MINISTRY OF ENVIRONMENT AND SPATIAL PLANNING
THE REPUBLIC OF KOSOVO

THE PREPARATORY SURVEY REPORT ON THE PROJECT FOR THE IMPROVEMENT OF SOLID WASTE MANAGEMENT IN THE REPUBLIC OF KOSOVO

August 2011

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
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Preface

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey and entrust the survey to Kokusai Kogyo Co., Ltd.

The survey team held a series of discussions with the officials concerned of the Government of the Republic of Kosovo, and conducted a field investigation. As a result of further studies in Japan, the present report was finalized.

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

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Kosovo for their close cooperation extended to the survey team.

August, 2011

Shinya EJIMA
Director General,
Global Environment Department
Japan International Cooperation Agency

Summary

Summary

1. Outline of the Country

(1) Geographical background

Kosovo is an inland state, located nearly in the middle of the Balkan Peninsula, lies between 41° 50'58" and 43° 51'42" degrees latitude north and between 20° 01'30" and 21° 48'02" degrees longitude east. It is bordered with Serbia, Montenegro, Albania and Macedonia. Kosovo is surrounded by mountains at more than 2,000 meters near the west and south of borders, and the some of these areas have been designated as the Mali Sharr National Park that is the only national park in Kosovo. There are Kosovo Plain (510 - 570 m asl) and Dukagjini Plan (350 - 450 m asl). The average altitude above sea level of Kosovo is 810 m, the lowest peak is 270 m while the highest peak is 2,656 m (Gjeravica). Forests cover 47 % of the land and 62% of them is under the public ownership and the rest of the land belongs to the private. The climate is mid-continental and dominated by the Adriatic-Mediterranean and the Alps. The annual average temperatures in summer is in 18-22℃, while winter mean temperature is approximately 0℃. The annual range of temperature is large due to 500-1,000 m elevation differences between mountain area and lowland area. The mean annual rainfall of the country is approximately 600 mm and that of the western mountain area is 1,400 mm while that of lowland including the capital, Pristina, is about 350 mm.

(2) National economy

In June 1999 this area became a United Nations Protectorate under the transitional rule of United Nations Interim Administration Mission in Kosovo according to resolution 1244 passed by the United Nations Security Council. Under the provisional rule of the U.N., the developed new interim governing council dealt with some matters like establishment of the rule of law and refugees returning. Kosovo Parliament passed am unanimous declaration of independence in February 2008. Japan recognized Kosovo as the independent state, however, some of the counties have not recognised as the new state yet.

Mining was one of the country's biggest industries before Kosovo conflict occurred. There are rich deposits of lignite (brown coal), lead, nickel, zinc, and other minerals. Trepca refining plant was operated, however, most of mines and refining plants were closed due to the conflict. Kosovo's current economy is heavily dependent on foreign remittances from the Kosovar living in abroad countries[1]. According to the World Bank report[2], 45% of total inhabitants lives is in a deprived state and 15% of them live in extreme poverty.

[1] USAID: Kosovo Mosaic, Public Services and Local Authorities in Focus October, 2009
[2] World Bank, 2008, Kosovo Poverty Assessment Report

Table 1　Economic indicator

Item	Indicator	Source
GDP	5.387 billion USD	World Bank (2009)
GDP per capita	2,985 USD	IMF (2009)
GNI	5.854 billion USD	World Bank (2009)
GNI per capita	3,240 USD	World Bank (2009)

2. Background and Outline of the Project

(1) Overall plan

Kosovo government has adopted the Solid Waste Management as one of the most important issues in sustainable environmental management. The Ministry of Environment and Spatial Planning (hereinafter referred to as the "MESP") has developed the necessary laws and series of conditions related to waste management.

The Environmental Strategy for Kosovo that the MESP has developed in 2003 prioritizes the establishment of the infrastructure for proper waste management. The strategy indicates the following strategic orientations related to waste management.

- Establishment of the infrastructure for waste management
- Gradual reduction of waste at the source before disposal or energy utilization.
- Gradual reduction of hazardous waste.
- Gradual increase of inclusion of the population in the waste treatment system.

Pursuant to the waste law, the MESP, in cooperation with other ministries and competent authorities drafts the Strategic Plan for Waste Management. The target year for the Plan is 2020. This plan contains;

- Assessment of the current state of waste management;
- Main goals and measures for waste management;
- Measures for hazardous waste management;
- Directions for waste treatment in line with environmental protection principles and administrative principles;
- Directions for waste disposal;
- Directions for ensuring favorable technical conditions, to meet the goals for waste administration.

The Plan also set numerical targets for the waste collection rate and waste reduction rate as follows;

Table 2: Numerical target（for the discharge amount）

	Target rate (%)			
	Current	2013	2016	2020
Collection rate of municipal waste	50	70	80	90
Separation rate of municipal waste	0	20	30	50
Recycle rate (Waste reduction rate) of municipal waste	10	20	35	40
Final disposal rate of municipal waste	90	80	65	60
Rate of organic waste to disposal amount of municipal waste	95	85	70	40

Source: hearing conducted by the Study Team

(2) Current situation and issues of waste management

According to the information given by the MESP, the waste collection rate in urban area in Kosovo is low as 50%. Therefore, there is concern that waste will be dumped haphazardly on vacant land and river banks, leading to deterioration in the city's sanitary level. Moreover, citizens do not trust the public corporation due to the insufficient waste collection service, resulting in a low rate of waste collection fee payment.

One reason given for this low rate of payment is that the public corporation's collection system is not suited to the narrow streets common in historical areas in Kosovo. The large size of the waste collection vehicles owned by the public corporation prevents them from entering the narrow stone streets in local districts of cities such as Prizren municipality. So waste has to be collected with a tractor. This is real reason for the low efficiency and insufficient waste collection service. The waste collection vehicles and equipment supplied by the EU etc. are large, both the truck (15 m^3) and the container (1 m^3). Container collection is popular in Europe, but it is not suitable in areas with narrow roads. Even though the container collection system is convenient as residents can dispose waste at any time, it is difficult to find the container yard in areas with narrow roads and the size of vehicles necessary to collect waste with containers cannot access these areas. Therefore, collection work is carried out manually, reducing collection efficiency. In addition, since residents' environmental awareness is also low, the garbage that overflows from container is neglected on the road, attracting scavenging crows and cats and insanitary conditions are becoming commonplace.

Moreover, most of the public corporation's waste collection vehicles break down frequently due to their age. As a consequence, it is difficult for the public corporation to provide regular collection service. Moreover, since the public corporation does not have enough equipment for vehicle maintenance, it is also the cause of frequent failures.

(3) Objectives of the Japanese Grant Aid Scheme

Under the above circumstances, JICA conducted a Survey in March 2010 in order to collect basic information on Environmental Management and a Survey on Solid Waste Management in order to promote project(s) in July of the same year. These surveys confirmed that solid waste issue was serious for the country. Especially, the sanitation condition of the capital city, Pristina municipality, and the second largest city, Prizren municipality, were severely compromised by scatted waste due to insufficient waste collection services. Its improvement was apparently necessary.

The government of Kosovo is currently preparing a Solid Waste Management Strategy targeting the year 2010-2020 for 11 years as development policy document for solid waste management. The Strategy aims to establish a sound material-cycle society through reduction of environmental pollution caused by

waste, improvement of waste collection service, waste minimization, 3Rs (reduce, reuse and recycle). The government of Kosovo requested the government of Japan in July 2010 for the Grant Aid and Technical Cooperation Project. Therefore, Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey.

This project aims at provision of a small collection vehicle indispensable to establish the waste collection system being suitable for urban area with narrow roads in Kosovo, the renewal of the decrepit collection vehicle, and supply of the equipments for maintenance of vehicles in order to raise the rate of waste collection.

3. Summary of the Survey and Outline of the Project

(1) Summary of the Survey

Based on the abovementioned background, JICA dispatched the preparatory survey mission to Kosovo from December 13 to 22, 2010, January 23 to February 9, 2011 and June 6 to 11, 2011. The preparatory survey mission investigated in six cities including Prizren municipality. The survey results are summarized as follows:

1) Study on the request

In order to examine the contents of the Project, the following priority order should be taken into consideration;

(1) Renewal of decrepit waste collection vehicles for Prizren municipality.
(2) Procurement of necessary equipment to achieve the target waste collection rate of Prizren municipality.
(3) Renewal of decrepit waste collection vehicles for Pristina municipality
(4) Renewal of decrepit waste collection vehicles owned by Ekoregjioni public company which used to be utilized for waste collection service except for Prizren municipality
(5) Procurement of tools and machines for repairing of waste collection vehicles owned by Ekoregjioni public company.

As a criterion for the selection of necessary equipment to be renewed, the depreciation period of the equipment is constituted as 15 years officially in Kosovo. Therefore, the Project targeted waste collection vehicles manufactured 15 years prior to 2010, that is before 1995.

The tractors and rubbish bins for households are eliminated from the original list of requested equipment. Tractors cause an offensive odor and waste scattering due to no covering loaded waste during the travelling in the town. Furthermore, the tractors cause traffic jams because they are too slow; hence the small size compactor trucks are procured instead of tractors in order to avoid these issues. As for rubbish bins, these can be obtained domestically and Kosovo side has purchased

rubbish bins; therefore, rubbish bins are eliminated from the request..

The plan of compactor truck to collect the municipal waste from households and businesses is the focus of the project. The existing hoist trucks for the containers ($5m^3$ and $7m^3$) are planned to collect only construction and demolition waste and bulky waste in the future although these are used to collect municipal waste at present.

2) Design Policy

The outline design of this project is planned as follows considering minimizing cost, and suitable scale and specification for procurement of the equipment. And the Project is planned to contribute to the environment and measures for climate change by introducing Japanese equipment.

① Supply of the equipment from amongst that request that was confirmed to be relevant was planned.

② The equipment for vehicle maintenance required in order that the Ekoregjioni and Pastrimi public companies may maintain the waste collection vehicles properly were planned.

(2) Contents and Scale of the Project

The Project will procure the following equipment which was regarded as necessary and appropriate.

Table 3: Summary of tolls and equipment to be procured

Project site	Repair or New	Type of vehicle			Equipment for vehicle maintenance[1)]	Others	
		Compactor truck ($10m^3$) with Lifting device	Compactor truck ($6m^3$) with Lifting device	Compactor truck ($6m^3$)		Spare parts	Tire for winter season
Pristina	Replace	10 units	—	—	—	—	—
	New	—	—	—	1 set	1 set	—
Prizren	Replace	3 units	—	—	—	—	—
	New	9 units	6 units	7 units	1 set	1 set	52 sets
Suhareka	Replace	2 units	—	—	—	—	—
	New	—	—	—	—	1 set	—
Malisheva	Replace	2 units	—	—	—	—	—
	New	—	—	—	—	1 set	—
Rahovec	Replace	3 units	—	—	—	—	—
	New	—	—	—	—	1 set	—
Dragash	Replace	1 unit	—	—	—	—	—
	New	—	—	—	—	1 set	—
Total		30 units	6 units	7 units	2 sets	6 sets	52 sets

1) Note: Details of tools and equipment for vehicle maintenance is shown in the former "Quantity of Equipment for Vehicle Maintenance"

Table 4: Quantity of Equipment for Vehicle Maintenance

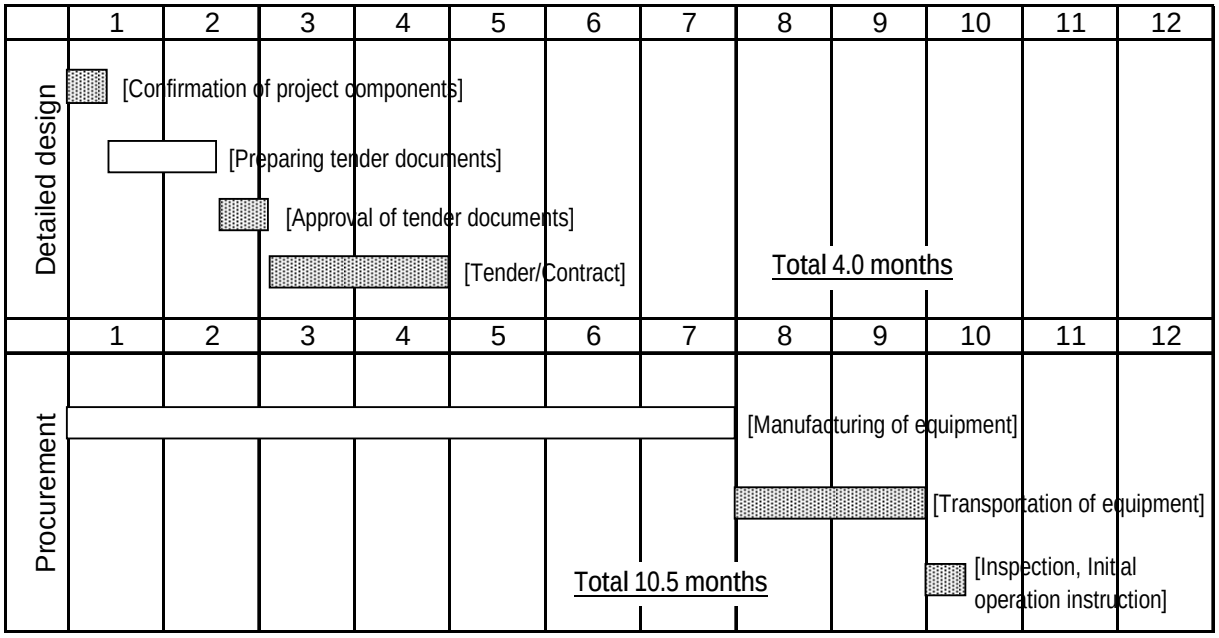
No.	Items	Qty.		
		Prizren	Pristina	Total
1	Air compressor (more than 750 litre per min)	2 units	2 units	4 units
2	Hydraulic garage jack (15ton)	2 units	2 units	4 units
	Hydraulic garage jack (10ton)	2 units	2 units	4 units
3	Basic tool set (approx. 100 types)	2 sets	2 sets	4 sets
4	Electric impact wrench with socket set	2 sets	2 sets	4 sets
5	Air impact wrench with socket set	2 sets	2sets	4 sets
6	Tire changer (Wheel size: 14-26 inch)	1 unit	1 unit	2 unit
7	Tire gauge (measuring range:70－1,000kPA)	2 units	2 units	4 units
8	Disc grinder	1 unit	1 unit	2 units
9	High-speed abrasive cutter	1 unit	1 unit	2 units
10	Electric hand drill (for steel less than 12 mm thick)	1 unit	1 unit	2 units
11	Circuit tester	2 units	2 units	4 units
12	Diesel hydrometer	1 unit	1 unit	2 units

4. Implementation Schedule and Project Cost

(1) Implementing schedule

The implementation schedule is shown in the following table.

Table 5: Implementation Schedule



(2) Project cost

In order to implement the Project, the Kosovo side shall be beard 16,180 Euro for the Project cost.

