

STUDY REPORT
ON
THE PROJECT FOR EQUIPMENT PROVISION
TO THE BOSNIA AND HERZEGOVINA
MINE ACTION CENTER

MARCH 2000

JAPAN INTERNATIONAL COOPERATION AGENCY

PREFACE

In response to a request from the Government of the Bosnia and Herzegovina, the Government of Japan decided to conduct a study on the project for Equipment Provision to the Bosnia and Herzegovina Mine Action Center, and entrusted the Japan International Cooperation Agency (JICA) to conduct the study with the assistance of the Japan International Cooperation System (JICS).

JICA sent to Bosnia and Herzegovina a study team September 28 to October 17, 1999.

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

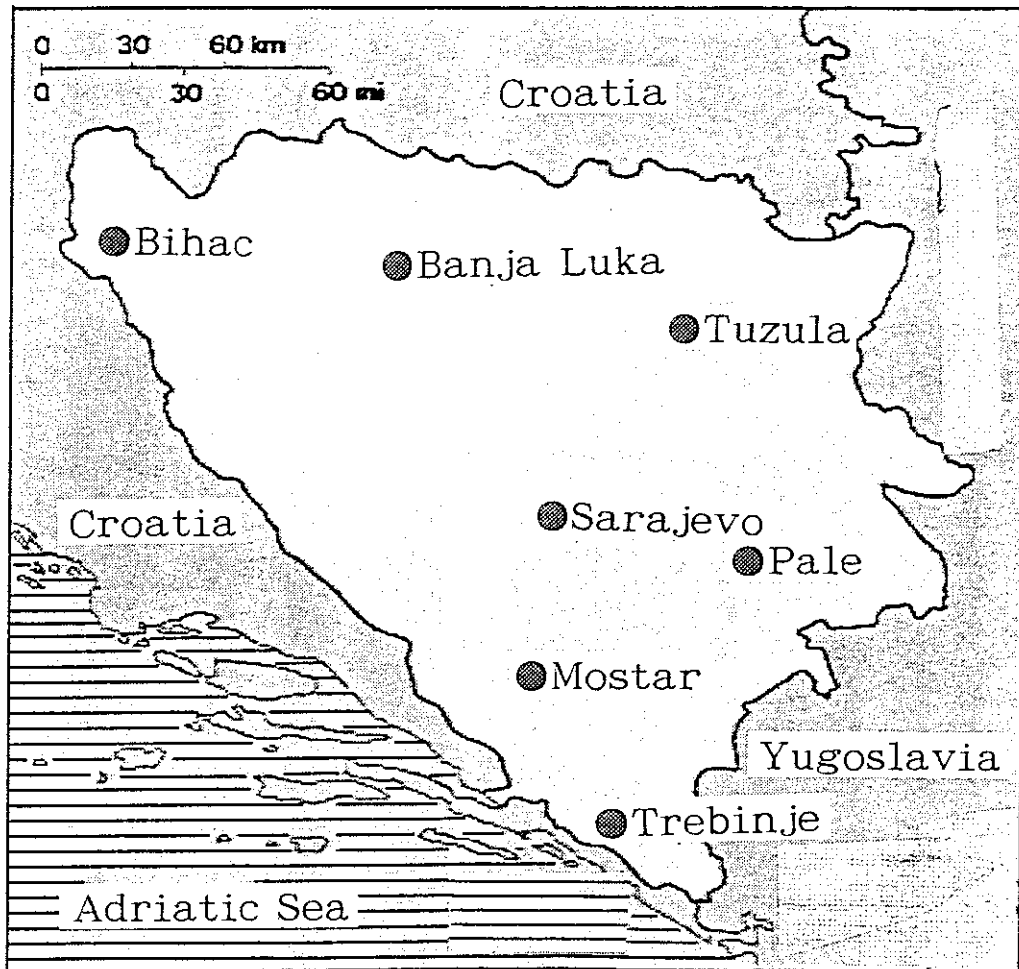
I wish to express my sincere appreciation to the officials concerned of the Government of Bosnia and Herzegovina for their close cooperation extended to the team.



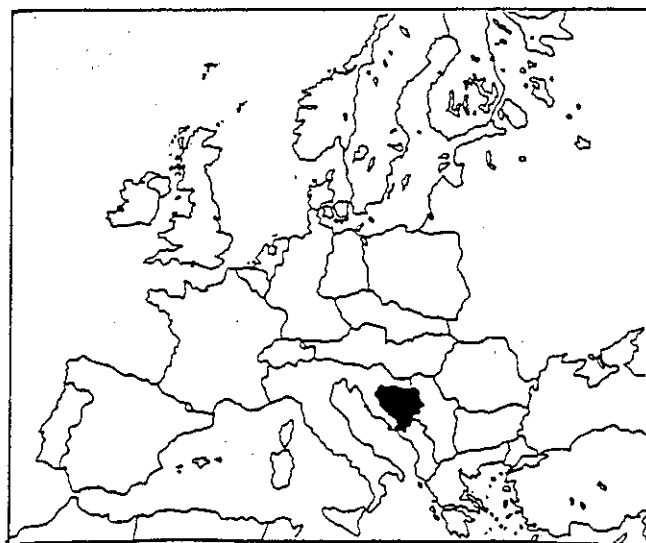
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President

Japan International Cooperation Agency



● Site



Bosnia and Herzegovina

Abbreviations

FD: Bosnia and Herzegovina Federation

RS: Republic Srpska

UNMAC: United Nation Mine Action Centre

BHMAC: Bosnia and Herzegovina Mine Action Centre

FMAC: Bosnia and Herzegovina Mine Action Centre

RSMAC: Republic Srpska Mine Action Centre

UNHCR: United Nation's High Commissioner for Refugees

SFOR: Stabilization Force

EU: European Union

PIU: Project Implementing Unit

NPA: Norwegian People's Aid

HI: Handicap International

NGO: Non Governmental Organization

HELP: Hilfe zur Selbsthilfe e.V.

CIDIC: Canadian International Demining Center

AMP: Akcija Protiv Mina

NDC: National Demining Commission

ITF: International Trust Fund

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CHAPTER 1 BACKGROUND OF THE PROJECT

1-1 Background of the Project

Bosnia and Herzegovina (hereinafter referred to as Bosnia), located in the northeastern part of the European Continent, is a landlocked country bordered by Croatia to the north and west, and Serbia and Montenegro of the New Yugoslav Federation to the east. The national land area is approximately 51,000 km². In the south of the country can be found the Dinar Alps which form the backbone of the country. Moving from the west, climate consists of Mediterranean climate, warm damp climate, and west coast climate. Winters in inland areas are extremely cold. Temperature reaches a peak of approximately 28 °C and a minimum of minus 5 °C.

Gross domestic product (GDP) in 1990 (during the former Yugoslav Republic era before the conflict) was US \$ 4 billion, and during this time Bosnia was home to the five major corporations of Yugoslavia. Retailing was almost wholly conducted by private operators and the small enterprises sector was well developed. Since soil in Bosnia contains a high concentration of lime, it is not considered suitable for agriculture, however, in 1990, 1,580,000 ha of farmland produced 460,000 tons of barley, 730,000 tons of sweet corn, and 340,000 tons of potatoes. Mineral resources amount to 17,970,000 tons of coal and 1,910,000 tons of bauxite, and there are also buried reserves of lime, etc.

Following declarations of independence by the republics of Slovenia and Croatia in June 1991, racial conflict escalated into a bitter civil war which resulted in more than 6,000 fatalities. Economic activities were also catastrophically affected and 1,000,000 workers were either fired or unemployed by 1993.

After the signing of the basic peace agreement (Dayton Accords) in December 1995, a new state was established composed of the newly established Bosnia Herzegovina Federation (hereinafter referred to as the Federation), which is made up of Moslems and Croatians, and the Republic of Srpske (hereinafter referred to as RS), which is made up of Serbians.

It is estimated that approximately 1,000,000 land mines are buried in Bosnia in the wake of the conflict and, according to the BHMACH data base, there are 18,000 mine fields (covering an estimated area of 6,000-8,000 km²) (see Table 1-1). Almost all of the land mines are distributed along the entity boundary line stretching for approximately 1,075 km between FD and RS, and along a stretch of land known as the front line that runs for approximately 2,100 km (this was the front line of fighting during the civil war). Between January 1996, when

mine clearing work started in earnest, in November 1999, the total number of injuries and fatalities resulting from land mines amounted to 1,203. The average monthly number of injuries and fatalities (Table 1-2) was 146 in 1996, 95 in 1997, 26 in 1998, and 12 in 1999. Moreover, since mine fields are situated close to transmission lines and scheduled school construction sites, this has an impact on infrastructure development. The urgent issue of land mine clearing was started by UNMAC (United Nations Mine Action Center) in January 1996, and the Government of Bosnia assumed full responsibility for long term mine clearing activities at the London Peace Conference in December 1996. In July 1998, the following agencies were set up: FMAC (Federation Mine Action Center) to carry out mine clearing activities in FD, RSMAC (Republic of Srpske Mine Action Center) to carry out mine clearing activities in RS, and BHMIC (Bosnia and Herzegovina Mine Action Center) to collect and coordinate information, etc. of mine clearing activities in FD and RS.

Mine clearing work in Bosnia is a tedious process carried out by hand. The equipment currently used by FMAC and RSMAC was supplied at the time of UNMAC establishment and has been in use for more than three years. Signs of corrosion, etc. are starting to appear on vehicles. Moreover, the metal detectors used in searching for mines are showing signs of poor sensitivity, consequently this is starting to hinder the mine clearing work. In addition, there is a plan to bolster personnel in line with mine clearing activity plans, however, it is not possible to put this into action because there is a shortage in equipment for the mine clearing teams.

It was against this background that the Government of Bosnia in February 1992 made a request to the Government of Japan for the provision of grant aid to procure the equipment needed to conduct mine clearing activities. In response to this, the Government of Japan dispatched the Study Team of the Project for Equipment Provision to the Bosnia and Herzegovina Mine Action Centre to conduct site surveys from September 28 through to October 17.

Table 1-1 Regional Distribution of Mine Fields

Region	Number of Mine Fields	
Federation of Bosnia (FD)	13,362	73.4%
Republic of Srpske (RS)	4,831	26.5%
Other	10	0.0%
Total	18,203	100.0%

(Source: BHMIC, 1998)

Table 1-2 Injuries and Fatalities Resulting from Land Mines

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1992	11	1	2	0	0	0	0	0
1992	12	1	1	0	0	0	0	0
1992 Total		2	3	0	0	0	0	0

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1993	1	1	1	2	0	0	0	1
1993	2	1	1	0	0	0	0	0
1993	7	1	0	0	0	0	0	1
1993 Total		3	2	2	0	0	0	2

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1994	1	1	0	1	0	0	0	0
1994	7	1	0	1	0	0	0	0
1994 Total		2	0	2	0	0	0	0

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1995	1	3	1	1	0	0	2	0
1995	8	1	0	1	0	0	0	0
1995	9	1	0	1	0	0	0	0
1995	11	1	0	0	0	0	1	0
1995	12	3	0	1	2	0	0	0
1995 Total		9	1	4	2	0	3	0

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1996	1	58	13	37	23	2	12	1
1996	2	27	6	8	9	0	3	0
1996	3	67	2	46	20	3	6	6
1996	4	66	16	31	24	3	5	0
1996	5	33	13	24	9	0	5	0
1996	6	34	5	29	14	0	2	0
1996	7	40	4	34	21	0	8	0
1996	8	31	6	19	0	3	8	0
1996	9	20	3	15	0	1	2	0
1996	10	21	19	26	3	2	2	0
1996	11	23	4	11	5	0	6	0
1996	12	12	1	7	6	0	1	0
1996 Total		452	92	308	142	14	60	7

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1997	1	27	4	16	5	1	6	0
1997	2	20	6	14	6	1	3	0
1997	3	72	31	36	15	2	8	1
1997	4	43	7	20	15	6	8	1
1997	5	54	11	19	21	2	2	2
1997	6	28	14	15	18	0	1	0
1997	7	16	9	7	7	0	1	0
1997	8	17	8	13	3	0	1	0
1997	9	9	4	6	1	0	1	0
1997	10	18	4	15	0	1	1	0
1997	11	7	2	9	0	0	0	0
1997	12	5	2	2	0	0	0	0
1997 Total		316	102	172	87	17	32	3

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1998	1	14	8	6	0	1	0	0
1998	2	6	1	3	1	0	2	0
1998	3	14	8	13	1	0	0	0
1998	4	13	3	12	3	0	1	0
1998	5	9	2	7	3	0	0	0
1998	6	7	1	4	1	1	0	0
1998	7	4	1	1	1	1	0	0
1998	8	8	3	5	0	0	0	0
1998	9	5	2	2	0	1	0	0
1998	10	7	3	4	1	0	0	0
1998	11	2	0	2	1	0	0	0
1998	12	1	0	1	1	0	0	0
1998 Total		90	34	80	13	4	3	0

Year	Month	Number of accidents	Deaths(Adults)	Seriously Injured(Adults)	Slightly Injured(Adults)	Deaths(Children)	Seriously Injured(Children)	Slightly Injured(Children)
1999	1	3	2	1	1	1	1	1
1999	2	1	1	0	0	0	0	0
1999	3	7	2	4	1	0	0	0
1999	4	4	4	4	0	0	0	0
1999	5	4	3	1	0	1	1	0
1999	6	2	2	2	0	0	0	0
1999	7	5	4	3	1	0	0	0
1999	8	4	2	2	0	0	0	0
1999	9	0	0	0	0	0	0	0
1999	10	1	0	0	0	1	1	0
1999	11	2	2	2	0	0	0	0
1999 Total		31	22	21	3	3	3	1

(Source: BHMAL, 1999)

CHAPTER 2 CONTENT OF THE PROJECT

2-1 Content of the Project

Bosnia is aiming to achieve post-war reconstruction as quickly as possible. The Project was compiled with the aim of supporting the five-year plan of mine clearing activities intended to resolve the land mine issue which is hindering recovery, and its objective is to sustain and improve current land mine clearing capacity through procuring equipment necessary for the said plan.

