhancement of patient services.

② Reconstruction of the medical referral system

The preparation of primary level HC achieved by implementation of Phase 1 and Phase 2 of this plan may bring about a shift to emphasis on primary health care in other former socialist countries. However, further reconfiguration for appropriate scales is desirable, including changes at the secondary and tertiary levels, where the number of personnel and beds remains high.

BASIC DESIGN STUDY ON THE PROJECT

FOR

IMPROVEMENT OF THE MEDICAL EQUIPMENT FOR PRIMARY HEALTH CARE SERVICES IN THE LOCAL AREAS

IN

FORMER YUGOSLAV REPUBLIC OF MACEDONIA

CONTENTS

【Appendices】

Chapter 1 Background of the Project

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In the 30 years from 1971 to 2001, the structure of causes of death among the people of Macedonia has changed greatly, with the number of deaths from infectious disease, respiratory disease, and other such causes decreasing, and the number of deaths from cardiovascular disease and malignant neoplasms rising. The rates of death from respiratory and infectious disease at the start of the 1970s were respectively 12% and 9%, but in 2001, these rates had dropped to 3% and 0.9%. Concurrently, as the population aged, deaths from heart disease, cancer and other such causes doubled, and cardiovascular disease and malignant neoplasms now account for more than 60% of national causes of death. Overall trends in deaths and illness relating to respiratory disease, cardiovascular disease, and malignant neoplasms are understood to reflect the aging of the population with particular clarity.

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consideration, ascertain details of the request, and gather information on related assistance activities by other donors and the national plans of Macedonia. The results of the study showed that deterioration of the equipment at each health center was severe and much of the equipment was inoperable, demonstrating clear impediments to the delivery of primary level public health care services.

On this basis, the Japanese government decided to pursue a basic design study in response to the request of the Macedonian government and sent a basic design study team to the country from July 25 to August 26, 2005. An explanation of the draft basic design was then provided on-site from November 6 to November 19, 2005, based on work completed in Japan after the return of the design study team.

The results of the preliminary study and basic design study affirmed a decision to target 17 health centers for assistance in Phase 1 of the plan, omitting only 1 health center which had been privatized. The goal of the plan was to strengthen primary level health care services by procuring the equipment needed for each health center to provide adult, obstetric, pediatric, and emergency diagnosis and treatment.

Chapter 2 Contents of the Project

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2-1 Basic Concept of the Project

The primary heath care services of the HC are general treatment in internal medicine, pediatrics, obstetrics and gynecology, and dentistry, and centers also perform diagnosis and treatment of injuries and illness, preventive care, and health education. One distinctive feature of the former Yugoslav Republics is the existence of an emergency medical services function. In response to emergency calls 149 (119 in Japan) in the area served, HC dispatch ambulances staffed by doctors and nurses and transport emergency patients, including car accident victims, to HC for day care, or to other specialized hospitals depending on patient condition.

Improvement of these health care activities of HC, in other words, improvement of primary health care services in Macedonia, is an extremely important issue both from the standpoint of alleviating the public burden of illness and to achieve greater cost efficiency in health care finance.
Accordingly, the intent of this plan is to strengthen primary health care services by procurement of basic equipment for HC located in the capital and regional cities of Macedonia.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

(1) Basic Policy

This plan is based on information including usage of the equipment procured in Phase 1 and the results from local surveys of the currently targeted HC and is a plan for procurement of basic equipment needed to strengthen the major health care services of HC. The equipment requested by Macedonia was generally the same as that in Phase 1, but the local surveys were carried out to once again determine and understand factors such as conditions at the 17 HC, the locality, and the availability of any other donor assistance.

As a result, though conditions at the 17 HC targeted differ, this plan serves to establish an equipment plan providing uniformity as an overall plan and serves as a general plan for improvement of the basic equipment used in the principal medical services provided by the HC, in particular, general diagnostic functions, treatment of pediatric illnesses, basic diagnosis of adult illnesses, and emergency services.

(2) Consideration of Natural Environmental Conditions

The HC targeted in this plan include facilities located in mountainous regions. There is snowfall in Macedonia from late December until late March, and roads in the mountainous regions are particularly narrow and steep and are not suitable for transport of heavy items by large truck during winter. Consequently, the implementation schedule was designed to avoid transport and installation of procured equipment during winter.

(3) Consideration of Socioeconomic Conditions

The medical revenue of HC in Macedonia differs in the various regions, but 70-80% or more is refunded by the Health Insurance Fund (HIF), with the amount calculated according to the number of treated patients who subscribe to the health insurance and the number of physicians under contract as family doctors. However, it is sometimes the case that expenditures exceeded revenue at HC with a high number of medical personnel and high wage rates. As a result, some HC find themselves under straitened financial operations, including lateness in payments to vendors of consumables and other such items. Moreover, administrative restructuring beginning in July, 2005 placed HC under jurisdiction of local governments, and the responsibility for appointment of HC Board of Director members and distribution of funds has been transferred from the Ministry of Health to the local governments. As a result, the equipment designated for procurement under this plan is equipment that will be covered by the existing maintenance and operation budget and will not greatly increase maintenance and operating expenses.

(4) Consideration of Procurement

In accordance with the scheme of the Japanese grant aid initiative, products made in the targeted country and Japanese-made products are in principle designated as equipment for procurement. However, because there are no manufacturers of medical equipment in Macedonia, the designated products are in principle Japanese-made. Even Japanese equipment requiring maintenance and management by an agent cannot be designated if it is a product of a manufacturer with no agent either in Macedonia or the neighboring Republic of Serbia. In such instances, equipment is selected from third-country products for which there is an agent in Macedonia or the Republic of Serbia and for which the manufacturer can also provide reliable maintenance service and a stable supply of replacement parts and consumable items.

(5) Management and Maintenance Capabilities of the Executing Agency

The equipment designated for procurement under this plan is basic medical equipment currently existing and in use, and there are no problems with usage of the procured equipment by the medical personnel at the HC. However, to prevent failures caused by early malfunction of equipment just procured, and to ensure the longest possible use of the equipment, users of the equipment at each HC are trained not only in usage when the procured equipment is installed; they are also trained in routine inspection, and they are retrained (approximately one week after the initial training in operation).

(6) Grades and Specifications of the Equipment

The existing equipment at the various HC was most often manufactured in the late 1980s and early 1990s, and its deterioration is severe. Under these circumstances, in order to allow operation by the medical personnel at each HC without problems, the specifications designated by this plan identify the most severely deteriorated basic equipment and provide specifications nearly the same as those of the existing equipment. Because the cutoff for requests in the next fiscal year budget of each HC is August (fiscal year January-December), apart from some perishable reagents, the consumable items needed with the equipment designated for procurement include a six-month

component for June-December, 2007, the period beginning with the month of anticipated completion of this plan.

(7)Implementation Schedule
This plan is implemented in annual units. Based on the environmental conditions of Macedonia in winter, as described above, the plan also adopts a procurement process avoiding overland transport and transport to facilities during winter.

2-2-2 Basic Plan (Equipment Plan)

As shown in Table 1, this plan targets the Skopje HC and 16 regional HC, a total of 17 HC. The Skopje HC is located in the capital city of Skopje, comprises the ten polyclinics (PC) ①-1 through ①-10 indicated below, and serves a population of approximately 570,000. The 16 regional HC are each responsible for local regions with populations of approximately 2,000 to 25,000, and the population they serve is approximately 270,000, totally approximately 840,000.

Table 2-1 Project sites

No.	Region	Center	No.	Region	Center
①-1	Skopje	Bit Pazar	⑤	Vardar	Negotino
①-2	Skopje	Cair	⑥	Northwest	Kuratovo
①-3	Skopje	Jane Sandanski	⑦	Southwest	Makedonski Brod
①-4	Skopje	Bukurest	⑧	Southwest	Vevcani
①-5	Skopje	Idadija	⑨	Southwest	Valandovo
①-6	Skopje	Gjorce Petrov	⑩	Southwest	Radovis
①-7	Skopje	Suto Orizari	⑪	Polog	Rostusa
①-8	Skopje	MVR	⑫	East	Berovo
①-9	Skopje	Dracevo	⑬	East	Pehcevo
①-10	Skopje	Chento	⑭	East	Vinica
②	Pelagonia	Demir Hisar	⑮	East	Delcevo
③	Pelagonia	Krusevo	⑯	East	Probistip
④	Pelagonia	Resen	⑰	East	Sveti Nikole

The initial request targeted only PC ①-1 through ①-5 of the Skopje HC shown in Table 1, but after on-site consultation, a procurement request was made for 1 ECG apparatus at each of the other five PC located in Skopje, ①-6 through ①-10.

In accordance with this request and the results of facilities surveys carried out at the Gjorce Petrov PC ①-6 (West Skopje), Suto Orizari PC ①-7 (North Skopje), MVR PC ①-8 (heavily populated central area), Dracevo PC ①-9 (South Skopje), and Chento PC ①-10 (East Skopje), the current plan grew to encompass the entire city of Skopje, including these five PC. Given that this equipment is for diagnosis of cardiovascular disease, which carries the highest death rate in Macedonia, the additionally requested ECG apparatus was judged to contribute to the strengthening of primary health care services, and a decision was taken to include the aforementioned five PC ①-6 through ①-10 in this plan.

As described above, the basic design for this plan involved a survey of the current condition of equipment procured for HC in Phase 1, consultations with the Macedonian Ministry of Health and the directors of all 17 HC, and a survey of the current condition of existing equipment at each of these HC. The results led to a determination that the requested equipment was basic equipment used in the principal medical services of the HC, and that implementation of this plan would strengthen each of the functions indicated below and contribute to an improvement in primary health care services. Table 2-2 shows the results of the examinations for various equipment.

A.	General diagnostic	Basic x-ray diagnosis and clinical screening
B.	Treatment of pediatric illnesses	Treatment of general respiratory illnesses, preventive dental treatment
C.	Basic diagnosis of adult illnesses	Early diagnosis of heart disease, breast cancer, etc.
D.	Emergency services	Transport of emergency patients, emergency treatment
E.	Sterilization	Introduction of autoclaves

Table 2-2 Examination results

Equipment	Examination	Results
General X-ray apparatus	Basic equipment required to enhance general diagnostic functions under A. Nearly all existing equipment at each HC has served 15-20 years since procurement, many units do not produce clear images and normal data, and accurate diagnosis is not possible.	Equipment designated for procurement
Fluoroscopy apparatus		
X-ray protection apron		
X-ray film processor		
X-ray film viewer		
Chemical analyzer		
Blood cell counter		
Binocular microscope		
Centrifuge		
Pharmaceutical refrigerator		
Distilater	Much of the original equipment procured in Phase 1 experienced heater failure due to hard water. Pharmacies in the HC currently targeted also have the same equipment, and the issue can be addressed by sharing the existing equipment. Shortages are deemed to be remediable by parts procurement or other such maintenance and management, and by independent purchase of parts from surrounding countries.	Deleted
Spirometer	Equipment procured in Phase 1, but use in the targeted HC is low	Deleted
Defibrillator		
Stretcher	The buildings in each HC include facilities containing numerous stairways and no elevators, and this equipment was deemed unusable.	Deleted
Instrument cabinet	Many units present as existing equipment, and equipment can be purchased independently	Deleted
Instrument for minor surgery		
Examination light		

Equipment	Examination	Results
Dental X-ray apparatus (Inter-oral)	Essential basic equipment to strengthen "B. Treatment of pediatric illnesses", particularly in preventive dentistry for schoolchildren. Otoscope and equipment listed below also essential in treatment of children. The majority of existing equipment at each HC has served 15-20 years since procurement.	Equipment designated for procurement
Dental unit		
Dental X-ray apparatus (Panorama)		
Otoscope set		
Aspirator		
Ultrasonic nebulizer		
Laryngoscope	Existing equipment at each HC and can also be purchased independently.	Deleted
Mammography apparatus	Essential equipment for "C. Basic diagnosis of adult illnesses", particularly diagnosis of breast cancer. The majority of existing equipment has served 10-15 years since procurement.	Equipment designated for procurement
Coloposcope	Essential equipment for "C. Basic diagnosis of adult illnesses", particularly diagnosis of OB/GYN illness. The majority of existing equipment has served 10-15 years since procurement.	Equipment designated for procurement
Ultrasound apparatus	Essential equipment for "C. Basic diagnosis of adult illnesses", particularly diagnosis of cardiovascular disease and OB/GYN illness. The majority of existing equipment has served 10 years or more since procurement.	Equipment designated for procurement
ECG apparatus	Essential equipment for "C. Basic diagnosis of adult illnesses", particularly diagnosis of cardiovascular disease. The majority of existing equipment has served 15-20 years since procurement.	Equipment designated for procurement
OB/GYN examination table	New equipment procured through UNICEF assistance	Deleted
OB/GYN basic instrument set		
Resuscitation set	Initially no request made, but equipment is necessary for outfitting of ambulances (following item) and saving severely ill patients.	Equipment designated for procurement
Ambulance vehicle	Essential equipment to strengthen function of "D. Emergency services". Existing vehicles have served 10-15 years since procurement, and kilometerage of many vehicles also exceeds 100,000km.	Equipment designated for procurement
Hot air sterilizer	Many units present as existing equipment.	Deleted
Autoclave (Table top)	Serves to strengthens "E. Sterilization functions" in that autoclaves are procured in lieu of hot air sterilizers (previous item) and can also address rubber and other such items not sterilizable in hot air sterilizer.	Equipment designated for procurement

Based on the foregoing results, we investigated procurement destinations by individual diagnostic function.

A. General diagnostic functions

1)X-ray apparatus

The equipment requested in this plan is general x-ray apparatus used as basic equipment for general diagnosis in the thoracic and abdominal regions and for multipurpose X-ray diagnosis in the field of orthopedics. The equipment also includes fluoroscopy apparatus used for gastrointestinal visualization.

Apart from German equipment at the Kuratovo HC, most of the existing X-ray apparatus at other HC was produced from the late 1980s to early 1990, and all of this apparatus was produced in the former Yugoslavia (currently Republic of Serbia); the resolution of exposed films is extremely poor and does not allow accurate diagnosis.

Thus, procurement of general X-ray apparatus units X-ray fluoroscopy units is as shown in Table2-3 below.

This plan includes a total of 5 general X-ray apparatus units for the Skopje HC, one for each of 5 PC determined in a July 2004 preliminary study of the 10 targeted PC, based on the location and functions of each PC. One fluoroscopy apparatus is also planned for the Bit Pazar PC in an effort to strengthen the overall functions of the Skopje HC through sharing of equipment.

The 16 regional HC were also investigated with regard to the state of existing equipment and the presence of specialists. Based on this information, plans call for procurement of a total of 16 additional general X-ray apparatus units, 1 for each HC. Procurement of a total of 12 fluoroscopy units is also planned, 1 for each of 12 HC, but none for 4 HC where there is no existing equipment and no specialist. Additionally, based on the status of radiation rooms at each HC, the equipment to be procured is either a "Type A" general X-ray/fluoroscopy apparatus that shares an X-ray generator with the general X-ray apparatus to be procured for each PC, or a "Type B" unit used separately. Thus, plans call for procurement of a total of 8 general X-ray apparatus units and a total of 13 fluoroscopy apparatus units

Table 2-3 X-ray apparatus

No.	HC	General X-ray apparatus	General X-ray apparatus and Fluoroscopy apparatus A	General X-ray apparatus and Fluoroscopy apparatus B
①	Skopje	4		1
②	Demir Hisar	1		
③	Krusevo		1	
④	Resen	1		
⑤	Negotino			1
⑥	Kuratovo		1	
⑦	Makedonski Brod		1	
⑧	Vevcani		1	
⑨	Valandovo		1	
⑩	Radovis		1	
⑪	Rostusa	1		
⑫	Berovo		1	
⑬	Pehcevo	1		
⑭	Vinica		1	
⑮	Delcevo		1	
⑯	Probistip		1	
⑰	Sveti Nikole		1	
Total		8	11	2

2) Laboratory equipment

Laboratory equipment planned for procurement includes chemical analyzers, blood cell counters, binocular microscopes, centrifuges, and pharmaceutical refrigerators. Each HC carries out general biochemical testing of blood, urine, and other such materials, but apart from the Kuratovo HC, which has privately purchased equipment, most of the existing analytical instruments have served 10 or more years since procurement and do not allow measurement of accurate clinical data.

Consequently, plans call for procurement of a total of three chemical analyzers, one for each of three PC in the Skopje HC, to exclude the Cair PC and the Idadija PC; and a total of 15 blood cell counters, one in the Bit Pazar PC, and one unit in each of the other PC, excluding the Kuratovo HC, which has new equipment.

Planned procurement of binocular microscopes includes a total of 26 units, 10 for the Skopje HC, which performs many tests; specifically, two units in each of five PC (①-1 through ①-5), and one unit each in 16 regional HC. Planned procurement of centrifuges and pharmaceutical refrigerators includes a total of 21 units for five PC in the Skopje HC, and one unit each for 16 regional HC.

Microbiology equipment requested by some HC pertains to testing in a field under jurisdiction of the Ministry of Health, is outside the control of HC, and was therefore excluded from this plan.

Table 2-4 Laboratory equipment

No.	HC	Chemical analyzer	Blood cell counter	Binocular microscope	Centrifuge	Pharmaceutical refrigerator
①	Skopje	3	1	10	5	5
②	Demir Hisar	1	1	1	1	1
③	Krusevo	1	1	1	1	1
④	Resen	1	1	1	1	1
⑤	Negotino	1	1	1	1	1
⑥	Kuratovo		1	1	1	1
⑦	Makedonski Brod	1	1	1	1	1
⑧	Vevcani	1	1	1	1	1
⑨	Valandovo	1	1	1	1	1
⑩	Radovis	1	1	1	1	1
⑪	Rostusa	1	1	1	1	1
⑫	Berovo	1	1	1	1	1
⑬	Pehcevo	1	1	1	1	1
⑭	Vinica	1	1	1	1	1
⑮	Delcevo	1	1	1	1	1
⑯	Probistip	1	1	1	1	1
⑰	Sveti Nikole	1	1	1	1	1
Total		18	17	26	21	21

B. Strengthening treatment of pediatric illnesses

Preventive dentistry for schoolchildren in Macedonia is administered by each HC. However, the existing dental units and dental X-ray apparatus units (inter-oral) in the HC were produced in the former Yugoslavia (current Republic of Serbia) in the 1980s, and their deterioration is severe. Aspirators, ultrasonic nebulizers, otoscope sets, and other basic equipment needed for pediatric care is also severely deteriorated and even unusable in some HC.