5. Project Evaluation

(1) Relevance

Based on the results of the Survey, the relevance of the Project is high for the following reasons.

① Large number of local residents including the low income level will be able to benefit from the project.
② There is a pressing need for Kosovo to stabilize civil government and improve the quality of life by achieving the project objective.
③ The country can basically secure own budget, human resources and technology for operation and maintenance without excessive advanced technology.
④ The Project is relevant with the medium- and long-term development plan of Kosovo country.
⑤ The Project does not aim to make profit.
⑥ Adverse effect on the environmental and social aspects is not apprehended through Project implementation.
⑦ With the Japanese Grant Aid Scheme, the Project will be implemented smoothly.
⑧ Japanese technology has its advantage and will be utilized in this Project for the waste collection system using small size vehicles is suitable for the Project site.

(2) Effectiveness

1) Quantitative evaluation

a. Population benefited

70% of the citizen in Prizren municipality will receive a proper waste collection service and a hygienic life by 2013.

b. Reduction of greenhouse gas (CO_2)

The fuel consumption will be improved by replacing the decrepit collection vehicles. It is expected that 369 tons of carbon dioxide (CO_2) will be reduced in Prizren municipality as of the year 2013.

c. Reduction of operation cost

It is expected that 15.5 million Euro of operation cost will be reduced annually in Prizren municipality by reduction of fuel consumption.

2) Qualitative evaluation

a. Establishment of proper Solid Waste Management

A scheduled time waste collection service will be provided by introducing the new vehicles, so that Prizren municipality will be able to contend with the environmental education such as the improvement of discharge manner etc. for the citizens.

Since the operation cost for the maintenance and fuel will be reduced, the Prizren municipality will be able to expand the waste collection service area. Therefore, it is expected the financial situation may be improved because of the increase in income.

b. Effectiveness of waste collection system using small vehicles

It is expected that the effectiveness of the waste collection system using the small collection vehicles on narrow roads in Prizren municipality is demonstrated. Since this system can be adapted in other cities, waste collection service in areas with narrow roads comes to be provided, and urban environment will be improved.

Contents

Republic of KOSOVO

The Project for the Improvement of Solid Waste Management
in the Republic of KOSOVO
Location Map

List of Figures & Tables

Abbreviations

DANIDA	Danish International Development Agency
DIN	Deutsches Institut fur Normung
EAR	European Agency for Reconstruction
EC	European Commission
EIA	Environmental Impact Assessment
EU	Europe Union
GTZ (GIZ)	Gesellschaft fur Technische Zusammenarbeit (Gesellschaft fur Internationale Zusammenarbeit)
IFC	International Finance Corporation
KFOR	Kosovo Force
KLMC	Kosovo Landfill Management Company
MESP	Ministry of Environmental and Spatial Planning
OSCE	Organization for Security and Cooperation in Europe
PPP	Public Private Partnership
SOK	Statistical Office of Kosovo
UNMIK	United Nations Interim Administration Mission in Kosovo
WWRO	Water and Waste Regulatory Office

Chapter 1 Background of the Project

Chapter 1. Background of the Project

1-1 Background and Outline of Grant Aid

Kosovo is inland state, has central geographical position in Balkan Peninsula, and is bordered with Serbia, Montenegro, Albania, and with Macedonia. The Kosovo conflict occurred from early 1998 to 1999 generated numerous refugees, however, in June 1999 this area became a United Nations Protectorate under the transitional rule of United Nations Interim Administration Mission in Kosovo according to resolution 1244 passed by the United Nations Security Council. Under the provisional rule of the U.N., the developed new interim governing council dealt with some metters like establishment of the rule of law and refugees returning. Kosovo Parliament passed am unanimous declaration of independence in February 2008. Japan recognized Kosovo as the independent country in March of the same year and established diplomatic relations between two countries in February 2009. On the other hand, Kosovo is the least developed country among the former Yugoslavia countries and had depended on the aid given by Yugoslavia and Serbia for many years. Therefore, the economy of Kosovo is totally relied on donor countries. After the independence, the country has put priorities on economic reconstruction and social development, so that has paid less attention to the environment.

Under the above circumstances, JICA conducted a Survey on Environmental Management in March 2010 and a Survey on Solid Waste Management in July 2010. These surveys confirmed that the problem of solid waste was one of the most serious issues in the environmental field. The waste collection rate has been decreased due to insufficient waste collection services caused by deteriorated waste collection vehicles. Especially, the sanitation condition of the capital city, Pristina municipality, and the second largest city, Prizren municipality, were severely compromised by scattered waste due to insufficient waste collection services. It is crucial to improve the sanitation conditions of these two cities.

The country is currently preparing a Solid Waste Management Strategy targeting the year 2010-2020 for 11 years as development policy document for solid waste management. The Strategy aims to establish a sound material-cycle society through reduction of environmental pollution caused by waste, improvement of waste collection service, waste minimization, 3Rs (reduce, reuse and recycle). The country requested the government of Japan in July 2010 for the Grant Aid and Technical Cooperation Project. Therefore, Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey to formulate project basic design.

1-2 Natural condition

(1) Location

Kosovo is inland state, has central geographical position in Balkan Peninsula, lies between coordinates 41° 50’58” and 43° 51’42” of northern geographical amplitude and between 20° 01’30” and 21°

48’02” of eastern geographical longitude. It is bordered with Serbia, Montenegro, Albania, and with Macedonia.

(2) Climate condition

The climate is mid-continental and dominated by the Adriatic-Mediterranean and the Alps. The annual average temperatures in summer is in 18-22℃, while winter mean temperature is approximately 0℃. The annual range of temperature is large as the differences of elevation between mountain area and lowland area is 500 – 1,000m. The mean annual rainfall of the country is approximately 600 mm and that of the western mountain area is 1,400 mm while that of lowland including the capital, Pristina, is about 350 mm.

(3) Geological and geography condition

Kosovo is surrounded by mountains at more than 2,000 meters near the west and south of borders, and the some of these areas have been designated as the Mali Sharr National Park that is the only national park in Kosovo. It is consisted by Kosovo Plain (510 - 570 m asl) and Dukagjini Plan (350 - 450 m asl). The average altitude above sea level of Kosovo is 810 m, the lowest peal is 270 m while the highest peak is 2,656 m (Gjeravica). Forests cover 47 % of the land and 62% of these lands owned by the public and other lands belong to the private ownership. The topographical map of Kosovo is shown below.

1-3 Environmental and Social Consideration

The main activity of the Project is to provide equipments (vehicles, tools and machines for repairing, etc) that may not cause negative impacts on the environment and the human society. The results of screening which was conducted by the MESP, confirmed that the impacts on the environment and the human society caused by the Project would be slight.

Chapter 2 Contents of the Project

Chapter 2. Contents of the Project

2-1 Basic concept of the project

2-1-1 Overall Goal and Project Purpose

The MESP is currently preparing a Solid Waste Management Strategy targeting the year 2020. The Strategy has proposed the numerical targets for the waste collection rate and waste reduction rate as follows;

Table 2-1: Numerical target（for the discharge amount）

	Target rate (%)			
	Current	2013	2016	2020
Collection rate of municipal waste	50	70	80	90
Separation rate of municipal waste	0	20	30	50
Recycle rate (Waste reduction rate) of municipal waste	10	20	35	40
Final disposal rate of municipal waste	90	80	65	60
Rate of organic waste to disposal amount of municipal waste	95	85	70	40

Source: hearing conducted by the Study Team

Although the lowness of the waste collection rate has been a problem as mentioned in Chapter 1.1.1, Pristina municipality, the capital, and Prizren municipality, the former capital and the second largest city, have faced difficulties dealing with the increasing discharge amount of municipal waste with population growth under the current capacity of waste collection. This project aims at raising to the current rate of waste collection in Prizren municipality of 39% (the national average is 50%) to 70% by 2013 by introducing small collection vehicles that make waste collection in areas with narrow roads possible and by replacing old waste collection vehicles, and the equipment for vehicle maintenance.

2-1-2 Outline of the Project

In order to attain "rationalization of waste management" in Prizren municipality which is the national strategy targeting the year 2020 in Kosovo, the Project shall procure small waste collection vehicles with a track record of waste collection on narrow roads in Japan, the replacement of old and run down existing vehicles in Prizren municipality and supply of the equipment for maintenance of collection vehicles, the replacement of decrepit waste collection vehicles in Pristina municipality and other municipalities in Prizren region. In selection of equipment, the manufacture technology of the small collection vehicle time-tested in Japan should be utilized as much as possible.

Through implementation of the Project, it is expected that the rate of waste collection in Prizren municipality improves, public health is improved, and the reliance for civic collection service is regained. In consequence, it is also expected that a sound Solid Waste Management System financially is established by increasing the waste fee collection rate.

Considering a future recycling promotion, it may be needed for Kosovo, as it is expected to join the EU, to establish a solid waste management system that citizens will voluntarily participate in. It is expected that a Solid Waste Management system with public participation is established by introducing a bell collection system which is major in Japan, in addition to the current container collection system and making the collection service more efficient using small collection vehicles.

2-2 Outline Design of the Japanese Assistance

2-2-1 Design Policy

(1) Basic policy

The equipment which will be procured should be designed with appropriate scale and specifications for Pristina and Prizren municipalities considering minimum cost. The basic policies for the outline design are described as below.

(2) Police on Natural environmental conditions

The winter temperature (from January to February) reaches 10 – 20 degrees below zero, at the two target areas, Pristina and Prizren munisipalities. In order to utilize equipment in cold weather without any difficulties, vehicles to be procured were selected with appropriate specifications applicable to the cold weather in Japan. Besides, the altitude of the target areas are less than 1,500 meters, hence, high-altitude specifications is not considered for the selection of vehicles.

(3) Policy on Socio-economic conditions

There are no matters to be considered like current lifestyle, heritage, religion, architectural style, economical status.

(4) Policy on Equipment Procurement

1) Supply of spare parts

It is difficult to procure genuine parts for Japanese-made vehicles in Kosovo at present. Therefore, the Project puts priority on the procurement of spare parts, which is difficult to substitute by alternates in spite of low frequency of part replacement.

2) Country of origin and Procurement country

Equipment is supposed to be procured from the recipient country/countries or Japan according to the regulations of the Japanese Grant Aid. Target equipment were not manufactured in recipient country, therefore, these equipment will be procured from Japan.

3) Lot division

It was examined the advantage of procurement through lot division since each equipment would be procured from various sources.

(5) Policy on Operation and Maintenance

Waste collection vehicles which will be procured through the Project shall be operated and maintained by direct users, Pastrimi Public Company and EcoRegjioni Public Company. The capacity of these implementation organizations in terms of operation and maintenance is expected to be strengthened through the technical cooperation project requested at the same time. The technical guidance for assignment plan of procured waste collection vehicles, inspection and repairing plan, etc. will be provided in cooperation with the Technical Cooperation Project.

(6) Policy on Equipment grade

The preliminary survey confirmed that the skill level of personnel in terms of operation and maintenance of present equipment were high. However, the existing equipment were manufactured 10-20 years ago and are old models. Therefore, equipment to be procured through the project are specified simply and without complicated electronic devices which will enable local personnel to maintain them easily.

(7) Methods of procurement and implementing schedule

Based on the regulation of the Japanese Grand Aid scheme, it was presumed that equipment would be procured through general competitive tender against Japanese private companies. Besides, the procurement schedule was developed by considering the manufacturing schedule, transportation, administration procedure, initial operational guidance, and inspection of delivered goods.

2-2-2 Basic Plan (Equipment Plan)

2-2-2-1 Overall plan

(1) Contents of request

The list of original requested equipment by Kosovo government on 12 July 2010 is shown in Table 2-2, while the changes in requested in accordance with above mentioned basic policy and discussion between Japan and Kosovo is shown in Table 2-3.

Table 2-2: The List of Original Requested Equipment

Procured Equipment	Items	Qty.
	Compactor truck (2,4,8 ton)	80
	Tractor	20
	Workshop equipment	1
	Public containers ($1m^3$)	200

	Containers for Household (120 litters)	1,000

Table 2-3: Changes in Request

	Items	Qty.		Total
		Replacement	Initial procurement	
Procured Equipment	Pristina			
	Compactor truck(10 m^3)	10		10
	Prizren and other four municipalities			
	Compactor truck (10 m^3)	11	8	19
	Compactor truck (6 m^3)		14 (11)	14 (11)
	Compactor truck (4 m^3)		(3)	(3)
	Spare parts for above mentioned vehicles		1 unit	
	Equipment for maintenance		1 unit	

Note: parenthetic figures show revised number of compactors in case the Japanese supplier can provide $4m^3$.compactors, whereby the number of $6m^3$ will be reduced.

(2) Plan of equipment to be procured

1) Target year and target ratio of waste collection

The Project aims to increase the waste collection rate of Prizren municipality up to 70 % by the year 2013 that will contribute to ensure proper waste management which is defined as the Overall Goal of the National Solid Waste Management Strategy targeting the year 2020.

2) Equipment to be procured

The result of site survey in the project showed that the width of roads at old town in Prizren municipality are narrow, while at new residential area where are multi-storey buildings are wide and this condition allows easy access by vehicles. The compactor trucks ($4m^3$ and $6m^3$) are selected for the narrow roads area as equipment to be procured, whereas compactor truck ($10m^3$) is for wide roads area. In addition, equipment for maintenance is selected to keep procured equipment good condition as long as possible.

The tractors and containers for household are eliminated from list of original requested equipment. Tractors cause the offensive odor and waste scattering due to no covering loaded waste during the travelling in the town. Furthermore, the tractors cause traffic jams because they are too slow; hence the small size compactor trucks are procured instead of tractors in order to avoid these issues. As for containers, these can be obtained domestically and Kosovar side has purchased containers; therefore, containers are eliminated from the request expecting self-help efforts of the Kosovar side.

The plan of compactor truck to collect the municipal waste from household and business office is focused on the project. The existing hoist trucks for the containers ($5m^3$ and $7m^3$) are planned to collect only construction and demolition waste and bulky waste in the future although those collect municipal waste at present.

3) Priority of assistance

The equipment to be procured is planned in accordance with the following priorities.

(1) Replace old waste collection vehicles owned by Prizren municipality

(2) Procure new waste collection vehicles to achieve the target ratio of waste collection of Prizren municipality

(3) Replace old waste collection vehicles owned by Pristina municipality

(4) Replace old waste collection vehicles which engage collection service out of Prizren municipality and owned by Ekoregjioni

(5) Procure maintenance equipment for Ekoregjioni Prizren Head Office and Pastrimi Pristina Head Office

Since Kosovar government applied a depreciation period for vehicles 15 years, the waste collection vehicle manufactured before 1995, namely fifteen (15) years old in 2010, is defined as decrepit vehicles to be replaced.

4) Priority project sites

Prizren municipality that has the second largest population in Kosovo is selected as the first priority project site considering dissemination of proper solid waste management to the other municipalities in the future because the scale of the city of Pristina municipality is much larger than others. But Pristina municipality is selected as the second priority project site and the equipment to be procured is planned within the project budget.

