

Kingdom of Cambodia

The Third Demining Equipment Provision Programme

Small-Scale Equipment Project Study

May 2002

Japan International Cooperation Agency

Preface

In response to the request made by the Government of the Kingdom of Cambodia, the Government of Japan decided to conduct a basic study in conjunction with the “Third Demining Equipment Provision Programme” of Cambodia. Consequently, Japan International Cooperation Agency (JICA) contracted Japan International Cooperation System (JICS) to carry out the study as a small-scale equipment project study.

JICA dispatched a small-scale equipment project study team to Cambodia between November 17, 2001 and December 6, 2001.

The study team had discussions with the representatives of the Cambodian government and conducted a field survey in the target areas of the demining programme. Upon returning to Japan, the team analyzed the survey findings to publish the result in this report. On behalf of the study team, I sincerely wish that this report will help the progress of the demining efforts and contribute to the further fostering of the friendship between Cambodia and Japan.

Finally, I would like to express my heartfelt appreciation to all the people concerned for their unstinting support and cooperation for this study.

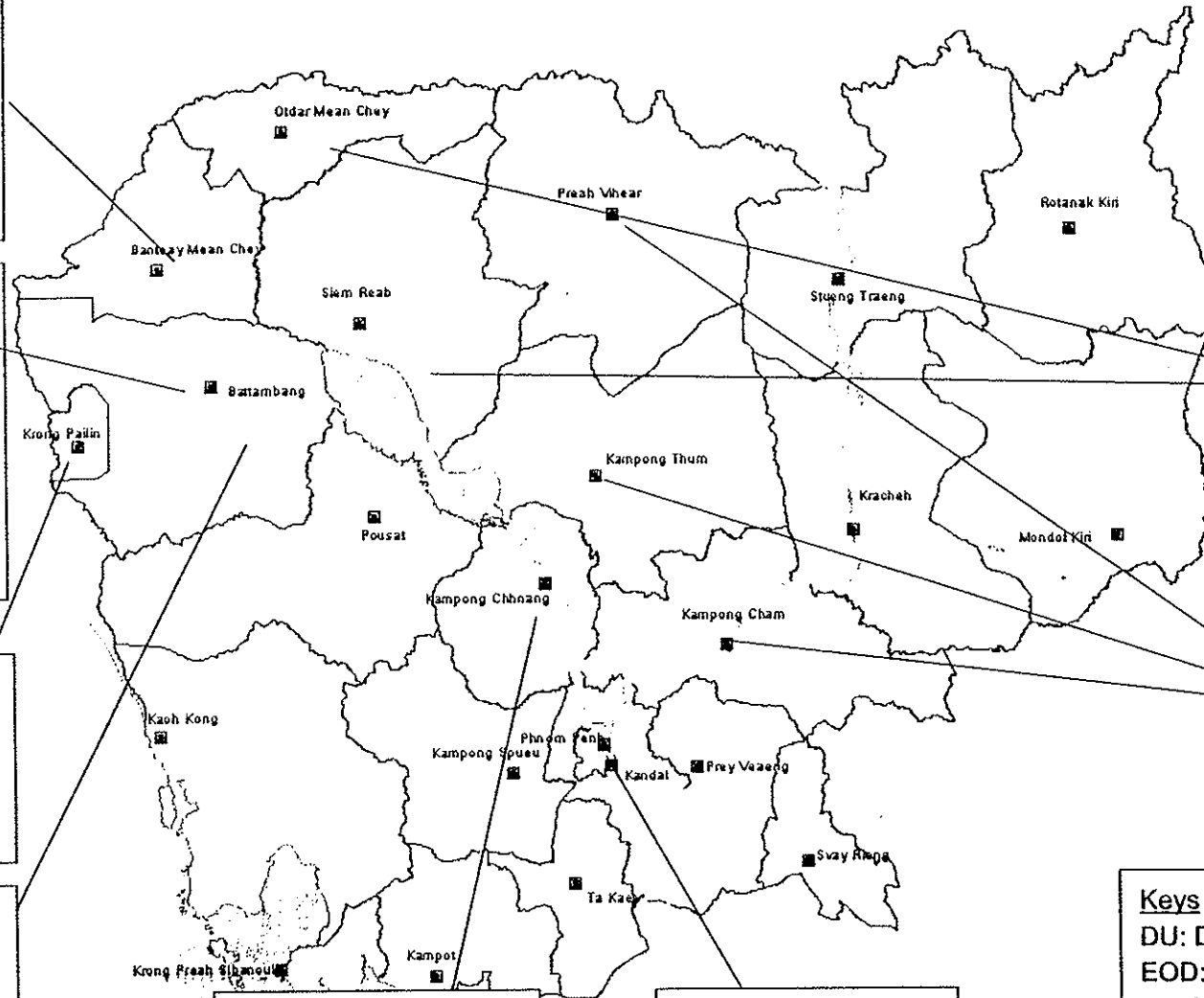
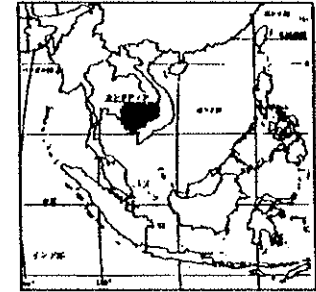
May 2002

