Chapter 2. Contents of the Project

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

2-1-1 The Project and its Overall Goal

Recent increase in the number of accident victims has grown so rapidly in Egypt that establishment of a more competent emergency medical system is needed urgently. According to "Healthy Egyptians 2010 Initiative", deaths caused by injuries are the fifth leading cause of death and stand first in the largest cause of hospitalization, which occupy 25% of all outpatient visits. Economic development coupled with decrease in infectious diseases has contributed to increase in the number of motor vehicles and highways, which parallel increased motor vehicle fatality rates. One out of every five children who survive childhood diseases such as diarrhea disease and vaccine preventable diseases die from injuries.

Amongst children of 1 to 5 years old, injuries account for 19.5% of all deaths and they are the second leading cause of death, surpassed only by diarrhea (20% of all deaths). More than half of the deaths in children of 15 to 18 years old is the result of injuries. Among age groups older than 17 years are the highest rates of injuries (64.4%), followed by 6 to 16 years (22.7%), then under five years of age (12.9%). In children under 5 years, the highest rates are for burns, poisoning and falls (23~25%). In youths between 6 to 16 years, the highest rates are for dog bites (44%), falls, poisoning, lacerations and burns ranging 20 to 35%. In the age group more than 16 years, fights and assaults represent 82% followed by motor vehicle injuries (70.8%).

Taking those situations seriously, the MOHP has adopted a goal to reduce deaths caused by injuries to no more than 10 per 1,000 total deaths by 2010 (Baseline: 25.9 per 1,000 total deaths in 1998).

Table 2-1 shows target figures to be achieved by 2010, expected to reduce some 50% of the 1998 figures.

Table 2-1 Special Population Targets

Deaths Caused By Unintentional Injuries (per 1000 total deaths in Egypt)	1998 Baseline	2010 Target
Upper Egypt, Children	17.2	8
Upper Egypt, Adults	27.8	14
Lower Egypt, Children	15.9	8
Lower Egypt, Adults	36.5	18.5

Note: Children are ages births to 17 years, and adults are over 17 years.

Source: Ministry of Health and Population Web site

MOHP recognizes importance of improvement of emergency medical services responsible for traffic accidents, including promotion of fastening the safety belt, reexamining traffic regulations to take precautions against possible accidents, etc.

MOHP has provided emergency medical services including transfer of patients and diagnosis and treatment for the transferred patients. Now that as many as one third of the ambulances are too old to serve the people, MOHP is facing difficulty in sustaining the service providing system.

On the other hand, the current number of ambulances in 11 governorates is fewer than half of the number

set by the MOHP (1 vehicle/25,000 population) as a standard to deploy an ambulance, and many of them are too old for use. In order to support the present emergency medical system, it is necessary that, at least, current number of ambulance vehicles be kept.

The Project objective is to sustain the present situation of emergency medical services and to prepare for future increase of the need, for the people living in the target sites to receive appropriate services, by renewing old ambulances that are now working.

2-1-2 Basic Concept of the Project

To achieve the above objective, the Project shall secure transportation for emergency patients and provide seamless implementation of emergency transportation services intended to improve the quality and quantity of emergency medical services in the target sites, while the Requested Japanese Assistance concentrates on procurement of ambulance cars and the medical equipment for the Emergency Stations where the existing ambulance cars are stationed.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Policy

(1) Sites

The request from the Egyptian side covers 11 governorates, Cairo, Qaliyubiya, Sharqiya, Gharbiya, Monufiya, Daqahiliya, Kafr el Sheikh, Buheira, Alexandria, Damietta and Giza. It is rational to include all those governorates within the scope of the Requested Japanese Assistance as those governorates situated in the Nile Delta embrace some 67% of the entire population of Egypt, in which there are more highways, more traffic jams and more traffic accidents than those areas outside the Nile Delta.

2-2-1-2 Equipment Planning

(1) Function of Ambulance

As for the type of ambulance, Ordinary ambulance, ICU ambulance, Mobile surgical unit, Blood bank unit, etc. are used in emergency patient transportation services in Egypt. Among them, Ordinary ambulance and ICU ambulance were requested to Japan.

ICU ambulance cars are used for transportation between hospitals. They are designed to carry both doctor and Emergency Medical Technician (EMT) in the same car. EMTs are allowed to perform necessary treatment such as defibrillation, tracheal intubation, etc. under direct instructions of the doctor.

However, this system does not work due to shortage of doctors to be carried with EMTs and the functions of ICU ambulance are not fully utilized. Therefore, the first priority in emergency transportation services in Egypt is to shorten the time to arrive at the site, pick up the patient and send him/her to the doctor.

All those things considered, the Requested Japanese Assistance shall include only the Ordinary ambulance.

(2) Quantity of Ambulance

The Project aims at maintaining the present level of emergency transportation services. Under the Project, the existing number of ambulances shall be used as an upper limit. Workable ambulance cars older than 10 years (procured in 1994 or earlier) shall be renewed for the following reasons.

However, the number of ambulances procured in 1995 or later and not working now which can be repaired by the Egyptian side shall be subtracted from the number of ambulances to be renewed. The number of ambulance vehicles thus calculated is 226 in the 11 governorates.

1) Availability of spare parts

It is difficult for the vehicle older than 10 years to get the spare parts since car manufacturers usually keep the spare parts for 10 years after delivery.

Table 2-1 shows data of workable ambulances procured in 1994 or earlier and the availability of spare parts.

Table 2-2 Availability of Spare Parts

Manufacturer	Country	Delivery year	Spare parts
Toyota	Japan	1990	Only used S/P available
Ford	US	1991	Only used S/P available
Fiat	Italy	1991, 1993	Only used S/P available
Egypt (conversion)	-	1992	Unknown
Mercedes	Germany	1992, 1993	Not available
Daihatsu	Japan	1993, 1994	Not available

2) Declining strength and functions of ambulance

Many ambulance surveyed during the study are older than 10 years and had run longer than 150 thousand kilometres. The strength of body and frame has been lost and the interior of ambulance has also been damaged as well. Damage of the interior and floor is especially severe because they wash inside of the ambulance in water as a routine work. Damage in rear doors is also severe due to the rubbing with stretcher. Some ambulances look like an ambulance but can not function as an ambulance.