2-2-2-2 Equipment Plan

(1) Replacement of the current waste collection vehicles

1) Screening of decrepit vehicles

Current waste collection vehicles manufactured before 1995, namely fifteen (15) years old in 2010, are screened to be replaced. The period of full depreciation of equipment is defined as fifteen (15) years in Kosovo. The screened decrepit vehicles are shown in the Table 2-4.

Table 2-4: List of Current Waste Collection Vehicles to be replaced

No.	Type of Vehicle	Name of Manufacturer	Payload (ton[3])	Load capacity (m^3)	Year of manufacture	Plate number	Remark
Prizren							
1	Compactor truck	MAN	7	14	1989	287KS542	N.A[4]
2	Compactor truck	MAN	7	14	1989	286KS313	N.A
3	Compactor truck	Mercedes	7	14	1990	287KS791	
Rahovec							
1	Compactor truck	Mercedes	7	14	1987	252KS975	
2	Compactor truck	Mercedes	7	14	1987	252KS974	N.A
3	Compactor truck	Mercedes	7	14	1989	287KS785	N.A
Suhareka							
1	Compactor truck	STEYR	4	8	1985	288KS877	N.A
2	Compactor truck	MAN	8	16	1989	288KS872	
Dragash							
1	Compactor truck	MAN	7	14	1987	278KS665	N.A
Malisheva							
1	Compactor truck	Mercedes	8	16	1986	517KS200	
2	Compactor truck	Mercedes	7	14	1987	296KS669	N.A
Pristina							
1	Compactor truck	DAF	5	10	1983	498KS252	
2	Compactor truck	MAN	8	16	1985	520KS813	N.A.
3	Compactor truck	Mercedes	8	16	1986	520KS807	
4	Compactor truck	Mercedes	8	16	1989	229KS568	
5	Compactor truck	Mercedes	8	16	1989	520KS815	
6	Compactor truck	Mercedes	8	16	1990	505KS302	
7	Compactor truck	Mercedes	8	16	1992	505KS258	N.A.
8	Compactor truck	Mercedes	8	16	1992	505KS491	N.A.
9	Compactor truck	MAN	8	16	1993	544KS667	
10	Compactor truck	Mercedes	7	14	1993	505KS262	N.A.

2) Number and type of replaced vehicles

The planned necessary number and type of replaced vehicles are shown in the following table.

Table 2-5: Number of Replaced Vehicles

Project Site	Type of vehicle	Specification	Qty.
Prizren	Compactor truck	$10m^3$, with Lifting device	3
Rahovec	Compactor truck	$10m^3$, with Lifting device	3
Suhareka	Compactor truck	$10m^3$, with Lifting device	2
Dragash	Compactor truck	$10m^3$, with Lifting device	1
Malisheva	Compactor truck	$10m^3$, with Lifting device	2
Pristina	Compactor truck	$10m^3$, with Lifting device	10
Total			21

[3] Ton used in this document is short for Metric Ton (tonne), equivalent to 1,000 kg. Not to be confused with non-metric long or short tons.
[4] N.A. stands for not available, meaning the vehicle has been out of commission for a long time.

The load capacity of screened old waste collection vehicles ranges between $8m^3$ to $16m^3$. Among screened current waste collection vehicles, there are some "not available" vehicles which have not been operated since 2009 and/or before due to malfunction for a long time according to interviews with counterparts.

The total waste collection capacity of vehicles replaced by the project is more than current capacity. The comparison of waste collection capacity between current and replaced vehicle is shown in the following table.

Table 2-6: Comparison of Waste Collection Capacity between Current and Replaced Vehicles

Project site	Current	Replaced
Prizren	$14m^3$ (1 VH[5])	30 m^3 (3 VH)
Rahovec	14 m^3 (1 VH)	30 m^3 (3 VH)
Suhareka	16 (1 VH)	20 m^3 (2 VH)
Dragash	0 m^3 (none)	10 m^3 (1 VH)
Malisheva	16 m^3 (1 VH)	20 m^3 (2 VH)
Pristina	90 m^3 (6 VH)	100 m^3 (10 VH)
Total	150 m^3 (10 VH)	210 m^3 (21 VH)

(2) Required waste collection amount of Prizren municipality in 2013

The required waste collection amount and the necessary number of waste collection vehicles are estimated as follows in order to achieve the ratio of waste collection of 70% in 2013 in Prizren municipality.

1) Population projection

The population from 1991 to 2010 was predicted by Statistical Office of Kosovo (SOK), and Organization for Security and Cooperation in Europe (OSCE), while from 2011 to 2013 is predicted by JICA survey team based on the previous ratio of population increasing since the national census has not been conducted since 1981 in Kosovo.

Table 2-7: Population Prediction of Prizren Municipality

Year	Population of Kosovo	Ratio of Population Increasing	Population of Prizren	Remark
1948	727,820			National Census
1961	963,988	32.4%		National Census
1971	1,243,693	29.0%		National Census
1981	1,584,440	27.4%		National Census
1991	1,956,196	23.5%		National Census
2002	1,985,000	1.5%		Estimated by SOK
2003	2,016,000	1.6%		Estimated by SOK
2004	2,041,000	1.2%	**236,039**	Estimated by SOK and OSCE
2005	2,070,000	1.4%	239,393	Estimated by SOK

[5] VH is an abbreviation for vehicle.

Year	Population of Kosovo	Ratio of Population Increasing	Population of Prizren	Remark
2006	2,100,000	1.4%	242,862	Estimated by SOK
2007	2,126,000	1.2%	245,869	Estimated by SOK
2008	2,153,000	1.3%	248,992	Estimated by SOK
2009	2,181,000	1.3%	252,230	Estimated by SOK
2010	2,208,000	1.2%	255,353	Estimated by SOK
2011	2,236,704	1.3%	258,673	Estimated by JICA survey team
2012	2,265,781	1.3%	262,036	Estimated by JICA survey team
2013	2,295,236	1.3%	**265,442**	Estimated by JICA survey team

2) Waste generation and required waste collection amount in 2013

a) Waste collection amount by Ekoregjioni

The actual waste collection amount in 2010 by Ekoregjioni in Prizren municipality is shown in Table 2-8.

Table 2-8: Waste Collection Amount Estimated by Ekoregjioni Prizren Head Office in 2010

Unit: ton

Type of Vehicle		Jan	Feb	Mar	Apr	May	Jun	July
Trunk road	Compactor truck (14 ㎥)	986.4	979.1	1,176.2	1,236.7	1,308.3	1,319.4	1,481.7
Residential Area	Compactor truck (7 ㎥)	153.2	127.2	169.5	198.3	198.5	208.6	239.5
	Skip loader (7 ㎥)	363.2	312.8	465.6	608.1	636.8	577.5	629.1
Sub total		516.4	440.0	635.1	806.4	835.3	786.1	868.6
Hilly area	Tractor (2 ㎥)	282.0	294.3	383.0	395.9	386.7	420.5	482.6
Total		1,784.8	1,713.4	2,194.3	2,439.0	2,530.3	2,525.9	2,833.0

Type of Vehicle		Aug	Sep	Oct	Nov.	Dec.	Total	Ratio
Trunk road	Compactor truck (14 ㎥)	1,605.1	1,586.1	1,459.2	1,447.7	1,165.0	15,751.0	**51.9%**
Residential Area	Compactor truck (7 ㎥)	292.9	264.4	235.9	266.7	229.6	2,584.2	8.5%
	Skip loader (7 ㎥)	732.2	628.0	702.9	748.9	541.6	6,946.7	22.9%
Sub total		1,025.0	892.3	938.8	1,015.6	771.1	9,530.9	**31.4%**
Hilly area	Tractor (2 ㎥)	535.8	539.6	435.3	467.4	436.3	5,059.4	**16.7%**
Total		3,166.0	3,018.0	2,833.3	2,930.8	2,372.4	30,341.2	100.0%

Source: Ekoregjioni Prizren Head Office

b) Waste collection amount by private companies

In addition to Ekoregjioni, there are two other private sector companies that provide waste collection services in Prizren municipality. The amount of waste collection in 2010 by these two companies is shown in the following table.

Table 2-9: Waste Collection Amount in 2010 by Private Sector at Prizren Municipality

Company Name	Jan	Feb	Mar	Apr	May	Jun	Unit: ton
Sherbimi	54.5	66.4	118.7	106.2	93.0	107.0	
IS Company	30.7	112.0	95.9	64.4	128.3	136.5	
Total	85.2	178.4	214.6	170.6	221.3	243,500	

Company Name	July	Aug	Sep	Dec	Nov	Dec	Total
Sherbimi	106.3	109.4	155.9	123.1	135.5	91.0	1,266.9
IS Company	200.4	310.2	329.5	411.9	466.4	94.6	2,380.8
Total	306.7	419.6	485.4	535.0	601.9	185.6	3,647.8

c) Waste generation amount and required collection amount in 2013 forecasted

Total amount of the waste collected in Prizren municipality by Ekoregjioni and the private sector in 2010 was 22,989 ton. As 39% of collection rate estimated by the MESP, the waste generation amount in Prizren municipality was estimated as 88,000 ton approximately and the waste generation rate of Prizren municipality in 2010 was estimated as 0.936 kg/person/day. The JICA study team forecasted the generation rate in 2013 as 1.014 kg/person/day based on this rate considering the economic growth etc. and the annual waste generation amount in 2013 as 98,243 ton.

Therefore, the daily waste collection amount meeting the 70% of target collection rate in 2013 is estimated as 188.4 ton.

Table 2-10: Estimation of Waste Generation Amount at Prizren Municipality

Year	Population	Waste generation amount	Yearly waste collection amount	Daily waste collection amount	Waste collection ratio	Waste generation rate
	(person)	(ton/year)	(ton/year)	(ton/day)	(%)	(kg per capita per day)
2010	255,353	87,151	33,989	93.1	39	0.936
2013	265,442	98,243	68,770	188.4	70	1.014

Note: It is assumed that increasing ratio of waste generation is equal to half of economic growth ratio

3) Average number of waste collection trips and average payload in 2010

Average number of waste collection trips and average payload in 2010 are estimated and shown in the following tables based on the actual data of waste collection vehicles operated by Ekoregjion Prizren head office. It is assumed that five (5) days in a week and fifty two (52) weeks in a year are adopted as collection working days to estimate both averages.

Table 2-11: Average Payload per Vehicle Type in 2010

Type of Vehicle		Plate number	Payload (ton/year)	Number of trips (time/year)	Average payload (ton/trip)
Trunk road	Compactor truck (14 ㎥)	286KS313	1,815.7	323	
		287KS791	1,461.4	216	
		299KS860	2,053.2	254	
		320KS251	3,838.8	554	
		320KS720	4,064.8	647	
		321KS849	2,166.2	293	
	Sub total		15,400.1	2,287	6.73
Residential Area	Compactor truck (7 ㎥)	589KS166	1,154.6	380	
		589KS259	1,385.3	451	
	Sub total		2,539.9	831	3.06
	Skip loader (7 ㎥)	287KS789	4,176.1	1,487	
		287KS793	1,806.5	736	
	Sub total		5,982.6	2,223	2.69
Hilly area	Tractor (2 ㎥)	413KS238	318.5	225	
		413KS239	554.3	356	
		413KS323	529.6	283	
		413KS324	693.1	442	
		413KS996	763.1	499	
		KS1280	653.5	381	
		KS2128	1,043.3	572	
	Sub total		4,555.4	2,758	1.65

Table 2-12: Average of Trips per Vehicle Types in 2010

Type of Vehicle		Plate number	Number of trips (time/year)	Average of trips (trip/day)
Trunk road	Compactor truck (14 ㎥)	286KS313	323	
		287KS791	216	
		299KS860	254	
		320KS251	554	
		320KS720	647	
		321KS849	293	
	Sub total		2,287	1.76
Residential Area	Compactor truck (7 ㎥)	589KS166	380	
		589KS259	451	
	Sub total		831	1.60
	Skip loader (7 ㎥)	287KS789	1,487	
		287KS793	736	
	Sub total		2,223	4.28
Hilly area	Tractor (2 ㎥)	413KS238	225	
		413KS239	356	
		413KS323	283	
		413KS324	442	
		413KS996	499	
		KS1280	381	
		KS2128	572	
	Sub total		2,758	1.52

(3) Waste collection vehicle to be procured newly

1) Speculation about $4m^3$ compactor truck

The maximum payload of compactor truck ($4m^3$) is less than 1.5 ton according to Japanese manufacturer. The load capacity and maximum payload per compactor truck type is shown in the following table.

Table 2-13: Load Capacity and Maximum Payload per Compactor Truck Type

Type of compactor truck	Load capacity (m^3)	Maximum payload (ton)	Actual payload by Ekoregjioni (ton)
Compactor Truck (4 ㎥)	4	1.5	1.75[6]
Compactor Truck (6 ㎥)	6	3.0	2.62
Compactor Truck (10 ㎥)	10	6.4	4.81

The required payload of compactor truck ($4m^3$) is estimated as 1.75 ton/vehicle based on the waste amount collected by existing tractors. It means outweigh maximum payload of the compactor truck ($4m^3$). It will be affect safety track driving (starting and stopping), and will be shorten the lifetime of the track. Therefore, the compactor truck ($4m^3$) is not selected as procured equipment. The compactor trucks (more than $6m^3$ capacities) are selected for the Project.

2) Balance between capacity of waste collection and required amount waste collection in 2013

Based on above mentioned average of actual payload and average number of waste collection trips, the capacity of the existing and replaced waste collection vehicles in 2013 is estimated in the following table. And, it is assumed that the waste amount collected by the private sectors in 2013 will be same as that in 2010.

Table 2-14: Waste Collection Amount in 2013 by Current and Replaced Waste Collection Vehicle

Type of Vehicle		Qty	Average payload (ton/trip /unit)	Payload (ton/unit)	Average of trip (times/day)	Annual working days (day/year)	Annual waste collection amount (ton/year)	
Ekoregjioni	Compactor truck(14 ㎥)	4	6.73	26.92	1.76	260	12,319	18,918
	Compactor truck(10 ㎥)	3	4.81	14.42	1.76	260	6,599	
	Compactor truck(7 ㎥)	2	3.06	6.12	1.60	260	2,546	2,546
	Skip loader	2	2.69	5.38	4.28	260	5,987	11,204
	Tractor	8	1.65	13.20	1.52	260	5,217	
Other public corporations		—					3,468	3,648
Total								36,297

Through the meeting on proportion of waste amount to be collected by size of trucks with

[6] 4㎥compactor trucks are not utilised by Ekoregjioni the figure is estimated by other current compactor truck figures

Ekoregjioni, it was confirmed that the current proportion which was 51.2% for large and medium size truck and 31.4% for small size shown in the Table 2-8 was the best and it should be kept for the future collection system. The number of compactor trucks to be procured additionally is estimated considering this portion. Therefore, the average loading rate[7] and number of trips of $14m^3$ and $7m^3$ compactor truck obtained through the survey are adopted for the $10m^3$, $6m^3$ compactor trucks for the collection planning.