2-2 Basic Concept of the Project

In order to support implementation of the five-year mine clearing activities plan which starts from 2000, the Project aims to supply equipment that is required by the headquarters of BHMAL, FMAL and RSMAL and the regional offices in Sarajevo, Tuzula, Mostar, Banja Luka, Pale, and Trebinje.

2-2-1 Content of the Five-year Mine Clearing Activities Plan

(1) Mine Clearing Activities Plan

As can be seen in Table 2-1, it is planned to conduct mine clearing activities on 800 km² of land over five years.

Table 2-1 Five-year Mine Clearing Activities Plan for all MAC

Name	Scheduled mine clearing activities area (km ²)	Remarks
FMAL	Approximately 500	Estimated area of approximately 10% against covering area Area of FD is 27,140km ²
RSMAL C	Approximately 300	Estimated area of approximately 5% against covering area Area of RS is 25,053km ² Strengthening of the mine clearing setup in the south
BHMAL AC	—	Improvement of information processing, enhancement of PR activities, improvement in accuracy of mine distribution maps

(2) Personnel Strengthening Plans

Both FMAC and RSMAC are promoting the personnel strengthening plans shown in Table 2-2 in order to execute the five-year plan of mine clearing activities.

Table 2-2 Personnel Strengthening Plans

Agency	Current Setup	Personnel Strengthening setup
FMAC	Number of mine clearing teams: 6 Mine clearing personnel (total): 48	Number of mine clearing teams: 11 Mine clearing personnel (total): 88
RSMAC	Number of mine clearing teams: 5 Mine clearing personnel (total): 40	In line with opening of the regional office in Trebinje, one team will be transferred to there from Pale. Office staff will be increased by 12 in line with the opening of the Trebinje office.
BHMAC	No change	

(3) Equipment Supply Plans

The equipment required by FMAC, RSMAC and BHMAC to carry out mine clearing activities over 800 km² in five years is as shown in Table 2-3, Table 2-4 and Table 2-5 respectively. In future, since it cannot be expected that equipment will be supplied from other aid agencies, the Government of Bosnia is hoping that Japan can provide all the necessary items.

Table 2-3 Equipment Supply Plan for FMAC

Mine clearing equipment for each regional office

No.	Regional Offices and Number of Teams Name of Equipment	Sarajevo	Tuzula	Mostar	Bihac	Total
		2 teams	4 teams	3 teams	2 teams	11 teams
1	Tools (28 types)	3 sets	1 set	1 set	5 sets	11 sets
2	Stretcher	2	4	3	2	11
3	First aid set	2	4	3	2	11
4	First aid box	2	4	3	2	11
5	Ambulance	2	4	3	2	11
6	Terrain vehicle	2	4	3	2	11
7	Trailer	2	4	3	2	11
8	VHF mobile radio	4	8	4	10	22
9	Satellite telephone	2	4	3	2	11
10	Mobile telephone	2	4	3	2	11
11	Ballistic jacket	16	32	24	16	88
12	Ballistic helmet	16	32	24	16	88
13	Blast boots	16	32	24	16	88
14	Coverall	32	64	48	32	176
15	Raincoat	16	32	24	16	88
16	Working boots	16	32	24	16	88
17	Rubber boots	16	32	24	16	88
18	Working gloves	60	120	90	60	330
19	Hat	16	32	24	16	88
20	Tools bag for equipment	16	32	24	16	88
21	Knee pads	16	32	24	16	88
22	Elbow pads	16	32	24	16	88
23	GPS	1	1	1	1	4
24	Binoculars	2	4	3	2	11
25	Compass	2	4	3	2	11
26	Camera	2	4	3	2	11
27	Metal detector	8	16	12	8	44
28	Mine prodder	12	24	18	12	66
29	Base stick	12	24	18	12	66
30	Trip wire feeder	12	24	18	12	66
31	Main marking cone	40	80	60	40	220
32	Hook	2	4	3	2	11
33	Carabine	4	8	6	4	22
34	Exploder	2	4	3	2	11
35	Ohm meter	2	4	3	2	11
36	Electric detonating cord	2	4	3	2	11
37	Crimper	2	4	3	2	11
38	Stop watch	2	4	3	2	11
39	Whistle	2	4	3	2	11
40	Metal box	2	4	3	2	11
41	Metal box	2	4	3	2	11
42	Sand bag	100	200	150	100	550
43	Insulation tape	10	20	15	10	55

Equipment for headquarters and regional offices

No.	Equipment	Quantity
1	Terrain vehicle	14
2	Computer	32
3	Printer	16

4	Print cartridge	160
5	Print cartridge	35
6	Router	1
7	Plotter	4
8	Server dual	1
9	Server dual	4
10	Port switch (24 type)	4
11	Port switch (12 type)	3
12	CD recorder	3
13	Software	1
14	Color photo copy machine	1
15	Photo copy machine	4
16	Facsimile	2
17	Air conditioner	10
18	Computer (notebook type)	2
19	Base station radio	4

Table 2-4 Equipment Supply Plan for RSMAC

Mine clearing equipment for each regional office

No.	Regional Offices and Number of Teams	Banja Luka	Pale	Trebinje	Total
	Name of Equipment	3 teams	1 team	1 team	5 teams
1	Tools (28 types)	3 sets	1 set	1 set	5 sets
2	Stretcher	3	1	1	5
3	First aid set	3	1	1	5
4	First aid box	3	1	1	5
5	Ambulance	3	1	1	5
6	Terrain vehicle	3	1	1	5
7	Trailer	3	1	1	5
8	VHF mobile radio	6	2	2	10
9	Satellite telephone	3	1	1	5
10	Mobile telephone	3	1	1	5
11	Ballistic jacket	24	8	8	40
12	Ballistic helmet	24	8	8	40
13	Blast boots	24	8	8	40
14	Coverall	48	16	16	80
15	Raincoat	24	8	8	40
16	Working boots	24	8	8	40
17	Rubber boots	24	8	8	40
18	Working gloves	90	30	30	150
19	Hat	24	8	8	40
20	Tools bag for equipment	24	8	8	40
21	Knee pads	24	8	8	40
22	Elbow pads	24	8	8	40
23	GPS	1	1	1	3
24	Binoculars	3	1	1	5
25	Compass	3	1	1	5
26	Camera	3	1	1	5
27	Metal detector	12	4	4	20
28	Mine prodder	18	6	6	30
29	Base stick	18	6	6	30
30	Trip wire feeder	18	6	6	30

31	Main marking cone	60	20	20	100
32	Hook	3	1	1	5
33	Carabine	6	2	2	10
34	Exploder	3	1	1	5
35	Ohm meter	3	1	1	5
36	Electric detonating cord	3	1	1	5
37	Crimper	3	1	1	5
38	Stop watch	3	1	1	5
39	Whistle	3	1	1	5
40	Metal box	3	1	1	5
41	Metal box	3	1	1	5
42	Sand bag	150	50	50	250
43	Insulation tape	15	5	5	25

Equipment for headquarters and regional offices

No.	Equipment	Quantity
1	Terrain vehicle	12
2	Computer	22
3	Printer	11
4	Print cartridge	110
5	Router	1
6	Plotter	1
7	Server dual	2
8	Server dual	2
9	Port switch (24 type)	4
10	Port switch (12 type)	2
11	CD recorder	1
12	Software	1
13	Color photo copy machine	1
14	Photo copy machine	2
15	Facsimile	3
16	Air conditioner	9
17	Computer (notebook type)	2
18	Base station radio	3

Table 2-5 Equipment Supply Plan for BHMAL

No.	Equipment	Quantity
1	Computer	15
2	Computer (data base)	7
3	Plotter	1
4	Server dual	1
5	Server dual	1
6	Switch	1
7	Switch	1
8	CD recorder	1
9	Color photo copy machine	1
10	Photo copy machine	1
11	Facsimile	1
12	Air conditioner	2

(4) Training and Recruitment Plans for Mine Clearing Activities

Both FMAC and RSMAC possess mine clearing activity instructors and are able to carry out training in line with personnel increases at any time. Training is carried out according to United Nations regulations. FMAC and RSMAC plan to recruit additional staff and start the mine clearing training before the start of equipment procurement.

Moreover, there is an abundant supply of skilled labor. Upon confirming the past recruitment performance of FMAC, more than 100 people applied for five positions; thus, there is no problem concerning recruitment.

2-3 Basic Design

2-3-1 Design Concept

Road conditions in Bosnia are generally good with more than 90% of general national routes paved. In contrast, almost all the roads in areas around mine fields are unpaved. Moreover, in winter, since driving conditions become treacherously difficult due to snow, four-wheel-drive vehicles shall be procured.

Also, although Bosnia has four seasons and a relatively mild climate, offices have no ventilation and, since temperature control is an important factor in equipment maintenance in rooms where computers are installed, it has been decided to procure air conditioners (with air conditioning functions).

Concerning operation and maintenance capacity at the implementing agencies, experts from donor nations, etc. have been assigned to all MAC offices and capacity is high. Moreover, since activity budgets are furnished by UNDP, it is thought there will be no problem concerning the maintenance of equipment scheduled for supply in the Project.

Concerning the selection and number of items of equipment, decisions shall basically be made based on the five-year mine clearing activities plan (2000-2005).

2-3-2 Basic Design

(1) Tools (28 types)

At all the MAC in Bosnia, in order to carry out mine clearing activities safely, grass cutting, site excavation, and pile driving, etc. are carried out before and after the clearing work. Tools already exist, however, since these are beginning to suffer from breakage

and missing teeth due to deterioration, all the tools displayed in Table 2-6 shall be procured. The quantity of tools range from between two to six times the number of teams depending on the number of teams (11 teams in FMAC, 5 teams in RSMAC) and frequency of use within each team.

Table 2-6 Basic Tool Plan

No.	Equipment Contents, etc.	FMAC	RSMAC	Total
1	Crowbar, with large nail remover: for use in work on sites (inside buildings, etc.)	11	5	16
2	Lever: same as above	11	5	16
3	Picket driver: for use in driving piles in mine field zones	11	5	16
4	Trowel: for use as an auxiliary tool in digging out mines	66	30	96
5	Shovel: for use as an auxiliary tool for digging on sites	22	10	32
6	Spade: same as above	22	10	32
7	Pickax: same as above	22	10	32
8	Axe with long handle: for use in cutting scrub on sites	22	10	32
9	Axe with short handle: same as above	22	10	32
10	Knife: for use in site work	66	30	96
11	Hammer sledge: same as above	11	5	16
12	Hammer claw: same as above	33	15	48
13	Large wire cutter: same as above	22	10	32
14	Pliers: same as above	33	15	48
15	Bush shears: for use as an auxiliary tool in removing vegetation on sites	66	30	96
16	Bush shears: same as above	66	30	96
17	garden shears: same as above	66	30	96
18	Wood saw: same as above	33	15	48
19	Small hand saw: same as above	33	15	48
20	Sickle: same as above	33	15	48
21	Sharpening file: for use in tool maintenance	33	15	48
22	Wire brush: same as above	33	15	48
23	Soft brush: same as above	33	15	48
24	Measuring tape: for use as an auxiliary tool in site surveying	33	15	48
25	Measuring tape: same as above	11	5	16
26	Hand water pump: for use in water sprinkling in target areas in arid districts	22	10	32
27	Wheel barrow: for use in moving soil, etc. at explosion sites	11	5	16
28	Spot light: for use as camping headlights and auxiliary tools for nighttime work	11	5	16

(2) Medical Equipment

There is a high risk of accidents occurring with mine clearing staff on sites. Accordingly, since folding stretchers and emergency medical equipment (first aid sets, first aid boxes)

are required to handle such events, the items indicated in Table 2-7 shall be supplied. One of each item shall be provided for each mine clearing team.