3) Emission control

Vehicle procured in 1994 or before shall be replaced for they do not comply with the emission control act enforced in 1995.

(3) Medical Equipment

The specifications of medical equipment used in the ambulance shall be based on basic ones necessary for normal activities of an ambulance.

2-2-1-3 Environment conditions

No environment conditions shall be considered.

2-2-1-4 Socioeconomic conditions

No socioeconomic conditions shall be considered.

2-2-1-5 Procurement planning

(1) Ambulance car

Procurement planning shall be in accordance with the Japanese grant aid scheme and shall meet the following conditions.

- Base of an ambulance shall be a vehicle produced in an assembly line, which can be produced within the set period of time. Procurement of spare parts shall be possible for a long time.
- Car manufacturers and conversion supplier shall have a record of manufacturing and sales of their products in their own country or Egypt for the past 3 years.
- Car manufacturers shall be those operating in sales of any vehicle at the moment of tender and capable of supplying spare parts and repair services via a service centre in Egypt.

(2) Medical Equipment

Medical equipment used in ambulance shall be those widely used and procured in Egypt. Products of third county shall be considered if necessary.

2-2-1-6 Maintenance ability

Central Administration of Emergency and Critical Care depends on outside agents for major repair of vehicles. Therefore, the ambulance cars shall be procured from the manufacturers capable of providing maintenance services via service office (shop) stationed in Egypt.

Medical equipment to be procured under the Requested Japanese Assistance shall be those that require little maintenance or periodical change of spare parts or consumables. They shall be so simple and

trouble-free as for the Emergency main centre and Emergency station to be able to handle.

2-2-1-7 Grade and Specifications

Under the Requested Japanese Assistance, the grade and specifications of the vehicle and medical equipment shall be based on those currently used in Egypt since the vehicle and equipment to be procured are renewal of the old ones.

Ambulance cars to be procured shall be tough and strong, in both base vehicle and its conversions, enough to fix the medical equipment and to withstand hard use of stretcher. The base vehicle shall be one-box type, of which driver's space and patient's room are not separated, which shall not hinder the activities of EMTs. Any vehicle converted from a small truck to a one-box type vehicle by welding shall be excluded since they, especially the body connected by welding, can not endure the bad traffic conditions of Egypt.

2-2-1-8 Schedule

The necessary period for the Requested Japanese Assistance is assumed to be about 12 months after conclusion of the exchange of notes (E/N), as shown in Table 2-8 "Implementation Schedule".

2-2-2 Basic Plan

2-2-2-1 Overall Plan

At first, certain emergency stations were to be specified as the destination of ambulance to be procured. But, the survey revealed that the ambulance shall be delivered to each 11 governorate rather than to emergency stations, since ambulances are often transferred among the emergency stations.

2-2-2-2 Equipment Plan

(1) Examination of Request

1) Criteria for selection

Based on the policies mentioned so far, appropriateness and necessity for the requested equipment were examined as follows. Table 2-4 "Examination of the Requested Equipment" shows the results of the examination by equipment.

<Criteria>

① Purpose

○：Basic equipment compatible with the activities of the Project sites

×：Equipment not compatible with the activities of the Project sites

② Necessity

○：Equipment necessary and beneficial to the activities of the Project sites

×：Equipment not necessary and beneficial to the activities of the Project sites

③ Technical level

○：Equipment suitable for the emergency activity services in the Project sites and the technical level of the Emergency Medical Technicians (EMT)

×：Equipment not suitable for the emergency activity services in the Project sites and the technical level of EMTs or equipment regulated by law for its use

④ Maintenance system

○：Equipment that can be maintained by the current maintenance system, for which the manufacturers can offer after sales services, and for which spare parts and consumables are procurable in Egypt

×：Equipment difficult to be maintained by the current maintenance system, for which spare parts and consumables are not procurable in Egypt

⑤ Maintenance cost

○：Equipment whose maintenance cost is negligible or bearable by the Egyptian side

×：Equipment whose maintenance cost is not negligible or bearable by the Egyptian side

⑥ Quantity

○：Equipment whose requested quantity is judged appropriate for the contents of activity, current number of EMTs and vehicles

△：Equipment whose requested quantity is judged inappropriate and needed to be adjusted

⑦ Judgment

○：Equipment judged appropriate and included in the Project

×：Equipment judged inappropriate and excluded from the Project

2) Summary of examination

Requested equipment were examined by the following principles. Table 2-5 shows outline of equipment to be procured.

① Ambulance cars

Of the requested ordinary and ICU ambulances, only the ordinary ambulance and its emergency medical equipment shall be examined. ICU ambulance and its medical equipment shall not be examined since EMTs are not allowed to use ventilator or defibrillator by themselves.

② Medical equipment

Medical equipment for ICU ambulance shall be excluded. There shall be no change in the contents of requested medical equipment for ordinary ambulance but the equipment which need to be fixed on the vehicle shall be included in the specifications of ambulance. Oxygen valves, mask and cylinders shall be united to one item. The size of oxygen cylinders shall be reduced to allow enough space for patients. Bag valve mask (ambubag) and Manual suction unit shall be the components of Emergency medical kit. Some consumables shall be excluded.

Table 2-3 List of Medical Equipment

Equipment	Quantity (per vehicle)	Specifications, Remarks	To be included in the vehicle
Essential stretcher	1		
Chair-type stretcher	1		○
Suction mattress	1		
Oxygen cylinder	1 set	500L x 3, Oxygen valve and mask included	○
Electrical suction unit	1		
Back boards	1 set	Long and short	
Sets of air splints	1 set	for hand, arm, leg and foot	
Neck collars	1 set	L, M, S size	
Pharmacy cabinet	1		○
Emergency medical kit	1 set	Include Ambubag, Manual suction unit	
Sterilizing drums	3		

③ Radio system

Radio transceiver shall be out of the scope of the Requested Japanese Assistance since radio communication system differs from one area to another, introduction of a new radio communication system is now on progress in Cairo and Giza and other areas and, especially, it would be necessary to nominate a certain product to be compatible with the existing system, which would conflict with the Japan's Grant Aid policy. However, requested radio system (antenna and cable) shall be included in the ordinary ambulance.