Consequently this plan includes procurement of four dental units and dental X-ray apparatus units (inter-oral) for the Skopje HC, specifically, one unit for each of four PC, excluding the Bit Pazar PC, which has existing equipment, and 16 additional units, one for each of 16 regional HC.

Procurement of a total of two dental X-ray apparatus units (panorama) is also planned for the Bit Pazar PC and the Vevcani PC in the Skopje HC, where the existing equipment is severely deteriorated.

Procurement of 16 aspirators and 16 otoscope sets is also planned, one unit and one set respectively for each of 16 regional HC, excluding the Skopje HC, and procurement of a total of 21 ultrasound analyzers is planned for the Skopje HC and for 16 regional HC.

C. Strengthening basic diagnosis of adult illnesses

This plan also includes procurement of ECG apparatus units, ultrasound apparatus B units, mammography apparatus units, ultrasound apparatus A units, and coloposcopes, all of which is regarded as equipment needed for basic diagnosis of diseases such as cancer and cardiovascular disease, the latter of which carries the highest death rate among adult diseases in Macedonia.

All HC have an ECG apparatus, but most of this equipment has served more than 10 years since procurement, and some HC have too few units to meet their diagnostic requirements. Consequently, this plan includes procurement of a total of 22 ECG units: one unit for each of the 10 PC of the Skopje HC, and 12 units for regional HC, excluding the Negotino, Berovo, Pehcevo, and Delcevo HC.

Most of the ultrasound apparatus equipment was manufactured from the late 1980s to early 1990, and the probes in much of this equipment have malfunctioned. This plan includes procurement of two ultrasound apparatus B units (with three types of probe: linear, convex, and microconvex), one each for the Jane Sandanski PC and the Bukurest PC of the Skopje HC. Procurement of a total of five units is also planned, one unit each for the Krusevo, Resen, Negotino, Kuratovo, and Delcevo HC, where the existing equipment is severely deteriorated.

Table 2-5 Circulatory disease equipment

No.	HC	ECG apparatus	Ultrasound apparatus B
①	Skopje	10	2
②	Demir Hisar	1	
③	Krusevo	1	1
④	Resen	1	1
⑤	Negotino		1
⑥	Kuratovo	1	1
⑦	Makedonski Brod	1	
⑧	Vevcani	1	
⑨	Valandovo	1	
⑩	Radovis	1	
⑪	Rostusa	1	
⑫	Berovo		
⑬	Pehcevo		
⑭	Vinica	1	
⑮	Delcevo		1
⑯	Probistip	1	
⑰	Sveti Nikole	1	
Total		18	7

Procurement of a total of five mammography apparatus units allowing x-ray diagnosis of breast cancer is planned: one unit for the Bit Pazar PC of the Skopje HC, and one unit in each of four area centers where area-wide sharing with regional HC is envisioned.

Procurement of five ultrasound apparatus A units for OB/GYN use (with three types of probes: linear, convex, and transvaginal) is also planned: one unit for each of the five PC of the Skopje HC, and procurement of 15 additional units is planned: one unit for each of 15 regional HC, excluding the Sveti Nikole HC, which has two ultrasound apparatus units procured in 2000.

In coloposcopes used for diagnosis of uterine cervical lesions, the light source in the equipment at some regional HC has deteriorated, and procurement of a total of eight units is planned, one unit at each of eight HC where observation with the existing equipment is difficult.

Table 2-6 OB/GYN equipment

No.	HC	Mammography apparatus	Ultrasound apparatus A	Coloposcope
①	Skopje	1	5	
②	Demir Hisar		1	1
③	Krusevo		1	1
④	Resen	1	1	
⑤	Negotino	1	1	1
⑥	Kuratovo	1	1	1
⑦	Makedonski Brod		1	
⑧	Vevcani	1	1	1
⑨	Valandovo		1	
⑩	Radovis		1	1
⑪	Rostusa		1	
⑫	Berovo		1	
⑬	Pehcevo		1	1
⑭	Vinica		1	1
⑮	Delcevo		1	
⑯	Probistip		1	
⑰	Sveti Nikole			
Total		5	20	8

D. Strengthening of Emergency Services

Emergency medical services in Macedonia are an important health care service provided by HC and are not controlled by fire stations, as in the Japanese prefectural system. Emergency number 149 (119 in Japan) makes a direct connection to the emergency department of each regional HC, and an emergency vehicle staffed by physicians and nurses is dispatched from the respective HC. Responses handled also include highway traffic accidents.

Procurement requests for emergency vehicles were received from all 17 HC, and the results from a survey of the condition of existing emergency vehicles and the number of dispatches at all 17 HC were as follows. Table 2-7 also presents 2004 data for each of the 17 HC on service area population, number of existing emergency vehicles, mean annual travel distance, and number of emergency vehicle dispatches.

Table 2-7 Emergency vehicles (2004)

No.	HC	Service area population	No. vehicles (*1)	No. dispatches	Population/ vehicle	Mean annual travel distance of emergency vehicles (*2)	N. dispatches/ vehicle/day
①	Skopje	578,144	12	33,012	48,178	19,700km	7.5
②	Demir Hisar	9,497	2	2,348	4,748	20,000km	3.5
③	Krusevo	11,812	3	2,550	3,937	14,700km	0.9
④	Resen	16,825	4	6,700	4,206	29,200km	4.6
⑤	Negotino	23,757	2	560	11,878	26,500km	0.7
⑥	Kuratovo	10,441	2	884	5,220	35,000km	1.2
⑦	Makedonski Brod	11,686	2	5,220	8,453	8,000km	4.7
⑧	Vevcani	2,433	1	1,000	2,433	3,600km	2.7
⑨	Valandovo	11,890	5	2,800	2,378	33,000km	1.5
⑩	Radovis	24,498	4	3,900	6,124	28,300km	2.6
⑪	Rostusa	9,451	2	826	4,725	12,000km	1.1
⑫	Berovo	13,941	3	1,627	4,647	18,000km	1.5
⑬	Pehcevo	5,517	3	1,156	1,839	32,000km	1.1
⑭	Vinica	17,914	2	2,500	8,957	30,000km	3.4
⑮	Delcevo	17,505	3	2,028	5,835	22,700km	1.8
⑯	Probistip	12,765	3	4,152	4,255	20,200km	3.7
⑰	Sveti Nikole	18,497	3	4,932	6,165	46,300km	4.5
Total & Average		796,391	56	74,507	14,221	23,482km	3.6
Total & Average (Except Skopje)		218,247	44	41,495	4,960	24,950km	2.6

*1: Includes vehicles with frequent breakdowns unavailable for routine use.
*2: Calculated as total travel distance of each vehicle from fiscal year procurement to August, 2005.

Based on 2004 statistics, the number of emergency vehicle dispatches from the Skopje HC (population approximately 600,000) was 33,012, resulting in the highest number of dispatches per emergency vehicle, at 7.5/day, a figure rivaling the 8.5 dispatches/day/vehicle recorded in 2004 for the 217 emergency service vehicles of Metropolitan Tokyo, with a population of approximately 12 million. Most of the emergency service vehicles of the Skopje HC are used vehicles procured with assistance from various countries, but their operating condition is better than that of vehicles of other HC, and these vehicles meet the need for emergency services.

In contrast, the 16 regional HC have had no assistance, the deterioration of emergency service vehicles from the former Yugoslavia era is severe, and these vehicles are not capable for routine use. The condition of nearly all of these emergency vehicles is inadequate for lifesaving demands, with most having served 10 years or longer since procurement (the oldest 20 years), and the kilometerage of all vehicles being 150,000km, with some vehicles having traveled 300,000 kilometers.

The deterioration of existing emergency service vehicles at 11 HC is severe, foremost among them the Krusevo HC, where the number of dispatches/vehicle/day is less than

one, as calculated from the number of emergency service vehicles and number of dispatches. At six other HC where the mean number of dispatches/day exceeds one, including the Kuratovo HC, the kilometerage on emergency service vehicles is close to 150,000km, and another 11 HC are expected to approach a similar state in the near future.

Consequently, in efforts to strengthen emergency services within the city of Skopje, this plan includes procurement of a total of three vehicles, one each at three locations of the Skopje HC, which has the largest service area population and the greatest number of dispatches. Specifically, these locations are the Bukurest PC, the Jane Sandanski PC, and the Cair PC, which have standby areas. Procurement of emergency service vehicles for the 16 regional HC has also been set at one vehicle each, with the objective of strengthening transport services for emergency patients, including arterial road and highway traffic accident victims cared for in each area.

(5) Strengthening of sterilization functions

At the outset, a hot air sterilizer was requested by all HC, but an on-site investigation found that each HC had multiple units that function, and that this equipment is currently manufactured in the former Yugoslavia states of Croatia and Serbia and is inexpensive and easy to obtain. Consequently, this plan seeks to strengthen sterilization functions, a basic part of the medical facility infrastructure, by procuring two tabletop autoclave units for each PC and HC; these units have general utility, allowing sterilization of even rubber products and the like.