Takao Kawakami

President

Japan International Cooperation Agency

Location Map



- DU 1**
- 12 demining teams
 - EOD: 3 teams
 - CMT: 3 teams
 - MMT: 4 teams
 - Flail: 2
 - BC: 2

- DU 2**
- 8 demining teams
 - EOD: 3 teams
 - CMT: 6 teams
 - MMT: 4 teams
 - MDD: 2
 - BC: 2

- DU 3**
- 10 demining teams
 - EOD: 3 teams
 - CMT: 3 teams

- DU 5**
- 6 demining teams
 - EOD: 1 team

- DU 6**
- 6 demining teams
 - MMT: 1 team

- DU 4**
- 4 demining teams
 - EOD: 3 teams

- Training Center**
- MDD: 36 dogs
 - EOD: 1 team

- CMAC Headquarters**
- EOD: 2 teams
 - MMT: 2 teams

- Keys**
- DU: Demining Unit
 - EOD: Explosive Ordnance Disposal
 - CMT: Community Marking Team
 - MMT: Mine Marking Team
 - MDD: Mine Detecting Dog
 - BC: Brush Cutting Team

Distribution of Demining Bases

Abbreviations

B/C	Brush Cutter
CDC	The Council for Development of Cambodia
CMAA	Cambodia Mine Action sand Victim Assistance Authority
CMAC	Cambodian Mine Action Centre
CMT	Community Marking Team
D/U	Demining Unit
EOD	Explosive Ordnance Disposal
Flail	Flail Machine
LAN	Local Area Network
LUPU	Provincial Land Use Planning Unit
MDD	Mine Detecting Dog
MMT	Mine Marking Team
MPT	Mobile Platoon Team
PIP	Public Investment Programme
PLT	Platoons Team
PMU	Project Managing Unit
SOP	Standing Operation Procedure
UNDP	United Nations Development Programme
UNTAC	United Nations Transition Authority in Cambodia
USAID	Agency for International Development
UXO	Unexploded Ordnance

Preface

Location Map

Abbreviations

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1. Member List of the Study Team
2. Project Study Schedule
3. List of Personnel Concerned (Interviewees)

Chapter 1 – Background of the Project

1-1 Background, History, and Outline of the Request for Grand Aid

Being traditionally a rural country with more than 80% of its population engaged in agriculture, Cambodia has been putting its utmost efforts in the restoration of impoverished farmlands since the end of a civil war in 1991.

However, such efforts are being hindered considerably because of four to six million landmines (UN estimate) that were buried during the civil war in all parts of the country with the exception of the Phnom Penh Metropolitan Area. A significant number of local residents and returnee farmers are still falling prey especially to anti-personal mines and unexploded ordinance, the removal of which is becoming a pressing issue for the Cambodian government.

Owing to the demining efforts of CMAC, the number of landmine victims has been decreasing every year since the establishment of the organization in 1992. However, the size of demining fields is also shrinking, as the demining efforts are hindered by the aged demining equipment, especially that procured in or before 1997. CMAC's activities were virtually suspended during the financial crisis in October 2000, which forced the organization to lay off a significant number of its personnel.

Under these circumstances, the Cambodian government established the Demining Activities Supporting Equipment Provision Programme and requested the Japanese government to extend financial assistance for the procurement of equipment necessary to carry out the programme. In response to the request, the Japanese government implemented the First and Second Demining Equipment Provision Projects. While monetary assistances from a number of other donor organizations were appropriated mostly for covering administrative costs, the equipment procured through Japanese assistance, such as brush cutters and mine detectors, has been put to use as the main demining equipment currently possessed by CMAC. As part of the Demining Activities Supporting Equipment Provision Programme, the Cambodian government requested the implementation of this project, for which the Japanese government dispatched a study team during a period between November 17, 2001 and December 6, 2001.