Table 2-7 Basic Plan of Medical Equipment

No.	Equipment Contents, etc.	FMAC	RSMAC	Total
1	Stretcher: for carrying injured persons	11	5	16
2	Mine field trauma kit: for use by medical staff giving first aid	11	5	16
3	Mini mine field trauma kit: for use as first aid medicine on work sites	11	5	16

(3) Vehicles

Concerning vehicles, it is planned to supply four types, i.e. ambulances, terrain vehicles, trailers, and inspector cars.

1) Ambulances

Since it is compulsory for one ambulance to be assigned to each mine clearing team, 16 ambulances shall be procured in total. The ambulances will be used to carry team members who have been injured by accidents during mine clearing work to hospital, but they can also be used for transporting civilians. Four-wheel-drive specifications shall be adopted to enable running over muddy ground in the districts where mines are buried, and onboard equipment shall consist of oxygen inhalators and radios for communicating with regional offices.

2) Terrain Vehicles

Since each mine clearing team is composed of eight members, vehicles shall be procured which enable all team members to be transported together. 16 terrain vehicles shall be procured for the 16 teams. Moreover, vehicles shall be fitted with tow hooks to enable trailer haulage.

3) Trailers

Trailers will be used in hauling mine clearing activities equipment. They will be towed by the terrain vehicles, and 16 vehicles shall be procured for the 16 teams. For safety reasons, trailers shall be fitted with inertia brakes and safety equipment, and mine clearing activities equipment shall be covered to avoid being exposed to rain, etc.

4) Inspector Cars

These vehicles shall be used for collecting information and surveying of mine field areas before and after mine clearing activities. Vehicles shall be four-wheel-drive types fitted with load-carrying platforms for carrying auxiliary staff and surveying equipment over muddy terrain. 14 such vehicles shall be procured for the 14 inspectors belonging to BHMIC and 12 for the 12 inspectors at RSMIC, making 26 vehicles in total.

(4) Communications Equipment

On mine clearing sites, work is often carried out within a radius of 100 m or less, so communications are maintained by mobile radio in order to confirm safety and so on. Accordingly, two mobile radios shall be supplied to each team, making 32 radios in total. Frequency shall be set at the frequency used by the implementing agencies.

One satellite telephone, for use in communicating with headquarters and regional offices from mountain areas where communications conditions are poor, shall be procured for each team, making 16 satellite telephones in total. The same quantity of mobile telephones shall also be supplied for communicating to regional offices when carrying out mine clearing activities in suburban areas. Specifications of all equipment shall be set so that use in Bosnia is possible (see Table 2-8).

Table 2-8 Basic Plan of Communications Equipment

No.	Equipment Contents, etc.	FMIC	RSMIC	Total
1	Portable radio: for use as work radios by mine clearing teams	22	10	32
2	Satellite telephone: for use in making work communications from mountain and remote areas	11	5	16
3	Mobile telephone: for use by team leaders in making work communications	11	5	16

(5) Protective Wear, etc. for Mine Clearing Activities

The protective wear indicated in Table 3-9 is required for carrying out mine clearing activities.

Concerning ballistic jackets, ballistic helmets and bullet proof boots, items which have passed tests by the National Institute of Justice (NIJ) in the United States, or which have complied with bullet penetration standards, shall be procured.

Other wear consists of general items, but care shall be taken to procure items which match with the physique of Bosnian people. Concerning quantities, 128 (16 teams x 8 members each) shall be procured of each item, except for leather gloves. Since 30 pairs of gloves are required by each team (6 operators/team x 5 pairs/wear goods 1 year for 5 pcs supply), a total of 480 pairs shall be procured. Cold-proof accessories shall also be procured with the wear to enable mine clearing activities to be conducted in winter.

Table 2-9 Basic Plan of Protective Wear, etc. for Mine Clearing Activities

No.	Equipment Contents, etc.	FMAC	RSMAC	Total
1	Ballistic jacket: for torso protection, etc. of mine clearing personnel	88	40	128
2	Ballistic helmet and visor: for head protection, etc. of mine clearing personnel	88	40	128
3	Blast boots: for foot and leg protection, etc. of mine clearing personnel	88	40	128
4	Coverall: summer type and winter type for cold protection of mine clearing personnel	176	80	256
5	Raincoat: for rain protection of mine clearing personnel	88	40	128
6	Working boots: for use as general work footwear of team members	88	40	128
7	Rubber boots: for use in rain by mine clearing personnel	88	40	128
8	Leather working gloves: for use as working gloves by mine clearing personnel	330	150	480
9	Work hat: for use as general work headgear by mine clearing personnel	88	40	128
10	Work utensil bag: to be numbered and used for storing and controlling equipment	88	40	128
11	Knee pads: for knee protection of mine clearing personnel	88	40	128
12	Elbow pads: for elbow protection of mine clearing personnel	88	40	128

(6) Surveying Equipment

Before mine clearing work is started, the mine clearing team carries out simple surveying in order to confirm location on the map. It is necessary at this time to also measure the distance to the target site of mine clearing activities. Accordingly, binoculars which is able to confirm site conditions and at the same time measure distance shall be procured.

On the site, photograph taking is also carried out and conditions are gauged through inputting data on computer. For this reason, digital cameras which is able to perform data input and output shall be procured.

Compasses are the type used by NATO which enable bearings and distance to be entered on maps. One shall be supplied to each mine clearing team, making 16 in total.

GPS is used to carry out detailed surveying of sites upon completion of the mine clearing work. Currently mine distribution maps are prepared by GPS, however, precision is poor and error can be as high as 10 m. Therefore, one back-pack or portable GPS which meets

the international standard error of 1 m or less shall be supplied to each regional office, making seven in total.

Table 2-10 Basic Plan of Surveying Equipment

No.	Equipment Contents, etc.	FMAC	RSMAC	Total
1	GPS: for use in surveying mine fields	4	3	7
2	Binoculars with range finder: for use in simple distance measurement	11	5	16
3	Compasses: for use mainly when entering bearings and distance on maps	11	5	16
4	Digital camera: for use in preparing materials	11	5	16

(7) Demining Apparatus

The apparatus shown in Table 2-11 is essential for mine clearing activities. Since the British MD8 metal detector has a proven record and is currently used, this item shall be procured. Since four members of each mine clearing team will use metal detectors, 4 x 16 teams = 64 metal detectors shall be procured. Moreover, the MD8 has been approved for use in mine clearing activities at all MAC and since it is currently in use, local staff are well versed in its use and maintenance.

Mine prodders, base sticks and trip wire feeders shall be procured upon examining the specifications in use locally. Since six members of each mine clearing team will use mine prodders, base sticks and trip wire feeders, 4 x 16 teams = 64 of each item shall be procured.

As for marking cones, those used in general road works shall be procured. 20 shall be procured for each mine clearing team, making 320 in total.

Other quantities have been decided upon giving consideration to the number of mine clearing teams and frequency of use.

Table 2-11 Basic Plan of Mine Clearing Activity Apparatus

No.	Equipment Contents, etc.	FMAC	RSMAC	Total
1	Metal detector: for use in detecting mines	44	20	64
2	Mine prodder: for use in excavating mine sites with a pointed prodding rod	66	30	96
3	Base stick: for use as markers for confirmation of mine clearing activities	66	30	96
4	Trip wire feeder: thin rod for detecting trip wires	66	30	96
5	Marking cone: for use as a marker of mine clearing activities (Main marking cones)	220	100	320
6	Hook: for use when removing large mines	11	5	16
7	Carabine: for use with rope line and hook	22	10	32
8	Exploder: for use as an explosion device	11	5	16
9	Ohm meter: for use in examining conduction in resistance gauges and Electric detonating cords	11	5	16
10	Crimper: for use in fixing Electric detonating cords	11	5	16
11	Electric detonating cord: for use in exploding mines	11	5	16
12	Stop watch: for time measurement	11	5	16
13	Whistle: for giving instructions	11	5	16
14	Large metal box: for storing ohm meters, etc.	11	5	16
15	Small metal box: for storing initiation fuse	11	5	16
16	Sand bag: for use in protecting personnel	550	250	800
17	Insulation tape: for use in insulating Electric detonating cord	55	25	80

(8) Office Equipment, etc.

All the MAC offices in Bosnia use computers and other office equipment to carry out collection and analysis of mine clearing activity information, preparation of mine distribution maps, and implementation of public relations activities, etc.

Since all the MAC have experience of using the equipment shown in Table 3-12, there should be no problem in terms of carrying out work.

Moreover, in line with Project implementation, it is planned for all MAC offices to connect on-line and exchange information with mine clearing activity groups throughout the world. Therefore, concerning the computers, printers, scanners, plotters, server duals, switches, CD recorders and software, models that are compatible with the commonly used Windows 2000 system shall be procured. Existing office equipment shall be renewed with the quantities shown in the table to be supplied.

Routers shall be procured for Internet connection and for renewal at FMAC. Color photo copy machines are not currently used, however, these shall be procured for copying color

documents such as mine maps, etc. Photo copy machines, facsimiles and air conditioners shall be procured to renew existing equipment, and quantities shall be as shown in the table.

Table 2-1-2 Basic Plan of Office Equipment, etc.

No.	Equipment Contents, etc.	FMAC	RSMAC	BHMAC	Total
1	Computer: for use in preparing materials and performing work	32	22	15	69
2	Computer: for network use	0	0	7	7
3	Notebook personal computer: for use on sites	2	2	0	4
4	Printer: for use with the above computer	16	11	0	27
5	Printer: for use as a network printer	3	0	0	3
6	Print cartridge: to be stored as a spare for printer use	270	110	0	380
7	Print cartridge: to be stored as a spare for printer use	35	0	0	35
8	Scanner: for use in preparing mine distribution maps	0	1	0	1
9	Plotter: same as above	0	1	1	2
10	Server dual: for use in network management	4	2	1	7
11	Server dual: for use in data base management	2	0	1	3
12	Switch: for use in Server dual connection	4	2	1	7
13	Switch: for use in Server dual connection	4	4	1	9
14	CD recorder: for additional printing of reference CD	3	2	1	6
15	Software: including software for preparing figures, tables and drawings, etc.	1	1	0	2
16	Router: for use as a modem for Internet connection at FMAC headquarters	1	0	0	1
17	Color photo copy machine: for work (reference materials preparation, etc.) at headquarters	1	1	1	3
18	Photo copy machine: for work (reference materials preparation, etc.) at headquarters	4	2	1	7
19	Facsimile: for work communications	2	3	1	6
20	Air conditioner: for air conditioning of offices	10	9	2	21

2-3-3 Procurement of Products Manufactured in Third Countries

(1) Examination of Third Country Products

Project equipment scheduled for procurement from third countries is shown in Table 2-13. The remarks column shows the range of countries of origin.

Table 2-13 List of Third Country Products

No.	Item	Reason	Remarks
1	Metal detector	The MD8 has been approved by FMAC and RSMAC	United Kingdom
2	Ballistic jacket	Not produced in Japan	Israel, United States, Germany, United Kingdom, France
3	Ballistic helmet	Not produced in Japan	Israel, United States, Germany, United Kingdom, France
4	Blast boots	Not produced in Japan	Israel, United States, Germany, United Kingdom, France
5	GPS	Not produced in Japan	DAC
6	Mine prodder	Not produced in Japan	United States, Germany, United Kingdom, France
7	Trip wire feeder	Not produced in Japan	United States, Germany, United Kingdom, France
8	Hook	Not produced in Japan	United States, Germany, United Kingdom, France
9	Exploder	Not produced in Japan	United States, Germany, United Kingdom, France
10	Ohm meter	Not produced in Japan	United States, Germany, United Kingdom, France
11	Electric detonating cord	Not produced in Japan	United States, Germany, United Kingdom, France
12	Crimper	Not produced in Japan	United States, Germany, United Kingdom, France
13	Computer	Products for export are not produced in Japan	DAC
14	Printer	Products for export are not produced in Japan	DAC, ASEAN
15	Scanner	Products for export are not produced in Japan	DAC
16	Server dual	Products for export are not produced in Japan	DAC
17	Port switch	Products for export are not produced in Japan	DAC
18	CD recorder	Products for export are not produced in Japan	DAC
19	Software	Products for export are not produced in Japan	DAC, ASEAN
20	Router	Products for export are not produced in Japan	DAC, ASEAN
21	Air conditioner	Products for export are not produced in Japan	DAC, ASEAN

(2) Examination Concerning Brand of Metal Detector

All MAC have requested that the British MD8 metal detector be used.