Table 2-4 Examination of the Requested Equipment

Item No.	Request No	Description	Q'ty Requested	Purpose	Necessity	Technical Level	Maintenance system	Maintenance cost	Q'ty modified	Eligibility	Note	Q'ty Planned
		Emergency Mobile Unit										
1	1 - 1	Ordinary Ambulance	180	○	○	○	○	○	△	○	Medical equipment that need to be fixed in the vehicle are included in the specifications of vehicle	226
	12 - 11	ICU Ambulance	20	○	○	×	○	○	△	×	Excluded from the Project because EMT are not allowed to use medical equipment included in the vehicle	0
		Medical Equipment										
2	13 - 1	Essential stretcher (Multi level)	200	○	○	○	○	○	△	○	Roll-in type	226
	13 - 2	Chair-type stretcher	200	○	○	○	○	○	△	○	Medical equipment that need to be fixed in the vehicle are included in the specifications of vehicle	0
5	13 - 3	Suction mattress (stretcher)	200	○	○	○	○	○	△	○	Air decompression type	226
	13 - 4	Oxygen cylinders	200	○	○	○	○	○	△	○	Included in the specifications of vehicle, 3 cylinders per vehicle	0
	13 - 5	Oxygen valves	200	○	○	○	○	○	△	○	Included in the specifications of vehicle, in the composition of Oxygen cylinder	0
	13 - 6	Oxygen masks	200	○	○	○	○	○	△	○	Included in the specifications of vehicle, in the composition of Oxygen cylinder	0
	13 - 7	Bag valve mask (ambubag)	200	○	○	○	○	○	△	○	For adult and children, included in the composition of Emergency medical kit	0
3	13 - 8	Electrical suction unit	200	○	○	○	○	○	△	○	DC battery type	226
	13 - 9	Manual suction unit	200	○	○	○	○	○	△	○	Foot pedal type, included in the composition of Emergency medical kit	0
4	13 - 10	Back boards	200	○	○	○	○	○	△	○	Long and short type	226
6	13 - 11	Sets of air splints	200	○	○	○	○	○	△	○	Upper and lower extremity	226
	13 - 12	Sets of finger aluminium splints	200	-	-	-	-	-	-	×	Excluded from the Project because they are consumables	0
7	13 - 13	Neck collars	200	○	○	○	○	○	△	○	Small, Medium, Large	226
	13 - 14	Pharmacy cupboard	200	○	○	○	○	○	△	○	Medical equipment that need to be fixed in the vehicle are included in the specifications of vehicle	0
8	13 - 15	Emergency medical kit	200	○	○	○	○	○	△	○	Ambubag, manual suction unit are included	226
9	13 - 16	Sterilizing drums	200	○	○	○	○	○	△	○	3 pieces per unit	226
		Medical Equipment for ICU										
	14 - 1	Defibrillator	20	○	○	×	○	○	△	×	Excluded from the Project because they are used in ICU ambulance	0
	14 - 2	Portable ventilator	20	○	○	×	○	○	△	×	same as the above	0
	14 - 3	Patient monitor	20	○	○	×	○	○	△	×	same as the above	0
	14 - 4	Electrocardiograph	20	○	○	×	○	○	△	×	same as the above	0
	14 - 5	Automatic resuscitator	20	○	○	×	○	○	△	×	same as the above	0
	14 - 6	Dual syringe pump	20	○	○	×	○	○	△	×	same as the above	0
	14 - 7	Nebulizer	20	○	○	○	○	○	△	×	same as the above	0
	14 - 8	Glucometer (blood sugar analyzer)	20	○	○	○	○	○	△	×	same as the above	0

Table 2-5 Outline of Equipment

Item No.	Description	Main specifications or components	Q'ty Planned	Purpose Appropriateness of equipment grade
1	Ordinary Ambulance	Two wheel drive, gasoline or diesel engine (with chair-type stretcher, pharmacy cupboard, oxygen cylinders, oxygen valves, oxygen masks, antenna and cable)	226	Stationed in emergency stations which belongs to each Governorate Emergency Main Centre to pick up the patients and transfer to hospital
2	Essential stretcher (Multi level)	(Roll-in type)	226	Used to admit patients into the ambulance without changing the height from the ground
3	Electrical suction unit	(DC battery type)	226	Used to absorb patients' phlegm in ambulance
4	Back boards	(Long and short size)	226	Used to transfer the patients injured by fall or car accident with possible damage in the cervical vertebrae
5	Suction mattress (stretcher)	(Air decompression type)	226	Used to fit to patients with various shape by decompressing air of the mattress under the patient
6	Sets of air splints	(for upper arm and inferior limb)	226	Used as a splint changing its shape by decompressing the inside air
7	Neck collars	(S, M, L size)	226	Used for patients with possible neck injury
8	Emergency medical kit	(Ambubag, Sphygmomanometer, Mouth gag, Scissors, Thermometer, Manual suction unit, etc.)	226	Set of medical equipment used by EMT
9	Sterilizing drums	(21cm dia., 3pcs. per unit)	226	Used for sterilization and storage of instruments or cloth

3) Planned quantity

Table 2-6 shows quantity of vehicle to be planned under the Requested Japanese Assistance.

Table 2-6 Quantity of Vehicles (Ordinary ambulance)

					Working		Criteria		
	Governorate	Total	Working	Repair	Vehicles produced in 1994 or earlier	Vehicles produced in 1995 or later	Vehicles to be renewed	Vehicles repairable, produced in 1995 or later	Planned quantity
1	Cairo	118	85	33	24	61	24	3	**21**
2	Giza	79	76	3	29	47	29	2	**27**
3	Qaliyubiya	64	48	16	18	30	18	3	**15**
4	Monufiya	63	48	15	15	33	15	0	**15**
5	Buheira	89	48	41	23	25	23	0	**23**
6	Alexandria	58	52	6	18	34	18	4	**14**
7	Gharbiya	60	58	2	34	24	34	0	**34**
8	Kafr el sheikh	40	39	1	17	22	17	0	**17**
9	Sharqiya	59	27	32	11	16	11	0	**11**
10	Daqahiliya	69	63	6	35	28	35	1	**34**
11	Damietta	32	29	3	15	14	15	0	**15**
	Total	**731**	**573**	**158**	**239**	**334**	**239**	**13**	**226**

2-2-3 Implementation Plan

2-2-3-1 Implementation Policy

The Requested Japanese Assistance shall be executed in accordance with the framework of Japan's grant aid scheme. After conclusion of the exchange of notes (E/N) regarding the Project between the two governments, the Project will officially be commenced. This procedure will be followed by conclusion of a consultant agreement and preparation of detail design/ tender documents. Tendering of vehicle and equipment supply contractor (hereinafter referred to as "the Supplier") will be held thereafter. The Supplier selected through the tenders shall then execute vehicle and equipment supply.