Chapter 2 – Contents of the Project

2-1 An Overview of the Project

CMAC's activities consist of training programs in mine clearance and awareness, surveys

and compilation of mine-related information, marking of mine fields, and disposal of UXO, through which CMAC endeavors to provide safe environment for the Cambodian people to free them from the fear of mines and UXO, which will eventually contribute to the development of the country.

This project intends to cater to a portion of the request of the Cambodian government, which consisted of assistance for equipment renewal and organizational restructuring, by extending financial assistance for the procurement of equipment and supplies that are indispensable for fortifying the demining activities.

2-2 Basic Concept of the Project

2-2-1 Basic Design of the Project

The main goal of this project is to strengthen the administrative functions of the headquarters and each demining unit (DU) and to expand and facilitate demining activities in the field. The project will supply computers and generators to the headquarters and each DU to enhance their administrative capabilities and also provide brush cutters, mine detectors, and other equipment to improve the productivity and efficiency of demining activities in the field.

The vehicle repair facilities and some car maintenance tools that were requested by the Cambodian government will be excluded from the project, as it is not possible at this point to determine whether or not it is possible to construct such facilities on the proposed sites in rice paddies. The water purifiers, motorbikes, differential GPS, etc. will also be excluded, as they require maintenance/administrative/technical capabilities that are beyond those that are available locally.

2-2-2 Basic Plan

Listed below are the equipment items to be procured by this project.

Table 2-1: List of Equipment to be Procured

	Equipment	Qty.	Specification	Use	Distributed to
1	Tent	116	7 × 3.5 × 3 m , for 5 persons	For shortening travel time from lodging to mine field	PLT. Etc.
2	Mine detector	400	Length: 1200~1450mm, waterproof	For detecting mines	PLT. Etc.
3	4WD pickup truck	28	Diesel, 4WD, double cabin, w/winch	For traveling, communicating, and transporting	EOD CMT BC

				goods between sites	
4	Radio set	200	Output: 5W 16CH 148-174Mhz	For communication within a site	PLT, etc.
5	Generator 350KVA	1	Diesel, 3-phase 400v	For supplying power to CMAC HQ	CMAC headquarters
	Generator 250KVA	1	Diesel, 3-phase 400v	For supplying power to training center facilities	Training center
	Generator 10KVA	6	Diesel, 3-phase 400v	For supplying power to each DU facilities	DU1, DU4, DU5×2, DU6
6	Mine protection visor	2000	Made of polycarbonate, w/helmet	For clearing mines	PLT
	Mine protection vest	700	V50. 450m/sec 1.1 gr	For clearing mines	PLT
7	Brush cutter	8	Main unit with cutter, soil ejector, grapple, and bucket	For clearing brush	DU3, DU4, DU5, DU6
8	Truck trailer	2	6 x 4, max. loading capacity: 20 tons, low-floor type trailer	For hauling removed brush	Each DU
9	Tools for auto repair shop	1 set	For wheel measurement	For adjusting shafts	Temporary car repair shop
10	Computer, printer, and peripherals	1 set	Computer: UPS	For compiling mine-related data and computerizing HQ operations	CMAC HQ, each DU

(1) Tents

Tents that were procured during the second phase are effectively enhancing the mobility and demining efficiency by reducing the travel time between the lodging and mine field. While 16-person large tents and 5-person small tents were requested, this project will procure only 5-person tents as they can accommodate an increase/decrease of personnel more easily.

The total number of personnel working in demining sites is 1,723. Since the second phase already provided tents to accommodate 1,143 persons, this project will procure 116 tents = $(1723 - 1143) \div 5$.

(2) Mine Detectors

The Demining Programme will need a total of 782 mine detectors as it plans to provide 12 mine detectors and 3 spare units for each of 48 demining units and platoons (= a subtotal of 720 mine detectors), plus 2 each for 31 Community Marking Teams (CMT) and Mine

Marking Teams (MMT) (= a subtotal of 62). Taking into account some detectors for training, CMAC estimates to use about 800 detectors for regular operations, of which CMAC requested 400 from this project, assuming that the remainder would be fulfilled by repairing existing ones and through donation by other donors.

In 1996, CMAC conducted a field test on six mine detector models in cooperation with the Canadian Army and as a result selected a model that best suited for the soil conditions of Cambodia. The same model was proven to possess the best performance quality on Cambodian soil in the 1998 joint project, in which the governments of EC, Canada, England, and the United States jointly conducted tests to compare 25 mine-detector models. Thus, this project will also designate the same brand model.