2-2-3 Basic Design Drawing

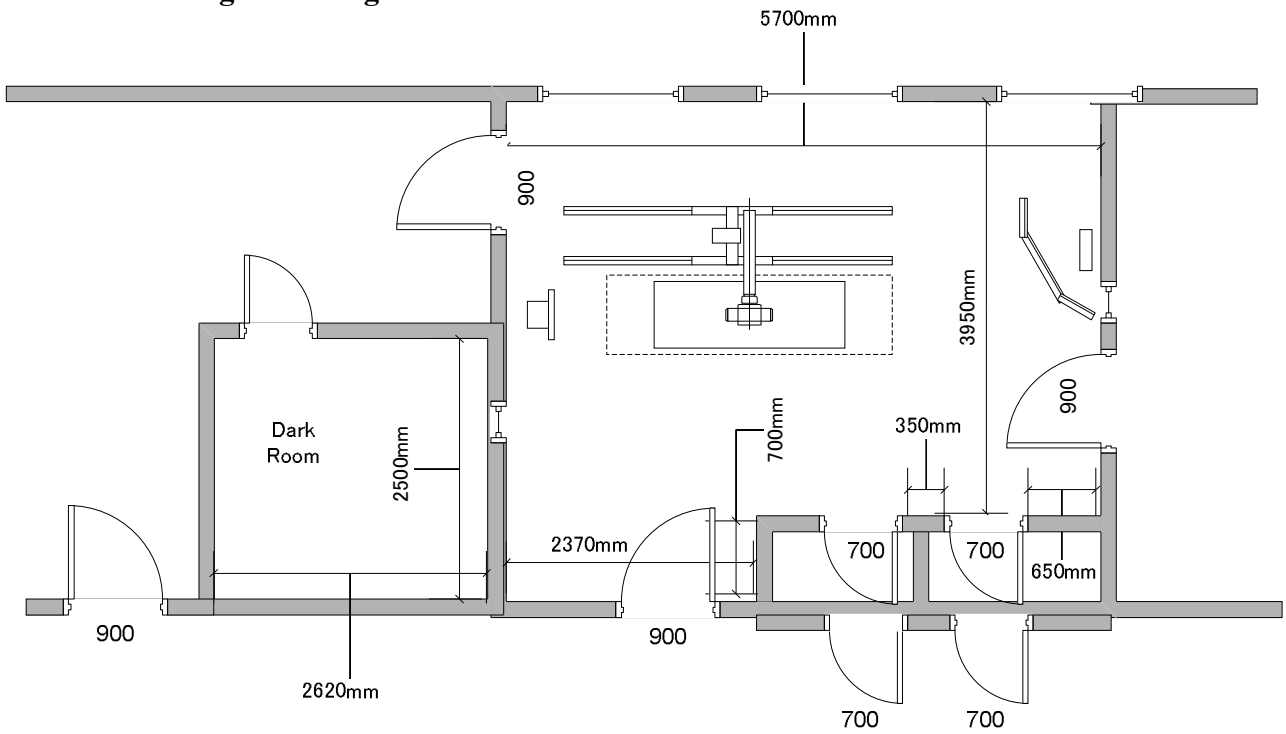


Figure 2-1 Skopje HC (Bid Pazar PC) X-ray Room 1

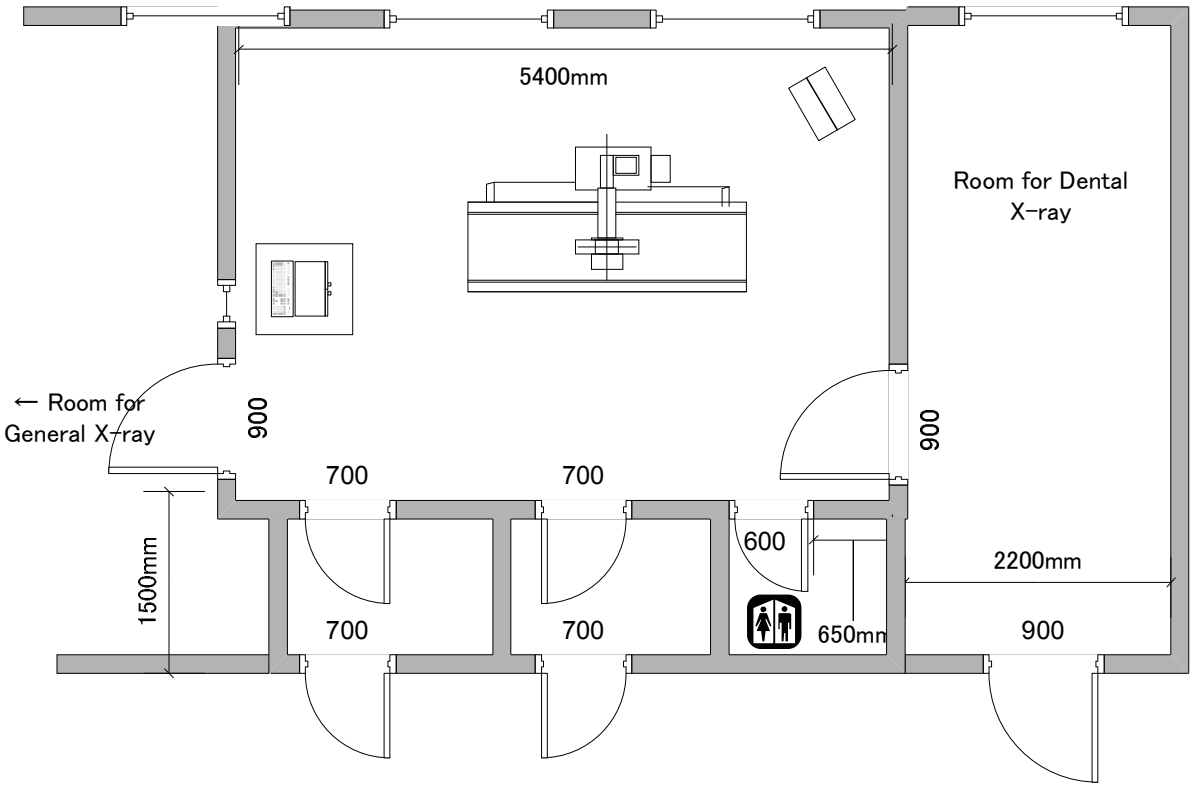


Figure 2-2 Skopje HC (Bid Pazar PC) X-ray Room 2

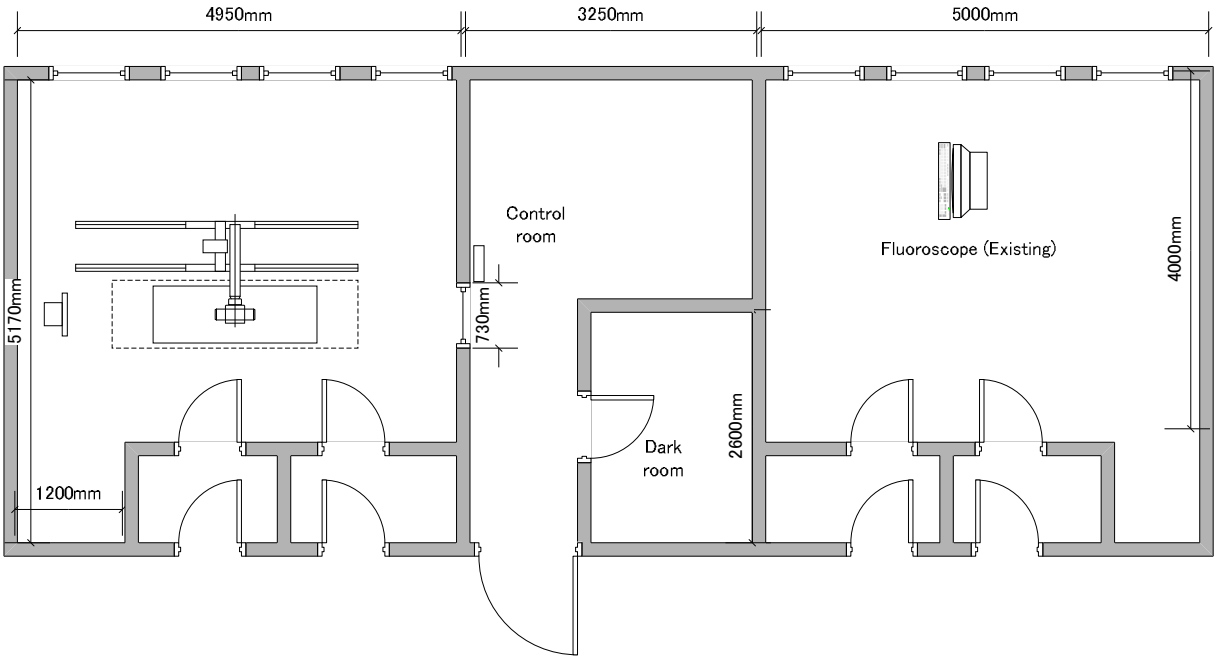


Figure 2-3 Skopje HC (Cair PC) X-ray Room

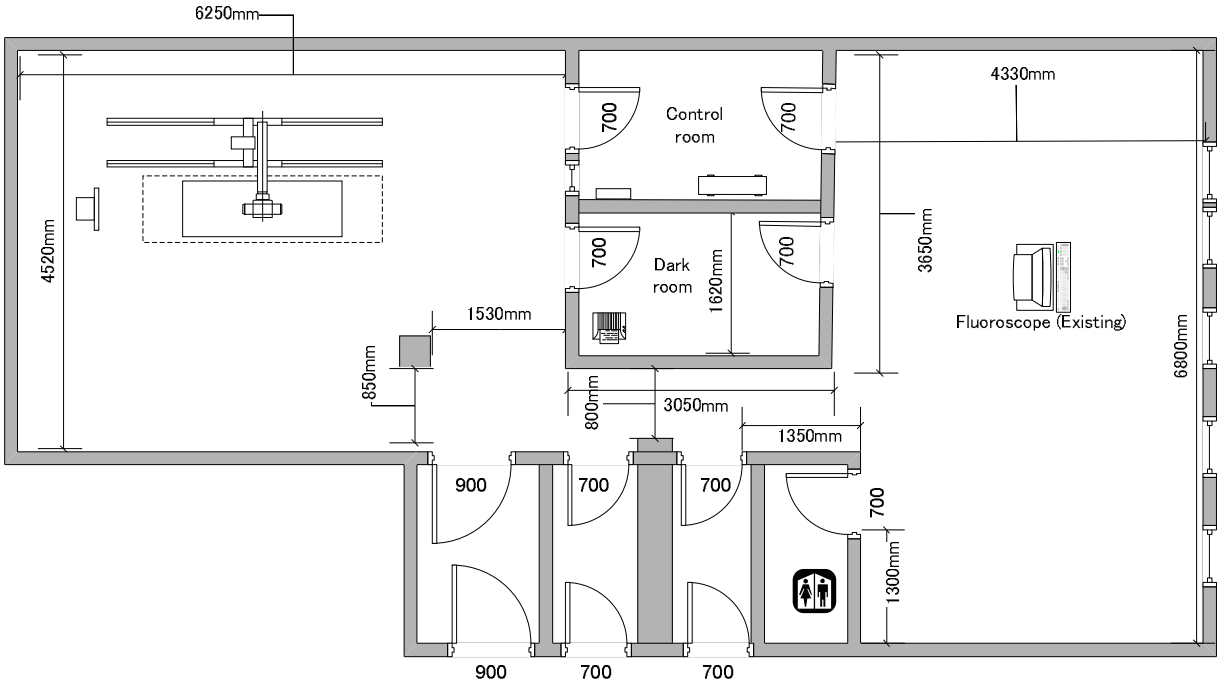


Figure 2-4 Skopje HC (Jane Sandanski PC) X-ray Room

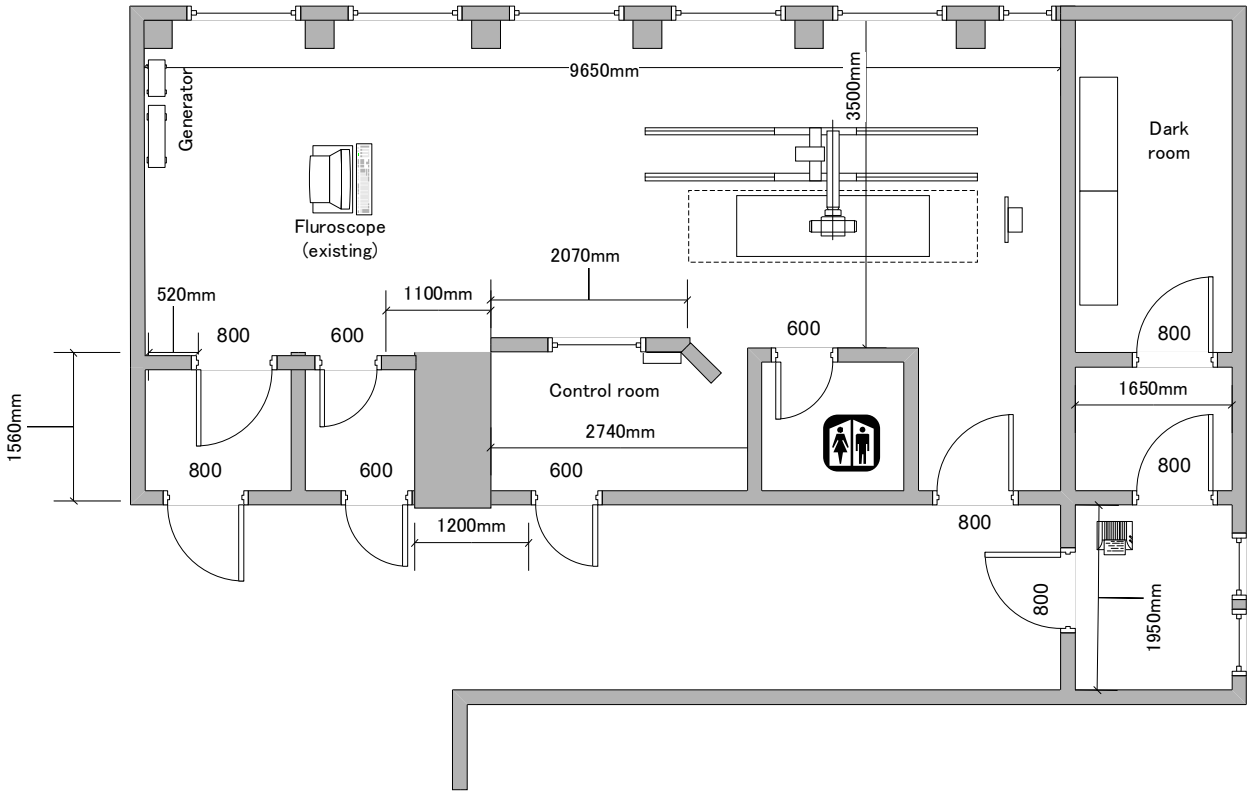


Figure 2-5 Skopje HC (Bukurest PC) X-ray Room

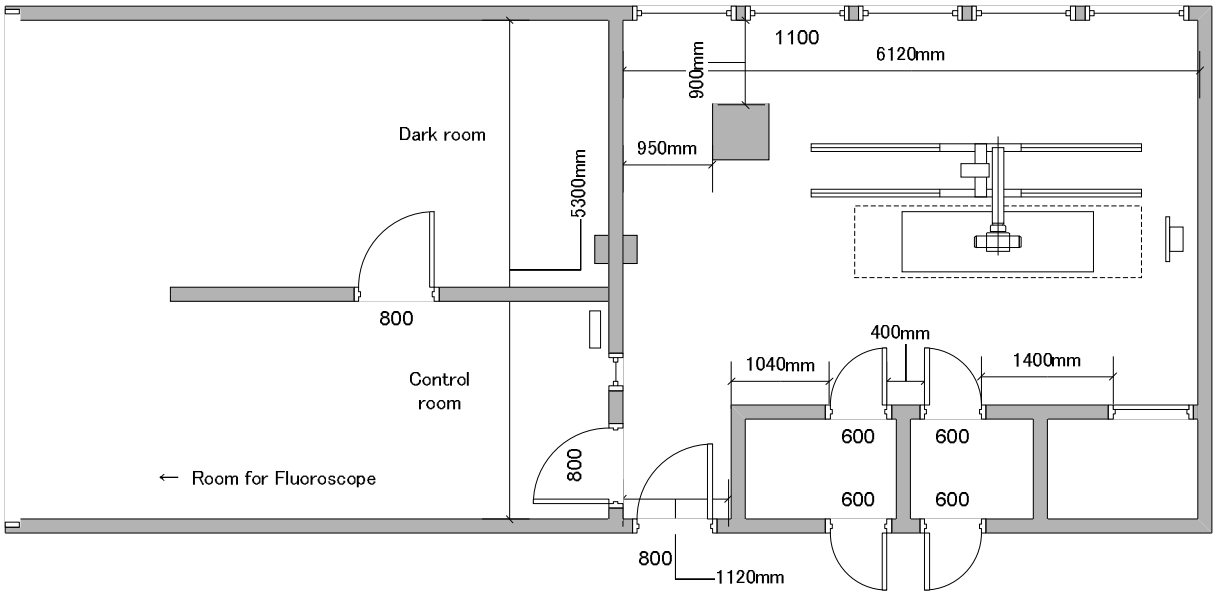


Figure 2-6 Skopje HC (Idadija PC) X-ray Room

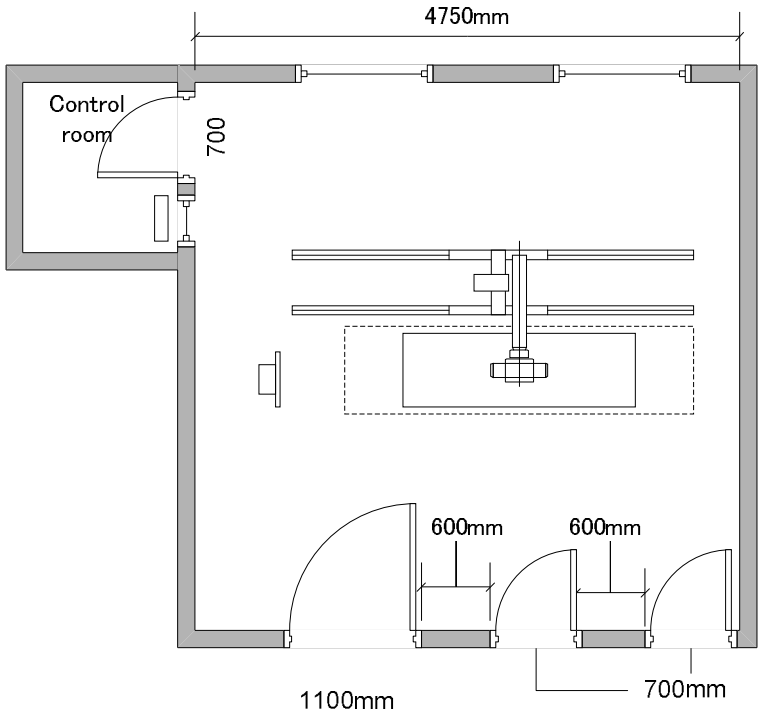


Figure 2-7 Demir Hisar HC/X-ray Room

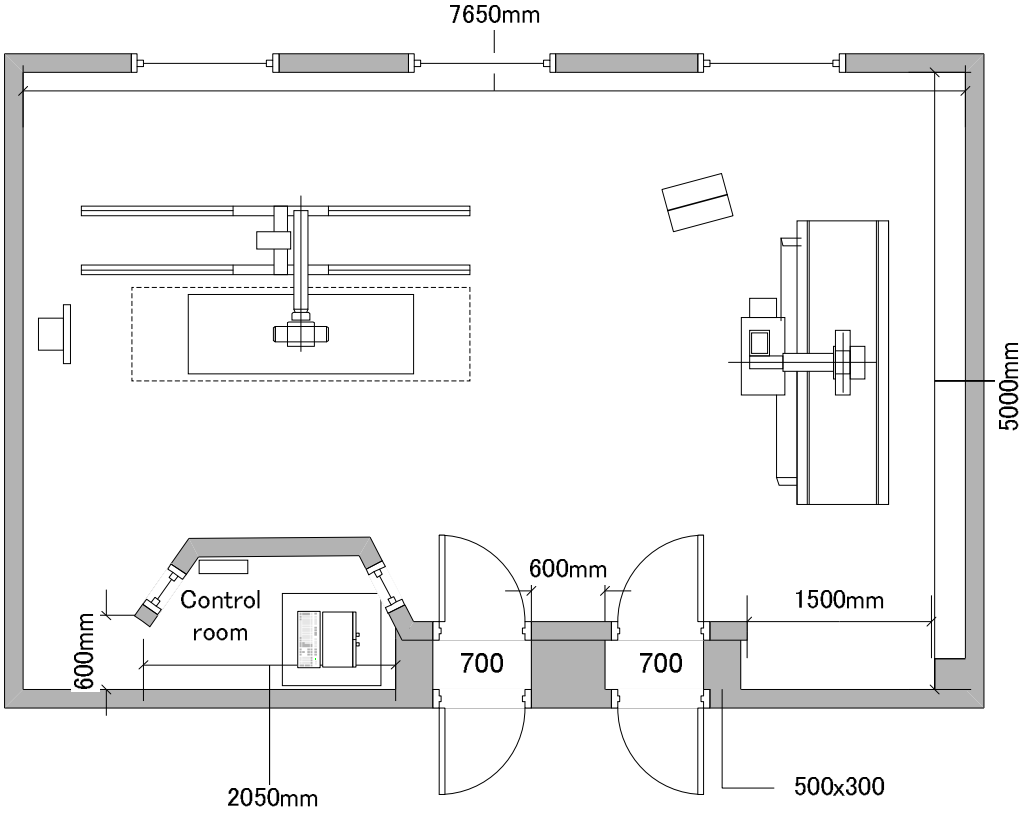


Figure 2-8 Kurusevo HC/X-ray Room

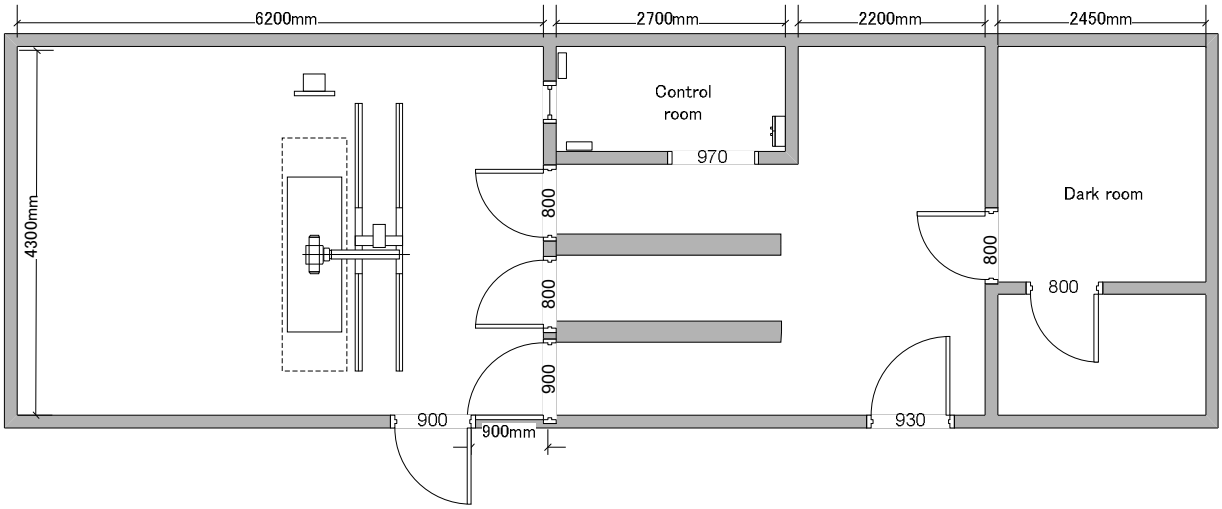


Figure 2-9 Resen HC/X-ray Room

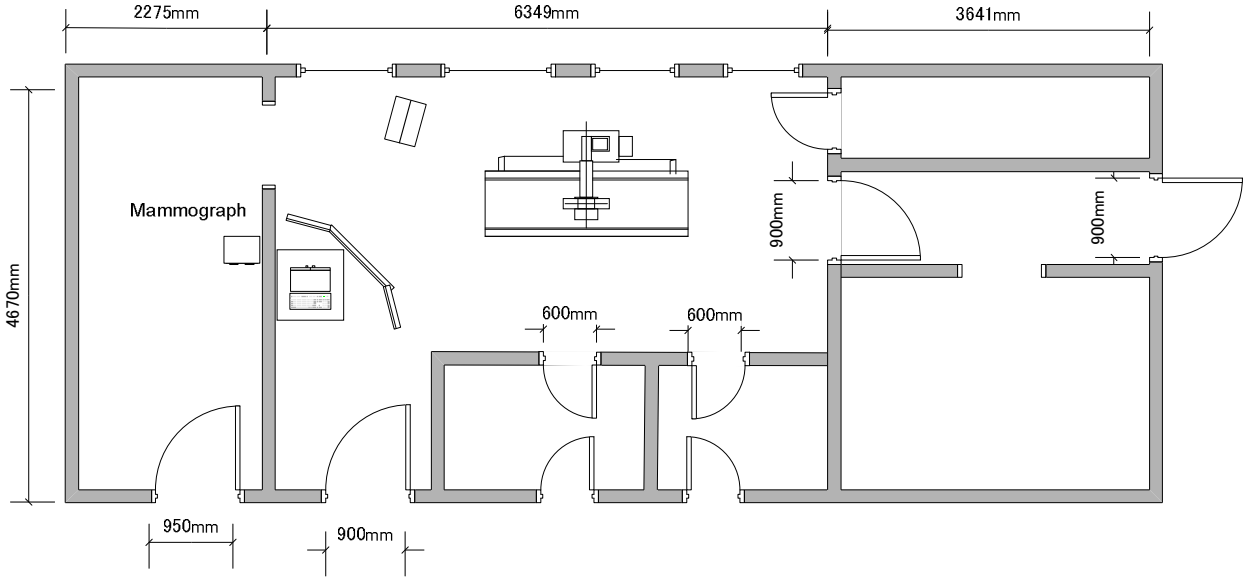


Figure 2-10 Negotino HC/X-ray Room 1