During the detail design stage the Consultant and the persons concerned in Egypt will study procurement schedule of the Project and have discussions to ensure smooth implementation of works undertaken by the both Governments.

(1) Implementing organization

The MOHP is responsible for supervision of the Project while the Central Administration of

Emergency and Critical Care is responsible for implementation of the Project

(2) Consultant

Immediately after the Notes regarding the Project are exchanged between the two governments, the Government of Egypt will conclude a consultant agreement with a selected Japanese consultant in accordance with the Grant Aid scheme of the Government of Japan. The agreement will become effective upon verification by the Government of Japan. The consultant will carry out the following services in compliance with the provisions of the consultant agreement.

- Detail Design: Preparation of the detail design documents including specifications and other technical documents
- Assistance of Tendering: Assistance of tendering to select the Supplier, and concluding the contract.
- Supervision: Supervision of equipment procurement work

In Detail Design stage, the Consultant will prepare tender documents including detailed specifications of equipment based on the Basic Design, tender instructions and condition of the contract.

In Tendering stage, the Consultant will provide the tendering services, e.g. public notice of tender, receipt of applications, distribution of tender documents, tender opening, evaluation of the tender results. Furthermore, the Consultant will assist on concluding the contract between the Government of Arab Republic of Egypt and the Supplier, and report to the Government of Japan.

In Supervision stage, the Consultant will ensure that the work will be carried out fairly in accordance with the contract documents as well as give instructions, advice and coordination, for implementation of the Project. The supervision service includes the followings:

1) Coordination, instructions and advice to the Contractor and the Supplier

The Consultant will examine the equipment procurement plan, coordinate with, give instructions and advice to the Supplier.

2) Confirmation and approval of ambulance and medical equipment

The Consultant will confirm and approve the specifications of ambulances and medical equipment proposed by the Supplier in compliance with the contract documents.

3) Inspection

The Consultant shall, if necessary, inspect the ambulance and medical equipment at the manufacturers' factories to ensure the quality and performance.

4) Reporting progress of work

The Consultant shall grasp the actual conditions of procurement and progress, and report them to both the governments of Egypt and Japan.

(3) Supplier

The Supplier will procure and supply the Ambulance and medical equipment in accordance with the contract documents. The Supplier will also ensure after-sale services for technical consultation and procurement of spare parts and consumables.

(4) Japan International Cooperation Agency (JICA)

JICA will perform required works aiming at expediting the proper execution of the Project in accordance with Japan's Grant Aid scheme.

2-2-3-2 Implementation Conditions

(1) Emission control

The ambulances to be procured shall comply with the Emission control Act enforced by the Egyptian government. The conditions as below shall also be mentioned in the tender document.

No engine shall be used which does not comply with the following regulations.

No.1 Engines currently used

Carbon monoxide (CO)	7% or lower (600-900 RPM)
Unburned Hydro Carbon (HC)	1000ppm or lower (600-900 RPM)
Soot	Content (particle) 65% or lower, or other equivalent unit (at the maximum speed)

No.2 Engines registered in 1995 or later

Carbon monoxide (CO)	4.5% or lower (600-900rpm)
Unburned Hydro Carbon (HC)	900ppm or lower (600-900rpm)
Soot	Content (particle) 50% or lower, or other equivalent unit (at the maximum speed)

Source: Emission control act No.4, Article 37, 1994 (Prime Minister promulgated No.338, 1995)

2-2-3-3 Scope of Works

(1) Work under Japan's grant aid

- Procurement and transportation of the equipment to Alexandria Port

(2) Work under the Government of Egypt

- Provision of space for temporary storage for vehicles and medical equipment in or near Alexandria Port
- Registration of vehicles, necessary insurance on the vehicle, and inland transportation to each site
- To bear costs necessary for implementation of Japan's grant aid
- To bear costs of maintenance of vehicles and medical equipment

2-2-3-4 Consultant Supervision

(1) Supervision Policy on Procurement

In accordance with the scheme of Japan's Grand Aid, the consultant will organize the Project working team to ensure smooth implementation of the Project based on the policy of the basic design. The supervision policies on procurement are stated as below.

- To keep close communication with the persons in charge of the Project in both governments to ensure completion of procurement of equipment without delay
- To promptly give proper advice and instructions from a fair and neutral standpoint to the Supplier

(2) Supervision Plan on Procurement

In carrying out the aforementioned tasks, the consultant should establish a communication and support system in order to conduct necessary inspection, instruction and adjustment suitably according to progress. The consultant shall report the progress of the Project, shipment, payment procedures, and any other relevant matters to the concerned officers of the Japanese Government.

2-2-3-5 Procurement Plan

(1) Procurement

Equipment procured shall be the product of either Japan or Egypt. However, the both governments may allow procurement of the third country products considering competitiveness of price, ease of maintenance and other criteria below.

- The manufacturer has (a) local distributor(s) for maintenance in Egypt
- The equipment are trouble-free and do not cost much for maintenance
- The equipment or equivalent specifications exist neither in Egypt nor Japan
- The equipment are easily maintained, produced by manufacturers whose maintenance system is well developed
- The equipment are widely used in Egypt
- The equipment can be procured within the E/N period

The equipment that contain the possibility of third country origin are as follows.