Since the quality and performance of personal protective equipment (PPE) have direct impact on human lives, it was included as one of the conditions for tendering that the successful bidder would have to submit samples and conduct safety verification tests.

Mine detectors are used under harsh conditions and thus thought to last no more than five years. Of 771 currently working detectors, 571 old-model detectors that were procured in or before 1998 will have to be replaced by 2003. 200 detectors that were procured under a Japanese assistance project are of upgraded type, and most of them have been working without failure till today.

(3) Pickup Trucks

Pickup trucks are indispensable to traveling, communications, and equipment transportation for MMTs and other small units, as demining activities have to cover extensive areas.

A total of 28 pickup trucks will be procured under this project to cover a portion of the required quantity, which consists of 9 trucks for newly expanded Explosive Ordinance Disposal (EOD) teams, 8 for newly established Brush Cutting teams, 19 for currently operating MMTs, 12 for CMTs, and 11 for replacing aged trucks.

(4) Radio Sets (handheld type)

Radio sets are necessary for communications among personnel working on scattered demining fields, as well as between the headquarters and each branch unit. 300 sets are currently working whereas a total of 500 are needed to sufficiently cover the requirements of the headquarters and each working unit. Thus, this project will procure 200 to cover the

shortage.

The newly procured radio sets will be distributed mostly to demining fields, and existing ones will be distributed among administrative and supportive staff (See Table 2-2).

Table 2-2: Distribution of Radio Sets

Item	Unit							Total
	TC	PLT	EOD	CMT	MMT	MDD	BC	
Quantity	10	92	32	12	38	8	8	200

Source: data provided by CMAC. See "Abbreviations" for unit names.

(5) Generators

1) CMAC Headquarters (350KVA) and Training Center (250KVA)

Due to unstable electric power supply and expensive electricity charges in Cambodia, many of the main facilities are equipped with power generators. The generators currently operating at the CMAC headquarters and the Training Center are becoming old and thus break down frequently, causing trouble in maintaining data on computers. Considering the fact that computer devices will also be procured by this project, new generators will be necessary to ensure stable power supply.

2) DU (10KVA)

Generators will be provided for the DUs that were not covered by the second phase so that all DUs will have two generators each for day and night operations. The requested items and quantity are deemed appropriate, as generators are necessary to ensure daily operations and to support daily-life activities at the DU facilities.

(6) Personal Protection Equipment (PPE)

Each CMAC personnel engaged in demining activities in the field is wearing PPE that consists of a visor and a helmet for head protection and a protective vest. Although it is mandatory for persons working in mine fields to wear PPE, only one in two persons are provided with PPE, leading to the decline of productivity and efficiency of demining activities. After the reinforcement of demining units and other teams, a total of 1,598 persons will be needing PPE, of which 715 will be covered by the existing sets and 883 will need to be fulfilled by this project.

Since the visibility of visors deteriorates within a 6-month to 1-year period to the extent that it hinders demining activities. Thus, to stock a sufficient quantity of spare PPE sets (which is about 1/4 of 1,598) to ensure uninterrupted operations for one year after the handover of the project, a total of 2,000 sets will be procured.

(7) Brush Cutters

Under the situation where the complete removal of landmines was estimated to take hundreds of years, brush cutters came in to double or triple the productivity and efficiency of demining work. CMAC has a plan to deploy a total of 12 brush cutters by distributing two each to six DUs as soon as possible. Since four brush cutters have been already procured during the first phase, the remaining four were requested.

(8) Truck Trailers

Truck trailers are used to transport brush cutters from one demining field to another. During the first phase, two trailers were procured under an assumption that one trailer would be necessary for carrying two brush cutters. However, if used efficiently, four trailers will be sufficient to move 12 brush cutters. Thus, procurement of two additional trailers by this project will be appropriate.

(9) Vehicle Maintenance Tools

Uneven wear of tires can be prevented and their service lives prolonged by measuring and correcting the tires' inclination angles. Thus, procurement of tire gauges is deemed appropriate (See Table 2-3).

Table 2-3: List of Vehicle Maintenance Tools

Item	Qty.	Use
Toe-in Gauge	2	A tool to check whether or not the left and right front wheels are placed at a proper angle to form an inverse V shape.
Camber-Caster-King Pin inclination Gauge	2	A tool to measure the inclination of the front wheels.
Turning Radius Gauge	2	A tool to measure the steering angle.