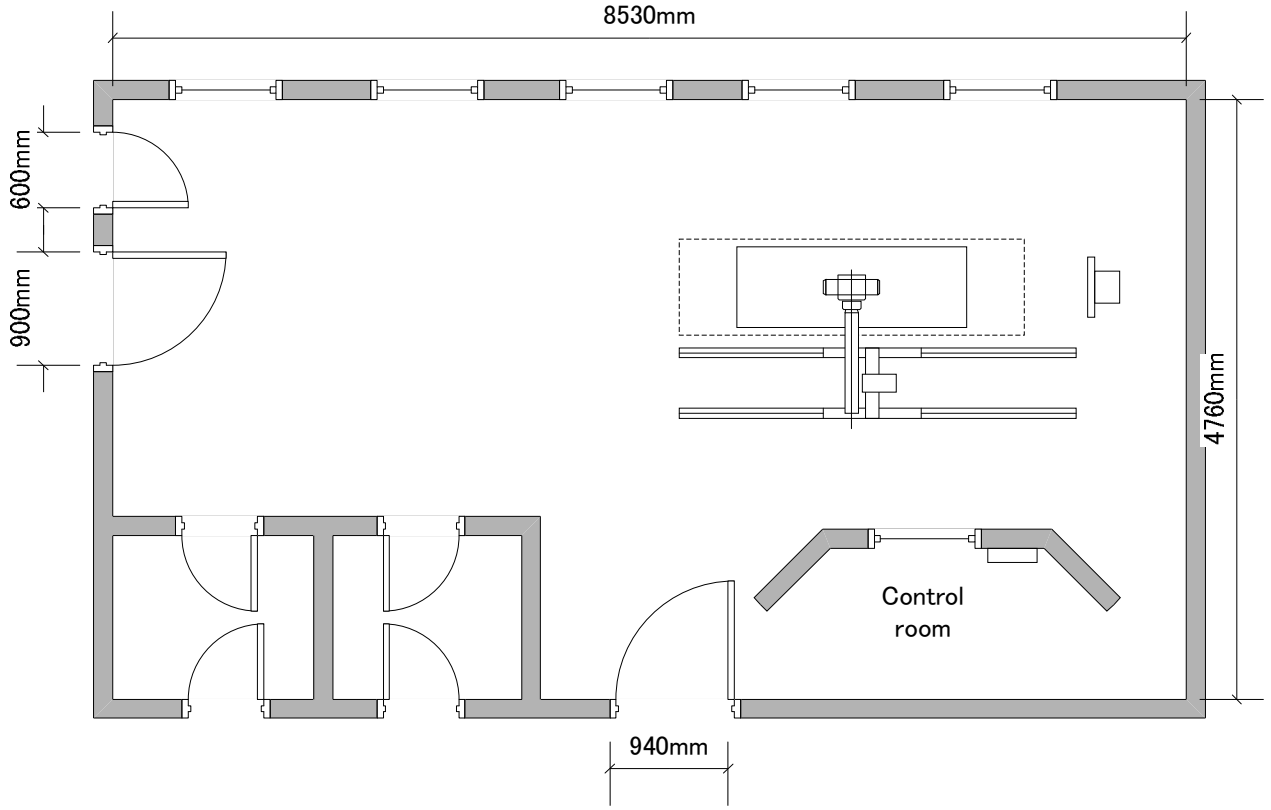


Figure 2-11Negotino HC/X-ray Room 2

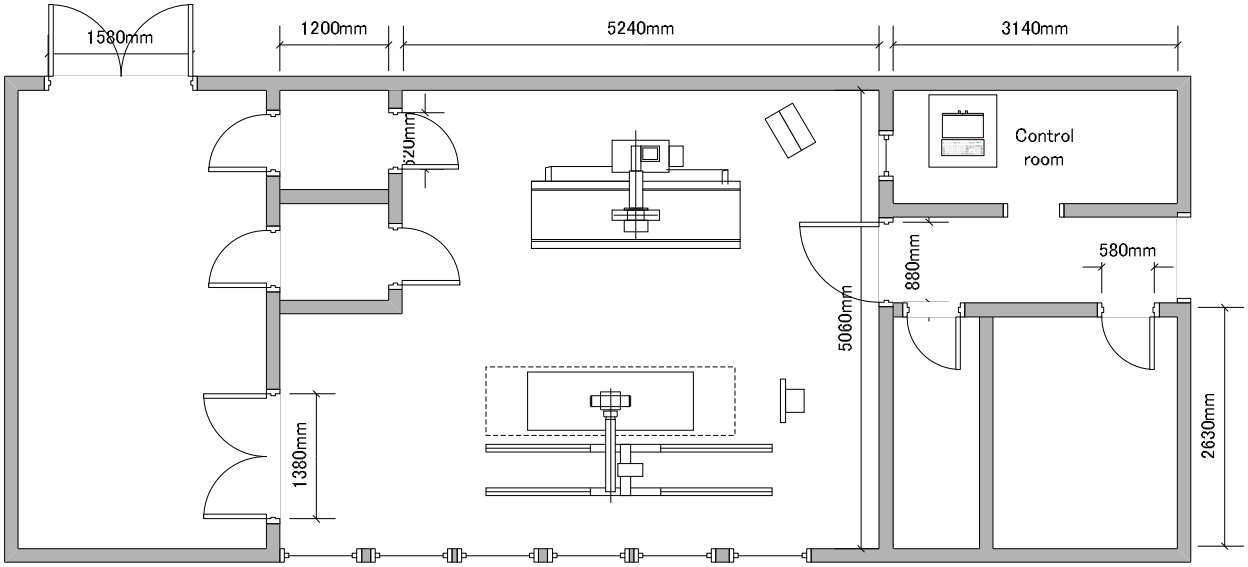


Figure 2-12 Kratovo HC/X-ray Room

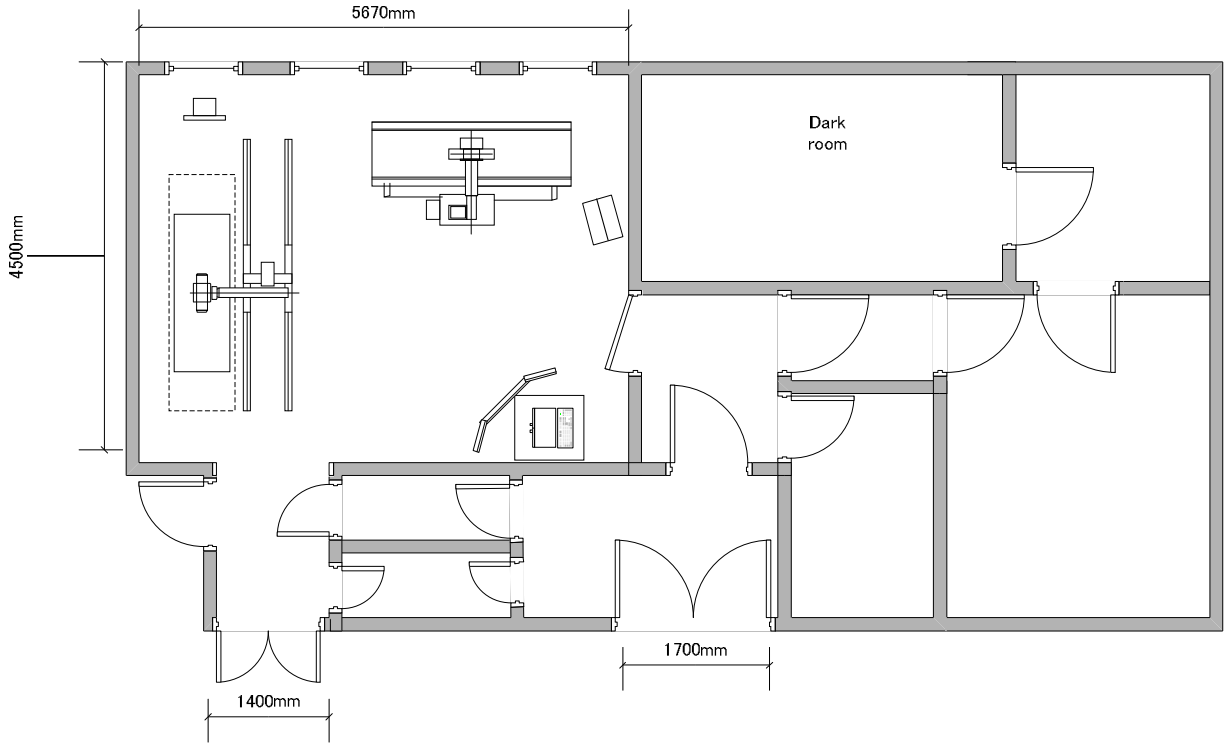


Figure 2-13 Makedonski Brod HC/X-ray Room

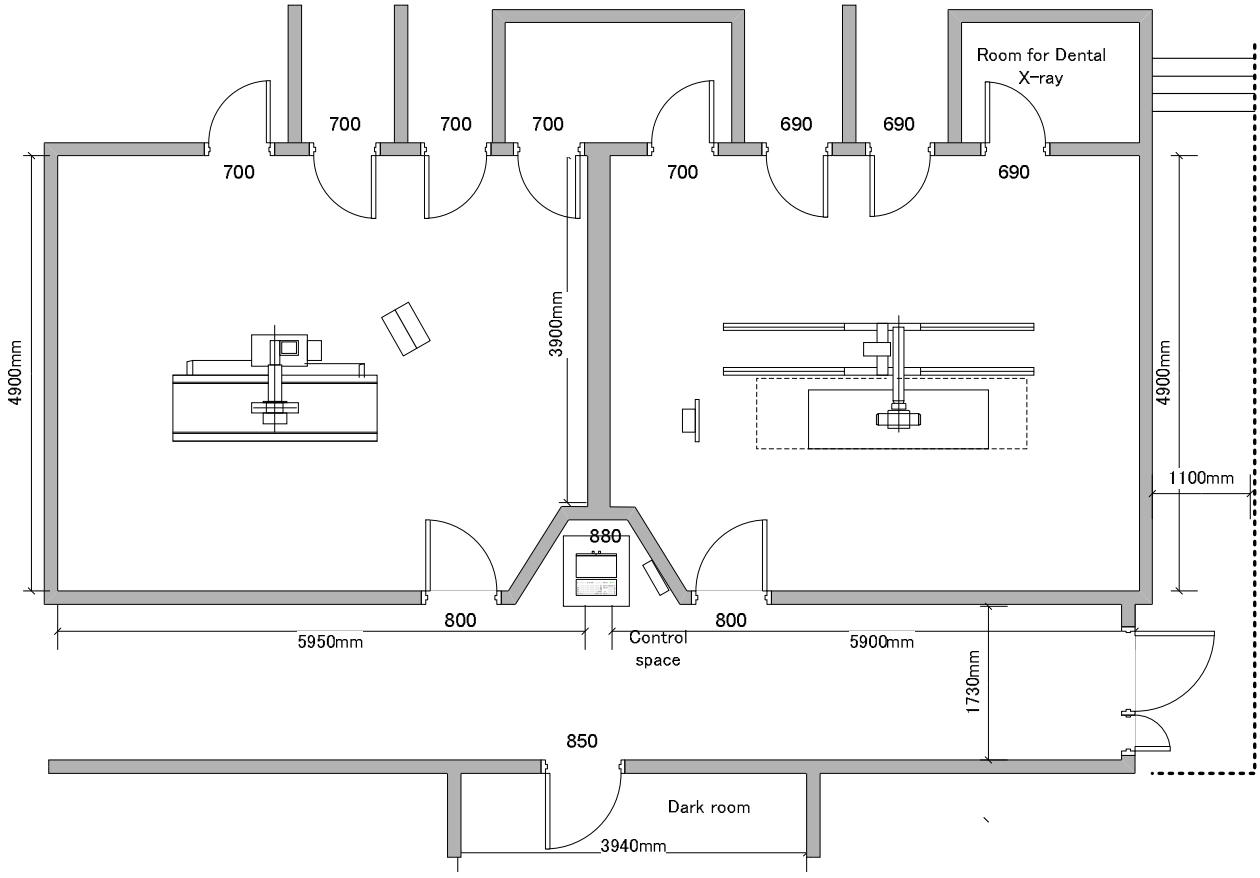


Figure 2-14 Vevcane HC/X-ray Room

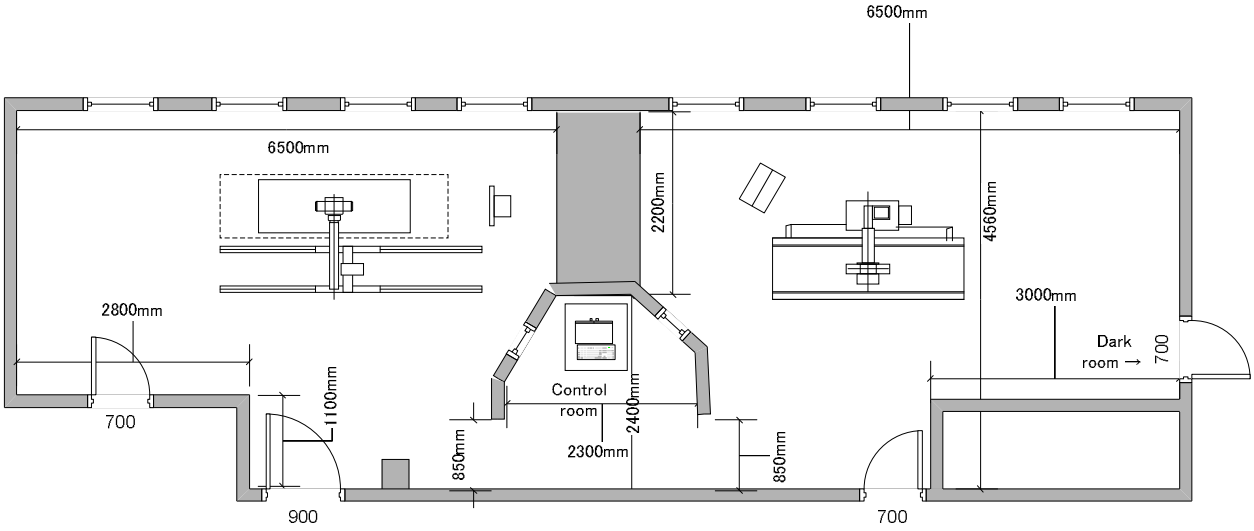


Figure 2-15 Valandovo HC/X-ray Room

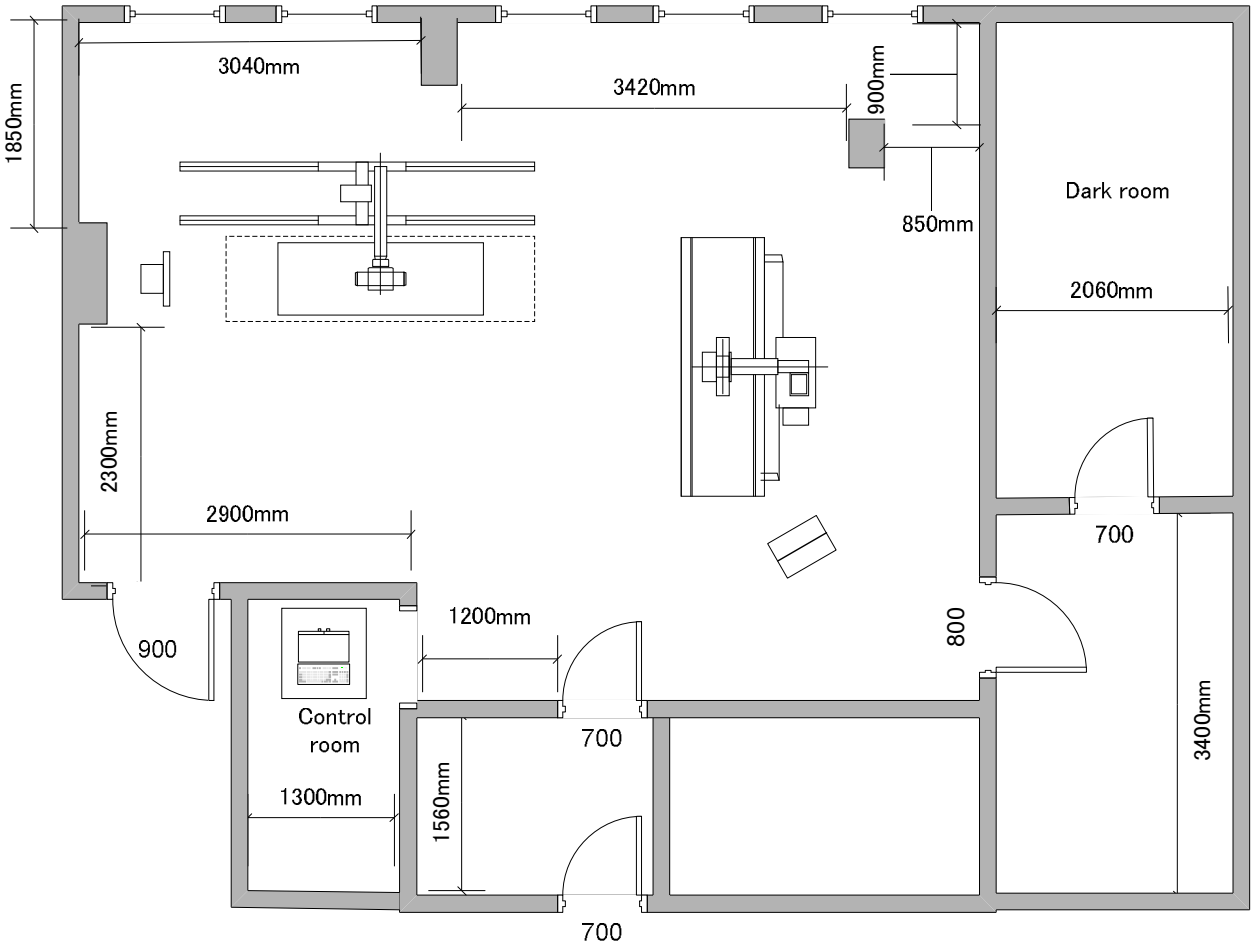


Figure 2-16 Radovis HC/X-ray Room

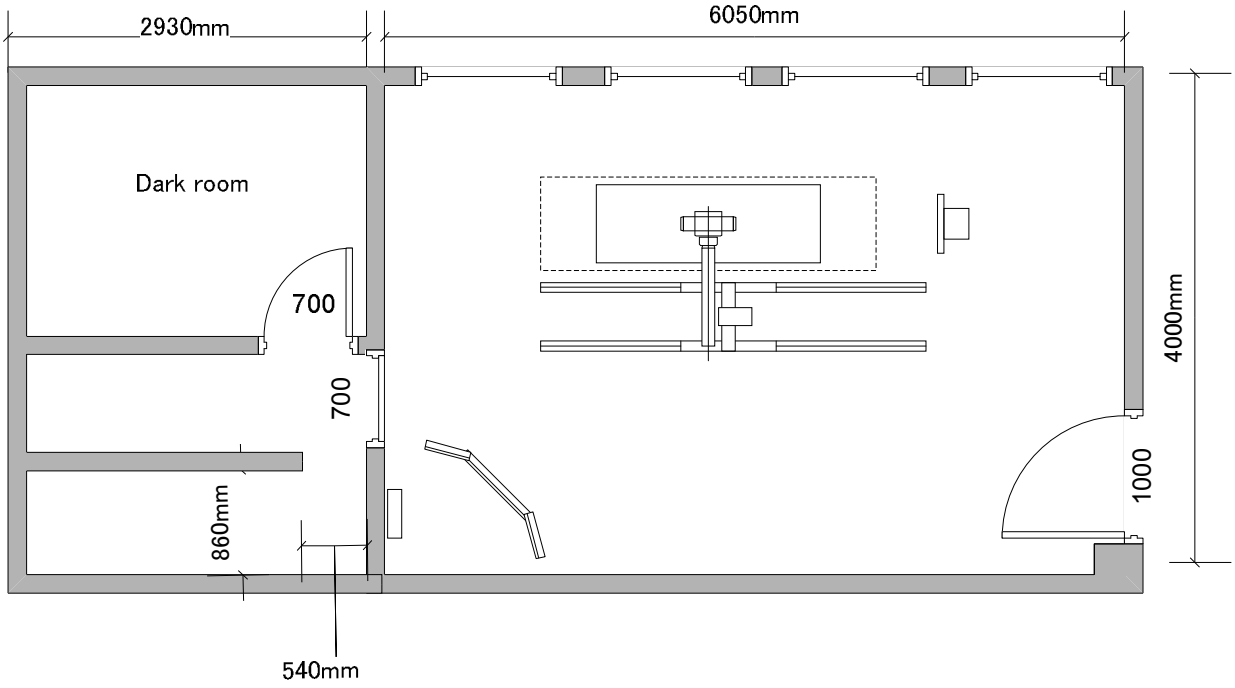


Figure 2-17 Rostusa HC/X-ray Room

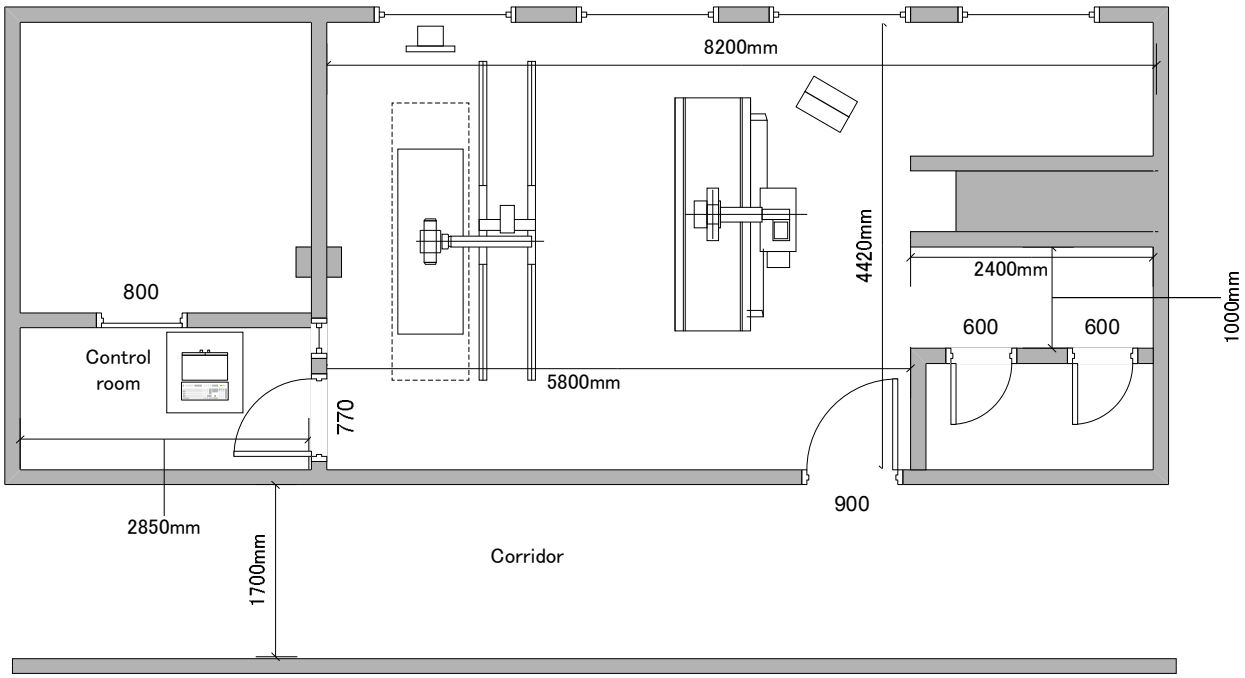


Figure 2-18 Berovo HC/X-ray Room

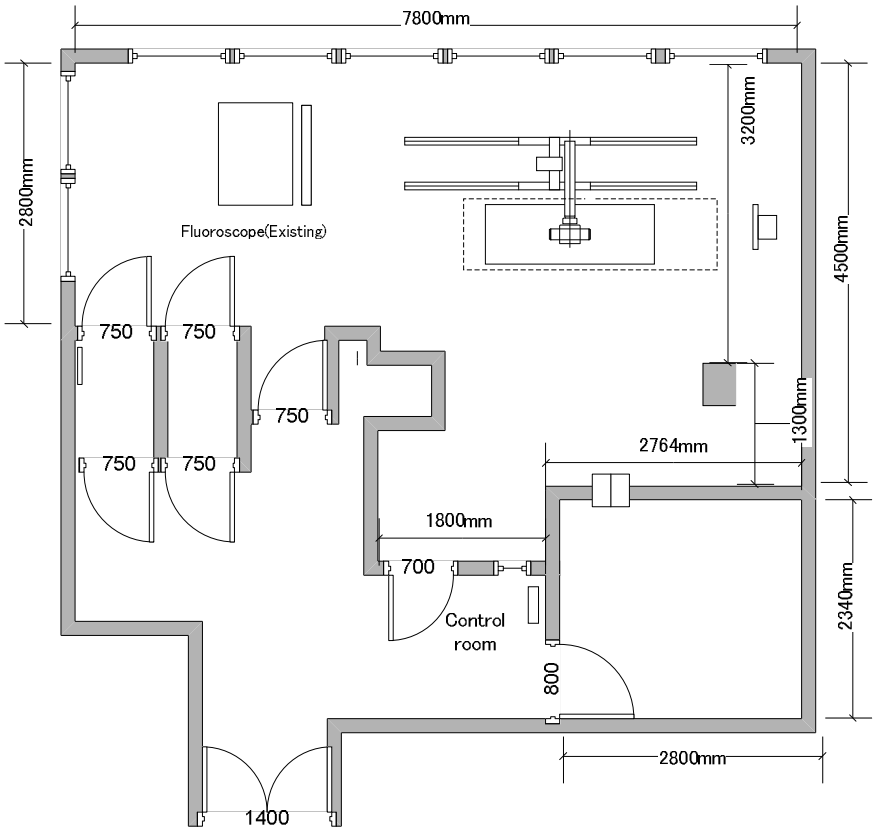


Figure 2-19 Pehecevo HC/X-ray Room

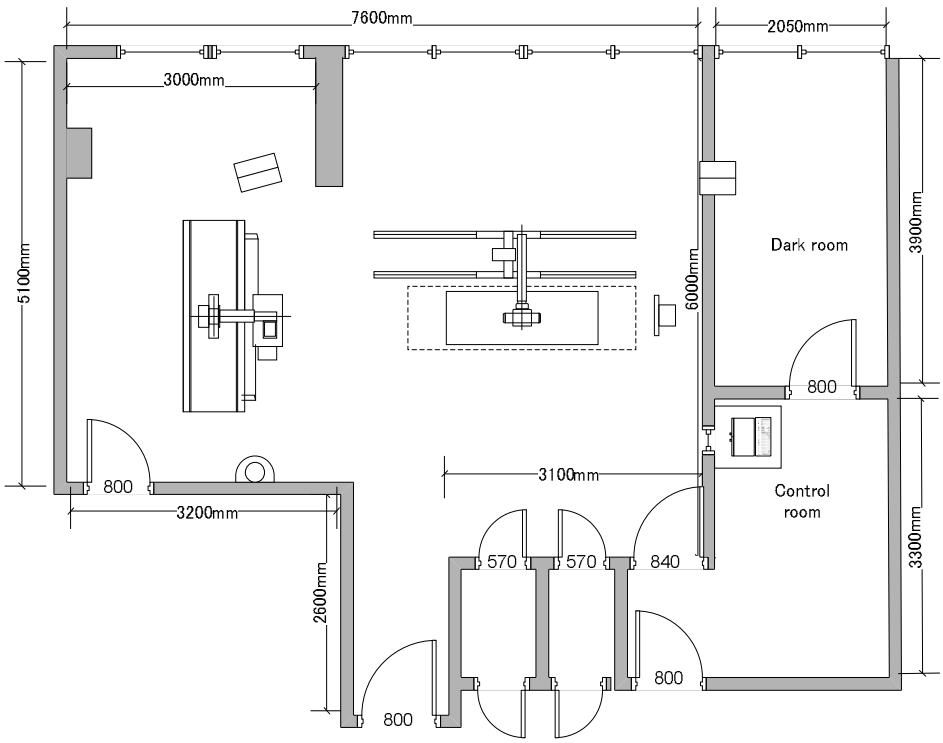


Figure 2-20 Vinica HC/X-ray Room

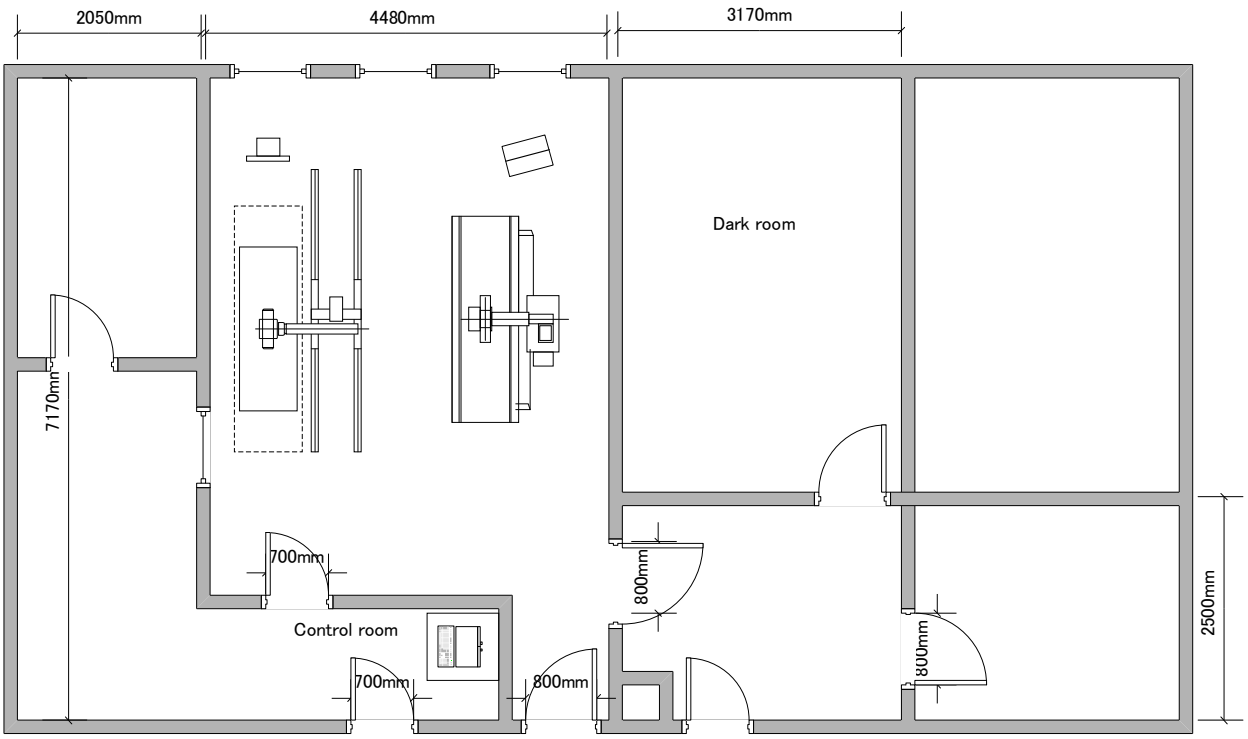


Figure 2-21 Delcevo HC/X-ray Room

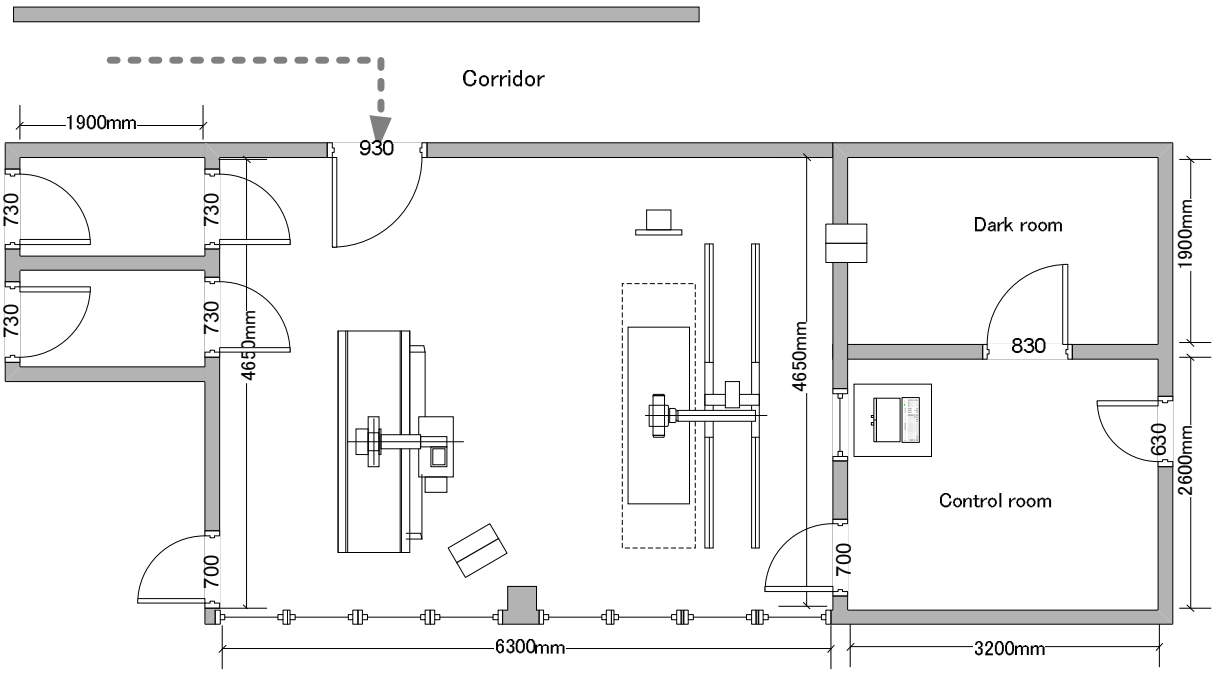