Table 2-7 Equipment that contain the possibility of third country origin

Category	Equipment	Country
Ordinary Ambulance	(Base vehicle)	Germany, France
Medical Equipment	Essential stretcher (Multi level)	EU, USA
	Chair-type stretcher	EU, USA
	Suction mattress (Stretcher)	EU, USA
	Electrical suction unit	EU
	Back boards	EU, USA
	Sets of air splints	EU, USA
	Neck collar	EU, USA
	Emergency medical kit	EU
	Sterilizing drums	EU

(2) Transportation Plan

1) Transportation Method

Ambulance vehicles that are procured from Japan or the third countries shall be carried in a ship specially built for vehicle transportation. Medical equipment to be used on board shall be either carried inside the vehicles or packed in export crate to be carried in a container.

2) Route

① Japanese Products and Third Country Products

To be shipped from a Japanese and third country port to Alexandria port by sea

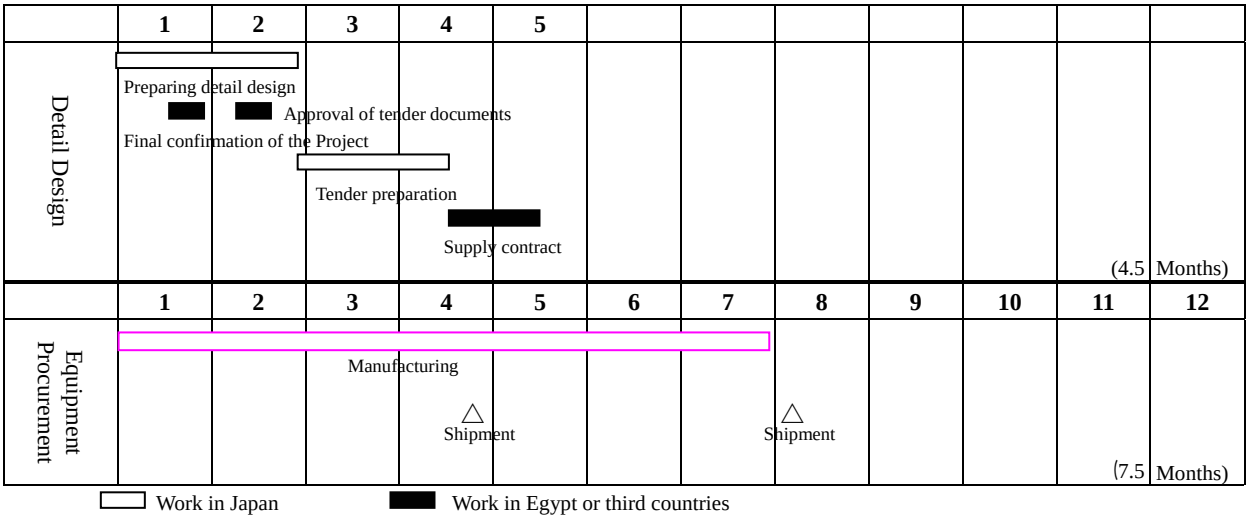
② Egyptian Products

To be handed over at a designated warehouse in/near Alexandria port

2-2-3-6 Implementation Schedule

When the Notes regarding implementation of the Project are exchanged between the Government of Egypt and the Government of Japan, the work shown in Table 2-8 shall be executed accordingly.

Table 2-8 Implementation Schedule



(1) Detail Design

After conclusion of the consultant agreement with the Central Administration of Emergency and Critical Care, the Ministry of Health and Population, the consultant shall start preparing equipment specifications and tender documents in accordance with the Basic Design Study Report. The consultant shall also obtain approval for those documents from the Egyptian side.

(2) Tender

The Supplier for implementation of the Project shall be selected through open tender. Tendering procedure shall start from a public announcement, distribution of tender documents, questions and answers, submission of tender, tender evaluation and conclusion of supply contract.

(3) Equipment Procurement

Judging from the scale of the project and various local conditions, the overall project implementation period for equipment procurement will be 12 months should there be no delay in procurement and transportation of the equipment by the contractor, and delay in taking action by the Egyptian side in equipment inspection, custom clearance and other obligations.

2-3 Obligations of the Recipient Country

The following tasks for the Project shall be carried out by the Egyptian side within the stipulated period.

(1) Vehicle/Medical equipment

- To provide space for vehicle and medical equipment for temporary storage in or near Alexandria Port
- Registration of vehicles, necessary insurance on the vehicle
- Inland transportation from Alexandria Port to each site
- Appropriate and effective use and maintenance of the vehicle and medical equipment to be procured