(10) Computers

CMAC Headquarters is currently creating a database of mine fields. To ensure accurate

and efficient data management, introduction of more IT tools is urgently needed. The existing computers of CMAC are aged and obsolete. According to the Japanese experts dispatched to CMAC, 180 computers are needed. Assuming the service life of a computer to be five years, 36 new computers need to be procured every year (See Tables 2-4 and 2-5).

The requested quantity was exclusively for the compilation of landmine database. Introduction of computers for such purpose is deemed appropriate.

Table 2-4 List of Computers Possessed by CMAC

Location	Department	Qty.
Headquarters	Secretariat	17
	Finance	12
	Planning & Operations	14
	Support & Human Resources	26
Training Center	Training, FOD, MDD	11
DU1	Ditto	12
DU2	Ditto	12
DU3	Ditto	12
DU4	Ditto	12
DU5	Ditto	12
DU6	Ditto	12
MDD Project	Ditto	6
Flail Project	Ditto	2
Technical Advisor	Ditto	20
Total	Ditto	180

Source: data provided by CMAC

MDD : Mine Detecting Dog

Table 2-5: Installation Sites of Computers

Item	Quantity	Remarks (installation sites and qty.)
Desktop computer (For general deskwork)	16	Renewal Finance: 8, Human Resource: 4, Secretariat: 4
Desktop computer (CAD workstation)	3	Renewal Planning: 3
Desktop computer (CAD server)	1	Renewal Planning: 1
Laptop computer	5	Secretariat: 2, Human Resource: 1,

		Finance: 1, Planning: 1
Peripherals (printer, LAN card, etc.)	1 set of 80 items	Renewal Headquarters, each DU, Training Center

Source: data provided by CMAC

(11) Facilities and Equipment to be Excluded from the Project

1) Vehicle Repair Shop

The proposed site is not suitable for constructing the repair shop facilities, as it is a rice paddy with clayey soil, which can subside even after adding earth to the ground.

2) Differential GPS

It was revealed that although the Cambodian Mine Action and Victim Assistance Authority (CMAA), a supervisory organ of CMAC, had purchased and received training for this equipment, CMAA was not utilizing it due to inadequate funding.

3) Water Purifier

CMAC has a prospect of purchasing this equipment on its own account.

2-2-3 Implementation Plan

2-2-3-1 Procurement Policy

With regard to the transportation of the equipment to be procured under this project, the responsibility of the Japanese side is to ship the equipment via ocean freight to CIF Sihanoukville Port and by air to CIP Phnom Penh Air Port. The Cambodia side is responsible for transporting the equipment from those ports to 11 destinations, namely, the CMAC headquarters in Phnom Penh, the Training Center in Kampong Chhnang, and demining sites in Banteay Mean Chey, Battambang, Pailin, Otdar Mean Chey, Kambong Cham, Preah Vhear, Siem Reab, Kampot, and Kambong Thum Provinces.

2-2-3-2 Things to Note for Procurement

Owing to the cooperation of the implementation agency on the recipient side, there has been no significant problem to note.

2-2-3-3 Division of Procurement/Installation Work

This project does not include installation work by the Japanese side. After the arrival of the equipment in Sihanoukville Port and Phnom Penh Air Port, the Cambodian side will be responsible for the customs clearance procedures, inland transportation, and the wiring and some installation work for the computer systems.

2-2-3-4 Procurement Supervisory Plan

A Japanese person will be dispatched to the project site to supervise the procurement work of the equipment and supplies and another person to instruct the sorting out and setting up of the tents when they are delivered to their destinations. As for the brush cutters, operators/mechanics will be newly recruited from within the organization, to whom training will be given for basic handling, operation, brush cutting techniques, and daily maintenance/inspection in a 2-month period. The contents and the duration of the training will be basically the same as those given during the first phase.

Table2-6: Procurement Supervisory Plan

Task	FY 2002									FY 2003			Person/Month		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Japan	Site	Total
Procurement supervision at project site												■	0.00	0.80	0.80
Assorting tent materials, instruction for setting up												■	0.00	0.50	0.50
B/C operation training											■	■	0.00	2.00	2.00
Total													0.00	3.30	3.30

2-2-3-5 Quality Control Plan

Pre-shipment inspections will be conducted for all the equipment items to be procured under this project. In addition, for tents and a few other items, inspectors will visit their factories to check the manufacturing processes and quality control practices.