Figure 2-22 Probistip HC/X-ray Room

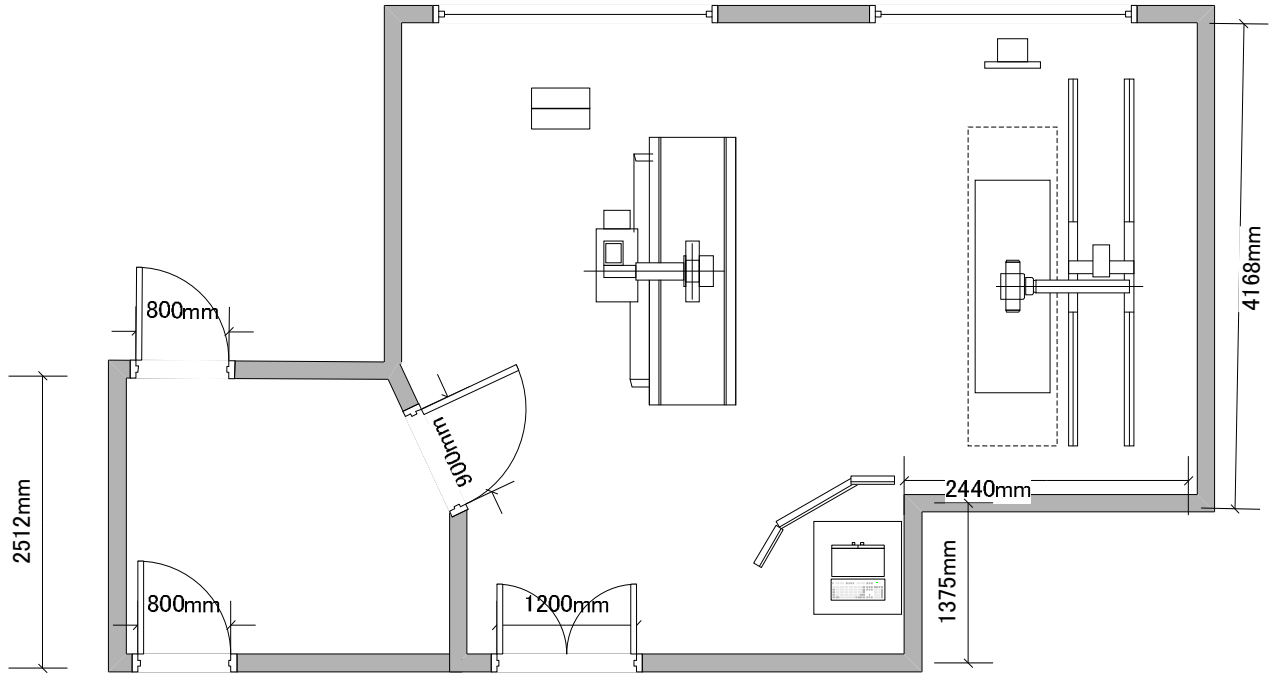


Figure 2-23 Sveti Nikole HC/X-ray Room

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

This project will require approval by a cabinet meeting of the Japanese government in accordance with the framework of grant aid of the Japanese government, and will be implemented after the Exchange of Notes (E/N) concerning the project between the Japanese and the Macedonian governments. After the conclusion of the E/N between the two governments, a Japanese consultant company recommended by JICA will conclude a consultant agreement with the Ministry of Health of Macedonia in accordance with the procedures of Japanese grant aid. The agreement will come to effect upon approval of Japanese government. The consultant will implement duties related to tender and supervision of procurement on the basis of the agreement.