(2) Other

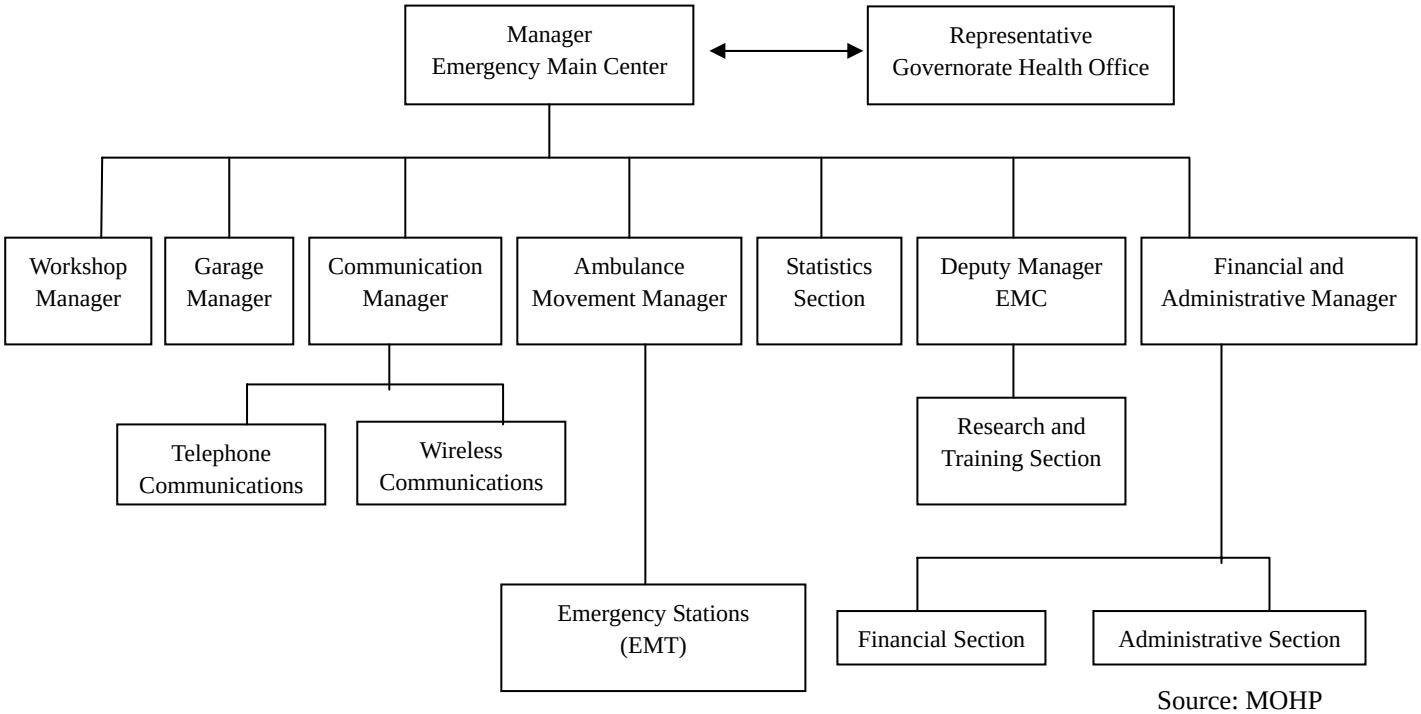
- To bear commissions, namely advising commissions of an Authorisation to Pay (A/P) and payment commissions, to a Japanese bank for the banking services based upon the Banking Arrangement (B/A)
- To ensure prompt unloading and customs clearance of the products purchased under the Japan's Grant Aid at ports of disembarkation
- 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 Egypt and stay therein for the performance of their work
- To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in Egypt with respect to the supply of the products and services under the verified contracts
- To provide necessary permissions, licenses, and other authorisation for implementing the Project, if necessary
- To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project

2-4 Project Operation Plan

(1) Implementing Organization at each Governorate

Implementing organization for the Project is Central Administration of Emergency and Critical Care of the Ministry of Health and Population, which is responsible for supervision on Emergency Main Centres of each governorate. Each of the Emergency Main Centres is in charge of operation and maintenance of the procured ambulances. Fig. 2-1 shows an organogram of the Emergency Main Centre.

Fig. 2-1 Organogram of the Emergency Main Centre



Source: MOHP

(2) Operation and Maintenance System for the Project

Current organization of operation will be responsible for the Project as well. Little difficulty in operation of the equipment shall arise since they are basically renewal of the existing one and their specifications and quantity are based on the present staff allocation plan.

The current maintenance organization will also be capable of handling the maintenance of the vehicles to be procured. The Emergency station does the daily check or oil change while the Vehicle Maintenance Workshop of Emergency Main Centre handles periodical inspections, easy repair, etc. Complicated repair or overhaul is handled by dealers or agents of the manufacturers. Keeping trouble shooting record, regular replacement parts usage record and periodical (preventive) maintenance record, for example, will be necessary for more effective maintenance control.

2-5-2 “Operation and Maintenance Cost” shows a trial calculation of the operation and maintenance costs for the equipment to be procured.

2-5 Estimated Project Cost

2-5-1 Estimated Project Cost

Estimated project cost required for realization of the Project under the conditions described in (3) "Conditions of Estimation" is Japanese Yen 919 million.

(1) Cost borne by Japan

Item	Amount (JY 1,000)
(1) Vehicles, medical equipment	903,200
(2) Detail design and supervision	15,300
Total	918,500

This cost is provisional and would further be examined by the Government of Japan for the approval of the Grant.

(2) Cost borne by Egypt

Item	Total (Egyptian Pound)
(1) Registration, License number, Insurance (LE 115／vehicle×226)	LE 25,990
(2) Commission on Authorization to Pay (A/P) (0.1% of the cost mentioned in E/N)	LE 56,000
Total	LE 81,990

(3) Conditions of Estimation

- Estimation date : November 2003
- Exchange rate
  - ・US$: US$1＝JY117.31
  - ・Euro : EUR1＝JY128.29 （Based on TTS for the last 6 months）
- Period : 12 months (4.5 months for Detail Design, 7.5 months for Equipment Procurement), as shown in the Implementation Schedule
- Other : This Project shall be implemented in accordance with Japan's grant aid scheme.

2-5-2 Operation and Maintenance Cost

2-5-2-1 Current situations

Amount of their activity could increase since one ambulance, on average, is dispatched only 1.86 times a day as shown in the Table 2-9. So increase in the number of ambulances would not increase the number of time to dispatch.

For example, even if one area having one ambulance car receives another one, only the number of time to dispatch will become half, as long as there is no rapid increase in the population or expansion of highway.

As indicated in the Table 2-9, one ambulance car carries 1.39 patient (2002) in the 11 governorates. As their ambulances are built to carry 2 patient at a time, they are capable of handling transportation of patient with current number of ambulance, except for Giza and Damietta where one ambulance carries 2.09 and 2.13 patient per accident. Only those two governorate, mathematically, need to dispatch 2 ambulances at a time.

Table 2-9 Activities of Ambulance Car in 2002

	Governorate	Ambulance (Working)		No. of dispatch			Activities 2002			Increase			
		Ordinary	ICU	Total	per day	per vehicle per day	No. of accident	No. of injured	No. of injured per accident	When carrying 2 in 1 car	Total number	Percent	Per day
1	Cairo	85	30	90,378	248	2.16	10,976	14,591	1.33				
2	Giza	76	12	48,169	132	1.50	8,074	16,888	2.09	740	48,909	**102%**	2.0
3	Qaliyubiya	48	11	37,081	102	1.73	10,469	11,651	1.11				
4	Monufiya	48	10	46,563	128	2.21	6,328	6,702	1.06				
5	Buheira	48	12	29,019	80	1.33	7,110	10,410	1.46				
6	Alexandria	52	8	50,576	139	2.32	12,731	13,929	1.09				
7	Gharbiya	58	7	35,493	97	1.49	7,841	10,559	1.35				
8	Kafr el sheikh	39	8	24,478	67	1.43	5,451	7,414	1.36				
9	Sharqiya	27	2	42,201	116	4.00	6,952	10,335	1.49				
10	Daqahiliya	63	15	45,679	125	1.60	4,639	7,869	1.70				
11	Damietta	29	9	22,129	61	1.61	2,345	5,000	2.13	310	22,439	**101%**	0.8
	Total	573	124	471,766	1,295	1.86	82,916	115,348	1.39	1,050	472,816	**100.2%**	2.9

Source: MOHP

2-5-2-2 Increase in Needs of Emergency Service

Table 2-10 shows change of the number of time to dispatch ambulance and number of accidents (on highway) from 2000 to 2003.