Table 2-15: Balance of Waste Collection Amount in 2013 Based on Planned Formation of Collection Vehicles

Type of Vehicle		Qty	Annual waste collection amount (ton/year)	Percentage of waste collection amount (%)	Required waste collection amount (ton/year)	Balance of waste collection amount (ton/year)
Ekoregjioni	Big/middle size compactor truck (14 ㎥, 10 ㎥)	7	18,920	51.92%	33,811	18,798
	Small size compactor truck (7 ㎥, 6 ㎥,)	2	8,522	31.39%	20,439	13,676
	Skip loader	2				
	Tractor	8	5,206	16.69%	–	–
Other public corporations		–	3,648	–	3,648	–
Total			36,297	100.00%	68,770	32,473

3) Required number of waste collection vehicle for balance of waste collection amount

The required number of waste collection vehicle for balance of waste collection amount in 2013 is shown in the following table;

Table 2-16: Additionally Required Number of Waste Collection Vehicle

Type of vehicle	Qty.	Average of load capacity (ton/trip/unit)	Payload (ton/unit)	Average of trip (time/day)	Annual working days (day/year)	Annual waste collection amount (ton/year)	Balance of waste collection amount (ton/year)
Compactor truck (10 ㎥)	9	4.81	43.29	1.75	261	19,800	18,798
Compactor truck (6 ㎥)	13	2.62	34.06	1.64	253	14,151	13,676
Total						33,951	32,473

[7] Average loading rate: Rate of the actual load against the capacity

Table 2-17: Waste Collection Vehicles and its Capacity in 2013

Type of Vehicle		Qty	Average payload (ton/trip/unit)	Payload (ton/trip)	Average of trip (time/day)	Annual working days (day/year)	Annual waste collection amount (ton/year)	Annual waste collection amount (ton/year)	Percentage of waste collection amount (%)
Ekoregjioni	Compactor truck(14 m³)	4	6.73	26.92	1.75	261	12,313	38,713	58.1%
	Compactor truck(10 m³) *replaced*	3	4.81	14.43	1.75	261	6,600		
	Compactor truck(10 m³) *procured additionally*	9	4.81	43.29	1.75	261	19,800		
	Compactor truck(7 m³)	2	3.06	6.12	1.64	253	2,543	22,674	34.1%
	Compactor truck(6 m³) *procured additionally*	13	2.62	34.06	1.64	253	14,151		
	Skip loader	2	2.69	5.38	4.24	262	5,980		
	Tractor	8	1.65	13.20	1.82	216	5,201	5,201	7.8%
Other public corporations								3,648	–
Total								70,236	100.0%
Target of waste collection amount in 2013								68,770	

(4) Compactor truck

1) Specifications of compactor truck

Basic specifications of compactor trucks are described as follows;

■ Cold weather specification

The cold weather specification which applies to -20 degrees Celsius is adopted required compactor truck based on the climate condition of project site. The heater for the hydraulic oil tank is adopted for all types of compactor trucks since the cylinder does not function well due to low-viscosity in the winter.

Furthermore, the project sites very often experience snow in winter. Therefore, considering driving the vehicles in these conditions, 4-wheel-drive vehicles are preferred; however, currently 2-wheel-drive vehicles are utilized. Currently, compactor trucks can travel easily on the main road due to regular snow removal, but cannot travel in residential areas and on minor roads due to less snow removal services. In order to reduce project costs, all procured vehicles are to be 2-wheel–drive; however, the compactor truck ($6m^3$), which collects waste in residential areas and on minor roads, are to be procured snow tires and snow chains. Snow tires and snow chains are planned to be procured for only the drive wheels of the compactor trucks.

■ Type of compactor

♦ Loading type

There are two common types of loading waste, one of them is 1) rotary type and the other is 2) compression board type, both of them are being used at the project sites. The compression board type of compactor is adopted in this plan since according to interviews with counterparts the rotary

type often malfunctions due to unsuitable waste in the project area. Moreover few Japanese manufacturers offer rotary type compactors.

♦ Unloading type

There are two types of unloading waste from a compactor, one of them is 1) dumping type and the other is 2) ejector plate type. This plan adopts the ejector plate type of unloading waste since it is suitable on uneven ground, while the dumping type often falls on its side on uneven ground such as landfill sites.

■ Container lifting device

The container for waste collection complying with Germany Industrial standards (Deutsches Institut fur Normung: DIN) standard and 1.1 m^3 capacity is being used in urban areas of the project sites. Therefore, all of the procured compactor trucks (10m^3) collecting waste on the trunk road and half of compactor trucks (6m^3) are planned to have a container lifting device installed.

■ Load capacity and payload

The specific gravity of waste in the compactor truck is estimated at approximately 0.5 ton / m^3 based on the site survey data at the final disposal site. Therefore, the specific gravity of the waste to be considered in the specifications of compactor truck is to be more than 0.5 ton /m^3. Besides, the specifications of compactor truck require a wastewater tank as standard equipment because the waste contained high moisture at the project sites.

■ Air conditioner

The compactor trucks are to have air conditioners as standard equipment since it becomes sometimes 40 degrees Celsius in the summer at the project sites.

2) Spare parts for compactor truck

It is difficult to purchase genuine spare parts for the compactor trucks because there is no Japanese manufacturer agent in the project area. However, substitute spare parts such as air filters are available in the project area. Therefore, spare parts which are difficult to purchase and there are no substitute parts, will be procured in this project. The list of main spare parts is shown in the following table.

Table 2-18: List of Main Spare parts

Name of spare parts
Injection nozzle assembly
Injection nozzle chip Nozzle chip
Engine Overhaul gasket kit For engine overhaul
Cylinder head gasket
Radiator hose
Brake wheel cylinder assembly
Brake wheel cylinder cup kit Wheel cylinder assembly
Brake shoe
Wheel hub seal
Wheel hub bearing
Leaf spring
Head light assembly
Rear combination light assembly
High pressure hose
Hydraulic cylinder
Hydraulic pump
Oil heater For Hydraulic oil
Electrical switches Compactor control switch
Electrical relays Compactor control switch
Snow Tire with Wheel
Snow Chain

(5) Tools and Equipment for vehicle maintenance

1) Priority of requested tools and equipment for vehicle maintenance

The requested equipment for vehicle maintenance is screened to rank priority “A”, “B” and “C”. The equipment ranked as priority “A” and “B” will be procured in the project, while priority “C” is eliminated from the list of procurement equipment. The priority of equipment is ranked based on the following policy;

1) Procured equipment is for daily vehicle maintenance of solid waste management
2) Procured equipment does not need any special education or instruction for the staff
3) Equipment which is common and can be obtained cheaply by the counterparts in Kosovo is eliminated.

Table 2-19: Priority of Tools and Equipment for Vehicle Maintenance

No.	Items	Priority
1	Air compressor	A
2	Hydraulic jack	A
3	Screw wrench set	B
4	Electric impact wrench, Socket set (mm)	A
5	Air impact wrench, Socket set(mm)	A
6	Tire changer (for large size vehicle)	A
7	Cross rim wrench	C
8	Air meter	B
9	Disk gridding	A
10	Wrench, screw driver set	B
11	Electric cutter	C
12	Argon welding machine	C
13	Electric drill (for steal ,3-12mm)	A
14	Clamp for welding	C
15	Manometer for argon welding machine	C
16	Dies(3-16mm)	C
17	Vice	C
18	Safety glasses for welding machine	C
19	Circuit tester	B
20	Electric water car washer	C

Note: "A" shows the highest priority, while "C" shows the lowest.
Gray colour hatching shows priority "C" items

The poor quality diesel often causes the trouble of starting vehicle engine in Kosovo. Thus, in addition to above mentioned tools and equipment, the diesel hydrometer is also planned to be procured in order to check the quality of diesel.

2) Specifications of equipment for vehicle maintenance

■ Air compressor

The air compressor is to supply source of power to air impact wrench and to inflate tires. The engine power of compressor is 3-phase, 380~400V and 50Hz, and pneumatic exhaust capability is 350 liters per minute. The hosepipes for connection are 10 m long, with diameters of 6.3, 9.5 and 12.7mm.

■ Hydraulic jack

The hydraulic jack is to replace tires and lift up the vehicle to maintain the bottom. The lifting up capacity of hydraulic jack consists of 10 tons and 15 tons since the weight of some current vehicles are more than 20 tons, while the weight of compactor trucks to be procured in the project are 11 tons ($10m^3$) and 6.5 tons ($6m^3$).

■ Basic tools

Sets of basic tools (containing approximately 100 types of tools) in metric sizes are procured for maintenance and repair the vehicles.

■ Electric impact wrench, socket set

The electric impact wrench and socket set is to disassemble and assemble the parts of engine with low torque at the machine maintenance division. The metric size of socket wrench is procured to share for the maintenance of both Japanese and locally manufactured vehicles.

■ Air impact wrench, socket set

The air impact wrench and socket set is to fasten and unfasten nuts with high torque when replacing tires. The metric size of socket wrench is procured to share for the maintenance of both Japanese and locally manufactured vehicles.

■ Tire changer

The tire changer is to replace the tires of middle and large size trucks with wheel sizes between 14 and 26 inches.

■ Tire gauge

The tire gauge is to check the air pressure of vehicle tires.

■ Disc grinder

The disk grinder is to grind the surface of vehicles body, parts for sheet metal, welding parts for polishing and so on. The disc size of 100 mm diameter is procured to operate easily.

■ High speed abrasive cutter

The high-speed abrasive cutter is to cut the steel. Cutter which is desktop type and the disc size of 300 mm diameter class is procured.

■ Electric hand drill

The electric hand drill is to drill holes in sheet metal on the body and parts of the vehicles. The hand drills to be procured will be capable of drilling between 1.0 and 2.0 mm diameter holes in sheet metal with less than 12 mm thick.

■ Circuit tester

The circuit tester is to check the electric circuit and measure the voltage.

■ Diesel hydrometer

The diesel hydrometer is to easily check the quality of diesel.

3) Quantity of tools and equipment for vehicle maintenance

Both Pastrimi at Pristina municipalities and Ekoregjioni at Prizren municipality and other four

municipalities in Prizren region are faced with a lack of equipment; therefore necessary types and quantities of maintenance equipment shall be procured for both municipalities as follows;

Table 2-20: Quantity of Equipment for Vehicle Maintenance

No.	Items	Qty.		
		Prizren	Pristina	Total
1	Air compressor (more than 750 litre per min)	2 units	2 units	4 units
2	Hydraulic garage jack (15ton) Hydraulic garage jack (10ton)	2 units 2 units	2 units 2 units	4 units 4 units
3	Basic tool set (approx. 100 types)	2 sets	2 sets	4 sets
4	Electric impact wrench with socket set	2 sets	2 sets	4 sets
5	Air impact wrench with socket set	2 sets	2sets	4 sets
6	Tire changer (Wheel size: 14-26 inch)	1 unit	1 unit	2 unit
7	Tire gauge (measuring range:70－1,000kPA)	2 units	2 units	4 units
8	Disc grinder	1 unit	1 unit	2 units
9	High-speed abrasive cutter	1 unit	1 unit	2 units
10	Electric hand drill (for steel less than 12 mm thick)	1 unit	1 unit	2 units
11	Circuit tester	2 units	2 units	4 units
12	Diesel hydrometer	1 unit	1 unit	2 units

2-2-2-3 Summary of tools and equipment to be procured

The summary of tools and equipment to be procured is shown in the following table in accordance with above mentioned outline design.

Table 2-21: Summary of tolls and equipment to be procured

Project site	Repair or New	Type of vehicle			Equipment for vehicle maintenance[1)]	Others	
		Compactor truck (10m^3) with Lifting device	Compactor truck (6m^3) with Lifting device	Compactor truck (6m^3)		Spare parts	Tire for winter season
Pristina	Replace	10 units	－	－	－	－	－
	New	－	－	－	1 set	1 set	－
Prizren	Replace	3 units	－	－	－	－	－
	New	9 units	6 units	7 units	1 set	1 set	52 sets
Suhareka	Replace	2 units	－	－	－	－	－
	New	－	－	－	－	1 set	－
Malisheva	Replace	2 units	－	－	－	－	－
	New	－	－	－	－	1 set	－
Rahovec	Replace	3 units	－	－	－	－	－
	New	－	－	－	－	1 set	－
Dragash	Replace	1 unit	－	－	－	－	－
	New	－	－	－	－	1 set	－
Total		30 units	6 units	7 units	2 sets	6 sets	52 sets

1) Note: Details of tools and equipment for vehicle maintenance is shown in the former "Quantity of Equipment for Vehicle Maintenance"

2-2-3 Implementation Plan

2-2-3-1 Implementation Policy

(1) Basic items

The Project shall be implemented in accordance with the scheme of Japan's Grant Aid for a single-year. The Grand Aid shall be offered based on the Exchange of Notes (hereinafter referred to as the "E/N") in which the Project purpose, implementing organizations and the conditions of the Grant Aid confirmed between the Government of Japan and the Government of Kosovo shall be approved.

Following the E/N, the Grant Agreement (hereinafter referred to as the "G/A") of the Project shall be concluded between the Government of Kosovo and JICA to define the payment conditions, items to be borne by the Kosovo side and procurement conditions of the Project. In terms of detailed procedures concerned with procurement under the Grant Aid, they shall be agreed upon between the Government of Kosovo and JICA at the time of signing the E/N.

(2) Equipment Procurement

Essentially, the budget of the Grant Aid shall be used to purchase products made in Japan and Kosovo, and the services are supplied by Japanese and Kosovo nationals. It is also possible to use the budget of the Grant Aid to purchase products and services from third countries (i.e. those other than Japan and Kosovo) when the necessity is approved by JICA and the Government of Kosovo (or the authorities designated by the government). However, the prime contractor to implement the Grant Aid, that is, the consultant and the procurement companies, shall be Japanese nationals.

The procurement company shall be selected, in principal, by competitive tender so that fair competition is ensured among the tenderers to procure the products or services. The tender documents shall be made by the consultant upon discussion with the Government of Kosovo.

(3) "Lot" of equipment to be procured

All equipment is planned to belong to just a single "lot" in the project since little advantage is expected by several lots. The equipment to be procured in the project are categorized according to "A. compactor truck" and "B. equipment for maintenance of vehicle". Both categories "A" and "B" are able to procure by single procurement agency and the total cost of "B. equipment for maintenance of vehicle" is estimated around than ten million Japanese Yen.

(4) Consultant

Agreement for the consulting services regarding the tender and management of procurement is concluded between the consultant and Kosovo government. The scope of work of consulting services is mentioned as follows;

1) Consulting services before tender

The consultant reviews the result of survey and plan of preparatory survey at the detail design stage. Kosovo government approves the tender document that the consultant prepares after the review. The consultant guarantees the consistency of the project in accordance with the approval of the Kosovo government.