The procurement of equipment is implemented by Japanese corporate companies selected by tender; they will conclude agreements with the Ministry of Health of Macedonia, and these agreements will also come into effect upon approval of Japanese government. The Japanese companies will be responsible for the procurement, carriage and installation of the necessary equipment; the provision of technical training concerning the operation and maintenance of individual equipment; and the drawing up of manuals and other technical documents required for the maintenance of the equipment after the procurement, together with a list of manufactures and their agents.

2-2-4-2 Implementation Conditions

In Macedonia, when medical equipment is imported by a grant-making aid organization or through other such humanitarian assistance, procurement can be made on a tax-free basis by applying to the Macedonia Ministry of Health for a customs tax waiver. Private imports are subject to an import duty of 5% and a value-added tax (VAT) of 18%.

2-2-4-3 Scope of Works

(1)Japanese government

i. Procurement of the planned equipment
ii. Marine transportation and land transportation to the center
iii. Installation and placement of the equipment
iv. A trial run of the procured equipment, and technical training on operation, routine inspection and maintenance

(2)Macedonia government

i. Providing information and data necessary for the transport, installation and placement of the equipment
ii. Acquisition of approvals necessary to import the equipment (duty waiver, import license, and importing of medical equipment)
iii. Improvement of the sites where the procured equipment is planned to be installed.
iv. Securing the locations for unloading of the procured equipment
v. Providing sites for the storage of the equipment prior to its installation and replacement
vi. Securing the transportation route for the procured equipment.

vii. Removal of existing equipment and repairs to the rooms following the equipment removal

2-2-4-4 Consultant supervision

Following the implementation of duties related to the tender to select contractors to procure equipment, the consultant will ensure the smooth progress of the procurement and other duties. The key components of procurement supervision include the verification of a consistency between the equipment procured and its description in the agreement, inspection of the products and packing conditions prior to shipping, confirmation of the marine and land transportation/customs clearance status, and the final inspection and receiving of the goods in Macedonia. Regarding pre-shipping inspections, the consultant ensures that there is no discrepancy between the shipment contents and their descriptions in the agreement whereas a third party organization also inspects the entire shipment and packing contents. The consultant continually strives to stay informed of the progress of each process, provides the Macedonian implementing organization and the equipment procurement company with appropriate advice and guidance, and furnishes a report of the progress to the relevant organizations in both countries. The consultant performs spot checks.

2-2-4-5 Procurement Plan

(1) Procurement Sources

The equipment that is planned to be procured in this project will be chosen from among the Japanese and Macedonian manufacturers. Japanese products that require maintenance by a manufacturer's representative may be considered only on condition that their manufacturers have a representative in either Macedonia or the Republic of Serbia. In the event that the manufacturers of Japanese products that are considered for procurement do not have a representative in these countries, products of third-country manufacturers who have representatives in this region are added to the list of products that are considered for procurement.

(2) Transportation Route

Equipment to be shipped from Japan will be packed in containers and shipped from the port of Yokohama for Thessaloniki, Greece by boat. From Thessaloniki, the equipment will be transported by truck to Skopje. After all shipments clear the customs, they will be transported by truck to each HC. The total time requirement is approximately 45 days.

Products to be procured from third countries will be gathered at the port of Hamburg, Germany, and transported by truck to Skopje through Austria, Hungary (or Slovenia, Croatia), Serbia and Montenegro. After all shipments clear the customs, they will be transported by truck to each HC. The total time requirement is approximately 5 days.

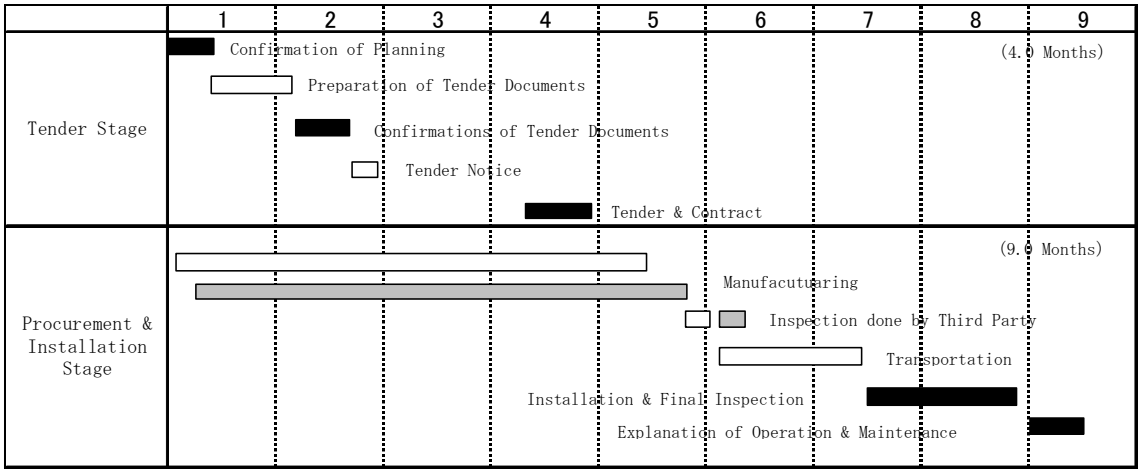
2-2-4-6 Quality Control Plan

No custom-ordered equipment will be permitted for medical equipment to be procured in this project. Selections will be made from among the products that are already available on the market and have been sold to medical institutions in various countries. Furthermore, Japanese products must meet ISO13485 and European and American

products must meet international manufacturing standards, such as CE marking. As for equipment that are available in Macedonia will be chosen even if they are not the consumables items that are specified by the devices' manufacturers.

2-2-4-7 Implementation Schedule

The implementation schedule of this plan is broken down to two stages, consisting of the bidding-related work and equipment procurement/installation work. The time line from the executing of an E/N till the project completion is shown in the following diagram of the implementation schedule;



2-3 Obligation of recipient country

The responsibilities of the Macedonian side in the implementation of this project are as shown in 2-2-4-7 Implementation Segmentation/Procurement and Installation Segmentation.

(1) Various arrangements that are necessary for the smooth customs clearance and domestic transportation of the procured equipment within Macedonia.
-Acquisition of approval for waiver of customs clearance fees and levies.
-Acquisition of approval for waiver of value added tax
-Acquisition of an import license.
-Acquisition of approval by the Ministry of Health of Macedonia for importing medical equipment.

(2) Waiver of customs and other various taxes for the equipment procurement company and its employees.

(3) Assurance of convenience and safety to Japanese citizens involved with this project.

(4) Arrangement of the Banking Arrangements (B/A) and both payment of Authorization

(5) Offer of personnel and a budget (including a maintenance budget) necessary for the efficient implementation of this project.

(6) Acquisition of any other approval that is needed for the implementation of this project.

(7) Disclosure of any other information and data that are needed.

Prior to the installation of the equipment procured in this project, the Macedonian side will have to (1) improve the X-ray protection in X-ray room of the sites (2) remove the existing equipment, (3) secure the passageway for the equipment to be brought in and adequate space for its installation, and (4) improve the sites where equipment is scheduled to be installed at its own cost.

2-4 Project Operation Plan

2-4-1 Maintenance of Equipment

The number of physicians, nurses, and other medical personnel at each HC in this plan is adequate. With regard to physicians in particular, the majority have graduated from Skopje University, the only medical school in Macedonia; many have subsequently attained specialist qualifications at medical facilities throughout the country; and there are no problems with regard to their level of skill. At the same time, there are no maintenance personnel for medical equipment at any HC, and in the event of malfunction, assistance is sought from agents of medical device manufacturers in the city of Skopje. Finally, access conditions within Macedonia are good; for example, the 2.5-hour distance from Skopje even to Berovo HC in the eastern region, the furthest HC covered by this plan.

2-4-2 Operation and Maintenance Cost

Through refurbishing of deteriorated equipment, implementation of this plan is foreseen to strengthen health care services and increase the amount of diagnosis and testing completed at each HC. Table 2-8 below presents the cost for consumable items deemed required in one year by the procured equipment, and for spare parts deemed required one year after procurement at each HC. The details of each calculation are as shown in the source documents.

Table 2-8 Annual cost for consumable items and spare parts, by HC (Unit: dinar)

NO.	HC	2003	Annual consumables expenditure		Annual Spare parts expenditure	
		Expenditure	Consumables	%	Spare parts	%
①	Skopje	1,997,289,000	64,680,073	3.2%	623,740	0.03%
②	Demir Hisar	43,216,377	2,586,413	6.0%	111,580	0.26%
③	Krusevo	44,140,882	2,670,517	6.0%	198,380	0.45%
④	Resen	87,056,328	1,415,540	1.6%	111,580	0.13%
⑤	Negotino	92,425,640	3,213,863	3.5%	198,380	0.21%
⑥	Kuratovo	39,230,332	1,070,272	2.7%	198,380	0.51%
⑦	Makedonski Brod	35,174,544	1,159,842	3.3%	198,380	0.56%
⑧	Vevcani	53,753,968	3,023,313	5.6%	198,380	0.37%
⑨	Valandovo	62,265,500	2,078,730	3.3%	198,380	0.32%
⑩	Radovis	79,671,206	3,210,090	4.0%	198,380	0.25%
⑪	Rostusa	26,770,179	672,665	2.5%	111,580	0.42%
⑫	Berovo	51,348,759	2,017,250	3.9%	198,380	0.39%
⑬	Pehcevo	28,125,563	1,238,563	4.4%	111,580	0.40%
⑭	Vinica	60,106,270	1,796,280	3.0%	198,380	0.33%
⑮	Delcevo	102,970,646	5,497,830	5.3%	198,380	0.19%
⑯	Probistip	52,100,762	1,341,887	2.6%	198,380	0.39%
⑰	Sveti Nikole	73,432,489	2,591,187	3.5%	198,380	0.27%

The results of the local survey showed that, on average, 2004 drug costs for items including medicines, vaccines, reagents, and consumables comprised approximately 35% of total expenditures at each of the 17 targeted HC. Within this amount, reagents, consumables, fuel, and spare parts used in existing equipment scheduled for upgrading under this plan accounted for approximately 18% of total costs, on average.

As shown in Table 3-8, the cost of consumables, including reagents, required for implementation of this plan will range from 1.5% of total expenditures at the Resen HC to 6.0% at the Krusevo HC. After procurement, spare parts required after the first 2 years will account for anywhere from 0.03% at the Skopje HC to 0.56% at the Makedonski Brod HC.

However, equipment scheduled for procurement under this plan is an upgrade of existing equipment. Consumables and spare parts needed for this equipment have therefore been purchased on a routine basis, and we believe that existing budgets will be sufficient to cover these amounts.

Diagnostic and testing capabilities will also be improved by implementation of this plan, and insurance income from HIF in the next fiscal year will increase in proportion to the corresponding increase in the number of diagnoses and tests performed. We therefore believe that the equipment procured under this plan can be managed in a financially sustainable fashion.

2-4-2 Project Cost

The total cost of implementing the project is estimated at roughly 8.04million yen. Based on the assumptions described in (3), the breakdown of the costs to be borne by Japan and Macedonia is estimated as follows. This cost estimate is provisional and would be further examined by the Government of Japan for approval of the Grant.

(1)Expenses borne by Japan

Contents	Estimated Cost(million yen)
Equipment	758
Consulting Fee	34
Total	792

(2)Expenses borne by Macedonia

Contents	Expense(Euro)
Renovation of each X-ray room 18HC (2,000 Euro per HC)	90,000
Total	90,000

(3)Pricing Assumptions

i. Time of calculations: Oct., 2005
ii. Foreign exchange rate: $=108.55 Yen Euro=137.64 Yen
iii. Project period: 13 months

iv. Method of placing orders: 2 Packages
v. Other
To be implemented in accordance with the scheme of grant aid cooperation of the Japanese government

Chapter 3 Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

Table 3-1 shows the effects and the degrees of improvement to be achieved by the implementation of this project.

Table 3-1 Effects of Implementation of the project and improvements in the current situation

Present situation and problems	Relevant measures to be taken in the project (work covered by the grant)	Project effect and extent of implementations
The 17 HC covered by the plan are responsible for primary level public health care services covering approximately 40% of the total population of Macedonia. Due to repeated economic crises from causes including post-independence Yugoslavian sanctions, the Kosovo crisis, and the military conflict of 2002, the building of social and economic infrastructures in Macedonia is lagging, and public health care is destitute. In these circumstances, procurement for a medical infrastructure, and in particular, medical equipment, is not possible, impeding the delivery of primary level public health care services.	Procurement of basic diagnostic and treatment equipment for primary level public health care services, including internal medicine, pediatrics, obstetrics and gynecology, and dentistry at each targeted HC. Equipment and materials and the specifications thereof will be matched to conditions at each facility and will be a quantity allowing maintenance on a limited operation and maintenance budget. Facilities targeted: 17HC Planned equipment procurement: 24 units	Completion of equipment procurement for each targeted HC, enhancing primary level diagnostic and treatment functions in each targeted public health administration unit. Enhanced cooperation with primary, secondary, and tertiary level medical facilities previously assisted by Japan, contributing to overall improvement of medical services in Macedonia. Indices for improvement of diagnosis and treatment at each HC targeted by implementation of this plan are as follows. · Number of outpatients · Number of general X-ray imagings · Number of OB/GYN ultrasound diagnoses · Number of abdominal ultrasound diagnoses · Number of ECGs · Number of blood tests

Based on these, the effects that are expected to be achieved by the implementation of this project are identified as follows:

1) Direct effects

① Implementation of the plan will result in recovery of primary level public health care service functions provided by each targeted HC, allow more accurate diagnosis, and improve both the quality and quantity of primary level health care services in each administrative unit.

② Recovery of various diagnostic functions resulting from implementation of the plan will allow accurate diagnosis and receipt of treatment at targeted HC in each region and will also alleviate physical and economic burdens from causes previously faced by the local population, including a lack of nearby trustworthy facilities.

2) Indirect effects

Procurement of equipment under the plan will serve as a compendium of assistance previously provided by Japan to secondary and tertiary medical facilities and contribute to enhancement of the medical referral system in Macedonia

3-2 Recommendations

(1) Tasks and Recommendations

The issues and proposals to be considered by Macedonia are the following.

① Further improvement of medical facility operation in a market economy

Privatization of pharmacy, dentistry, and some other functions and other transition to a market economy is underway at the HC targeted by this plan. However, personnel levels remain high at some HC, and various improvements are needed in the interest of greater efficiency in facilities management, including redeployment of human resources, development of financial control systems, and enhancement of patient services.

② Reconstruction of the medical referral system

The preparation of primary level HC achieved by implementation of Phase 1 and Phase 2 of this plan may bring about a shift to emphasis on primary health care in other former socialist countries. However, further reconfiguration for appropriate scales is desirable, including changes at the secondary and tertiary levels, where the number of personnel and beds remains high.

(2) Coordination with Other Donors

The current system in each targeted HC has been judged capable of adequate operation for implementation of this plan, but cooperation and stabilization of public health care expenditures under the management enhancement plan of the HIF, a component of World Bank assistance begun in April 2004, is expected to strengthen not only primary health care facilities in Macedonia, but the medical referral system too.

【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. Reference

1. Member List of the Study Team

(1) Basic Design Study (July 25 to August 26, 2005)

Mr. Keiichi Muraoka	Team Leader Resident Representative, JICA Austria Office Japan International Cooperation Agency
Prof. Iwao Takakura	Technical Advisor Professor Emeritus, Tokai University
Mr. Kazuhiro Abe	Project Manager/Equipment Planner I International Techno Center, Co., Ltd.
Mrs. Chiharu Abe	Health Care System International Techno Center, Co., Ltd.
Mr. Shuichi Murashita	Equipment Planner II International Techno Center, Co., Ltd.
Mr. Naoki Mimuro	Procurement & Cost Planner International Techno Center, Co., Ltd.

(2)Explanation of Draft Report (November 6 to November 19, 2005)

Mr. Keiichi Muraoka	Team Leader Resident Representative, JICA Austria Office Japan International Cooperation Agency
Prof. Iwao Takakura	Technical Advisor Professor Emeritus, Tokai University
Mr. Kazuhiro Abe	Project Manager/Equipment Planner I International Techno Center, Co., Ltd.
Mr. Shuichi Murashita	Equipment Planner II International Techno Center, Co., Ltd.