In Bosnia, UNMAC has carried out various tests from the viewpoints of ease of use, reliability, and durability, etc., and as a result of these four models of metal detector considered to be ideal were selected and approved. The four models are the Foerster and Vallon made in Germany, the British MD8, and the Australian Minelab. The two German

models suffer from faster battery dissipation than the MD8 and are also heavy (around 400 g) and difficult to use.

The Minelab offers better detection performance than the MD8 on clay like soil, however, since this has not always provided good detection results when used in Bosnia, MD8 is currently used.

At all the MAC, detailed provisions of use are prepared according to metal detector characteristics, and only mine clearing personnel who have received ample training based on these provisions are dispatched to sites. In this way, detailed provisions of use are required for each model of metal detector, and only personnel who have been trained in using each model can be assigned to sites. Accordingly, the adoption of multiple models would not only create inconvenience in terms of maintenance, but could even lead to major problems in terms of safety. Therefore, designating the brand of metal detectors is considered to be appropriate.

(3) Examination Concerning Third Country Procurement of Office Equipment, etc.

There are numerous Japanese manufacturers which office equipment, however, the production bases of each manufacturer have spread throughout the world in recent years and, concerning export specifications (English language specifications), even if products are made by Japanese manufacturers, there is a strong possibility they are produced abroad. Accordingly, since it is considered highly likely that competition will be restricted if product selection is limited to Japanese products, it is appropriate to request third country products.

(4) Equipment Plan

The major specifications and purposes of equipment procured in the Project are shown in Table 2-14.

Table 2-14 Specifications and Purposes of Use of Equipment

No.	Equipment	Specifications	Purpose	Quantity
1	Tools	28 items in all: lever, shovel, hammer, sickle, pliers, crowbar, axe, picket driver, water pump, measure, knife, saw, wheel barrow, etc.	For use in preparatory work before mine clearing	1
2	Stretcher	Folding type, canvas, nylon, etc.	For carrying injured persons	16
3	First aid set	Including first aid items, tourniquet and case	First aid for injured persons	16
4	First aid box	Including gauze, anastaltic and case	First aid for minor injuries	16
5	Ambulance	4x4, wagon, diesel, with oxygen inhalator and radio	For transporting injured persons	16
6	Terrain vehicle	4x4, wagon, diesel, 8 persons, with tow hook	For transporting mine clearing personnel and equipment	16
7	Trailer	Tow type, with accessories, inertia brakes, including 32 jelly cans	For haulage of mine clearing equipment	16
8	Terrain vehicle	4x4, pickup, double cabin, diesel	For transporting supervisors and equipment to mine fields	26
9	VHF mobile radio	Battery recharge type, 25 channel spacing	For work communications on mine clearing sites	32
10	Satellite telephone	Portable, battery recharge type, built-in antenna	For communications in mountain areas	16
11	Mobile telephone	Battery recharge type, European specifications	For use by mine clearing team leaders	16
12	Ballistic jacket	Magic tape type, for mine clearing	For protection of mine clearing personnel	128
13	Ballistic helmet	With visor, for mine clearing	For protection of mine clearing personnel	128
14	Blast boots	Leather or equivalent material, mine clearing-related	For protection of mine clearing personnel	256
15	Coverall	Summer and winter use, made from cloth	For rain protection of mine clearing personnel	128
16	Raincoat	Nylon	Coverall of mine clearing personnel	128
17	Working boots	Boots	For work of mine clearing personnel	128
18	Rubber boots	Rubber, weatherproof	For rain protection of mine clearing personnel	128
19	Working gloves	Leather, five fingers	For work of mine clearing personnel	480
20	Hat	Waterproof, cap	For work of mine clearing personnel	128
21	Tools bag for equipment	Waterproof, weatherproof	For work of mine clearing personnel	128
22	Knee pads	Plastic, ABS, etc., magic tape type	For work of mine clearing personnel	128
23	Elbow pads	Plastic, ABS, etc., magic tape type	For work of mine clearing personnel	128
24	GPS	Error 1 m, with antenna, backpack type	For confirmation of minefield position	7
25	Binoculars	Distance can be measured by laser	For mine field monitoring and distance measurement	16
26	Compass	Portable type	For confirmation of minefield position	16
27	Camera	Digital, can be used with floppy discs	For preparing materials	16
28	Metal detector	Battery type, portable, with case	For detecting mines	64
29	Mine prodder	Anti-corrosive, separate type	For searching for mines	96
30	Base stick	Wood	For searching for mines	96
31	Trip wire feeder	Metal	For searching for mines	96
32	Main marking cone	Plastic, ABS, etc.	For confirmation of minefield position	320
33	Hook	Metal, corrosion-proof, one-touch type	Auxiliary tool for handling explosives	16

34	Carabine	Metal, corrosion-proof, one-touch type	For joining with rope	32
35	Exploder	Box type, battery, portable	For exploding	16
36	Ohm meter	Box type, digital display, portable	For measuring resistance	16
37	Electric detonating cord	500 m, reel	Explosives handling apparatus	16
38	Crimper	Corrosion-proof, pliers type	Explosives handling apparatus	16
39	Stop watch	Digital display	For timing explosions	16
40	Whistle	Corrosion-proof	For giving site instructions	16
41	Metal box	Corrosion-proof, metal, with urethane form	For storing initiator	16
42	Metal box	Corrosion-proof, metal	For storing tools	16
43	Insulation tape	2 m, waterproof	For Electric detonating cord insulation	80
44	Computer	550 MHZ, desk top, hard 10 GB minimum	For preparing materials	69
45	Computer	550 MHZ, desk top, hard 10 GB minimum, for data base	For data base and map preparation	7
46	Printer	A3 size	For printing	27
47	Printer	Laser	For printing	3
48	Print cartridge	Laser	For printing	35
49	Print cartridge	Ink jet	For printing	270
50	Scanner	A0 size	For reading mine maps, etc.	1
51	Plotter	A0 size	For printing mine maps	2
52	Server dual	550 MHZ, 256 MB minimum	For network management	7
53	Server dual	550 MHZ, Dat drive 12 GB	For data base management	3
54	Port switch	24 port	For Server dual connection	7
55	Port switch	12 port	For Server dual connection	9
56	CD recorder		For data storage	6
57	Software	EXCEL, Word, etc.	For work	2
58	Router	Digital line	For Internet connection	1
59	Color photo copy machine	A3 size	For copying maps	3
60	Photo copy machine	With sorter	For copying reference materials	7
61	Facsimile		For communication	6
62	Air conditioner		For computer room air conditioning	21
63	Sand bag	Cloth or nylon, etc.,	For sand bagging	800
64	Computer	Notebook type	For preparing materials	4

CHAPTER 3 IMPLEMENTATION PLAN

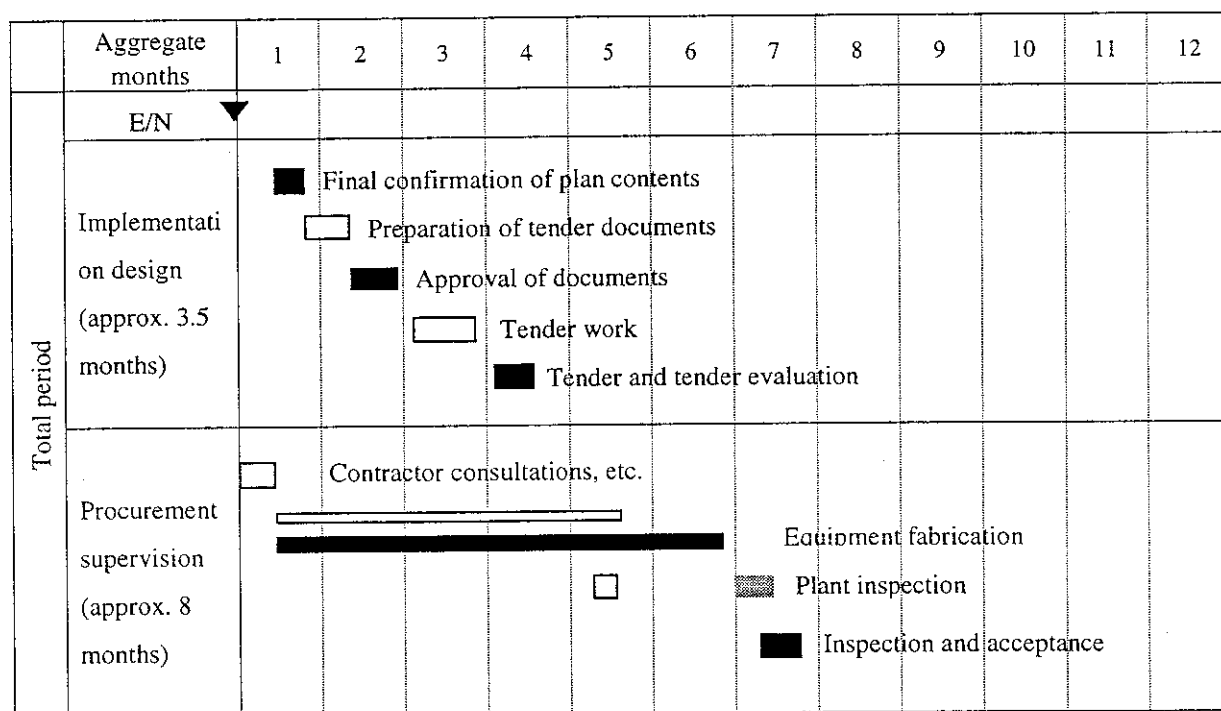
3-1 Implementation Plan

3-1-1 Implementation Schedule

Total period (from E/N to handing over) : 11.5 months
 From E/N to contractor contract : 3.5 months
 Delivery (from contractor contract to handing over): 8.0 months

The implementation schedule is as indicated in Table 3-1.

Table 3-1 Implementation Schedule



Work in Bosnia
 Work in Japan
 Work in third country

Remark: After inspection, equipment will be distributed FMAC , BHMAL and RSMAL head quarters. After distributing, equipment will be supplied to local offices.

3-1-2 Obligation of Recipient Country

The scope of works to be borne by the Bosnia side in the Project is as follows:

1. To carry out the immediate unloading and customs clearance of procured equipment.

2. To exempt procured equipment and procurement work from tariffs and taxes in Bosnia.
3. To provide necessary conveniences for the entry into Bosnia and stay therein of Japanese nationals concerned with the Project work.
4. To bear all other costs not covered by the grant aid.
5. To assign the counterpart.
6. To ensure the proper maintenance and utilization of procured equipment.
7. To conclude banking arrangements.
8. To ensure the certain allocation of personnel and operation and maintenance budget required for Project implementation.

3-2 Operation and Maintenance Costs

(1) Operation and Maintenance Setup

1) Vehicles

Since FMAC and RSMAC (the implementing agencies) do not possess equipment for carrying out repairs, this work is consigned to a private auto repair shop. Since the currently designated repair shop acts as an agent for makers, it can carry out free guarantee repairs. The workshop currently has 25 employees and carries out repairs in a setup consisting of six repair engineers, four vehicle body repair engineers, one electrical engineer, one tire engineer and one parts engineer.

The workshop owns lift-type maintenance booths and is capable of working on five or six vehicles at the same time and can also perform engine overhauls.

The RS side also has a designated vehicle repair shop, albeit small in scale. This workshop currently has 11 employees consisting of six repair engineers, four vehicle body repair engineers, and one parts engineer.

In consideration of the above, it is judged that operation and maintenance of vehicles can be adequately carried out by utilizing these existing repair workshops.

2) Mine Detectors, etc.

FMAC and RSMAC (the implementing agencies) carry out simple repairs. As for complex repairs, equipment is either sent to neighboring countries for repair or engineers from manufacturers in neighboring countries are requested to perform repairs during regular patrols. FMAC and RSMAC intend to consign repairs of Project equipment to local equipment repair shops or agents.