2) Consulting services during tender

The consultant manages the following tender procedures:

i) Prepare the tender document; mainly specifications
ii) Organize the tender
iii) Respond to questions and prepare the draft of amendment
iv) Conduct the evaluation of tender and prepare the evaluation table and report
v) Support the negotiation

3) Consulting work during procurement management

The consultant confirms the specifications and quantity of equipment submitted by manufacturers. In case that training of initial operation is required, the consultant checks whether the training is given to counterpart properly or not.

(5) Execution body of recipient country

The organization responsible of recipient country for the project is the MESP while the execution body consists of Pristina municipality, Prizren municipality, Pastrimi and Ekoregjioni. Both Pristina municipality and Prizren municipality are in charge of supervision of waste collection service, while Pastrimi and Ekoregjioni are providing the service of waste collection, and the operation and maintenance of equipment. The persons responsible for the project shall be appointed from each party to coordinate the project properly.

2-2-3-2 Implementation Conditions

(1) Secure place to store equipment

The proper land is to be secured to store procured vehicles, while a warehouse is to store spare parts for maintenance by Kosovo side before delivery of equipment.

(2) Transportation to the project sites

The plan of transportation consists of both of ocean transportation and land transportation. The ocean transportation from Japan to Kosovo is mainly adopted by the plan to keep transportation costs down.

The equipment is loaded to the ship at main ports in Japan, such as Yokohama port, and those are transported to Piraeus port in Greece. The equipment is transported by land to Prizren municipality and Pristina municipality in Kosovo through Thessaloniki in Greece and Skopje in Macedonia after being unloaded from ship at Piraeus port. The expected transportation period is seven (7) weeks

and the detail is shown as follows;

- Ocean transportation from Japan to Piraeus port in Greece 25 days
- Unloading from ship and loading to truck at Piraeus port 7 days
- Land transportation from Piraeus port in Greece to Prizren municipality and Pristina municipality 4 days
- Custom duty in Greece, Macedonia and Kosovo: 4 days x 3 countries = 12 days

Total 48days

The transportations from Ekoregjioni Prizren head office to Rahovec, Suhareka, Malisheva and Dragash branch office are organized as Kosovo side responsibility.

2-2-3-3 Scope of Works

1) Installation of equipment

Instruction for initial operation is conducted by Japan side. Further details are mentioned in the following pages.

2) Demarcation of procurement and installation of equipment

Demarcation of procurement and installation of equipment between Japan side and Kosovo side is mentioned in the following tables.

Table 2-22: Demarcation of Procurement and Installation of Equipment between Japan and Kosovo

Scope of Work	Japan side	Kosovo side
1. Equipment		
– Procure of equipment	✓	
– Supply consumable (out of that procured by Japan side)		✓
– Supply electricity and fuel for the operation		✓
2. Secure the place for installation of equipment		✓
3. Transportation and custom duty of equipment		
– Transport the equipment for the each destinations	✓	✓
– Deal with custom duty	✓	✓
– Procure tax exemption (import tax, VAT etc.)		✓
– Acquire import permit for the equipment		✓
4. Banking Arrangement (B/A) and authority to pay (A/P)		
– Arrange the banking arrangement(B/A)		✓
– Arrange the authority to pay(A/P)		✓
– Pay the commission of B/A and A/P		✓
5. Arrange the necessary permit and exemption of fiscal levies for Japanese consultants to stay, disembark and embark at recipient country		✓
6. Arrange the issue of necessary approvals to implement the project		✓
7. Expenses and prompt execution of the repairing facility and employment of collection drivers		✓
8. Supporting of tender procedure		
– Prepare tender document	✓	
– Consult tender procedure and procurement of equipment	✓	
9. Inspection of delivered equipment		
– Conduct the inspection of delivered equipment	✓	
– Join the inspection of delivered equipment	✓	✓
– Instruct the initial operation of equipment	✓	✓

2-2-3-4 Consultant Supervision

(1) Basic policy

The consultant shall supervise the supplier in order to execute project contracts adequately and without complication. The consultant supervision works shall aim to supervise whether or not the procurement is implemented correctly, while ensuring prescribed qualities in accordance with documents such as specifications stipulated in the contracts of the Project. It shall also supervise whether or not the supplier is to control and store documents adequately concerning its working records such as quality control data, photos and equipment procurement.

(2) Installation work of equipment and instruction of operation of equipment

The installation work is not required for any equipment to be procured in the project. The instruction of operation of equipment is not required except for the instruction for "A-1 compactor truck (10m^3 with lifting device)", "A-2 compactor truck (6m^3 with lifting device)", "A-3 compactor truck (6m^3)"and "B-1 equipment for vehicle maintenance". The instruction of operation of those three types of compactor trucks and equipment for vehicle maintenance will be given by the Japanese manufacturer to avoid any accident caused by operator error. The other equipment does not require the instruction of operation since the other procured equipment is same type of current one; hence Pastrimi and Ekoregjioni are familiar with the operation of those.

(3) Duty of dispatched consultant

The consultant manages the progress of procurement process, while the procurement agency secures the procurement of equipment. The duty of dispatched Japanese consultant in Kosovo is shown in the following table.

Table 2-23: Duty of Dispatched Consultant

Category	Name of consultant	Work responsible	Dispatched period
Procurement management	Procurement control	Control Inspection and Initial instruction	Spot
	Inspection engineer	Inspect equipment	Spot

2-2-3-5 Procurement plan

(1) Procurement plan

The Project plans to procure equipment manufactured in Japan since none of this equipment is manufactured in Kosovo. The domestic agency in Kosovo is continuously able to supply the spare parts and the after service for Japanese brand vehicles, if the Japanese manufacturer makes a contract with domestic agency as a contract dealer. The procurement plan of equipment is shown in the following table.

Table 2-24: Procurement Plan of Equipment

Name of equipment	Japan	Kosovo
Compactor truck (10m^3) with Lifting device	✓	–
Compactor truck (6m^3) with Lifting device	✓	–
Compactor truck (6m^3)	✓	–
Repair and maintenance tools	✓	–

(2) Procurement plan for spare parts and consumables

It seems difficult to obtain the spare parts for Japanese compactor trucks in Kosovo at this moment since there is no agent or contract dealer of the Japanese manufacturers. Therefore, the spare parts that are not replaced very often but are difficult to obtain, and that do not have substitute parts, shall be procured with high priority.

Table 2-25: Procurement Plan of Spare Parts and Consumables

Name of equipment	Spare parts	Consumables
Compactor truck (10m^3) with Lifting device	✓	–
Compactor truck (6m^3) with Lifting device	✓	–
Compactor truck (6m^3)	✓	–
Repair and maintenance tools	–	–

2-2-3-6 Operational Guidance Plan

(1) Plan of installation work

There is no equipment requiring installation work at the site in the project.

(2) Initial adjustment and commissioning

There is no equipment that requires initial adjustment and commissioning in the project.

(3) Instruction of initial operation

The initial operation for the compactor trucks and the equipment for vehicle maintenance to be procured in the project is instructed by the procurement agency. The instruction is given to the operators of procured equipment at Ekoregjioni Prizren head office and at Pastrimi Pristina head office. It takes four (4) days for the operators at Ekoregjioni Prizren head office to complete the instruction of initial operation while two (2) days for Pastrimi Pristina head office about the compactor trucks and one (1) day for the operators at Ekoregjioni Prizren head office to complete the instruction of initial operation while one (1) day for Pastrimi Pristina head office about the equipment for vehicle maintenance.

Table 2-26: Schedule of Dispatching of Instructor for the Initial Operation Procurement (Compactor trucks)

Type of instructor and dispatched from	Name of equipment	Instruction period	Travelling days	Place of instruction	Target
Japanese engineer from manufacturer	Compactor truck (10m^3) with lifting device Compactor truck (6m^3) with lifting device Compactor truck (6m^3)	4 days	4 days (round trip between Japan and Kosovo) 1 day (holiday)	Ekoregjioni Prizren head office	Driver 33 Mechanic 3
Japanese engineer from manufacturer	Compactor truck (10m^3) with lifting device	2days		Pastrimi Pristina head office	Driver 10 Mechanic 3
Total		11 days			

Table 2-27: Schedule of Dispatching of Instructor for the Initial Operation Procurement (Equipment for vehicle maintenance)

Type of instructor and dispatched from	Name of equipment	Instruction period	Travelling days	Place of instruction	Target
Japanese engineer from manufacturer	Equipment for vehicle maintenance	1 day	4 days (round trip between Japan and Kosovo)	Ekoregjioni Prizren head office	Mechanic 3
Japanese engineer from manufacturer		1day		Pastrimi Pristina head office	Mechanic 3
Total		6 days			

(4) Plan of initial adjustment and commissioning

There is no initial adjustment and commissioning in the project

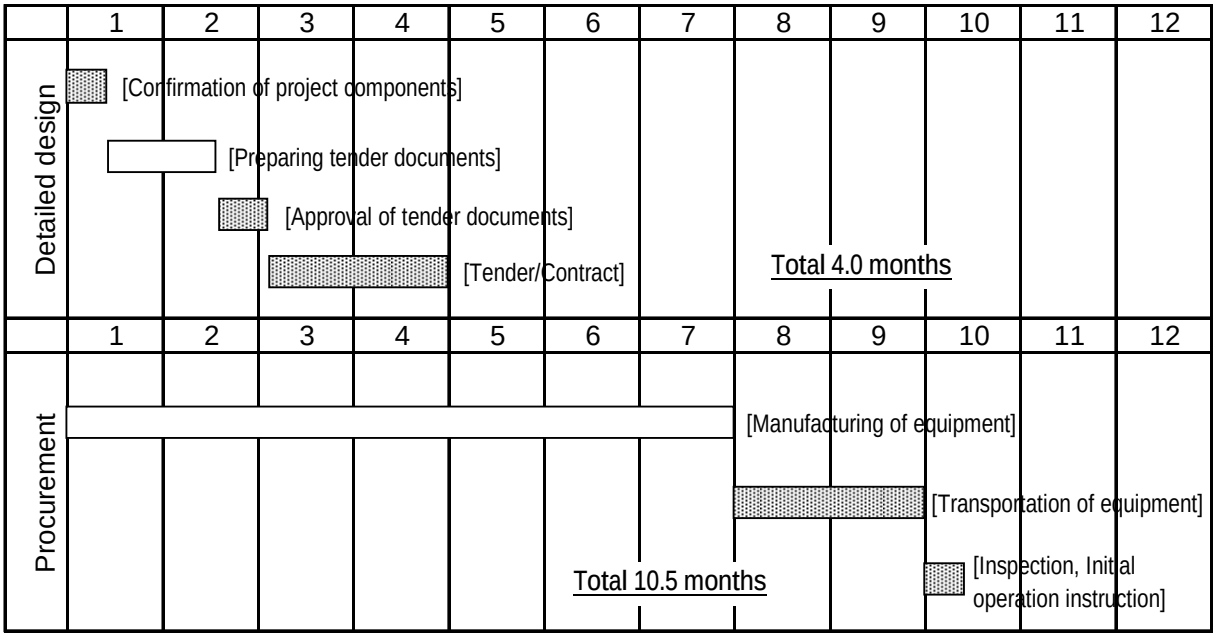
(5) Plan of inspection before shipping

The inspection of equipment to be procured is conducted due to large number of the category and quantity shipping

2-2-4 Implementation schedule

The implementation schedule is shown in the following table.

Table 2-28: Implementation Schedule



2-3 Obligation of Recipient Country

2-3-1 Items related to the Project

To implement the Project, Kosovo country is requested to provide the following items.

- Labour cost for personnel assigned by Kosovo
- Cost and procedure necessary for inspection of delivered equipment
- Storage space for procured equipment
- Assignment of trainees for operation guidance
- Transportation of equipment to the project sites, Suhareka, Malisheva, Rahovec and Dragash from Ekoregjioni Head Office in Prizren.

2-3-2 General items

In the implementation of the Japanese Grant Aid Scheme, the Kosovo side agreed to undertake such necessary measures as follows;

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

2) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies that

will be imposed in the recipient country 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 that may be necessary for their entry into the recipient country and stay therein for the performance of the work.

4) Appropriate utilization:

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

5) Re-exportation:

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

6) Bank arrangement:

The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "Bank"). The Government of Japan will execute the Grant by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under verified contracts. The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

2-3-3 Other undertakings and necessary procedures

(1) Exemption of financial duties

MESP shall take necessary measures to facilitate project implementation, such as exemption of Value Added Tax, customs duties, and any other taxes and fiscal levy charges in Kosovo arisen from the Project activities, collaborating with the authorities concerned of the recipient side.

(2) Repair of the entrance road of final disposal site in Prizren Region

MESP shall take necessary measures to fix the bumpy road at the entrance of final disposal site in Prizren region, for the effective work and use of compactor trucks. The construction for repair should be completed before compactor trucks arrive in Kosovo and the Kosovo side understood and expressed its intention to inform JICA side of the completion in writing.

(3) Employment of additional driver for new collection vehicle in Prizren municipality

It is recognized that if additional (not replaced) collection vehicles are provided in order to achieve collection rate up to 70% in Prizren municipality, additional drivers are necessary to be employed by Ekoregjioni. Kosovo side will take necessary measures for employing the necessary numbers of new drivers.

2-4 Project Operation Plan

2-4-1 Basic policy

The cost of operation and maintenance for procured equipment is allocated by the recipient organizations, Pastrimi Public Company and Ekoregjioni Public Company.

2-4-2 Operation and Maintenance System

The necessary operation and maintenance cost for procured equipment is described as "2-5-2 The Operation and Maintenance cost". The operation and maintenance system will follow the current system the recipient organizations, Pastrimi Public Company and Ekoregjioni Public Company, have as these organizations used to utilize and maintain similar types of equipment.

2-5 Project Cost Estimation

2-5-1 Initial Cost Estimation

The following tables show the expenses of Kosovo side.

Obligation of Kosovo side expenditure 16,180Euro (approx. 1.82 millions Yen)

Item / Content	Cost(Euro)
Internal transportation of the products purchased (fuel cost, from Prizren municipality to other four municipalities)	200
Cost of repairing access road for the final disposal site in Prizren municipality	11,000
Commission fee	4,980
Total	16,180

(1) Condition of estimation

1) Timing of estimation

The cost was estimated as of February 2011.

2) Exchange rate

The exchange rate is as follows;

1 USD＝84.46 yen
1 Euro＝112.73 yen

3) Schedule of procurement

The schedule of procurement is described as "2-2-4 Implementation schedule".

4) Others

The cost was estimated based on the requirements of Japanese Grant Aid Scheme.

2-5-2 Operation and Maintenance cost

The annual cost that each recipient organization has to secure for the operation and maintenance of equipment is estimated 87,000 Euro /year for Pastrimi Public Company and 760,000 Euro /year for Ekoregjioni Public Company. The breakdown of cost is shown below.