2. Study Schedule

(1) Basic Design Study

Date			Team Leder/Project Coordinator/Technical Adviser	Project Manager/Equipment Planner 1	Health Care System	Equipment Planner 2	Procurement & Cost Planner
			Keiichi Muraoka/Takuya Otsuka Iwako Takakura	Kazuhiro ABE 33 days	Chiharu ABE 24 days	Shuichi Murashita 33 days	Naoki Mimuro 20 days
1	25-Jul	Mon	Narita→Vienna			Same as P.M.	
2	26-Jul	Tue	Courtesy Call to JICA in Vienna Courtesy Call to Embassy of Japan Vienna→Skopje Meeting at JICA Skopje			Same as P.M.	
3	27-Jul	Wed	Courtesy Call to Macedonia MOH, MOFA & EU Integration			Same as P.M.	
4	28-Jul	Thu	Skopje HC (Bit Pazar PC) Skopje HC (Chair PC) Skopje HC (Idadija PC) Skopje HC (PC) Skopje HC (Bukarest PC) Ambulance Center in Bukarest			Same as P.M.	
5	29-Jul	Fri	Skopje HC (Bit Pazar PC) Skopje HC (October 11 PC) Skopje HC (Jane Sandanski PC) Skopje University Hospital		Narita→Vienna	Same as P.M.	Same as H.C.S.
6	30-Jul	Sat	Sveti Nikole HC		Vienna→Skopje	Same as P.M.	Same as H.C.S.
7	31-Jul	Sun	Mr. Otsuka arrived at Skopje. Skopje→Ohrid				
8	1-Aug	Mon	Resen HC		Demir Hisar HC		Same as P.M.
9	2-Aug	Tue	Bitola Medical Center			Internal Meeting	
10	3-Aug	Wed	Vevcane HC	Rostusa HC	Same as Official	Same as P.M.	Same as H.C.S.
11	4-Aug	Thu	Skopje→Vienna	Macedonia MOH		Radovis HC	Local Agent Survey
12	5-Aug	Fri	JICA in Vienna Embassy of Japan → Vienna	Skopje HC (Bit Pazar PC) Skopje HC (Chair PC) Skopje HC (Idadija PC) Skopje HC (Jane Sandanski PC) Skopje HC (Bukarest PC)		Strumica MC Valandovo HC	Local Agent Survey
13	6-Aug	Sat	Narita	Health Insurance Fund Internal Meeting			Local Agent Survey
14	7-Aug	Sun		Internal Meeting			
15	8-Aug	Mon		Berovo HC	Pehcevo HC	Same as P.M.	Same as H.C.S.
16	9-Aug	Tue		Kocani HC Delcevo HC	Vinica HC	Same as P.M.	Same as H.C.S.
17	10-Aug	Wed		Kratovo HC	Probistip HC	Same as P.M.	Same as H.C.S.
18	11-Aug	Thu		Negotino HC	Ministry of Health	Same as P.M.	Local Agent Survey
19	12-Aug	Fri		Makedonski Brod HC	World Bank	Krusevo HC	Local Agent Survey
20	13-Aug	Sat		Internal Meeting			
21	14-Aug	Sun		Internal Meeting			
22	15-Aug	Mon		Ministry of Health Skopje HC (Bit Pazar PC) Skopje HC (Chair PC)	UNICEF	Local Agent Survey Same as P.M.	
				Internal Meeting			Skopje→Vienna
23	16-Aug	Tue	Vienna→Skopje	Ministry of Health		Skopje HC (Idadija PC) Skopje HC (Bukarest PC) Skopje HC (Jane Sandanski PC)	Vienna→
			Internal Meeting				
24	17-Aug	Wed	Discussion of MD				Narita
25	18-Aug	Thu	Signing of MD Skopje HC (Bit Pazar PC) Skopje HC (Bukarest PC) Skopje HC (Jane Sandanski PC)				
26	19-Aug	Fri	Skopje→Vienna		Skopje→Vienna		
27	20-Aug	Sat		Internal Meeting	Vienna→	Internal Meeting	
28	21-Aug	Sun		Internal Meeting	Narita	Internal Meeting	
29	22-Aug	Mon		Ministry of Health		Same as P.M.	
30	23-Aug	Tue		Health Insurance Fund		Same as P.M.	
31	24-Aug	Wed		Ministry of Health		Same as P.M.	
				Skopje→Vienna			
32	25-Aug	Thu		JICA in Vienna Embassy of Japan Vienna→		Same as P.M.	
33	26-Aug	Fri		Narita		Same as P.M.	

(2)Explanation of Draft Report

Date			Team Leader/Technical Adviser		Project Manager/Equipment Planner 1	Equipment Planner 2
			Keiichi Muraoka	Iwao Takakura	Kazuhiro ABE	Shuichi Murashita
					14 days	14 days
1	6-Nov	Sun			Narita→Vienna	
2	7-Nov	Mon			Courtesy Call to JICA in Vienna	
					Vienna→Skopje	
3	8-Nov	Tue			Courtesy Call to Macedonia MOH	
					Courtesy Call to Macedonia MOFA	
					Courtesy Call to EU Integration	
4	9-Nov	Wed			Makedonisiki Brod HC	
					Negotino HC	
5	10-Nov	Thu		Narita→Frunkfurt	Delcevo PC/Kratovo PC	
6	11-Nov	Fri		Frunkfurt→Skopje	Macedonia MOH	
7	12-Nov	Sat		Internal Meeting		
8	13-Nov	Sun	Vienna→Skopje	Internal Meeting		
9	14-Nov	Mon	Discussion of MD			
10	15-Nov	Tue	Sighning of MD			
11	16-Nov	Wed		Skopje→Frunkfurt	Skopje HC	
12	17-Nov	Thu	Skopje→Vienna	Frunkfurt→	Skopje→Vienna	
13	18-Nov	Fri		Narita	JICA in Vienna	
					Embassy of Japan	
					Vienna→	
14	19-Nov	Sat			Narita	

3. List of the Parties Concerned in the Recipient Country

Ministry of Foreign Affairs
Sector for Bilateral Relations with European and Non-European Countries

Milan Spiridonovski	Head of Sector
Olivera Cieva	Counselor, Nor-European Countries Department

Sector for European Integration

Evgenija Serafimovska-Kirkovski	Acting Head, Aid Coordination Unit
Orhideja Kaljosevska	Associate, Aid Coordination Unit

Ministry of Health

Ratka Kuljan-Zografska	State Secretary
Kiro Salvani	State Counselor
Zudi Biljali	Head, Sector for Humanitarian Aid and Donations
Anka Georgievska	Head, Sector for Secondary Health Protection
Zarko Sufinovski	Assistant Manager, Sector for Development and Medical Equipment

Health Insurance Fund

Zlate Shulreski	Financial Assistant to the General Manager
Ljbica Dimitrovska	Chief, Finance

Republic Institute for Health Protection

Vladimir Kendrovsk	Head, Sector for Hygiene and Environmetal Medicine
Dusan Nedelkovski	Chief, spec. of san.chemistry Department for Radioecology, Sector for Hygiene and Environmetal Medicine

Health Center

Tihomir Matevski	Director, Skopje Health Center
Dragan Jovanovski	Director, Demir Hisar Health Center
Risto Markoski	Director, Krusevo Health Center
Goce Andonovski	Director, Resen Health Center

Biljana Filipova	Director, Negotino Health Center
Dusan Jovaonvski	Director, Kratovo Health Center
Dusan Arizankoski	Director, Makedonski Brod Health Center
Zarko Daskaloski	Director, Vevcani Health Center
Dimitar Getov	Director, Valandovo Health Center
Risto Jakimovski	Director, Radovis Health Center
Mensur Bekiri	Director, Rostusa Health Center
Vesna Markovska	Director, Berovo Health Center
Stanoevska Rumenka	Director, Pehcevo Health Center
Venko Dancev	Director, Vinica Health Center
Biljana Velinovska	Delcevo Health Center
Trajce Stojkovski	Director, Probistip Health Center
Stanka Anastasova	Vice Director, Sveti Nikole Health Center

Others

Aco Dimov	Deputy General Director, Skopje University Hospital
Vesna Kirej	Financial Manager, Skopje University Hospital
Roland Stamenov	Chief Engineer, Skopje University Hospital
Gligorova Makedomka	Director, Strumica General Hospital
Marija Kisman	Deputy Head of Office and Liaison Officer, WHO/EURO Country Office Skopje
Rajna K. Cemerska	Operation Officer, Human Development, Office in Skopje, World Bank
Nora Sabani	Project Officer, Early Childhood & Education UNICEF Skopje Office

4. Minutes of Discussions

(1)Basic Design Study

РЕПУБЛИКА МАКЕДОНИЈА
REPUBLIC OF MACEDONIA
МИНИСТЕРСТВО ЗА ЗДРАВСТВО
MINISTRY OF HEALTH
ДРЖАВЕН СЕКРЕТАР/STATE SECRETARY

August 18, 2005

Mr. Keiichi MURAOKA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency

Dear Sir,

I have herein acknoweledged your letter dated August 18, 2005 and have confirmed the contents of the attachment of the letter.

However, I inform that the Republic of Macedonia does not accept the denomination used for my contry as stated in your letter, having in mind that the constitutional name of my country is the Republic of Macedconia.

On behalf of the Ministry of Health of the Republic of Macedonia, I sincerely thank the team for their efforts and close cooperation.

Yours Faithfully,

Ratka KULJAN-ZOGRAFSKI,
State Secretary
Ministry of Health
Government of the Republic of Macedonia

Ul. 50 Divizija br. 6 Skopje
☎ ++389 (0)2 12 90 03
++389 (0)2 11 30 14

кш/љм

Dr. Ratka Kuljan-Zografska
State Secretary
Ministry of Health
Government of Macedonia

August 18, 2005

Dear Mme

This is my great honor to refer to our recent discussions regarding the Project for Improvement of Medical Equipment for Primary Health Care Services in the Local Areas in Former Yugoslav Republic of Macedonia (hereinafter referred to as "Project").

In response to a request from the Government of Former Yugoslav Republic of Macedonia (hereinafter referred to as "Macedonia"), the Government of Japan decided to conduct a Basic Design Study on the Project and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Macedonia the Basic Design Study Team (hereinafter referred to as "the Team") from July 26 to August 24, 2005.

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

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

On behalf of the Team, I express my gratitude to the Macedonian officials concerned for their kind assistance and close cooperation to the Team.

Yours Sincerely,

Keiichi MURAOKA
Leader
Basic Design Study Team
Japan International Cooperation Agency

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the quality of primary health care services provided by Health Centers in local areas through development of medical equipment.

2. Project Sites

The sites of the Project are seventeen (17) Health Centers shown in Annex-1.

3. Responsible and Implementing Organization

The responsible and implementing organization is the Ministry of Health, the Government of Macedonia. Its organization chart is shown in Annex-2.

4. Items requested by the Government of Macedonia

After discussions with the Team, the items described in Annex-3 were finally requested to procure by the Macedonian 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 Macedonian side understands the Japan's grant aid scheme explained by the Team, as described in Annex-4.

5-2. The Macedonian side will take the necessary measures, as described in Annex-5, for smooth implementation of the Project, as a condition for the Japanese grant aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Macedonia until August 24, 2005.

6-2. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around November, 2005.

6-3. In case that the content of the report is accepted in principle by the Government of Macedonia, JICA will complete the final report and send it to the Government of Macedonia by the end of February, 2006.

7. Other relevant issues

7-1. The Macedonian side has agreed to secure and allocate the enough budgets to operate and maintain the medical equipment procured under the Project properly and effectively.

7-2. The Macedonian side will take necessary measures in order to ensure the tax exemption for the equipment procured under the Project.

7-3. The Macedonian side has agreed to remove the existing equipment which will be replaced by the equipment procured under the Project, and to prepare the room in advance to the installation work of the Project.

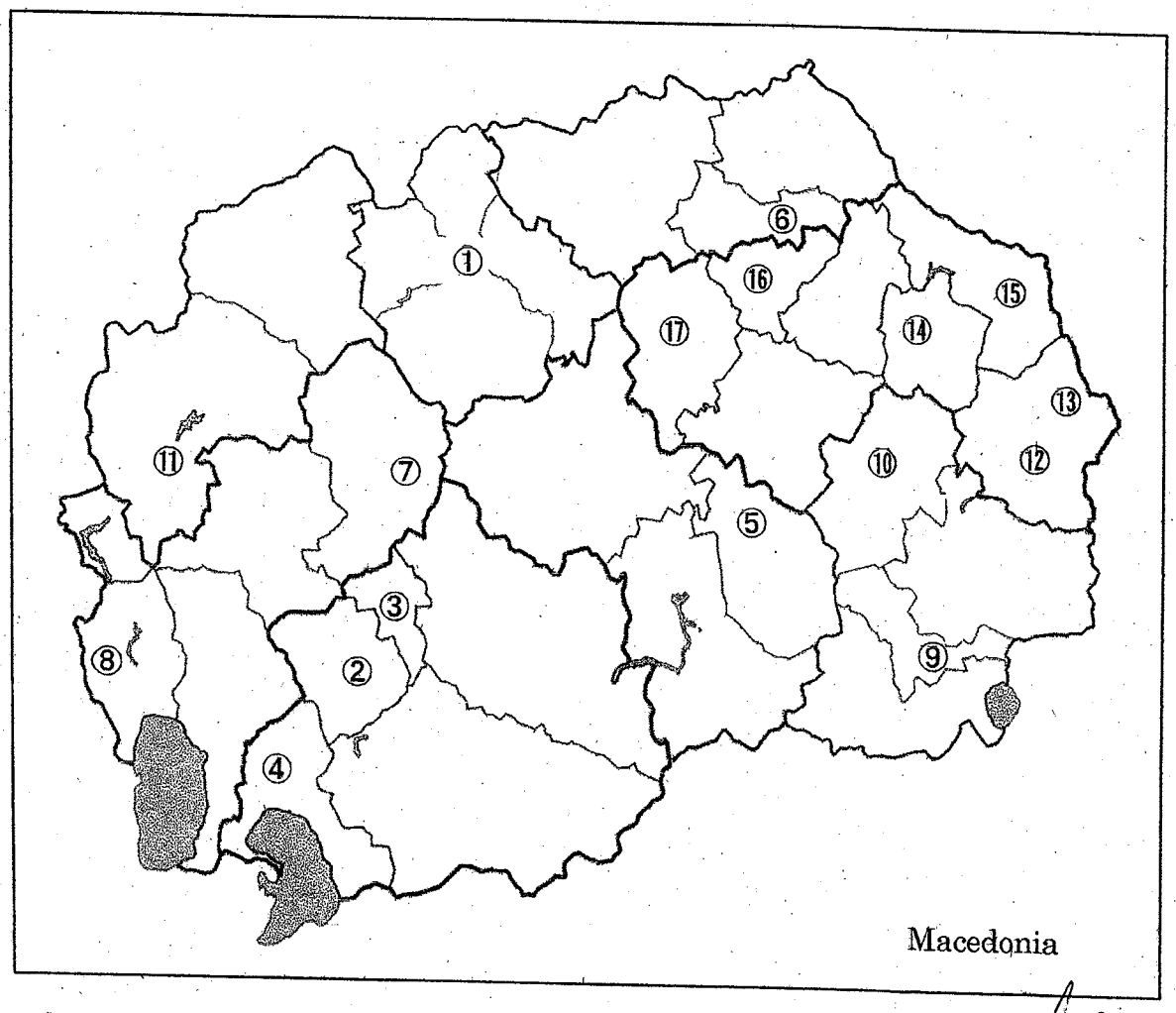
7-4. The Macedonian side has agreed to investigate the physical conditions of X-ray room of the health centers, and to improve the X-ray protection, when necessary. The plan of said improvement shall be presented by the Macedonian side to the Japanese mission dispatched around November.

7-5. The cost of removing equipment, preparing room and improving X-ray protection stipulated in 7-3 and 7-4 shall be borne by the Macedonian side.

Annex - 1.1: Project Sites Map
Annex - 1.2: Project Sites Map – Polyclinics of Skopje Health Center
Annex - 2: Organization Chart of Ministry of Health
Annex - 3.1: Requested Items
Annex - 3.2: Requested Items – Polyclinics of Skopje Health Center
Annex - 4: Japan's Grant Aid Scheme
Annex - 5: Major Undertakings to be taken by Each Government

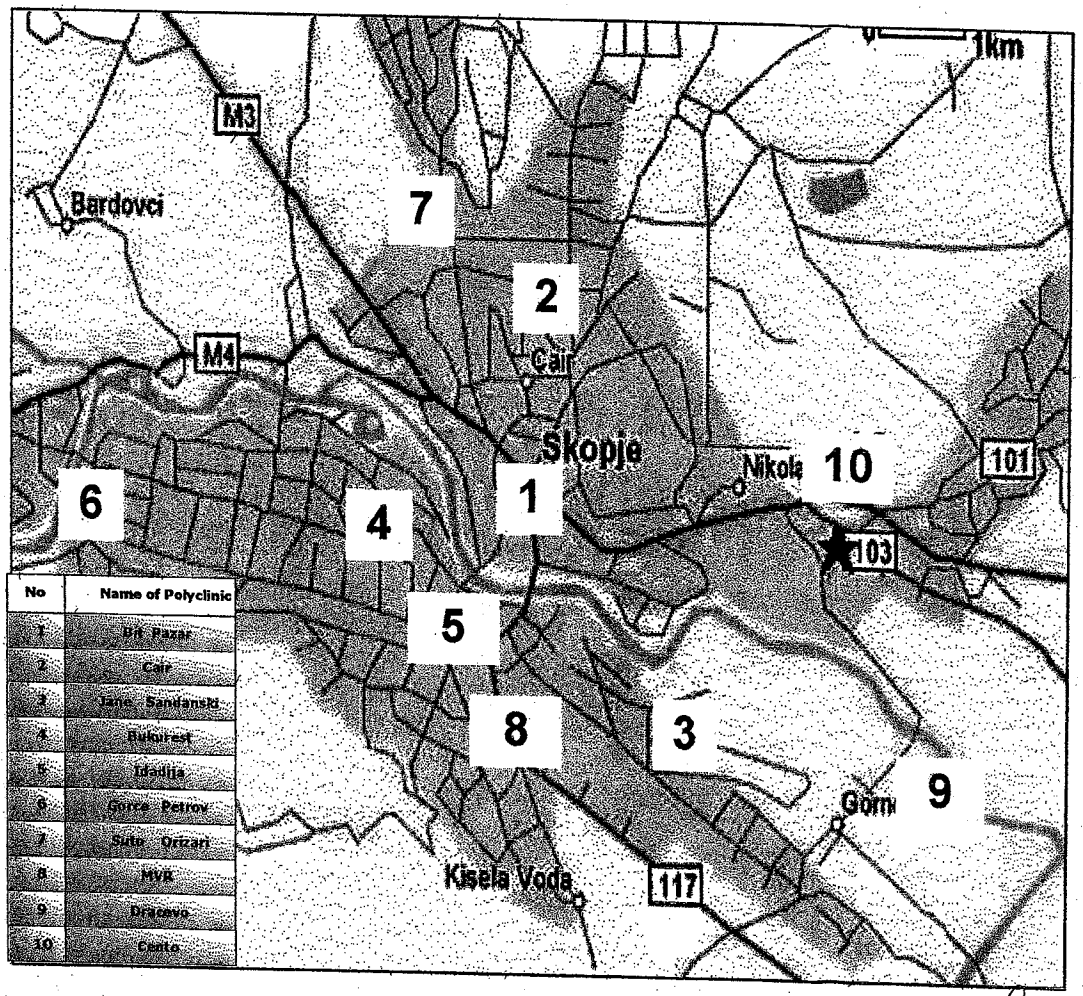
Project Sites Map

1. Skopje Health Center
2. Demir Hisar Health Center
3. Krusevo Health Center
4. Resen Health Center
5. Negotino Health Center
6. Kratovo Health Center
7. Makedonski Brod Health Center
8. Vevcani Health Center
9. Valandovo Health Center
10. Radovis Health Center
11. Rostusa Health Center
12. Berovo Health Center
13. Pehcevo Health Center
14. Vinica Health Center
15. Delcevo Health Center
16. Probistip Health Center
17. Sveti Nikole Health Center