2-2-3-6 Equipment/Supplies Procurement Plan

Sources of equipment and supplies to be procured by this project are as follows:

Table 2-7: Sources of Equipment and Supplies to be Procured

No.	Equipment	Cambodia	Japan	3 rd country
1	Tent		√	
2	Mine detector			√
3	Pickup truck		√	

4	Radio set		√	
5	Generator		√	
6	PPE	√		
7	Brush cutter		√	
8	Truck trailer		√	
9	Vehicle maintenance tool		√	
10	Computer system			√

① Tents

Generally, tents will be procured from Japan, where they are available from a few different manufactures.

② Mine Detectors

Detectors of a specific brand model will be procured from Australia, as it has been proven to be the most suitable model for the Cambodian soil by a performance test conducted by a mine-related international organization.

③ Pickup Trucks

Generally, pickup trucks will be procured from Japan, where they are available from a few different manufactures.

④ Radio Sets

Generally, radio sets will be procured from Japan, where they are available from a few different manufactures.

⑤ Generators

Generally, generators will be procured from Japan, where they are available from a few different manufactures.

⑥ PPE (visors and vests)

PPE visors and vests will be procured either from Japan or Cambodia.

⑦ Brush Cutters

Generally, brush cutters will be procured from Japan, where they are available from a few different manufactures.

⑧ Truck Trailers

Generally, truck trailers will be procured from Japan, where they are available from a few different manufactures.

⑨ Vehicle Maintenance Tools

Generally, vehicle maintenance kits will be procured from Japan, where they are available from a few different manufactures.

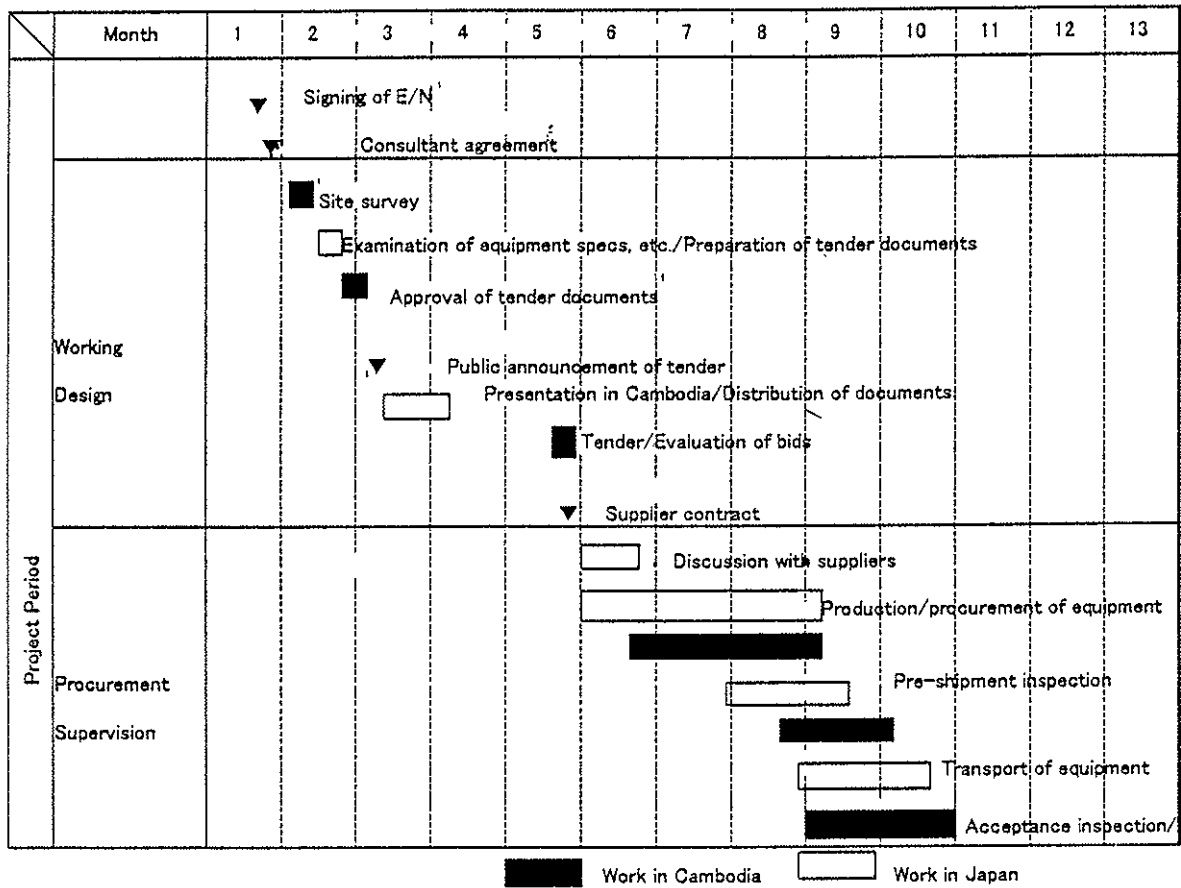
⑩ Computer, Printer, and Peripherals

They will be procured from third countries, including Japan or Cambodia.