Table 2-29: Operation and Maintenance cost

Items for maintenance			Number	Unit	Cost (J-yen)	Cost (Euro)
A1 Prizren headquarters, Ekoregjioni Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		3	VH[8]	Not included (just exchange)	
	New and additional vehicle with compaction (10 ㎥)	880 l/month	9	VH		109,296
	New and additional vehicle with compaction (6 ㎥)	700 l/month	13	VH		125,580
Sub-total						234,876
2)	Labor cost for additional vehicles					
	New and additional vehicle with compaction (10 ㎥)	Driver	108	M/M[9]		43,200
	New and additional vehicle with compaction (10 ㎥)	Collection worker (2persons/vehicle)	216	M/M		64,800
	New and additional vehicle with compaction (6 ㎥)	Driver	156	M/M		62,400
	New and additional vehicle with compaction (6 ㎥)	Collection worker (2persons/vehicle)	312	M/M		93,600
Sub-total						264,000
(2)	Repairing and maintenance fee					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		3	VH		750
	New and additional vehicle with compaction (10 ㎥)		9	VH		2,250
	New and additional vehicle with compaction (6 ㎥)		13	VH		3,250
Sub-total						6,250
2)	Repairing cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	3	VH	877,500	
	New and additional vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	9	VH	2,632,500	
	New and additional vehicle with compaction (6 ㎥)	Original cost x 45% ÷ years of depreciation	13	VH	2,895,750	

[8] VH is an abbreviation for vehicle. Namely, the cost here is calculated per vehicle.
[9] M/M is an abbreviation for man months. Namely, the cost is calculated on a monthly basis per person.

Items for maintenance			Number	Unit	Cost (J-yen)	Cost (Euro)
Sub-total					6,405,750	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	3	VH	1,950,000	
	New and additional vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	9	VH	5,850,000	
	New and additional vehicle with compaction (6 ㎥)	Original cost ÷ years of depreciation (for 15 years)	13	VH	6,435,000	
Sub-total					14,235,000	
Total					20,640,750	505,126
Converted price					Japanese yen	77,584,000
					Euro	689,000
A2 Rahovec branch office, Ekoregjioni Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		3	VH	Not included (just exchange)	
Sub-total3						0
(2)	Repairing and maintenance fee					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		3	VH		750
Sub-total						750
2)	Repairing cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation Original cost x 45% ÷ years of depreciation	3	VH	877,500	
Sub-total					877,500	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	3	VH	1,950,000	
Sub-total					1,950,000	
Total					2,827,500	750
Converted price					J-yen	2,910,000
					Euro	26,000
A3 Suhareka branch office, Ekoregjioni Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		2	VH	Not included (just exchange)	
Sub-total						0
(2)	Repairing and maintenance fe					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		2	VH		500
Sub-total						500
2)	Repairing cost					

Items for maintenance			Number	Unit	Cost (J-yen)	Cost (Euro)
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	2	VH	585,000	
Sub-total					585,000	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	2	VH	1,300,000	
Sub-total					1,300,000	
Total					1,885,000	500
Converted price					J-yen	1,940,000
					Euro	18,000
A4 Dragash branch office, Ekoregjioni Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		1	VH	Not included (just exchange)	
Sub-total						0
(2)	Repairing and maintenance fee					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		1	VH		250
Sub-total						250
2)	Repairing cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	1	VH	292,500	
Sub-total					292,500	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	1	VH	650,000	
Sub-total					650,000	
Total					942,500	250
Converted price					J-yen	970,000
					Euro	9,000
A5 Malesheva branch office, Ekoregjioni Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		2	VH	Not included (just exchange)	
Sub-total						0
(2)	Repairing and maintenance fee					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		2	VH		500
Sub-total						500
2)	Repairing cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	2	VH	585,000	
Sub-total					585,000	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	2	VH	1,300,000	

Items for maintenance			Number	Unit	Cost (J-yen)	Cost (Euro)
Sub-total					1,300,000	
Total					1,885,000	500
Converted price					J-yen	1,940,000
					Euro	18,000
B1 Pristina headquarters, Pastrimi Public Company						
(1)	Operation cost					
1)	Fuel oil cost					
	Replaced vehicle with compaction (10 ㎥)		10	VH	Not included (just exchange)	
Sub-total						0
(2)	Repairing and maintenance fee					
1)	Vehicle registration / Inspection fee					
	Replaced vehicle with compaction (10 ㎥)		10	VH		2,500
Sub-total						2,500
2)	Repairing cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost x 45% ÷ years of depreciation	10	VH	2,925,000	
Sub-total					2,925,000	
(3)	Depreciation cost					
	Replaced vehicle with compaction (10 ㎥)	Original cost ÷ years of depreciation (for 15 years)	10	VH	6,500,000	
Sub-total					6,500,000	
Total					9,425,000	2,500
Converted price					J-yen	9,700,000
					Euro	87,000

Chapter 3 Project Evaluation

Chapter 3. Project Evaluation

3-1 Preconditions

(1) To ensure storage facility for vehicles and spare parts to be procured

It is necessary to ensure storage facility with safety devices for procured vehicles and spare parts for vehicles.

(2) Appllication of duty exemption

The MESP will be requested to take necessary measures to remit the duty such as value-added tax, custom clearance and other tax and levy arised by the Project activities in collabolation with the relevant agencies.

3-2 Necessary Inputs by Recipient Country

(1) Staff assignment and securement of operation and maintenence cost

It is not necessary to employ driver and collection workers additionally for the waste collection vehicles to be procured for replacement, while, it is necessary for the vehicles procured additionally to achieve the target in Prizren municipality.

(2) Burden of operation and maintenence cost

It is necessary for the Kosovo side to secure the budget for operation and maintenence for the additional waste ceollection vehivcles newlly procured.

(3) Collaboraiton with Technical Cooperation project

Technical cooperation project (TCP), "The Project for Enhancement of the Capacity for Waste management Toward Sound Material-Cycle Society", is implemented in parallel with this Grant Aid Project. It is expected that the appropriate system for utilizing the equipment to be procured is established through strengthening the capability of operation and maintenance of the equipment through this TCP. Moreover, in order to improve the collection system, TCP may introduce the Bell collection system which is time-tested in Japan. It is expected that the waste collection system with punctual collection service and appropriate waste discharge by residents according to the rules in response to this service will be fixed. Furthermore, since 3R promotion activity towards material-cycle society will be targeted in the project, the waste management system with public participation that Kosovo has not been built will be achieved,so that this will leads to 3R promotion in Kosovo in future.

(4) Cooperation with other donors

Prizren and Pristina municipalities have received assistance from European aid agencies such as EC in

the past and the present. The Project will provide equipments only, so that it is important to work with other donors to make use of procured equipments.

3-3 Important Assumptions

(1) Policy on Solid Waste Management of Kosovo Government will not change.

The policy on Solid Waste Management Strategy which the Minisiry of Environment and Spatial Planning indicated in the environmental strategy of Kosovo in 2003 will not be changed.

(2) Pastrimi and EcoRejioni Public Companies will continue the waste collection service.

The Pastrimi and Ekoregjioni are the public companies established by the neighboring municipalities as the capital investors. These public companies should continue to provide waste collection service without privatization.

3-4 Project Evaluation

3-4-1 Relevance

Based on the results of the survey, the relevance of the Project is high for the following reasons.

① Large number of local residents including the low income level will be able to benefit from the project.

Low income households are exempt from payment of waste fee. Inefficient waste collection using large-sized vehicles have become financial burdens for the corporations due to lack of sufficient revenue. Efficient waste collection system will enable the corporations to provide sustainable waste collection service.

② There is a pressing need for Kosovo to stabilize civil government and improve the quality of life by achieving the project objective.

Population growth after the conflict has outstripped the corporation's ability of waste collection, and it has become difficult to provide regular waste collection service with decrepit equipments. Hence, waste residents discharged is abandoned and scattered by waste pickers and stray dogs. The Project will contribute to increase waste collection rate and to improve the quality of resident's life.

③ Basically, the country can afford to secure own budget, human resources and technology for operation and maintenance without excessive advanced technology.

Equipment which will be procured through the Project, are basically the same as that the recipient organizations are using, so that additional human resources and technology are not necessary.

④ The Project is relevant with the medium- and long-term development plan of Kosovo country.

There is no existing Solid Waste Management Master Plan in Kosovo so that a Solid Waste Management Strategy which is now under Diet deliberation is expected strongly. The Project set up target rate of waste collection according to the draft Strategy, and is also in line with medium- and long-term plan of Kosovo country.

⑤ The Project does not aim to make profit.

The Project will be implemented as one of the public services local governments provide without the aim of moneymaking.

⑥ Adverse effect on environmental and social aspects is not apprehended through implementation of the Project.

The project will provide equipments like vehicles and tools for repairing that will not make adverse effects on environmental and social aspects of the country. Therefore, it is evaluated that the impacts on the environment and the human society caused by the Project would be slight.

⑦ The Grand Aid Scheme will enable to implement the Project smoothly.

This is a project for procurement of equipment. Since the country of origin and procurement of the equipment will be Japan and the Project will be implemented based on the scheme prepared for the grant aid by Japanese Government. Therefore, the Project will be implemented smoothly as schedule unless force majeure.

⑧ Japanese technology has greatly met the needs of the target population of the Kosovo country and is at an advantage.

As for the waste collection vehicle used in Kosovo, large vehicles are most common. However, the project site in the old city with a narrow road network is unsuitable for large-sized vehicles to provide waste collection service. A farm tractor must be used for the waste collection in these areas. It is clear that the time-tested Japanese small collection vehicles will function effectively for the waste collection works in areas with narrow roads. Therefore, implementation of this Project is appropriate from a viewpoint of improving the quality and efficiency of waste collection service.

3-4-2 Effectiveness

(1) Quantitative evaluation

1) Benefited population

70% of citizen will receive an appropriate waste collection service and enjoy a hygienic life by 2013.

Table 3-1: Benefited population of the Project

	Total Population (2013)	Service population		Service population increased by the Project
		Without Grant Aid	With Grant Aid	
Prizren Municipality	265,442	103,522	185,809	82,287

Waste collection rate in 2013 without Grant Aid is 39% which is the value in 2008.

The current waste collection service will be provided with certainty by replacement of the decrepit vehicles and it will be committed that the service will be provided for long term. Therefore, the population benefited is the increased service population which will be 70 % of total population.

2) Reduction of greenhpuse gas (CO_2) emmission

When the Project is implemented, a fuel consumption would be improved by replacement of thedecrepit vehicles to the new vehicles. It means the greenhouse gas emission will decrease. The fuel consumption for collecting and transporting to the disposal site per tonnage of waste is calculated as 5.01 liter based on the data from January to June 2010 ontained by Ekoregjioni public company.

Table 3-2 Current fuel consumption per ton of waste

	Unit	Quantity
Waste collection amount (disposal amount)	Ton/month	12,495.3
Fuel consumption	Liter/minth	62,651
Fuel consumption per ton	Liter/ton	5.01

In case of the new vehicle, the fuel consumption per ton of waste is improved as 2.72 liter[10] Therefore, it is expected that the 369 ton of CO_2 will be reduced in Prizren municipality in the year 2013 by using this value for the planned collection amount.

Table 3-3 Calculation of reduction of greenhouse gas emission (CO2)

	Fuel consumption per ton	Waste collection amount in 2013	Fuel consumption in 2013	Equivalent emission of CO_2
	(Liter/ton)	(ton/year)	(Liter/year)	(ton)
Without Grant Aid	5.01	61,581	308,521	808
With Grant Aid	2.72	61,581	167,500	439
Reduction amount			141,020	369

[10] Values calculated using 20% of the extra fuel economy standards for diesel heavy vehicles in 2015 due to the revised Energy Conservation Law.

Use the following coefficient[11] applying Article 3 of the Act on Promotion of Global Warming

Greenhouse gas emission（CO2(g)）＝2.62kg/Liter x fuel consumption（Liter）

3) Cost reduction

Ecoregjiopni public company used 62,651 liter of diesel which cost was 6.9 Euro[12] during half year from January to June 2010. expended. As the fuel cost will be reduced by improvement of fuel consumption and it is expected that the Prizren municipality will reduce 155 thousand Euro for the waste collestion service cost.

(2) Qualitative evaluation

1) Establishment of appropriate Solid Waste Management System

As a punctual waste collection service will be provided with the replacement of collection vehicles, the Prizren municipality will be able to concentrate on the activities for public education such as improvement of waste discharge manner.

The costs and fuel consumption which had been spent on maintenance etc. are sharply reduced by introduction of new equipment. Since the public corporation will be able to expand the service area, it will be able to collect waste fee from more households. It means the financial situation must be improved and a sound Solid Waste Management system will be established.

2) Effectiveness of waste collection system using small vehicles

It is expected that the effectiveness of the waste collection system with small collection vehicles on narrow roads will be verified. Since this system can be applied to many other cities with narrow roads, urban sanitary environment in those areas can be improved.

[11] CO_2 conversion factor for diesel fuel: 2,684g/L by International Council on Clean Transportation (ICCT)
[12] Unit cost of diesel: 1.1Euro/Liter

[Appendices]

Contents of Appendices

A1 Member list of study team

(1) Field Survey 1

From December 12, 2010 to December 24, 2010

	Name	Job title	Occupation
1	Hiroshi SHIRAKAWA	Team Leader	Manager Environmental management division II, Global environment department Japan International Corporation Agency (JICA)
2	Moeko IMAYOSHI	Planning Management	Environmental management division II, Global environment department Japan International Corporation Agency (JICA)
3	Junji ANAI	Chief Consultant/ Solid waste management planning	Urban management division, Overseas operation department, Kokusai Kogyo Co., Ltd.
4	Ikuo MORI	Equipment planning for Solid waste management 1	Urban management division, Overseas operation department, Kokusai Kogyo Co., Ltd.

(2) Field Survey 2

From January 23, 2011 to Febrary 11, 2011

	Name	Job title	Occupation
1	Satoru KURASAWA	Team leader	Chief representative Balkan office Japan International Corporation Agency (JICA)
2	Moeko IMAYOSHI	Planning Management	Environmental management division II, Global environment department Japan International Corporation Agency (JICA)
3	Junji ANAI	Chief Consultant/ Solid waste management planning	Urban management division, Overseas operation department, Kokusai Kogyo Co., Ltd.
4	Hiroshi FUJITA	Equipment planning for Solid waste management 2	Project management division, Overseas operation department, Kokusai Kogyo Co., Ltd.
5	Hideo SATO	Procurement/ Cost estimation/	Urban management division, Overseas operation department, Kokusai Kogyo Co., Ltd.

(3) Explanation of draft preparatory survey report

From June 6, 2011 to June 12, 2011

	Name	Job title	Occupation
1	Satoru KURASAWA	Team leader	Chief representative Balkan office Japan International Corporation Agency (JICA)
2	Moeko IMAYOSHI	Planning Management	Environmental management division II, Global environment department Japan International Corporation Agency (JICA)
3	Junji ANAI	Chief Consultant/ Solid waste management planning	Urban management division, Overseas operation department, Kokusai Kogyo Co., Ltd.
4	Hiroshi FUJITA	Equipment planning for Solid waste management 2	Project management division, Overseas operation department, Kokusai Kogyo Co., Ltd.