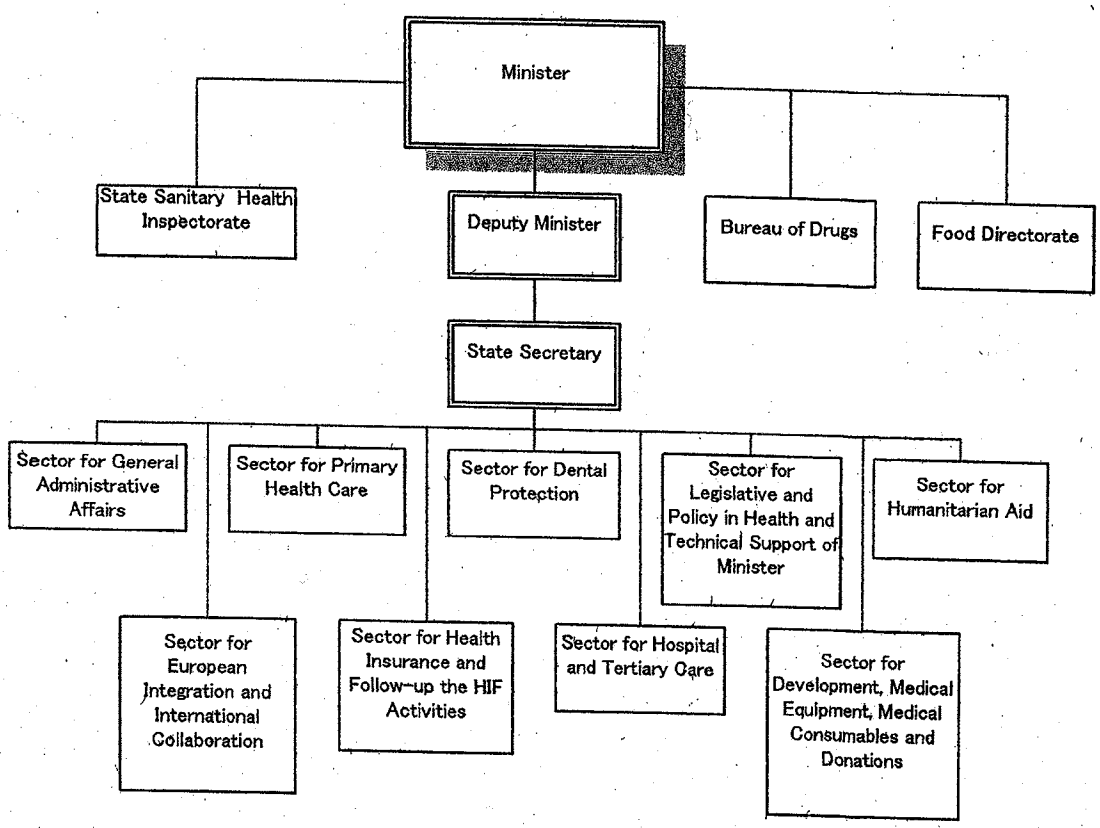


Project Sites Map
- Polyclinics of Skpje Health Center -

1. Skopje Health Center
1-1. Bit Pazar Polyclinic
1-2. Cair Polyclinic
1-3. Jane Sandanski Polyclinic
1-4. Bukurest Polyclinic
1-5. Idadija Polyclinic
1-6. Gorce Petrov Polyclinic
1-7. Suto Orizari Polyclinic
1-8. MVR Polyclinic
1-9. Dracevo Polyclinic
1-10. Cento Polyclinic



Organization Chart Chart of Ministry of Health



Annex - 3.1

Requested Items

Equipment	Project Sites																	Total Q'ty
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
General X-ray apparatus	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Fluoroscopy apparatus	1	-	1	-	1	1	1	1	1	1	-	1	-	1	1	1	1	13
Mammography apparatus	1	-	-	1	1	1	-	1	-	-	-	-	-	-	-	-	-	5
X-ray protection apron	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	42
X-ray film processor	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
X-ray film viewer	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Ultrasound apparatus A	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	20
Ultrasound apparatus B	2	-	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	7
Chemical analyzer	3	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	18
Blood cell counter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Binocular microscope	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
Centrifuge	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Pharmaceutical refrigerator	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Autoclave (Table top)	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	42
Dental unit	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
Dental X-ray apparatus (Inter-oral)	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
Dental X-ray apparatus (Panorama)	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
Colposcope	-	1	1	-	1	1	-	1	-	1	-	-	1	1	-	-	-	8
ECG apparatus	10	1	1	1	-	1	1	1	1	1	1	-	-	1	-	1	1	22
Aspirator	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Ultrasonic nebulizer	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Otoscope set	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
Resuscitation set	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
Ambulance vehicle	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19

*Remarks:

No.	Name of Health center
1	Skopje
2	Demir Hisar
3	Krusevo
4	Resen
5	Negotino
6	Kratovo
7	Makedonski Brod
8	Vevcani
9	Valandovo
10	Radovis

No.	Name of Health center
11	Rostusa
12	Berovo
13	Pehcevo
14	Vinica
15	Delcevo
16	Probistip
17	Sveti Nikole

Annex - 3.2

Requested Items - Polyclinics of Skopje Health Center

Equipment	Polyclinics of Skopje HC										Total Q'ty
	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	
General X-ray apparatus	1	1	1	1	1	-	-	-	-	-	5
Fluoroscopy apparatus	1	-	-	-	-	-	-	-	-	-	1
Mammography apparatus	-	-	1	-	-	-	-	-	-	-	1
X-ray protection apron	2	2	2	2	2	-	-	-	-	-	10
X-ray film processor	1	1	1	1	1	-	-	-	-	-	5
X-ray film viewer	1	1	1	1	1	-	-	-	-	-	5
Ultrasound apparatus A	1	1	1	1	1	-	-	-	-	-	5
Ultrasound apparatus B	-	-	1	1	-	-	-	-	-	-	2
Chemical analyzer	1	-	1	1	-	-	-	-	-	-	3
Blood cell counter	1	-	-	-	-	-	-	-	-	-	1
Binocular microscope	2	2	2	2	2	-	-	-	-	-	10
Centrifuge	1	1	1	1	1	-	-	-	-	-	5
Pharmaceutical refrigerator	1	1	1	1	1	-	-	-	-	-	5
Autoclave (Table top)	2	2	2	2	2	-	-	-	-	-	10
Dental unit	-	1	1	1	1	-	-	-	-	-	4
Dental X-ray apparatus (Inter-oral)	-	1	1	1	1	-	-	-	-	-	4
Dental X-ray apparatus (Panorama)	1	-	-	-	-	-	-	-	-	-	1
ECG apparatus	1	1	1	1	1	1	1	1	1	1	10
Ultrasonic nebulizer	1	1	1	1	1	-	-	-	-	-	5
Resuscitation set	-	1	1	1	-	-	-	-	-	-	3
Ambulance vehicle	-	1	1	1	-	-	-	-	-	-	3

*Remarks

Ref. No.	Name of Polyclinic
1-1	Bit Pazar
1-2	Cair
1-3	Jane Sandanski
1-4	Bukurest
1-5	Idadija
1-6	Gorce Petrov
1-7	Sutó Orizari
1-8	MVR
1-9	Dracevo
1-10	Cento

JAPAN'S GRANT AID SCHEME

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through 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 Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

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

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

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

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
c) confirmation of items agreed on by both parties concerning the basic concept of the Project;

d) preparation of a basic design of the Project; and
e) estimation of costs of the Project.

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

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants
For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

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

2) Exchange of Notes (E/N)
Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, 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" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.
However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

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

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

5) Necessity of "Verification"
The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

6) Undertakings required to the Government of the recipient country
   a) to secure a lot of land necessary for the construction of the Project and to clear the site;
   b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
   c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
   d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
   e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
   f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
   g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

7) "Proper Use"
The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those 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 should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.

b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

Annex - 5

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		●

(2)Explanation of Draft Report

РЕПУБЛИКА МАКЕДОНИЈА
REPUBLIC OF MACEDONIA
МИНИСТЕРСТВО ЗА ЗДРАВСТВО
MINISTRY OF HEALTH
ДРЖАВЕН СЕКРЕТАР/STATE SECRETARY

November 15, 2005

Mr. Keiichi MURAOKA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency

Dear Sir,

I have herein acknoweledged your letter dated November 15, 2005 and have confirmed the contents of the attachment of the letter.

However, I inform that the Republic of Macedonia does not accept the denomination used for my contry as stated in your letter, having in mind that the constitutional name of my country is the Republic of Macedconia.

On behalf of the Ministry of Health of the Republic of Macedonia, I sincerely thank the team for their efforts and close cooperation.

Yours Faithfully,

Ratka KULJAN-ZOGRAFSKI,
State Secretary
Ministry of Health
Government of the Republic of Macedonia

Ul. "50 Divizija" br. 6, Skopje
☎ ++ 389 (0)2 12 90 03
🖷 ++ 389 (0)2 11 30 14

КШ/љм

Dr. Ratka Kuljan-Zografska
State Secretary
Ministry of Health
Government of Macedonia

Nov. 15, 2005

Dear Mme

This is my great honor to refer to our recent discussions regarding the Project for Improvement of Medical Equipment for Primary Health Care Services in the Local Areas in Former Yugoslav Republic of Macedonia (hereinafter referred to as "Project").

In August 2005, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project to Former Yugoslav Republic of Macedonia, and through discussions, field survey, and technical examination of the study results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Government of Macedonia on the components of the draft report, JICA sent to Macedonia the Draft Report Explanation Team (hereinafter referred to as "the Team") from November 6 to November 19, 2005.

In the course of discussions, I believe that the main items described on the attached sheets have been confirmed.

On behalf of the Team, I express my gratitude to the Macedonian officials concerned for their kind assistance and close cooperation to the Team.

Yours Sincerely,

K. Muraoka

Keiichi MURAOKA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency

ATTACHMENT

1. Components of the Draft Report

The Government of Macedonia agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid Scheme

The Macedonian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Macedonia as explained by the Team and described in Annex-4 and 5 of the letter dated on August 18, 2005 sent by the leader of Basic Design Study Team of the Project.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Macedonia by February, 2006

4. Other relevant issues

4-1. After the discussions with the Team, the items described in Annex-1.1 and 1.2 were finally requested by the Macedonian side.

4-2. The Macedonian side has agreed to secure and allocate the enough budgets to operate and maintain the medical equipment procured under the Project properly and effectively.

4-3. The Macedonian side will take necessary measures in order to ensure the tax exemption for the equipment procured under the Project.

4-4. The Macedonian side has agreed to remove the existing equipment which will be replaced by the equipment procured under the Project, and to prepare the room in advance to the installation work of the Project.

4-5. The Macedonian side has agreed to secure the X-ray protection for the project sites on its budget, and to complete the physical works necessary for the said X-ray protection immediately after the installation work of the Project.

4-6. The Macedonian side emphasized to carry out the training for proper operation of equipment to be procured under the Project at each site.

Annex – 1.1: List of the equipment
Annex – 1.2: List of the equipment-Polyclinics of Skopje Health Center
Annex - 2: Letter of cost preparation for the proper maintenance

Annex - 1.1

Requested Items

	Equipment	Project Sites																	Total Q'ty
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	General X-ray apparatus	4	1	-	1	-	-	-	-	-	-	1	-	1	-	-	-	-	8
2	General X-ray apparatus and Fluoroscopy apparatus A	-	-	1	-	-	1	1	1	1	1	-	1	-	1	1	1	1	11
3	General X-ray apparatus and Fluoroscopy apparatus B	1	-		-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
4	Mammography apparatus	1	-	-	1	1	1	-	1	-	-	-	-	-	-	-	-	-	5
5	X-ray protection apron	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	42
6	X-ray film processor	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
7	X-ray film viewer	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
8	Ultrasound apparatus A	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	20
9	Ultrasound apparatus B	2	-	1	1	1	1	-	-	-	-	-	-	-	-	1	-	-	7
10	Chemical analyzer	3	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	18
11	Blood cell counter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
12	Binocular microscope	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
13	Centrifuge	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
14	Pharmaceutical refrigerator	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
15	Autoclave (Table top)	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	42
16	Dental unit	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
17	Dental X-ray apparatus (Intra-oral)	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
18	Dental X-ray apparatus (Panorama)	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
19	Colposcope	-	1	1	-	1	1	-	1	-	1	-	-	1	1	-	-	-	8
20	ECG apparatus	10	1	1	1	-	1	1	1	1	1	1	-	-	1	-	1	1	22
21	Aspirator	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
22	Ultrasonic nebulizer	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
23	Otoscope set	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
24	Resuscitation set	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19
25	Ambulance vehicle	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19

*Remarks:

No.	Name of Health center
1	Skopje
2	Demir Hisar
3	Krusevo
4	Resen
5	Negotino
6	Kratovo
7	Makedonski Brod
8	Vevcani
9	Valandovo
10	Radovis

No.	Name of Health center
11	Rostusa
12	Berovo
13	Pehcevo
14	Vinica
15	Delcevo
16	Probistip
17	Sveti Nikole

Annex - 1.2

Requested Items - Polyclinics of Skopje Health Center

	Equipment	Polyclinics of Skopje HC										Total Q'ty
		1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	
1	General X-ray apparatus		1	1	1	1	-	-	-	-	-	4
3	General X-ray apparatus and Fluoroscopy apparatus B	1	-	-	-	-	-	-	-	-	-	1
4	Mammography apparatus	-	-	1	-	-	-	-	-	-	-	1
5	X-ray protection apron	2	2	2	2	2	-	-	-	-	-	10
6	X-ray film processor	1	1	1	1	1	-	-	-	-	-	5
7	X-ray film viewer	1	1	1	1	1	-	-	-	-	-	5
8	Ultrasound apparatus A	1	1	1	1	1	-	-	-	-	-	5
9	Ultrasound apparatus B	-	-	1	1	-	-	-	-	-	-	2
10	Chemical analyzer	1	-	1	1	-	-	-	-	-	-	3
11	Blood cell counter	1	-	-	-	-	-	-	-	-	-	1
12	Binocular microscope	2	2	2	2	2	-	-	-	-	-	10
13	Centrifuge	1	1	1	1	1	-	-	-	-	-	5
14	Pharmaceutical refrigerator	1	1	1	1	1	-	-	-	-	-	5
15	Autoclave (Table top)	2	2	2	2	2	-	-	-	-	-	10
16	Dental unit	-	1	1	1	1	-	-	-	-	-	4
17	Dental X-ray apparatus (Intra-oral)	-	1	1	1	1	-	-	-	-	-	4
18	Dental X-ray apparatus (Panorama)	1	-	-	-	-	-	-	-	-	-	1
20	ECG apparatus	1	1	1	1	1	1	1	1	1	1	10
22	Ultrasonic nebulizer	1	1	1	1	1	-	-	-	-	-	5
24	Resuscitation set	-	1	1	1	-	-	-	-	-	-	3
25	Ambulance vehicle	-	1	1	1	-	-	-	-	-	-	3

*Remarks

Ref. No.	Name of Polyclinic
1-1	Bit Pazar
1-2	Cair
1-3	Jane Sandanski
1-4	Bukurest
1-5	Idadija
1-6	Gorce Petrov
1-7	Suto Orizari
1-8	MVR
1-9	Dracevo
1-10	Cento

РЕПУБЛИКА МАКЕДОНИЈА
REPUBLIC OF MACEDONIA
МИНИСТЕРСТВО ЗА ЗДРАВСТВО
MINISTRY OF HEALTH
ДРЖАВЕН СЕКРЕТАР/STATE SECRETARY

Skopje, 15 November 2005

Mr. Keiichi MURAOKA
Leader Basic Design Study Team
JICA

Dear Mr. Muraoka,

We inform you that the Ministry of Health, of the Republic of Macedonia, through its expert services will provide appropriate maintenance of the Project equipment and will allocate funds for spare parts and consumables.

STATE SECRETARY,

Ass.dr. Ratka Kuljan Zografski

Ul. "50 Divizija" br. 6, Skopje
☎ ++ 389 (0)2 12 90 03
✉ ++ 389 (0)2 11 30 14

кш/љм

5. Reference

+ The Public Health Report of the Republic of Macedonia, 2004, RIHP
+ Food and Nutrition Action Plan of the Republic of Macedonia, April, 2004, MOH
+ TFYRM Health Systems in Transition Profile 2004 (draft) WHO/Skopje
+ Draft Minutes of Skopje Health Information Sharing Meeting – 22 April 2005, WHO/Skopje
+ Report, Workshop on Health Systems and Policies in the Former Yugoslav Republic of Macedonia, November 2003, WHO/Skopje
+ National Action Plan for Primary, Secondary and Tertiary Prevention of Non Communicable Disease - Breast Cancer, 2004 (draft)