(2) Annual Operation and Maintenance Costs

In line with the increase in vehicle brought about by the Project, the cost items shown in Table 4-3 will be additionally incurred in 2001. When the necessary equipment maintenance costs are calculated upon taking condition in Bosnia into account, the following results are obtained. The annual operation and maintenance cost for vehicles is approximately 36 million yen.

Table 4-3 Equipment Management Costs

Item	Estimate Cost (10,000 yen)
1. Expendable parts cost	528
2. Fuel cost	11
3. Oil cost	3,090
Total	3,624

The following paragraphs give a breakdown of each item.

1) Expendable Parts Cost

As for tires, annual cost works out to be approximately 5,280,000 yen according to the following calculation:

$$\bullet (58 \text{ vehicles} \times 4 \text{ tires per vehicle}) + (16 \text{ vehicles} \times 2 \text{ tires per trailer}) \times 20,000 \text{ yen/tire}$$

2) Fuel Cost

Annual fuel cost works out to be approximately 30,900,000 yen according to the following calculation:

• $(0.037 \text{ l/PS/h} \times 1,600 \text{ hours/year} \times 120 \text{ PS} \times 58 \text{ vehicles}) \times 74.9 \text{ yen}$

3) Oil Cost

Annual oil cost (engine oil) works out to be approximately 110,000 yen according to the following calculation:

$10 \text{ liters (necessary amount at time of replacement)} \times 2 \text{ times (replacement frequency)} \times 58 \text{ vehicles (number of vehicles)} \times 94 \text{ yen/liter}$

CHAPTER 4 PROJECT EVALUATION AND RECOMMENDATION

4-1 Project Effect

(1) Direct Effect

The existing rate of mine clearing work will be improved from 100 km²/year to 150 km²/year, meaning that approximately 800 km² of mine clearing can be carried out over the upcoming five-year plan. Moreover, approximately 800 injuries and fatalities occur as a result of mines every year (average from 1996), but it is predicted that Project implementation will lead to a reduction in this.

(2) Indirect Effect

Present condition of Bosnia and Herzegovina, project for transportation and communication infrastructure, electric transmission lines and water/sewerage infrastructures are proceeding. However, in the areas where landmines are occupied, infrastructure can not be implemented until demining work is completed. Implementation of the proposal to activate mining clearing which will lead to smooth infrastructure service. Moreover, it will contribute indirectly to the stimulation of economic activities.

4-2 Recommendation

(1) Further Enhancement of Public Relations Activities

Due to public relations activities by BHMACH such as putting up danger posters and radio broadcasts, the number of injuries and fatalities is going down. Mine accidents occur most frequently in April, when socioeconomic activities become more active in line with thawing of the winter snow, but they drop off after that. In order to further reduce accidents, it is necessary to establish a clamp down month and promote further PR activities.

(2) Enhancement of the Support Setup for Victims

Even if mine accidents do not lead to fatality, it is a well known fact that the resulting injuries can be horrific. Normally, 40% of mine victims must undergo amputation of at least one limb and have to face life as disabled persons. Moreover, 20% of victims lose

their sight. Consequently, it is necessary to build a rehabilitation center and false limb center, etc. to help victims make a quick return to society.

Table 4-1 Mine Accident Conditions

										Neck	Eyes	Chest	Abdo men
	Death	1 limb	2 limbs	1 leg	Both legs	1 limb	2 limbs	1 arm	Both arms				
Number of victims	260	76	13	60	3	16	6	9	2	29	44	37	42

(Source: BHMAL Mine Activities report)

(3) Enhancement of the Support Setup for Mental Disorders

Another thing not to be forgotten when dealing with prevention of mine accidents is post trauma stress syndrome. According to a report by BHMAL from 1999, 15% of the population complain mental ailment of some sort following war or mine ordeals. Sufferers lack ability to take part in society and are characterized by the following kind of symptoms. Enhancement of counseling services is necessary.

1. Loss of interest or motivation with respect to necessary lifestyle activities
2. Deficiency in concentrating ability (lack of capacity to perform productive work)

Appendices

1. Member List of the Research Group
2. Investigation Schedule
3. List of Party Concerned in the Recipient Country
4. List of Gathered References
5. Minutes of Discussion
6. References
 - Reference-1 Drawing of the Head Quarters of FMAC
 - Reference-2 Drawing of the Head Quarters of RS
 - Reference-3 Drawing of the Head Quarters of BHMAL
 - Reference-4 List of Possessive Machine Parts
 - Reference-5 Distribution Map of Mines

1. Member List of the Survey Team

- | | |
|---|--|
| (1)Mr. Mr.Ikufumi TOMIMOTO
(Leader) | Japan International
Cooperation Agency (JICA) |
| (2)Mr. Tadashi NIKAIDO
(Equipment Planner 1) | Japan International
Cooperation System (JICS) |
| (3)Mr. Takefumi MAYUMI
(Equipment Planner 2) | Japan International
Cooperation System (JICS) |

2. Investigation Schedule

No. of Date	Date		Official	Consultants (2 persons)		Stay
			1	2	3	
1	9/27	Mon		Narita(NH285)10:45→Vienna 16:10		2.3 Vienna
2	9/28	Tue		Meeting with JICA Office, Courtesy Call on the Embassy of Japan in Austria. Vien13:20→Sarajevo 14:20 Courtesy call on the Embassy of Japan in BH		2.3 Sarajevo
3	9/29	Wed		Courtesy call on M/o Foreign Affairs and Commission for demining B		2.3 Sarajevo
4	9/30	Thu		Courtesy call and discussion on BHMIC & FDMIC. Site Visit (Sarajevo)		2.3 Sarajevo
5	10/1	Fri		Site Visit (Tuzla)		2.3 Sarajevo
6	10/2	Sat		Site Visit (Mostar)		2.3 Sarajevo
7	10/3	Sun		Internal meeting		2.3 Sarajevo
8	10/4	Mon				2.3 Sarajevo
9	10/5	Tue		Discussion with BHMIC and FDMIC. Transfer to Banja Luka		2.3 Banja Luka
10	10/6	Wed		Discussion with RSMIC		2.3 Banja Luka
11	10/7	Thu		Discussion with RSMIC		2.3 Banja Luka
12	10/8	Fri		Discussion with RSMIC		2.3 Banja Luka
13	10/9	Sat		Discussion with RSMIC. Site Visit (Bihac)		2.3 Bihac
14	10/10	Sun		Transfer to Sajevo		2.3 Sarajevo
15	10/11	Mon	Transfer to Sarajevo	Discussion with UNDP, ITF		1.2.3 Sarajevo
16	10/12	Tue		Discussion with BHMIC, FDMIC and RSMIC		1.2.3 Sarajevo
17	10/13	Wed		Discussion with BHMIC, FDMIC and UNHCR. Site Visit (Pale)		1.2.3 Sarajevo
18	10/14	Thu		Discussion and BHMIC, FDMIC and Civil Protection RS		1.2.3 Sarajevo
19	10/15	Fri		Signature on the Minutes of Discussion. Report to Embassy in BH		1.2.3 Sarajevo
20	10/16	Sat	Back to Vienna	Discussion with BHMIC		2.3 Sarajevo
21	10/17	Sun		AM: Internal meeting Sarajevo(S832)15:15→Vienna 16:30		2.3 Vienna
22	10/18	Mon		Report to Embassy of Japan and JICA in Austria		2.3 Vienna
23	10/19	Tue		Vienna(LH3659) 10:45→ Frankfurt 12:10→ Frankfurt 13:50		
24	10/20	Wed		Narita (LH710) 7:50		

3. List of Party Concerned in the Recipient Country

Bosnia and Herzegovina Commission for Demining

Mr. Enes CENGIC (Chairman)
Mr. Berislav PUSIC (Chairman)

Bosnia and Herzegovina Mine Action Centre

Mr. Filip FILIPOVIC (Director BH MAC)
Mr. David ROWE (Senior Technical Advisor UNDP)

Federal Mine Action Centre

Mr. Ahdin ORAHOVAC (Director)
Mr. Zoran Grujic (Assistant Director of Information)
Mr. Edin BIJEDIC (Operation Manager)
Mr. Nermin HADZIMUJAGIC (Assistant Director of Coordination)
Mr. Sinisa PERPJEVIC (Procurement Assistant)

F MAC (Tuzla Office)

Mr. Irfan PEHLIC (Regional Manager)

F MAC (Mostar Office)

Mr. Ivica BRAKIC (Regional Manager)
Mr. Paul HAIGH (Technical Advisor - SFOR)

F MAC (Bihac Office)

Mr. Enes ZERIC (Regional Manager)

RSMAC (Srpska Demining Centre)

Mr. Slavko PERISIC (Deputy Director)
Mr. Sandy POWELL (Senior Technical Advisor)

RSMAC (Pare Office)

Mr. Milan RADULOVIC (Operation officer)
Mr. Jubomir SAVCIC (Inspector)

United Nation Development Program

Mr. Henrik KOLSTRUP (Officer-in-Charge)

International Trust Fund

Mr. Jernej CIMPERSEK (Director)
Mr. Goran GACNIK (Deputy Director)
Mr. Robert Strazisar (Head of the Office)

SFOR (Peace Keeping Force)

Mr. Iain JANES (Colonel)
Mr. Geordie HOWE (WO2 UK)
Mr. Roman LACKOVIC (Chief of MICC)

United Nation High Commissioner for Refugees

Mr. Marc PAPOPORT (Program Officer)
Mr. Nihad HOTA (Repatriation Assisrant)

European Union-HELP

Mr. Ian CLARKE (Joint Operations Manager)
Mr. Patrick PARSONS (Logistics Manager)

UXB International (Private Corporation for Demining)

Mr. Roger HESS (Senior Technical Consultant)

RS Civil Defence

Mr. Vujicic DUSAN (Manager)
Mr. Miroslav VUJANIC (Operations Officer)

Local Agency

Mr. Nemanja MATIJASEVIC

Ministry of Foreign Affairs of Bosnia and Herzegovina

Mr. Mihovil MALBASIC (Assistant Minister)
Mr. Mithat PASIC (Head of Unit, Department for Multilateral Relations)
Ms. Jasna CEHIC (International Aid Coordinator)

Japanese Embassy in Australia

Japanese Embassy in Bosnia and Herzegovina

Mr. Miura (Provisional Ambassador)

JICA Office in Australia

Mr. Tomimoto (Head)
Mr. Nakai

MINUTES OF DISCUSSIONS
STUDY
ON
THE PROJECT
FOR
EQUIPMENT PROVISION TO THE BOSNIA AND HERZEGOVINA
MINE ACTION CENTRE
IN BOSNIA AND HERZEGOVINA

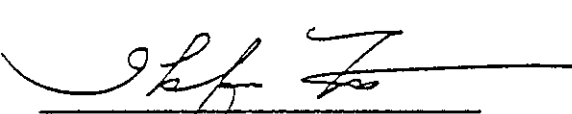
In response to the request from Bosnia and Herzegovina, the Government of Japan decided to conduct the Study on the Project for EQUIPMENT PROVISION TO THE BOSNIA AND HERZEGOVINA MINE ACTION CENTRE in Bosnia and Herzegovina (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA")

JICA sent to Bosnia and Herzegovina (hereinafter referred to as "B&H") the Study Team (hereinafter referred to as "the Study Team)", which is headed by Mr. Ikufumi Tomimoto, Resident Representative of JICA Austria Office, JICA, and the Study Team is scheduled to stay in the country from September 28th to October 16th 1999.

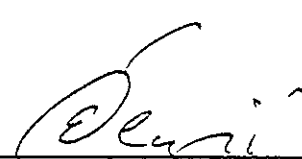
The Study Team held a series of discussions with the officials concerned of Bosnia and Herzegovina and conducted field surveys at the study areas.

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

Sarajevo, October 15th, 1999




Mr. Ikufumi Tomimoto
Leader,
The Study Team
JICA



Mr. Enes Cengic
Chairman
Council of Ministers
Commission for demining
Bosnia and Herzegovina

Witness:



Mr. Mihovil Malbasic
Assistant Minister,
Department for Multilateral Relations
Ministry of Foreign Affairs
Bosnia and Herzegovina

ATTACHMENT

1. Objective

The objective of the Project is to strengthen demining activities of Bosnia and Herzegovina Mine Action Centre by upgrading their equipment.

2. Responsible Organization and Implementing Agency

Responsible Organization:

Council of Ministers, Commission for demining

Implementing Agency:

BHMAC (Bosnia and Herzegovina Mine Action Centre)

FMAC (Bosnia and Herzegovina Federation Mine Action Centre)

RSMAC (Republika Srpska Mine Action Centre)

3. Project Site

The Project sites are shown in ANNEX-1.