2-2-3-7 Implementation Schedule

Entire Process (from E/N to handover) : 12 months
 From E/N to Supplier Contract : 4.5 months
 Delivery (from Supplier Contract to handover) : 7.5 months

Table 3-8: Implementation Schedule



2-3 Obligations of the Recipient Country

- ① Wiring of LAN cables in CMAC headquarters after installation of the computer systems.
- ② Distribution of equipment items to their final destinations from Phnom Penh.
- ③ Ensuring of proper and prompt customs clearance procedures for the procured equipment and supplies.
- ④ Payment of service fees for the issuance and payment of Authorization to Pay (A/P) for this project.
- ⑤ Proper operation, maintenance, and management of the equipment and supplies procured.

2-4 Operation and Management of the Project

During the financial crisis in October 2000, CMAC's activities came to a virtual halt, as it had to carry out a substantial layoff to cut its fulltime staff down to 195, excluding those separately employed by bilateral donor organizations.

As the donor organizations resumed extending financial assistance for FY 2001, CMAC began reemploying the staff member, which recovered to 2,060 as of the date of survey in 2001, accounting for 90% of the personnel required for the sufficient operation of CMAC, which is estimated at 2,334.

Since the personnel are becoming close to the adequate number with a good prospect of continuance of contributions from donor organizations and bilateral grants, CMAC will likely be able to operate without major hindrance. However, how to systematically renew the demining equipment at each site still remains to be a challenge, as the organization depends on external financial assistance for the procurement of demining equipment.

2-5 Rough Estimate of the Project Cost

Rough Estimate of the Project Cost

Item	Cost (in million yen)	Remark
Construction Cost		
Direct construction	0.0	
Temporary construction	0.0	
Miscellaneous expenses	0.0	
Administrative expenses	0.0	
Equipment Procurement	773.0	
Equipment	767.2	

	Procurement supervision at site, installation work, etc.	5.8	
Design & Supervision		25.7	
	Detail design	13.7	
	Supervision of work	12.0	
	Soft components	0.0	
Total		798.7	

2-5-1 Administrative/Maintenance Cost

According to the CMAC's financial report for 2001, the organization's monthly expenditures are 380,000 dollars, of which personnel cost accounts for about 50% or 180,000 dollars per month. The maintenance cost, on the other hand, was 1,000 dollars per month accounting for a little more than 10% of the total monthly expenditures. The revenues were able to cover the expenditures, and financial contributions from donor organizations will likely continue to provide sufficient funds for covering the maintenance costs of equipment, which mainly consists of vehicles, brush cutters, and mine detectors. To further verify the viability of CMAC's finance, the maintenance costs for these three items are examined in the following paragraphs.

Due to extremely poor road conditions in and around the minefields in Cambodia, vehicles that were procured in or before 1996 with mileage of 120,000 to 130,000 kilometers are now breaking frequently, resulting in the repair cost of about 2,000 dollars per vehicle, which is more than their depreciated values. Thus, CMAC is estimating the actual service life of a vehicle at five to six years.

The monthly operational cost of brush cutters, including amortization, is about 7,750 dollars per unit, of which about 1,500 is for fuel cost. Considering the fact that the use of brush cutters are increasing the demining efficiency two- to three-folds, this equipment is working well worth its maintenance cost.

Two maintenance personnel for mine detectors are employed at each of the Training Center and DU-2. In addition, the manufacturer of the detectors dispatches engineers semiannually to CMAC to support the maintenance staff to improve their repair skills. Since these activities will prolong the service lives of mine detectors, the maintenance cost will likely decrease in the future.

Chapter 3 – Project Evaluation and Recommendations

3-1 Project Effect

Implementation of this project will fortify the demining teams and expand the demining activities.