A2 Study schedule

(1) Field survey 1

Date				Team leader	Planning management	Chief Consultant/ SWM management plan	SWM equipment planning 1
				JICA	JICA	Kokusai Kogyo	Kokusai Kogyo
				Hiroshi SHIRAKAWA	Moeko IMAYOSHI	Junji ANAI	Ikuo MORI
2010	1	12-Dec	Sun			Travelling Narita 12:25 → Wien 16:10	
	2	13-Dec	Mon			Travelling Wien 09:50 → Pristina 11:40 PM Information collection at GTZ	
	3	14-Dec	Tue	AM Explanation of IC/R at MESP PM Signing of M/D on MESP			
	4	15-Dec	Wed	Travelling Pristina → Beograd		AM Discussion with Pristina municipality PM Survey on Pastrimi	AM Discussion with Ekoregjioni PM Discussion with Prizren
	5	16-Dec	Thu	Report to JICA Balkan office Travelling Beograd 17:10 → Munich 18:45, 19:55→		Survey on Water and Waste Regulatory Office (WWRO)	AM Site visit to Prizren landfill site (KLMC) PM Survey on Ekoregjioni
	6	17-Dec	Fri	→ Narita 15:40		Site visit to Pristina landfill site	Survey on Ekoregjioni
	7	18-Dec	Sat			AM Travelling Pristina → Prizren, Survey for waste collection at Prizren city	Survey for waste collection at Prizren city
	8	19-Dec	Sun			Document filing	
	9	20-Dec	Mon			AM Discussion with Pristina municipality, PM Information collection on WWRO, World bank	Survey for branch office of Ekoregjioni
	10	21-Dec	Tue			AM Discussion with Ministry of Finance	Travelling Prizren → Pristina
	11	22-Dec	Wed			PM Travelling Pristina 12:50 → Wien 14:40	
	12	23-Dec	Thu			Travelling Wien 13:15 →	
	13	24-Dec	Fri			Narita 08:25	

(2) Field survey 2

Date				Team leader	Planning management	Chief Consultant/ SWM management plan	SWM equipment planning 2	Procurement/ Cost estimation
				JICA	JICA	Kokusai Kogyo	Kokusai Kogyo	Kokusai Kogyo
				Satoru KUROSAWA	Moeko IMAYOSHI	Junji ANAI	Hiroshi FUJITA	Hideo SATO
2011	1	23-Jan	Sun		Travelling Narita 11:10 → Zurich 15:50	Travelling Narita 12:25 → Wien 16:10 → Pristina 22:05		
	2	24-Jan	Mon	AM Travelling Zurich → Pristina, Discussion with MESP PM Discussion with Pristina municipality, Survey on Pastrimi		AM Discussion with MESP PM Discussion with Pristina municipality, Survey on Pastrimi, Travelling Pristina → Prizren		
	3	25-Jan	Tue	AM Discussion with Prizren municipality PM Survey on Eco Region, Travelling Prizren → Pristina			AM Discussion with Prizren municipality PM Survey on Ekoregjioni	
	4	26-Jan	Wed	AM Discussion for M/D with MESP PM Signing of M/D			AM Information collection at Custom office and Vehicle register office PM Collection quotation	
	5	27-Jan	Thu	Travelling Pristina → Beograd	Travelling Pristina 9:45 → Zurich 12:00	Survey Pastrimi, Pristina landfill site, collection of weather data, Visit GTZ	AM Survey on Ekoregjioni PM Survey on Prizren landfill site	
	6	28-Jan	Fri		→ Narita 08:50	AM Market research on Pristina, PM Travelling Pristina → Prizren	Time & Motion survey	
	7	29-Jan	Sat			Document filing		
	8	30-Jan	Sun			Document filing		
	9	31-Jan	Mon			Survey at Ekoregjioni Suhareka, Marsheva and Rahovec branch office		
	10	1-Feb	Tue			Survey at Ekoregjioni Dragash office, Visit IS company		
	11	2-Feb	Wed			AM Discussion with Prizren municipality PM Discussion with Ekoregjioni		
	12	3-Feb	Thu			Discussion with Prizren municipality and Ekoregjioni		
	13	4-Feb	Fri			AM Discussion with Prizren municipality and Ekoregjioni PM Market research for spare parts		
	14	5-Feb	Sat			Document filing		
	15	6-Feb	Sun			Document filing		
	16	7-Feb	Mon			AM Travelling Prizren → Pristina, Discussion with MESP PM Survey on Pastrimi		
	17	8-Feb	Tue			AM Visit Pristina landfill site PM Report JICA Kosovo office		
	18	9-Feb	Wed			PM Travelling Pristina 12:50 → Wien 14:40		
	19	10-Feb	Thu			Travelling Wien 13:15 →		
	20	11-Feb	Fri			Narita 08:25		

(3) Explanation of draft preparatory survey report

Date				Team leader	Planning management	Chief Consultant/ SWM management plan	SWM equipment planning 2
				JICA	JICA	Kokusai Kogyo	Kokusai Kogyo
				Satoru KUROSAWA	Moeko IMAYOSHI	Junji ANAI	Hiroshi FUJITA
2011	1	6-Jun	Mon	Travelling Beograd → Pristina	Travelling Narita 11:10 → Zurich 15:50 → Pristina	Travelling Narita 12:25 → Wien 16:10 → Pristina 22:05	
	2	7-Jun	Tue	AM Courtesy call to Ministry of Foreign Affaire and European integration PM Discussion with MESP			
	3	8-Jun	Wed	AM Travelling Pristina → Prizren, Discussion with Prizren municipality PM Discussion with Ekoregjioni, Travelling Prizren → Pristina			AM Discussion with Prizren municipality, PM Discussion with Ekoregjioni
	4	9-Jun	Thu	AM Courtesy call to Intercoookos, Discussion with Pristina municipality PM Discussion with Pastrimi			Discussion with Ekoregjioni
	5	10-Jun	Fri	AM Courtesy call to USAID, Signing of M/D PM Courtesy call to GIZ, Ministry of Finance and UNDP			AM Travelling Prizren → Pristina PM Discussion with Pastrimi
	6	11-Jun	Sat			Travelling Pristina 07:10 → Wien 13:15 →	
	7	12-Jun	Sun			Narita 08:25	

A3 List of parties concerned in the recipient country

Name	Title
【Ministry of Environment and Spatial Planning】	
Mr. Mahir YAGCILAR	Minister
Mr. Arben CITAKU	General Secretary
Mr. Muhamet MALSIU	Director of Environmental Department
Ms. Nezakete HAKAJ	Head of Environmental Protection Division
Mr. Enver TELMIN	Head of Chemical and Waste Division
【Ministry of European Integration】	
Mr. Edon CANA	General Secretary
【Ministry of Economic and Finance】	
Mr. Lorik FEJZULLAHU	Head of Public Private Partnership Unit
【Municipality of Prishtina】	
Mr. Isa MUSTAFA	Mayor
Ms. Luljeta Ceku-SOKOLI	Director, Urban, Department of Construction and Environmental Protection
Mr. Agin GASHI	Director, Department of Public Services, Protection and Rescue
Ms. Jehona MAVRAY	Chief, Environmental Sector
【Municipality of Prizren】	
Dr. Ramadan MUJA	Mayor
Mr. Nasan HASANI	Director, Department of Public Service
Mr. Ramadan TAFALLARI	Coordinator of Environment Protection Section
Ms. Laura SUKA	Architecture
Mr. Bajran BERISHA	Waste Inspector, Environment Protection Section
Mr. Galip BELALLAR	Environment Inspector, Environment Protection Section
【Ekoregjioni Public Company】	
Mr. Xhemai HAHIMUSTAFA	Main Manager
Mr. Shaban VESELI	Operation Manager
Mr. Gezim ZUUHA	Manager of Prizren Unit
Mr. Salih SHALA	Manager of Dragash Unit
Mr. Tahir KOLGECI	Manager of Suhareka Unit
Ms. Hasime KRASNIQI	Manager of Malisheva Unit
Mr. Gani RABA	Manager of Rahovec Unit
【Pastrimi Public Company】	
Mr. Feim SALIHU	Managing Director
Mr. Kadri RETKOCERI	Former Managing Director
【Kosovo Landfill Management Company】	
Mr. Avin RAMADANI	Managing Director
【Water and Waste Regulation Office】	
Mr. Raif PRETENI	Director
Mr. Lule GJONBALAY	PR Officer & PA
Mr. Sami HASANI	Head of Tariff & Regulatory Finance
Mr. Hysni FEKA	Finance and Tariff Analyst
【GIZ(GTZ) German Technical Cooperation】	
Ms. Gabriete BECKER	Team Leader, Modernization of Municipal Services (MMS)
Ms. Drita BINAY	Administration & Waste Management (MMS)
Mr. LLM Driton H. Vatovci	Deputy Project Coordinator, MMS
【World Bank】	
Mr. Krenar BUJUPI	Sustainable Development Department
Ms. Shresa KASTRATI	International Finance Corporation (IFC) Operation Analyst

A4 Minutes of Discussions

(1) December 14, 2010

MINUTES OF DISCUSSIONS ON THE PREPARATORY SURVEY OF THE PROJECT FOR IMPROVEMENT OF SOLID WASTE MANAGEMENT

In response to the request from the Government of Kosovo (hereinafter referred to as "Kosovo"), the Government of Japan has decided to conduct the Preparatory Survey on the Project for Improvement of Solid Waste Management (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Kosovo the Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Dr. Hiroshi SHIRAKAWA, Director of Environmental Management Division II, Global Environment Department, JICA, and is scheduled to stay in the country from December 7, 2010 to December 22, 2010 .

The Team held discussions with the concerned officials of the Kosovar side and conducted a field survey.

In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets.

Pristina, December 14, 2010

Dr. Hiroshi SHIRAKAWA
Leader,
Preparatory Survey
Japan International Cooperation Agency
Japan

Mr. Arben CITAKU
Acting Permanent Secretary
Ministry of Environment and Spatial Planning
Republic of Kosovo

Mr. Edon CANA
Acting Permanent Secretary
Ministry of European Integration
Republic of Kosovo

ATTACHMENT

1. Objective of the Project

The objective of the Project is to promote municipal waste management capability of local governments of Kosovo by installing the waste collection vehicles.

2. Responsible Organization and Implementing Agency

The responsible organization is the Ministry of Environment and Spatial Planning (MESP). The implementing agency is Municipality of Pristina and Prizren, and state-owned company for waste management: Pastrimi for Pristina and Ekoregjioni for Prizren.

3. Project Site

According to the current request from the Kosovo and the result of the Preparatory Survey, the Project site is Municipality of Prstina and Prizren.

4. Items Requested by the Government of Kosovo

After the discussions with the Team, both sides agreed that the Project will focus mainly on waste collection. JICA will assess the appropriate collection vehicle for the Project site and report to the Government of Japan.

5. Japan's Program Grant Aid

5-1 The Kosovar side understood the Japan's Program Grant Aid Scheme explained by the Team, as described in Annex-1.

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

5-3 JICA will report to the Kosovar side if there are any other specific undertakings based on the result of this Survey.

6. Schedule of the Survey

6-1 The part of the Team will continue further surveys in Kosovo until December 22, 2010.

6-2 The Team will prepare a report of the Survey and dispatch Basic Design Survey to Kosovo, in order to explain its contents around the end of January, 2011.

6-3 In case the contents of the report are accepted in principle by Kosovo, the Team will complete the final report and send it to Kosovo around August 2011.

6-4 The Team explained that the implementation of the Preparatory Survey and Basic Design Survey does not ensure the actualization of the Project itself.

7. Other Relevant Issues

7-1 Undertakings by Kosovar side

The Kosovar side confirmed that major undertakings as shown in Annex-2 should be taken by the Kosovar side at its own budget.

7-2 An undertaking before the beginning of the Project

As a result of the survey by the Team, the Project will include compactor truck (2t size) to be procured. However, the road inside the landfill site of Prizren region is so bumpy that 2t compactor truck cannot work effectively. Therefore, the both sides agreed that a road inside the landfill site of Prizren region should be fixed by Kosovar side to be enough for 2t compactor truck to operate smoothly.

7-3 Privatization of waste management services

The Kosovar side confirm and assure that the waste management services currently provided by state-owned company or municipality will not be privatized during the project is in operation.

(End of Document)

<List of Annex>

Annex-1 Japan's Grant Aid

Annex-2 Major Undertakings to be taken by Each Government

Annex-3 General Flow of Japan's Grand Aid Procedure

Annex – 1

JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

- Preparatory Survey and Basic Design Survey
  - The Survey conducted by JICA
- Appraisal &Approval
  -Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
  -The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
  -Agreement concluded between JICA and a recipient country
- Implementation
  -Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to

achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be singed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

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

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex.

(6) "Proper Use"

The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant Aid, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant Aid.

(7) "Export and Re-export"

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

(8) Banking Arrangements (B/A)

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

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

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.