4. Scope of Cooperation

1) After a series of discussions, the items listed in ANNEX-2 are finally requested by B&H side.

2) The scope of cooperation covered by the Japanese grant aid shall be determined based on the results of the further field study and analysis in Japan.

3) B&H side has to guarantee the following preconditions of the Project .

(a) The ownership of the equipment provided by the Japanese grant aid belongs to Council of Ministers, Commission for demining.

(b) A necessary budget for the operation and maintenance of the equipment provided by the Japanese grant aid will be made available.

5. Japan's Grant Aid System

1) B&H side has understood the system of the Japan's Grant Aid explained by the Study Team; the main feature is described in ANNEX-3.

2) B&H side will take the necessary measures, described in ANNEX-4 for the smooth implementation of the Project on condition that the Grant Aid by the Government of Japan is extended to the Project.

6. Further Schedule of the Study

1) The Study Team will proceed to further studies in Japan to prepare a report which will be submitted to the Government of Japan.

2) Based on the Minutes of Discussion and Technical examination of the study results, JICA will complete the final report and send it to the Government of B&H by the end of June, 2000.

BOSNIA AND HERZEGOVINA



Cantons	
1	UNA - SANA
10	TOMISLAVGRAD
2	POSAVINA
3	TUZLA-PODRINJE
4	ZENICA-DOBOJ
5	UPPER DRINA
6	CENTRAL BOSNA
7	NERETVA
8	WEST HERZEGOVINA
9	SARAJEVO

LEGEND:

— Approximate line of Dayton agreement

Approximate canton definition by entity



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SCALE: 1:2,000,000

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ANNEX-2: ITEM REQUESTED BY THE GOVERNMENT OF BOSNIA AND HERZEGOVINA

EQUIPMENT FOR DEMINING (FMAC)							
Tools	Specifications	Sarajevo					Total
		1 sec	2 sec	4 sec	3 sec	2 sec	
1) Crow Bar	Iron, Cr or equivalent with hooks at end	1	2	4	3	2	11
2) Laver	Iron, Cr or equivalent	1	2	4	3	2	11
3) Piccol Driver	Manual operation with handles	1	2	4	3	2	11
4) Trowel	Rust proof	8	12	24	18	12	58
5) Shovel	Shape sneco	2	4	8	6	4	22
6) Spade	Square shape	2	4	8	6	4	22
7) Pickaxe	Wooden handle	2	4	8	6	4	22
8) Axe with long handle	Wooden handle	2	4	8	6	4	22
9) Axe with short handle	Wooden handle	2	4	8	6	4	22
10) Knife	Camper type	6	12	24	18	12	58
11) Hammer Sledge	Wooden handle	1	2	4	3	2	11
12) Hammer Claw	Wooden handle	3	6	12	9	6	33
13) Wire Cutter	Iron or equivalent	2	4	8	6	4	22
14) Pliers	Iron, Cr or equivalent	3	6	12	9	6	33
15) Bush Sheares	Iron, Cr or equivalent	6	12	24	18	12	58
16) Bush Sheares	Telescope handle	6	12	24	18	12	58
17) Garden Sheares	Pruning	6	12	24	18	12	58
18) Wood Saw	Bow type 21"	3	6	12	9	6	33
19) Small Hand saw	20"	3	6	12	9	6	33
20) Siccle	Iron, Cr or equivalent for glass	3	6	12	9	6	33
21) Sharpening File	For the tools	3	6	12	9	6	33
22) Brush	Wire	3	6	12	9	6	33
23) Brush	Soft	3	6	12	9	6	33
24) Measuring Tape	2m	3	6	12	9	6	33
25) Measuring Tape	30m	1	2	4	3	2	11
26) Hand Water Pump	Tank & Spray	2	4	8	6	4	22
27) Wheel Barow	1 wheel with handles	1	2	4	3	2	11
28) Spot Light	Detachable	1	2	4	3	2	11
Medical Goods							
29) Stretcher	Folding type	1	2	4	3	2	11
30) Mine Field Trauma Kit		1	2	4	3	2	11
31) Mini Mine Field Trauma Kit		1	2	4	3	2	11
32) Individual field dressing	Bandage	8	16	32	24	16	58
Vehicles							
33) Amouiance	4x4, Diesel, medical mattress, Oxymeter	1	2	4	3	2	11
34) Terrain Vehicle	4x4, Diesel, 8passengers	1	2	4	3	2	11
35) Trailor	1000 kg, towing 2 wheels type	1	2	4	3	2	11
36) Jerry Can	20 ltr	2	4	8	6	4	22
Communications							
37) HF Mobile Radio	For Ambulance vehicle	1	2	4	3	2	11
38) VHF Mobile Radio	For Ambulance vehicle	1	2	4	3	2	11
39) VHF Hand Held Radio cw Charger	Charger and batteries equiped	2	4	8	6	4	22
40) Satellite Telephone		1	2	4	3	2	11
41) Mobile Telephone	European spec	1	2	4	3	2	11
Protections							
42) Ballistic Jacket	Military spec	8	16	32	24	16	58
43) Ballistic Helmet with Visor	Military spec	8	16	32	24	16	58
44) Blast Boot	Military spec	8	16	32	24	16	58
45) Coverail	8 for summer and 8 for winter season	16	32	64	48	32	176
46) Rain Coat	Heavy duty	8	16	32	24	16	58
47) Working Boot	Leather	8	16	32	24	16	58
48) Rubber Boot	Heavy duty or lather	8	16	32	24	16	58
49) Working Gloves	Heavy duty	30	60	120	90	60	330
50) Hat	Heavy duty	8	16	32	24	16	58
51) Tools bag for equipment	Heavy duty	8	16	32	24	16	58
52) Knee Pad	Plastic or equivalent	8	16	32	24	16	58
53) Elbow Pad	Plastic or equivalent	8	16	32	24	16	58
Survey							
54) GPS	High performance, tolerance approx. 1m	1	1	1	1	1	4
55) Laser range finder Binocular	Adjustable	1	2	4	3	2	11
56) Compass		1	2	4	3	2	11
57) Digital Photo Camera	Floppy disc or equivalent can be used	1	2	4	3	2	11
Deminig Goods							
58) Mine Detector	Battery equiped and handy type	4	8	16	12	8	44
59) Mine Prodder	Rust proof and separation type	6	12	24	18	12	58
60) Base Stick		6	12	24	18	12	58
61) Trip wire feeder	Minimum 100mm	6	12	24	18	12	58
62) Main marking Cones	Plastic or equivalent	20	40	80	60	40	220
63) Hook	Grapple with pull rope 100m	1	2	4	3	2	11
64) Carabina	Snap links type	2	4	8	6	4	22
65) Exploder	Battery equiped and handy type	1	2	4	3	2	11
66) Ohmmeter	Handy type	1	2	4	3	2	11
67) Cnmbers	Heavy duty	1	2	4	3	2	11
68) Electric Detonating Cord 500m	Cable reel type	1	2	4	3	2	11
69) Stop Watch	Digital	1	2	4	3	2	11

Amir
DC

70 Whose	Heavy duty	1	2	4	3	2	11
71 Metal box	Large	1	2	4	3	2	11
72 Metal box	Small	1	2	4	3	2	11
73 Sand Bags	Heavy duty	50	100	200	150	100	550
74 Insulating Tape	Electrical insulation, 2m	5	10	20	15	10	55

All items are satisfied SOP

All items shall be considered by the Govt as require for the purpose of humanitarian demining activity only.

Equipment for HQ and regional offices (FMAC)

	Specification	Qty
1 Terrain Vehicle	4x4, Diesel, Double cab, radio	14
2 Computer	550 Mhz, Desk top, hard disc 10GB, memory 256MB, Windows	32
3 Printer Desk	Jet ink type	18
4 Print Cartridge	For printer 1823A	180
5 Print Cartridge	For printer 51645A	180
6 Router	For internet	1
7 Server Dual	550 Mhz, Ram 256MB more	4
8 Server Dual	550 Mhz, Ram 256MB, HD 4x18GB, DAT drive 12GB	1
9 24 Port Switch	2GB APX (for connection between server and computers)	4
10 12 Port Switch	100MB APX (for connection between server and computers)	4
11 CD recorder		3
12 Printer	For net work	3
13 Software	1set	1
14 Color photo copy machine	Auto sheet feeder, Both sides copy, toners	1
15 Photo copy machine	Auto sheet feeder, Both sides copy, toners	4
16 Fax machine	Memory type	2
17 Air conditioner	220V, 50HZ, cooling only	10
18 Computer	Note book handy type	2

EQUIPMENT FOR DEMINING (RSMAC)

Tools	Specifications	Bama Local		Pape		Trebomei		Total
		1 sec	3 sec	1 sec	1 sec	1 sec	5 sec	
1 Crow Bar	Iron, Cr or equivalent with hooks at end	1	3	1	1	1	5	
2 Lever	Iron, Cr or equivalent	1	3	1	1	1	5	
3 Picket Driver	Manual operation with handles	1	3	1	1	1	5	
4 Trowel	Rust proof	8	18	3	3	3	30	
5 Shovel	Shade shape	2	6	2	2	2	10	
6 Spade	Square shape	2	6	2	2	2	10	
7 Pickaxe	Wooden handle	2	6	2	2	2	10	
8 Axe with long handle	Wooden handle	2	6	2	2	2	10	
9 Axe with short handle	Wooden handle	2	6	2	2	2	10	
10 Knife	Camper type	8	18	3	3	3	30	
11 Hammer Sledge	Wooden handle	1	3	1	1	1	5	
12 Hammer Claw	Wooden handle	3	9	3	3	3	15	
13 Wire Cutter	Iron or equivalent	2	6	2	2	2	10	
14 Pliers	Iron, Cr or equivalent	3	9	3	3	3	15	
15 Bush Sheares	Iron, Cr or equivalent	6	18	3	3	3	30	
16 Bush Sheares	Telescope handle	6	18	3	3	3	30	
17 Garden Sheares	Pruning	6	18	3	3	3	30	
18 Wood Saw	Bow type 21"	3	9	3	3	3	15	
19 Small Hand saw	20"	3	9	3	3	3	15	
20 Sickle	Iron, Cr or equivalent for glass	3	9	3	3	3	15	
21 Sharpening File	For the tools	3	9	3	3	3	15	
22 Brush	Wire	3	9	3	3	3	15	
23 Brush	Soft	3	9	3	3	3	15	
24 Measuring Tape	2m	3	9	3	3	3	15	
25 Measuring Tape	30m	1	3	1	1	1	5	
26 Hand Water Pump	Tank & Spray	2	6	2	2	2	10	
27 Wheel Barrow	1 wheel with handles	1	3	1	1	1	5	
28 Spot Light	Detachable	1	3	1	1	1	5	
Medical Goods								
29 Stretcher	Folding type	1	3	1	1	1	5	
30 Mine Field Trauma Kit		1	3	1	1	1	5	
31 Mini Mine Field Trauma Kit		1	3	1	1	1	5	
32 Individual field dressing	Bandage	8	24	3	3	3	40	
Vehicles								
33 Ambulance	4x4, Diesel, medical mattress, Oxymeter	1	3	1	1	1	5	
34 Terrain Vehicle	4x4, Diesel, 8passengers	1	3	1	1	1	5	
35 Tractor	1000 kg, towing 2 wheels type	1	3	1	1	1	5	
36 Jerry Can	20 ltr	2	6	2	2	2	10	
Communications								
37 HF Mobile Radio	For Ambulance vehicle	1	3	1	1	1	5	
38 VHF Mobile Radio	For Ambulance vehicle	1	3	1	1	1	5	
39 VHF Hand Held Radio c/w Charger	Charger and batteries equipped	2	6	2	2	2	10	
40 Satellite Telephone		1	3	1	1	1	5	
41 Mobile Telephone	European spec	1	3	1	1	1	5	
Protections								
42 Ballistic Jacket	Military spec	8	24	3	3	3	40	
43 Ballistic Helmet with Visor	Military spec	8	24	3	3	3	40	
44 Blast Boot	Military spec	8	24	3	3	3	40	
45 Coverall	8 for summer and 8 for winter season	18	48	16	16	16	80	
46 Rain Coat	Heavy duty	8	24	3	3	3	40	
47 Working Boot	Leather	8	24	3	3	3	40	
48 Rubber Boot	Heavy duty or leather	8	24	3	3	3	40	
49 Working Gloves	Heavy duty	30	90	30	30	30	150	
50 Hat	Heavy duty	8	24	3	3	3	40	
51 Tools bag for equipment	Heavy duty	8	24	3	3	3	40	
52 Knee Pad	Plastic or equivalent	8	24	3	3	3	40	
53 Elbow Pad	Plastic or equivalent	8	24	3	3	3	40	
Survey								
54 GPS	High performance, tolerance approx. 1m	1	3	1	1	1	5	
55 Laser range finder Binocular	Adjustable	1	3	1	1	1	5	
56 Compass		1	3	1	1	1	5	
57 Digital Photo Camera	Floppy disc or equivalent can be used	1	3	1	1	1	5	
Demining Goods								
58 Mine Detector	Battery equipped and handy type	4	12	4	4	4	20	
59 Mine Prodder	Rust proof and separation type	6	18	6	6	6	30	
60 Base Stick		6	18	6	6	6	30	
61 Trip wire leader	Minimum 100mm	6	18	6	6	6	30	
62 Main marking Cones	Plastic or equivalent	20	60	20	20	20	100	
63 Hook	Grapple with pull rope 100m	1	3	1	1	1	5	
64 Carabina	Snap links type	2	6	1	2	2	10	
65 Exploider	Battery equipped and handy type	1	3	1	1	1	5	
66 Ohmmeter	Handy type	1	3	1	1	1	5	
67 Crimpers	Heavy duty	1	3	1	1	1	5	
68 Electric Detonating Cord 500m	Cable reel type	1	3	1	1	1	5	