3-1-1 Direct Effect

Implementation of this project is expected to bring about the following direct effects:

- ① Provision of tents will reduce the travel time between lodging and demining sites.
- ② Introduction of mine detectors will speed up demining work.
- ③ Use of PPE will enhance safety.
- ④ Introduction of radio sets and trucks will facilitate communications, traveling, and transportation.
- ⑤ Installation of computer systems and generators will streamline and facilitate data analysis.
- ⑥ Use of vehicle maintenance tools will improve the safety and prolong the service lives of the vehicles.

3-1-2 Indirect Effect

This project will promote the demining activities in Cambodia, thereby bringing the country the following indirect benefits:

- ① Secure safe living environment for Cambodian people to support their socio-economic activities.
 - ② Promote the re-settlement of tens and thousands of returnee refugees living in the priority demining areas in the northwestern Cambodia and along the Thai border.
- ③ Facilitate the development of rural villages, thereby revitalizing their socio-economic activities.

3-2 Recommendations

To ensure the effective implementation of this project, attention should be paid to the following points:

① Most of the vehicles, mine detectors, and other equipment that were donated to CMAC by the United Nations between 1993 and 1998 will need to be replaced or replenished by 2003. Such replacement and replenishment should be carried out according to a well thought-out implementation/transportation plan to ensure that demining activities will not be interrupted.

② Have ample discussions with the government councils and steering committees in order to effectively maintain and manage the equipment.

③ Coordinate with other donors so that they will not be donating the same equipment items as those procured by this project.

[Appendix]

1. Member List of the Study Team
2. Project Study Schedule
3. List of Personnel Concerned (Interviewees)

Member List of the Study Team

Yasuyuki Morimoto	Project Manager	Japan International Cooperation Agency Grant Aid Project Management Department
Toru Kubo	Planning chief (Demining Equipment)	Japan International Cooperation System Grant Aid Management Department
Toru Takagi	Planning chief (vehicle and maintenance)	Japan International Cooperation System Grant Affairs Department

Cambodia 3rd Demining Equipment Provision Programme
Small-Scale Equipment Project Study Schedule
 (November 17, 2001 – December 6, 2001)

	Date		Itinerary		
			JICS		JICA
			Mr. Kubo	Mr. Takagi	Mr. Morimoto
1	Nov. 17	Sat	Tokyo→Bangkok		
2	Nov. 18	Sun	Bangkok→Phnom Penh		
3	Nov. 19	Mon	JICA, Embassy, Discussion at CMAC		
4	Nov. 20	Tue	Phnom Penh→Battambang Site survey		
5	Nov. 21	Wed	Battambang Site survey, CMAC	Battambang Site survey, CMAC	Battambang→Phnom Penh Site survey, CMAC
6	Nov. 22	Thu	Battambang→Phnom Penh Discussion at CMAC	Battambang→Phnom Penh Discussion at CMAC	Battambang→Phnom Penh Discussion at CMAC
7	Nov. 23	Fri	Signing of Minutes, JICA, Embassy		
8	Nov. 24	Sat	Procurement survey (dealers, transportation, etc.)		Phnom Penh →Tokyo
9	Nov. 25	Sun	Sorting out of collected data/materials		
10	Nov. 26	Mon	Site survey		
11	Nov. 27	Tue	Procurement survey (dealers, transportation, etc.)		
12	Nov. 28	Wed	Market research		
13	Nov. 29	Thu	Phnom Penh→Battambang Site survey		
14	Nov. 30	Fri	Battambang→Phnom Penh Discussion at CMAC		
			Market research	Phnom Penh 2025→ Bangkok 2130	
15	Dec. 1	Sat	Market research	Meeting with traders	
16	Dec. 2	Sun	Sorting out of collected data/materials	Sorting out of collected date/materials	
17	Dec. 3	Mon	Discussion at CMAC Market research	Meeting with traders	
18	Dec. 4	Tue	Inspection tour to Kampong Thum Discussion at CMAC, CMLA	Meeting with traders Bangkok 2320→	
19	Dec. 5	Wed	CMAC, JICA, Embassy Phnom Penh → Bangkok → overnight flight	→Narita 0650	
20	Dec. 6	Thu	→Narita		

List of Personnel Concerned (Interviewees)

CMAC Headquarters

Khem Sophoan	Director General, Cambodian Mine Action Center
Heng Ratana	Chief of Cabinet, Cambodian Mine Action Center
Oum P`humor	Director of Support & Human Resources, Cambodian Mine Action Center

CMAC Local Branches

Man Neang	D/U2 Manager, Cambodian Mine Action Center
Pring Panharith	Logistics Officer, Cambodian Mine Action Center
Finn Viggo Gundersen	General Manager, Cambodian Demining Workshop

Japanese Side

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