(End)

Annex – 2

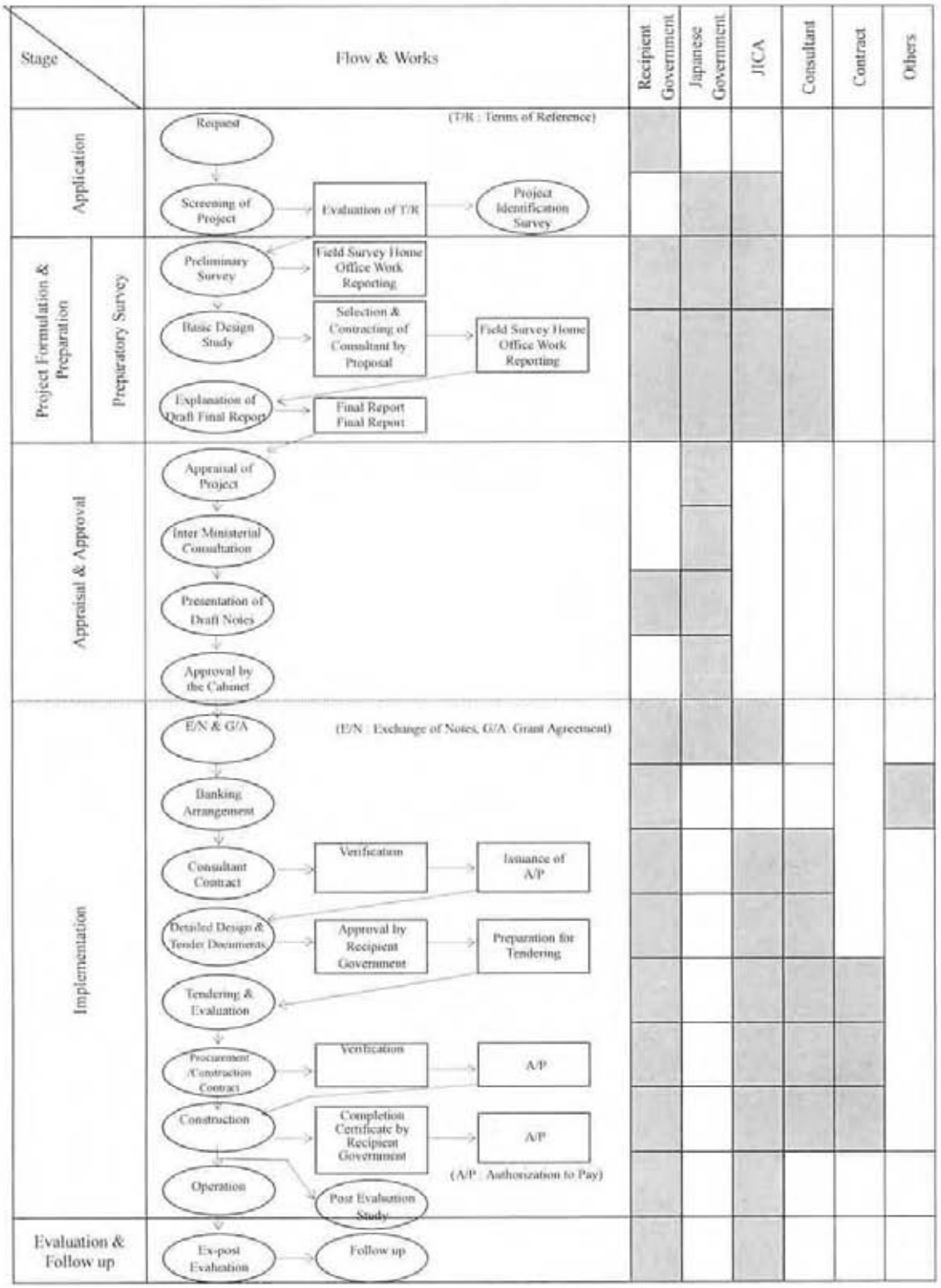
Major Undertakings to be taken by Each Government

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

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

Annex-3

Flow Chart of Japan's Grant Aid Procedure



(2) January 26, 2011

MINUTES OF DISCUSSIONS
ON THE 2nd PREPARATORY SURVEY FOR
THE PROJECT FOR THE IMPROVEMENT OF
SOLID WASTE MANAGEMENT
IN KOSOVO
(EXPLANATION ON DRAFT REPORT)

In December 2010, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Preparatory Survey Team on the Project for the Improvement of Solid Waste Management in Kosovo (hereinafter referred to as "the Project") to the Republic of Kosovo (hereinafter referred to as "Kosovo") and through discussion, field survey, and technical examination of the results in Japan, JICA has prepared a draft report of the study.

In order to explain and to consult with the Kosovar authorities concerned on the contents of the draft report, JICA dispatched to the Kosovo the Draft Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. Satoru Kurosawa, Chief Representative of JICA Balkan Office, from January 24, 2011.

As a result of discussions, both parties confirmed the main items described in the attached sheets.

Pristina, January 26, 2011

Mr. Satoru KUROSAWA
Chief Representative
Balkan Office
Japan International Cooperation Agency
Japan

Mr. Arben CITAKU
General Secretary
Ministry of Environment and Spatial Planning
Republic of Kosovo

Mr. Edon CANA
General Secretary
Ministry of European Integration
Republic of Kosovo

ATTACHMENT

1. Contents of the Draft Report

The Kosovar side agreed and accepted in principle the contents of the draft outline design explained by the Team.

2. Japan's Grant Aid scheme

The Kosovar side understood the scheme of Japan's Grant Aid and will take the necessary measures and allocate necessary budget properly for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented. The Grant Aid Scheme and necessary measures were described in the Annex 1, 2 and 3 of the Minutes of Discussions signed by both sides on December 14th, 2010 (hereinafter referred to as "the previous minute").

3. Responsible and Implementing Agencies

Both sides reconfirmed the responsible and implementing agencies as follows:

(1) The responsible agency

Ministry of Environment and Spatial Planning of the Government of Kosovo (hereinafter referred to as "MESP")

(2) The implementing agency

For the supervison of waste collection service: Prizren Municipality, Pristina Municipality

For the provision of waste collection services, maintenance and management of equipment: Ekoregjioni Public Company, Pastrimi Public Company (hereinafter referred to as "Ekoregjioni" and "Pastrimi")

4. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Kosovo Government by the beginning of August 2011.

5. Other Relevant Issues

(1) Project Components

With regard to requested items confirmed in the article 4 of the previous minute, the Japanese side proposed that the following components should be included in the project scope, and the Kosovar side agreed to the proposal:

- Compactor trucks
- Spare Parts

Both sides confirmed the other requested items as follows:

1) Tractor

In the application for the Project, Kosovar side requested twenty (20) tractors suitable for the collection in narrow roads. However, based on the results of the previous survey, Japanese side proposed to exclude tractors from the scope of the Project, explaining that compactor

truck with 4.0 m^3 container capacity can drive and collect waste even in narrow roads of Prizren old town and mountainous villages. In comparison with a tractor, a compactor truck has more capacity of loading and more efficient in fuel consumption, the Kosovar side agreed to the proposal.

2) Waste bins

Likewise in the application for the Project, Kosovar side requested two hundred (200) shared bins and one thousand (1000) household bins. However, based on the results of the previous survey, Japanese side proposed to exclude such waste containers from the scope of the Project due to the following reasons, and the Kosovar side agreed to the proposal:

Reason 1: Though currently shared bins of 1.1 m^3 are commonly used to collect wastes, the sanitation problem remains. In transferring the container by whist truck, the wastes are scattered with no cover of the bins. Besides, wastes are scattered around, which are fallen off from the bins.

Reason 2: In order for better collection system without sanitary issue, Japanese side would propose to introduce a fixed time and point collection system, which is popular style of collection in Japan and can be done without using big container.

(2) Project Cost Estimate and Budgetary Arrangement

The Japanese side explained to the Kosovar side the project cost estimate as attached in **Annex 1**. Both sides confirmed that the cost estimate is provisional since it has to be reviewed in order to reflect further analysis taking place after this study. Both sides also agreed that it would be examined further by the Government of Japan for its final approval.

Furthermore, both sides confirmed that this project cost estimate is confidential, and should never be duplicated in any forms or released to any other parties until the relevant contracts are awarded by the authority concerned of the recipient country, in order to secure fairness of tendering procedure.

(3) The target of the Project

The both sides agreed to set the target criteria and areas of the Project as follows:

1) To achieve collection rate 70% by 2013 (Prizren Municipality)
2) To replace collection vehicles being used for more than fifteen (15) years.
(Prizren Region and Pristina Municipality)

(4) Other undertakings of the Kosovar side

The Japanese side explained to the Kosovar side its undertakings as listed in **Annex 2** as signed in the Article 5-2 of the previous minutes, and **Annex 3.** The Kosovar side understood and promised to undertake them, collaborating with the authorities concerned of the recipient side.

(5) Sub-scheme of Japanese Grant Aid

The Japanese side explained that the project is designed to benefit mitigation of global

warming under the sub-scheme of "Grant Aid for Environment and Climate Change."

(6) Tentative Schedule

The Japanese side explained the tentative schedule as shown in the following table:

January 2011	In principle acceptance on the outline design
February 2011	A cabinet approval by the Government of Japan of the Project.
(In the case that the Project is officially approved by the cabinet)	
March 2011	Signing of the agreements on the project implementation: - Exchange of Notes: Agreement between both Governments

End

Annex 1

Confidential

Components of the Project

This page is closed due to the confidentiality

Annex 2

Undertakings of the Kosovar side

In the implementation of the Project, MESP is responsible for facilitating the undertakings below to be smoothly secured, collaborating with the signatory of the Grant Agreement and the authorities concerned of the recipient side upon necessity:

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

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

Annex 3

Other undertakings and necessary procedures

1) Exemption of financial duties

Both sides reconfirmed MESP shall take necessary measures to facilitate project implementation, such as exemption of Value Added Tax, customs duties, and any other taxes and fiscal levy charges in the Kosovo arisen from the Project activities, collaborating with the authorities concerned of the recipient side.

2) Repair of the entrance road of final disposal site in Prizren

Both sides reconfirmed MESP shall take necessary measures to fix the bumpy road at the entrance of final disposal site in Prizren, for the effective work and use of compactor trucks. The construction for repair should be completed before the compactor trucks arrive in Kosovo, and the Kosovar side understood and expressed its intention to inform JICA side of the completion in writing.

3) Employment of additional driver for new collection vehicle in Prizren Municipality

It is recognized that if additional (not replace) collection vehicles are provided in order to achieve collection rate up to 70% in Prizren Municipality, additional drivers are necessary to be employed by Ecoregion. In this regards, both sides agreed that Kosovar side will take necessary measure for employing the necessary numbers of new drivers.

(3) June 10, 2011

MINUTES OF DISCUSSIONS
ON THE 3rd PREPARATORY SURVEY FOR
THE PROJECT FOR THE IMPROVEMENT OF
SOLID WASTE MANAGEMENT
IN KOSOVO
(EXPLANATION ON DRAFT FINAL REPORT)

In December 2010 and January to February 2011, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Preparatory Survey Team on the Project for the Improvement of Solid Waste Management in Kosovo (hereinafter referred to as "the Project") to the Republic of Kosovo (hereinafter referred to as "Kosovo") and through discussion, field survey, and technical examination of the results in Japan, JICA has prepared a draft report of the study.

In order to explain and to consult with the Kosovar authorities concerned on the contents of the draft report, JICA dispatched to the Kosovo the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. Satoru Kurosawa, Chief Representative of JICA Balkan Office, from June 7, 2011.

As a result of discussions, both parties confirmed the main items described in the attached sheets.

Pristina, June 10, 2011

Mr. Satoru KUROSAWA
Chief Representative
Balkan Office
Japan International Cooperation Agency
Japan

Mr. Arben CITAKU
General Secretary
Ministry of Environment and Spatial Planning
Republic of Kosovo

ATTACHMENT

1. Contents of the Draft Report

The Kosovar side agreed and accepted in principle the contents of the Draft Final Report explained by the Team.

2. Japan's Grant Aid scheme

The Kosovar side understood the scheme of Japan's Grant Aid and will take the necessary measures and allocate necessary budget properly for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented. The Grant Aid Scheme and necessary measures were described in the Annex 1, 2 and 3 of the Minutes of Discussions signed by both sides on December 14, 2010 (hereinafter referred to as "the previous minute").

3. Responsible and Implementing Agencies

Both sides reconfirmed the responsible and implementing agencies as follows:

(1) The responsible agency

Ministry of Environment and Spatial Planning of the Government of Kosovo (hereinafter referred to as "MESP")

(2) The implementing agency

For the supervision of waste collection service: Prizren Municipality, Pristina Municipality

For the provision of waste collection services, maintenance and management of equipment: Ekoregjioni Public Company, Pastrimi Public Company (hereinafter referred to as "Ekoregjioni" and "Pastrimi")

4. Schedule of the Study

JICA will complete the Final Report in accordance with the confirmed items and send it to the Kosovo Government by the beginning of August 2011.

5. Equipments to be procured

The Team explained that the items of equipment to be procured as shown in Annex-2 based on the result of the 1st and 2nd Preparatory Survey conducted in December 2010 and from January to February 2011. After the discussions, both sides confirmed to procure the compactor trucks of 6 m^3 and 10 m^3: i.e., 4 m^3 type is not included. This is partly because the load capacity of 4 m^3 truck is not suitable for current Kosovar waste collection custom and partly due to the technical problem claimed by truck manufacturers.

6. Project Cost

The Kosovar side agreed that the Project cost should not exceed the amount agreed in Exchange of Notes (E/N). Both sides also confirmed that the Project cost contains procurement cost of equipment, the cost for transportation up to Ekoregjioni and Pastrimi, and agent fee and consultant fee as a whole.

7. Ownership and Responsibilities for Operation and Maintenance

The Kosovar side has confirmed that MESP is the owner of the equipment for waste collection vehicles to be procured by the Project, and initially, MESP is the responsible body for its operation and maintenance (hereinafter referred to as "O&M") of the said equipments.

The Kosovar side also confirmed that the cost estimation for O&M described in the Draft Final Report and MESP, as a responsible body, take necessary measure to secure the budget and personnel for O&M. However, the actual user of the vehicles are Prizren Municipality or Pristina Municipality and following state companies, which handle the waste collection service, each Municipality should also take necessary measure in accordance with the advice from MESP.

8. Other Relevant Issues

(1) Project Cost Estimate and Budgetary Arrangement

The Japanese side explained to the Kosovar side the project cost estimate as attached in **Annex 1**. Both sides confirmed that this project cost estimate is confidential, and should never be duplicated in any forms or released to any other parties until the relevant contracts are awarded by the authority concerned of the recipient country, in order to secure fairness of tendering procedure. Not only the Cost Estimate it self in **Annex 1**, the Draft Final Report, Final Report, detail design of the equipments and other related information should be kept confidential.

(2) Other undertakings of the Kosovar side

The Japanese side explained to the Kosovar side its undertakings as listed in **Annex 2** as signed in the Article 5-2 of the previous minutes, and **Annex 3.** The Kosovar side understood and promised to undertake them, collaborating with the authorities concerned of the recipient side.

End

<List of Annex>

1. Cost Estimate (confidential)
2. Undertakings of the Kosovar side
3. Other undertakings and necessary procedures

A.C.

Confidential

Annex 1

Components of the Project

This page is closed due to the confidentiality

Annex 2

Undertakings of the Kosovar side

In the implementation of the Project, MESP is responsible for facilitating the undertakings below to be smoothly secured, collaborating with the signatory of the Grant Agreement and the authorities concerned of the recipient side upon necessity:

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

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

A.C.

Annex 3

Other undertakings and necessary procedures

1) Exemption of financial duties

Both sides reconfirmed MESP shall take necessary measures to facilitate project implementation, such as exemption of Value Added Tax, customs duties, and any other taxes and fiscal levy charges in the Kosovo arisen from the Project activities, collaborating with the authorities concerned of the recipient side.

2) Repair of the entrance road of final disposal site in Prizren

Both sides reconfirmed MESP shall take necessary measures to fix the bumpy road at the entrance of final disposal site in Prizren, for the effective work and use of compactor trucks. The construction for repair should be completed before the compactor trucks arrive in Kosovo, and the Kosovar side understood and expressed its intention to inform JICA side of the completion in writing.

MESP and Kosovo Landfill Management Company have agreed to start the procedures to invest for Repair of the entrance road of final disposal site to landfill. The procedure will be finished at the end of July, and JICA will be informed for each step of the procedure till the end of the process.

3) Employment of additional driver for new collection vehicle in Prizren Municipality

It is recognized that if additional (not replace) collection vehicles are provided in order to achieve collection rate up to 70% in Prizren Municipality, additional drivers are necessary to be employed by Ekoregjioni. In this regards, both sides agreed that Kosovar side will take necessary measure for employing the necessary numbers of new drivers.