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69	Stop Watch	Digital	1	3	1	1	5
70	Whistle	Heavy duty	1	3	1	1	5
71	Metal box	Large	1	3	1	1	5
72	Metal box	Small	1	3	1	1	5
73	Sand Bags	Heavy duty	50	150	50	50	250
74	Insulating Tape	Electrical insulation, 2m	5	15	5	5	25

All items are satisfied SOP

All items shall be considered by the GoJ as require for the purpose of humanitarian demining activity only.

Equipment for HQ and regional offices (RSMAC)

		Specification	Qty
1	Terrain Vehicle	4x4, Diesel, Double cab, radio	12
2	Computer	550 Mhz, desk top, hard disc 10GB, memory 256MB, Windows	22
3	Printer DeskJet		11
4	Print Cartridge	For printer	100
5	Print Cartridge	For printer	100
6	Scanner		1
7	Plotter	For A-J size	1
8	Server Dual	550 Mhz, Ram 256MB, HD 4x19GB, DAT drive 12GB	2
9	24 Port Switch	2GB APX (for connection between server and computers)	2
10	12 Port Switch	100MB APX (for connection between server and computers)	4
11	CD recorder		2
12	Server Dual	550 Mhz, Ram 1GB, HD 4x19GB, Dat drive 12GB	1
13	Software	1set	1
14	Color photo copy machine	Auto sheet feeder, Both sides copy, toners	1
15	Photo copy machine	Auto sheet feeder, Both sides copy, toners	2
16	Fax machine	Memory type	3
17	Air conditioner	220V, 50HZ, cooling only	9
18	Computer	Note book handy type	2

Mr
PC

Equipment for offices (BHMAG)

	Specification	Qty	
1	Computer	550 MHz, desk top, hard disc 10GB, memory 256MB, Windows	15
2	Computer for data base	500MHz, 256MB, 10/100MB network card, 100MB bus speed	7
3	Plotter	A0, 100mm length for printing	1
4	Print Cartridge	For printer 51845A	100
7	Server Dual	350 MHz, Ram 256MB more	1
8	Server Dual	550 MHz, Ram 256MB, HD 4x18GB, DAT drive 12GB	1
9	24 Port Switch	2GB APX (for connection between server and computers)	1
10	12 Port Switch	100MB APX (for connection between server and computers)	1
11	CD recorder		1
14	Color photo copy machine	Auto sheet feeder, Both sides copy, toners	1
15	Photo copy machine	Auto sheet feeder, Both sides copy, toners	1
16	Fax machine	Memory type	1
17	Air conditioner	220V, 50HZ, cooling only	2

ON JAPAN'S GRANT AID PROGRAM

1. Japan's Grant Aid Procedures

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

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

(2) Firstly, an application or a request for a project made by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to see whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the Study, using a Japanese consulting firm. If the background and objective of the requested project are not clear, a Preliminary Study is conducted prior to a Study.

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

Fourthly, the Project approved by the Cabinet becomes official when pledged by the Exchange of Notes signed by both Governments.

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

2. Contents of the Study

(1) Contents of the Study

The purpose of the Study conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) to confirm background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation.
- b) to evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) to confirm items agreed on by both parties concerning a basic concept of the project.
- d) to prepare a basic design of the project,
- e) to estimate cost involved in the project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selecting (a) Consulting Firm(s)

For smooth implementation of the study, JICA uses (a) consulting firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms which are interested.

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

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non reimbursable funds needed to procure facilities, equipment and services for economic and social development of the country under the following principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not in a form of donation or such.

(2) Exchange of Notes (E/N)

The Japan's Grant Aid is extended in accordance with the Exchange of Notes by both Governments, in which the objectives of the Project, period of execution, conditions and amount of the Grant, etc. are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year (commencing from 1st April ending on 31st of March) which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased. When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country origin.

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

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude into contracts in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings required to the Government of the recipient

country

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

- a) to secure land necessary for the sites of the project and to clear and level the land prior to commencement of the construction work.
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) to secure buildings prior to the installation work in case the Project is providing equipment.
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

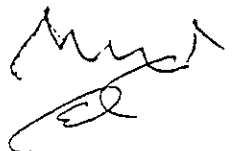
The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for their operation and maintenance as well as to bear all expenses other than those to be borne by the Grant Aid.

(8) Re-export

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

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in 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 Government of the recipient country or its designated authority under the contracts verified.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to pay issued by the Government of the recipient country or its designated authority.



ANNEX-4: NECESSARY MEASURES TO BE TAKEN BY BOSNIA AND HERZEGOVINA

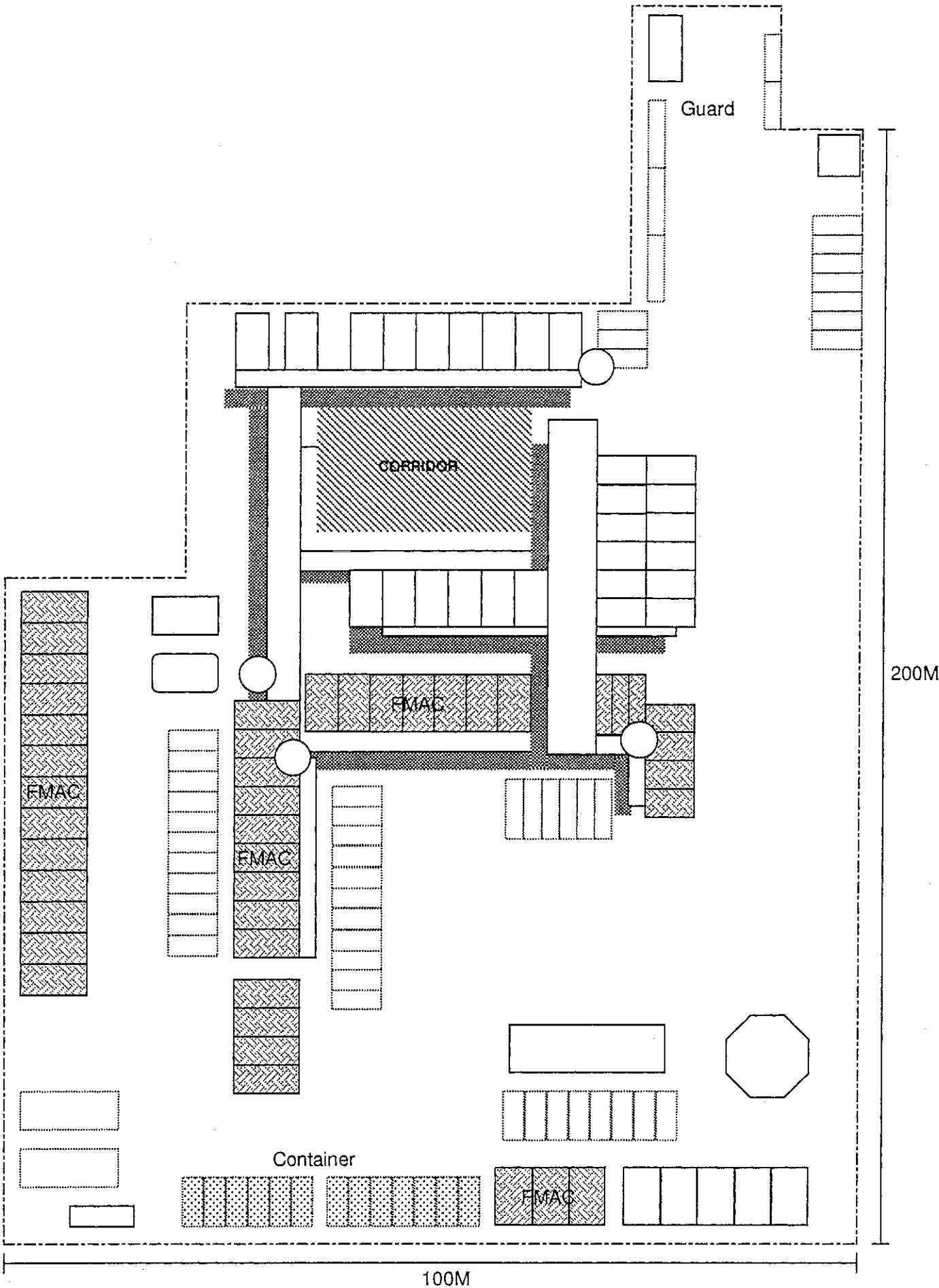
The following necessary measures should be taken by Bosnia and Herzegovina on condition that the Grant Aid by the Government of Japan is extended to the Project.

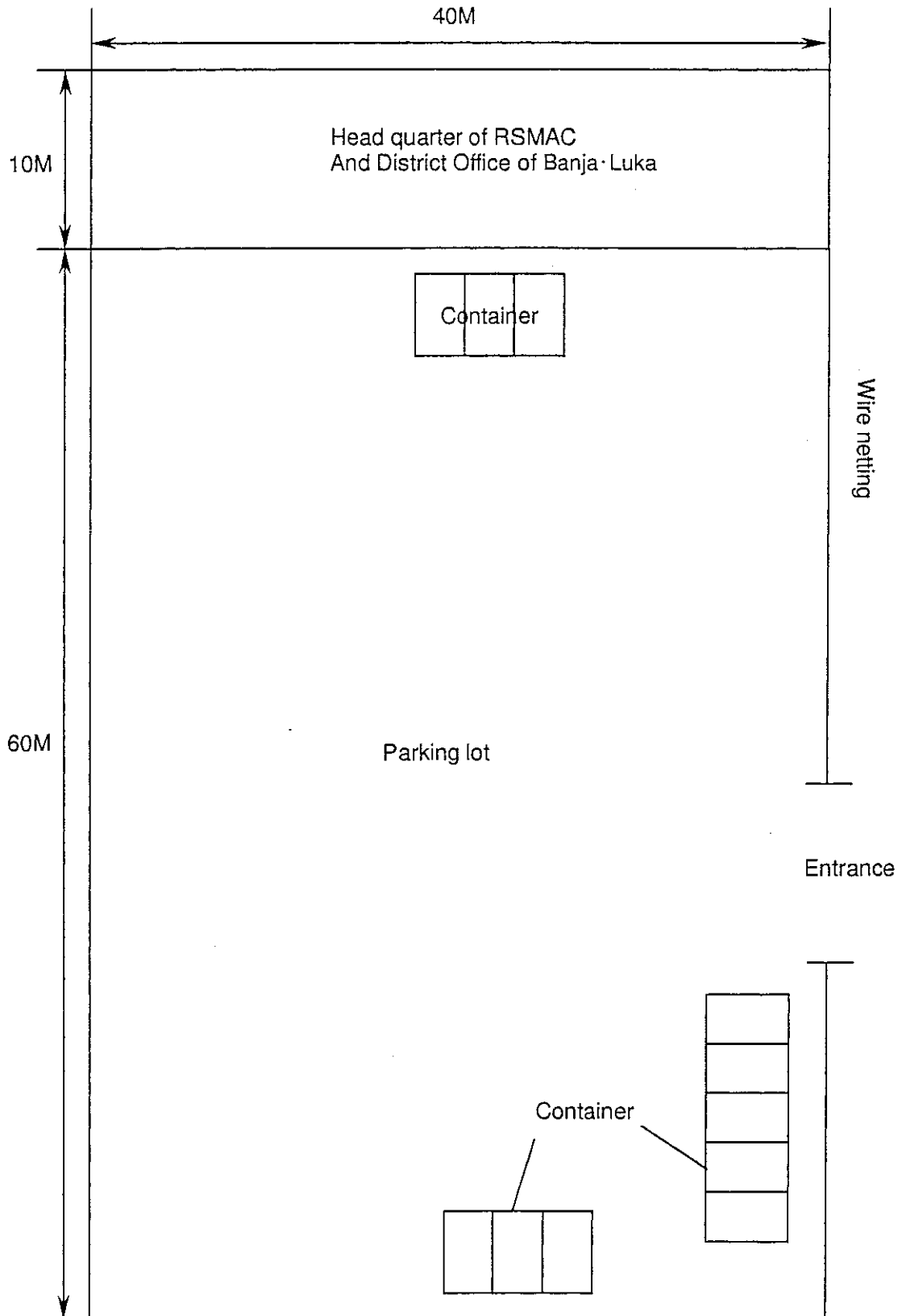
1. To ensure prompt unloading and customs clearance at ports of disembarkation in Bosnia and Herzegovina and internal transportation therein of the products purchased under the Grant;
2. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Bosnia and Herzegovina with respect to the supply of the products and services under the Verified Contracts;
3. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts such facilities as may be necessary for their entry into Bosnia and Herzegovina and stay therein for the performance of their work;
4. To ensure that the products purchased under the Grant be maintained and used properly, effectively and exclusively for the humanitarian mine clearance activities conducted by the Council of Ministers, Commission for demining and Mine Action Centre under the Project;
5. To bear commissions to the Japanese foreign exchange bank for its banking services based upon the Banking Arrangement, namely the advising commission of the "Authorization to Pay" and payment commissions, and
6. To bear all the expenses, other than those covered by the Grant, necessary for the Project.
7. The products purchased under the Grant shall not be transferred, either temporarily or permanently, by means to those outside of the Mine Action Centre, without prior written consent of the Government of Japan.