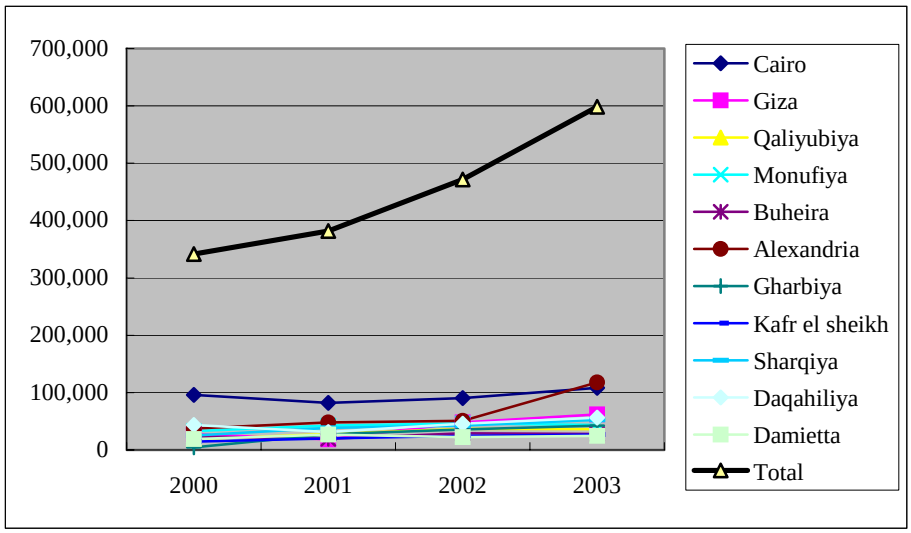
Table 2-10 Change in Needs of Emergency Medical Services

	Governorate	Year 2000		Year 2001		Year 2002		Year 2003 (Jan - Sep)		Year 2003 prediction			
		No. of accident	No. of dispatch	No. of accident	No. of dispatch	No. of accident	No. of dispatch	No. of accident	No. of dispatch	No. of accident	No. of dispatch	Comparison with 2002	Comparison with 2000
1	Cairo	2,645	96,228	2,792	81,787	2,781	90,378	2,201	81,029	2,935	108,039	120%	112%
2	Giza	5,328	27,338	4,150	18,477	3,706	48,169	3,125	46,406	4,167	61,875	128%	226%
3	Qaliyubiya	951	18,415	2,206	28,070	5,044	37,081	1,835	27,266	2,447	36,355	98%	197%
4	Monufiya	939	32,844	1,218	42,362	1,609	46,563	1,671	32,808	2,228	43,744	94%	133%
5	Buheira	2,428	23,220	3,059	19,286	2,396	29,019	1,351	21,123	1,802	28,164	97%	121%
6	Alexandria	689	37,510	744	48,246	1,540	50,576	1,549	88,348	2,066	117,798	233%	314%
7	Gharbiya	618	4,294	1,216	27,087	3,328	35,493	3,142	31,896	4,190	42,528	120%	990%
8	Kafr el sheikh	488	14,565	768	19,867	722	24,478	261	20,001	348	26,668	109%	183%
9	Sharqiya	1,189	25,163	998	38,591	2,994	42,201	2,854	39,305	3,806	52,407	124%	208%
10	Daqahiliya	1,071	43,272	1,240	31,259	1,435	45,679	1,243	42,221	1,658	56,295	123%	130%
11	Damietta	539	18,980	909	26,796	1,259	22,129	896	18,518	1,195	24,691	112%	130%
	Total	16,885	341,829	19,300	381,828	26,814	471,766	20,128	448,921	26,838	598,564	127%	175%
				Ratio of the previous year	11.7%	Ratio of the previous year	23.6%			Ratio of the previous year	26.9%		

Source: MOHP

Table 2-10 indicates increase of 11.7% in the number of dispatch from 2000 to 2001 and increase of 23.6% from 2001 to 2002. According to the MOHP's analysis, these increase represent confidence built among people toward emergency medical services, partly because the newly unified emergency call number, 123, has become widely known to the people. Number of time to dispatch from 2002 to 2003 can be around 26.9% increase against previous year, for emergency needs would not increase so sharply as 2 years ago when the new number was announced.

Table 2-11 Change in the Number of Time to Dispatch



There was on average 20% of annual increase in the number of time to dispatch from 2000 to 2003, as indicated in the Table 2-10 and Table 2-11. This level of increase is unlikely to happen again in the 11 governorates from now on. Assuming the 20% of annual increase by 2005 however, total number of dispatch in 11 governorates would be 861,932 times. In 2005, as the total number of ambulances increases to 923 by the procurement under the Requested Japanese Assistance, one ambulance would be dispatched 2.56 times a day, compared with 1.86 times in 2002, which is some 140% increase. If that is the case, however, the increase will still stay within a range of their capability.

Increase in the total number of dispatch from 2002 to 2003 reflects the increase in pay-transportation or other services for there is little increase in highway accident during the period. Therefore, increase in the number of patient transportation to emergency hospital will be moderate.

2-5-2-3 Purpose of Ambulance to be Procured

Vehicles to be procured are renewal of the existing ones. The new vehicles are expected to be used soon after the delivery. Before old vehicles currently working are finally out of service, they are temporary used for a short while for the following purposes.