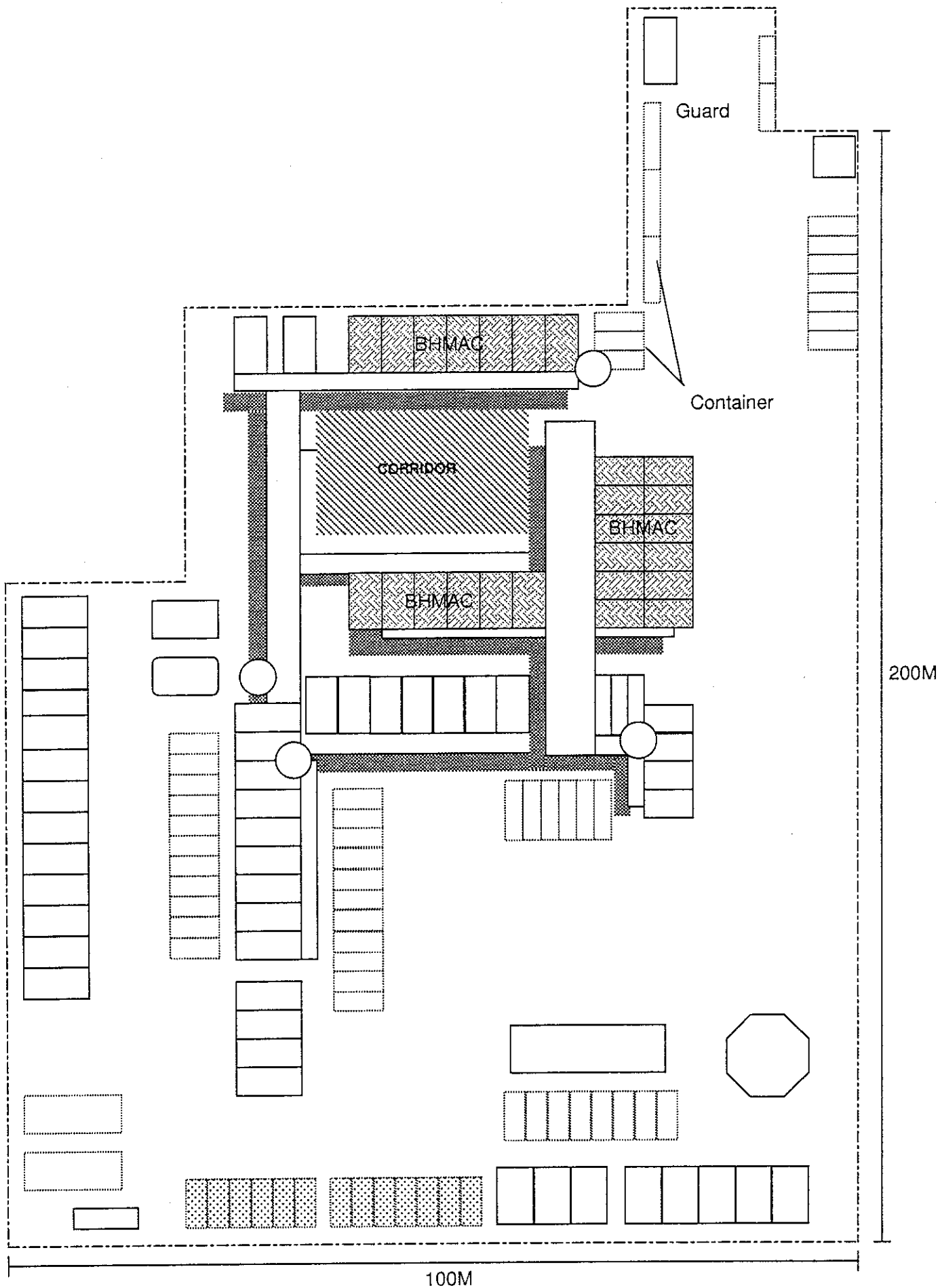


4. List of Gathered References

References		Original/Copy	Quantity	Source
1. Map				
	Mine Distribution Map	Original	3	BHMAC
	Road Map	Original	2	BHMAC
2. General Information				
	Implementation of the Priority Reconstruction Program 1999	Original	1	MOFA BH
	MICC (Mine Bulletin Poster)	Original	3	SFOR
	Minsko eksplozivna sredstva (Demining Manual)	Original	1	FMAC
	International Trust Fund 1999 (ITF Pamphlet)	Original	2	ITF







List of Possessive Machine Parts

FMAC

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Ambulance	United Kingdom	2	1996	In operation
Metal detector	"	22	"	"
Portable radio	Unknown	18	"	Broken down
Exploder	United States	1	"	In operation
Ohm meter	United States	1	"	"
Ballistic jacket	Israel	48	"	Can be used
Ballistic helmet	Israel	48	"	"
First aid box	Unknown	2	"	Many items are missing
Tent	"	10	"	Can be used
Battery charger	"	34	"	Good condition
Bed	"	10	"	Can be used
Trauma kit	"	3	"	Many items are missing
Gas stove	"	1	"	Good condition
Wheelbarrow	"	1	"	"
Jelly can	"	2	"	"
Light	"	4	"	Can be used
Tools	"	1	"	"
Mine prodder	"	12	"	"
Saw	"	33	"	"
Hammer	Unknown	24	"	"
Pliers	"	10	"	"
Wire cutter	"	9	"	"
Scissors (small)	"	15	"	"
Scissors (medium)	"	37	"	"
Scissors (large)	"	19	"	"
Crimper	"	6	"	"
Stretcher	"	3	"	"
Rope	"	4	"	"
Shovel	"	10	"	"
Pick	"	10	"	"
Plough	"	11	"	"
Lever	"	1	"	"
Picket driver	"	4	"	"
Brush	"	14	"	"
Trowel	"	26	"	"
Sickle	Unknown	20	1997	"
Axe	"	5	"	"
Water pump	"	2	"	"
Light	"	2	"	"
Water tank	"	22	"	"
Tool box	"	11	"	"

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Small saw	"	10	"	"
Hook	"	16	"	"
Cord reel	United States	2	"	"
Raincoat	Unknown	15	"	"
Wire brush	"	14	"	"
Saw	"	11	"	"
Tool case	"	18	"	"
Truck	Sweden	26	"	"
Coverall	Unknown	28	"	"
Boots	"	28	"	"
Metal detector bag	"	6	"	"
Desk	"	6	"	"
Chair	Unknown	6	"	"
Hot plate	Unknown	2	"	"
Stove	"	2	"	"
Stopwatch	"	1	"	"
Whistle	"	6	"	"
Pot	"	3	"	"
Knee pads	"	22	"	Can be used
Food pantry	"	5	"	"
Marking cone	"	6	"	"
Blanket	"	10	"	"
Gloves	"	35	"	"
Measure	"	1	"	"
Base stock	"	11	"	"
Knife	"	4	"	"
File	"	9	"	"
Wire	"	13	"	"
Grinding stone	"	4	"	"

For FMAC Headquarters

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Truck	Japan	8	1999	Good condition
Facsimile	Unknown	2	1998	Sometimes unclear, target for renewal
Mobile telephone	"	3	1999	Good condition
Modem	"	1	1998	"
TV	"	1	1999	"
Video	"	1	"	"
Locker	"	33	1998/1999	
Chair	"	99	"	"
Desk	"	43	"	"
Cabinet	"	45	1998	"

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Photo copy machine	"	6	1997	4 deteriorated photo copy machines targeted for renewal
Server dual	Unknown	5	"	Sometimes operates poorly, target for renewal
Switch	Unknown	10	"	Including 8 units targeted for renewal
Recorder	Unknown	3		Target for renewal
Computer	China	50	1998	Slow operation, occasional stacks, target for renewal
Notebook	HP5	2		Good condition
Postscript card	HP5	1	1999	"
Printer	HP	31	"	"
Projector	Polaroid	1	"	Good condition
Scanner	HP	3	1998	"
Connector set	Unknown	1	1997	In use, but renewal necessary when changing network
Hub	"	1	"	"
Tools	Unknown	2	1998	Good condition
Camera	Japan	6	"	Good condition
Video camera	"	1	"	"
Air conditioner	Unknown	10	Unknown	Gas leaks, target for renewal

*here is no color photo copy machine

RSMAC

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Truck	Italy	8	1994	Broken down
Terrain vehicle	Japan	4	1996	Much corrosion
Pickup	"	6	"	Under repair
Terrain vehicle	United Kingdom	4	"	Broken down
Washing machine	Germany	1	1999	Good condition
Facsimile	Japan	3	1998	Poor reception
Satellite telephone	Unknown	2	"	Poor condition
Base station radio	Japan	3	"	Broken down
Portable radio	Japan	17	"	"
Photo copy machine	Japan	4	1997	2 units broken down
Air conditioner	Korea	9	"	Broken down due to gas leak
Computer	Unknown	32	1996~1999	Procured 1996, 22 units broken down
Notebook	"	5	1996~1998	Procured 1996
Printer	"	31	1996~1998	Broken down, procured 1996, 11 units broken down
Scanner	"	2	Unknown	1 unit poor operation, 2 units broken down

Equipment	Country of Origin	Quantity	Year Procured	Remarks
UPS	"	19	1999	Good condition
Server dual	"	3	1996	Poor operation
Monitor	"	2	"	"
Port switch	"	6	"	Poor operation
CD recorder	"	2	"	"
Metal detector	United Kingdom	22	1998	In operation
Metal detector	Germany	1	"	"
Ballistic jacket	United Kingdom	51	"	"
Ballistic helmet	United Kingdom	51	"	"
Binoculars	"	3	"	"
UPS	"	2	"	Good condition
Exploider	"	5	1997	In operation
Ohm meter	"	5	"	"

*There is no plotter or photo copy machine.

BHMAC

Equipment	Country of Origin	Quantity	Year Procured	Remarks
Computer	Unknown	26	1996	22 units are deteriorated
Plotter	"	2	"	1 unit broken down
Printer	"	8	"	Can be used
Scanner	"	2	"	"
Digitizer	"	1	"	"
Computer (data base)	Unknown	3	"	Slow operation, occasional stacks, target for renewal
Facsimile	"	1	"	Poor reception
Photo copy machine	"	1	"	Frequent blockage
Server dual	"	4	"	2 units to be new models
CD recorder	"	2	"	1 unit broken down
Port switch	"	2	"	Old model, slow operation
Air conditioner	Unknown	2	Unknown	Broken down due to gas leak

* There is no color photo copy machine.