① Spare vehicles for an accident that involve multiple victims

② A substitute for a vehicle that is out of order

③ Conversion to a service other than ordinary patient transportation services, such as pay transportation (oxygen delivery, etc) or body transportation

④ Transfer to another new Emergency station

2-5-2-4 Staff

There will be no need to increase the number of staff to maintain the current service level for one ambulance will be dispatched 2.56 times a day, as much as 138% of the current situation. Newly employed EMTs staff will be assigned to new Emergency stations, as shown in Table 2-12, that are scheduled to be built every year. Some 70 EMTs will be necessary every year. (2 new stations/ year×11 governorates×3 shifts＝66 staffs). This increase in EMTs will also boost up the number of drivers that work with EMTs and their incentives up by 350,520LE. All things considered, this increase will still be bearable.

Table 2-12 Change in the Number of New Emergency Staff (Level 2)

(unit: person)

	Governorate	2000	2001	2002	2003
1	Cairo	4	13	14	9
2	Giza	6	3	3	1
3	Qaliyubiya	10	6	9	3
4	Monufiya	0	6	18	5
5	Buheira	0	11	12	4
6	Alexandria	4	3	16	7
7	Gharbiya	10	12	10	7
8	Kafr el sheikh	0	0	3	7
9	Sharqiya	10	14	17	6
10	Daqahiliya	0	7	19	9
11	Damietta	0	1	1	0
	Total	44	76	122	58

Source: MOHP

Need in manpower for emergency medical services will be met by both High Medical Technical Institute with currently 217 students enrolled (134 for first degree and 83 for second degree) and Male

Nursing School with 711 enrolled.

2-5-2-5 Maintenance cost

Increase in maintenance cost for vehicle is estimated as follows.

(1) Maintenance cost

Maintenance costs of vehicle such as gasoline, oil, filter, tires, etc. increase in proportion to an increase in the number of time to dispatch, rather than to an increase in the total number of vehicles. As 20% increase of the number of time to dispatch is likely to happen, as described in 2-5-2-2, the maintenance cost will also rise by 20% annually as well.

The medical equipment used in the ambulance vehicles will require no maintenance cost.

(2) Operation

Increase in operation cost is estimated as follows.

① Special allowance, overtime work and incentive pay for on-highway service, etc. shall be considered since the existing staff will have to cover the increase in the number of time to dispatch.

② Increase in the income for oxygen cylinder delivery would be expected.

Based on the assumptions stated above, an estimated balance sheet of Emergency Main Centre for the fiscal 2004-05 is shown in the Table 2-13 (fiscal year of Egypt is from July to June).

Table 2-13 Balance Sheet of Emergency Main Centre (11 governorates)

(Unit: Egyptian Pound)

Fiscal year	2002-03	2003-04 prediction	2004-05 prediction	2004-05 prediction ※
Subsidy from MOHP	13,393,000.00	same as the left	same as the left	16,531,000.00
Subsidy from each Governorate	2,686,410.84	same as the left	same as the left	same as the left
Emergency service income, others	10,476,563.90	11,468,588.33	12,659,017.65	12,659,017.65
Total	26,555,974.74	27,547,999.17	28,738,428.49	31,876,428.49
Expenditure	22,389,409.81	26,371,918.95	31,150,929.88	31,150,929.88
Balance	4,166,564.93	1,176,080.22	-2,412,501.39	725,498.61

※ Assume the same amount of subsidy as in fiscal 2001-02 to be allocated.

Source: MOHP

As the Table 2-13 above regards subsidy from the MOHP or Governorate Health Office as the same amount as the fiscal 2002-03, the income will exceed the expenditure in the fiscal 2003-04 but in the fiscal

2004-05, after procurement of the vehicle under the Requested Japanese Assistance, the expenditure will overwhelm the income. The Table 2-14 shows the change in the budget of the MOHP.

Table 2-14 Change in the Budget of the MOHP

(Unit: Egyptian Pound)

	Fiscal year	1998-99	1999-2000	2000-01	2001-02	2002-03
MOHP budget	Personnel	15,771,585	17,155,643	15,281,456	12,638,291	15,319,600
	Material	140,523,100	160,023,100	631,633,100	212,170,000	212,170,000
	Maintenance	1,699,900	3,199,900	3,199,900	4,068,000	4,068,000
	Total	157,994,585	180,378,643	650,114,456	228,876,291	231,557,600
	Rate of the previous year		14.2%	260.4%	-64.8%	1.2%
Central Administration of Emergency and Critical Care budget	Personnel	230,000	230,000	235,000	240,000	250,000
	Material	1,500,000	1,500,000	1,300,000	1,500,000	1,500,000
	Maintenance	6,016,000	6,016,000	5,516,000	6,017,000	6,517,000
	Total	7,746,000	7,746,000	7,051,000	7,757,000	8,267,000
	Rate with budget of MOHP	4.9%	4.3%	1.1%	3.4%	3.6%
Subsidy (for each Emergency Main Center)	To the 27 governorates	10,809,000	10,809,000	12,809,000	35,809,000	35,809,000
	To the 11 governorates	5,719,000	5,719,000	6,212,800	16,531,000	13,393,000
	Rate of the previous year (11 gov.)		0.0%	8.6%	166.1%	-19.0%
	Rate with budget of MOHP (11 gov.)	3.6%	3.2%	1.0%	7.2%	5.8%

Source: MOHP

The subsidy to 11 governorates varies widely from fiscal 1998-99 to 2002-03, 0%, 8.6%, 166%, -19%, over the previous year, respectively, since the special budget measure is taken on the function of the emergency medical services which the Emergency Main Centres are carrying out. This measure is intended to compensate the loss of operation budget at the end of each quarter, to ensure smooth operation of the emergency medical services.

If the MOHP's subsidy in the fiscal 2004-05 is the same amount as that of fiscal 2001-02, the estimate of balance sheet (LE 2,412,501.38 in the red) will get into the black, as shown in the Table 2-13. Therefore, the Egyptian side will have to secure the same level of subsidy as that of fiscal 2001-02 for the subsidy in the fiscal 2004-05.

2-6 Other Relevant Issues

Considering 7 months period of vehicle production, the implementation schedule is very tight. Implementation of the Project shall be as smooth as possible.

It is necessary that the vehicle should be registered and transported to each site quickly by the Egyptian side.