

Country Name	<b>The Project for Improvement of Solid Waste Management</b>
Republic of Kosovo	

**I. Project Outline**

Background	In February 2008, Kosovo Parliament passed the unanimous declaration of independence. Kosovo was considered as the least developed country among the former Yugoslavia countries and its economy totally depended on assistance by donor countries. After its independence, Kosovo put high priorities to reconstruct its economy and social development, but less emphasis was given to the environment. Consequently, waste collection service was not sufficient enough to cope with the increasing solid waste due to the population upsurge in the urban area and due to the decrepit waste collection vehicles. These problems in solid waste management made the sanitary condition severely worse in the capital city, Pristina municipality, as well as the second largest city, Prizren municipality.			
Objectives of the Project	To improve the waste collection services of municipalities in Kosovo by replacing the decrepit collection vehicles with small collection vehicles suitable for the urban area with narrow roads, and the equipment for vehicle maintenance, thereby contributing to establishment of the effective waste management system as well as to improvement of the living environment of the target municipalities.			
Contents of the Project	<ol style="list-style-type: none"> <li>Project Site: Pristina municipality and Prizren municipality Note: The above two municipalities are where the executing agencies were located. Collection vehicles were deployed in six municipalities. (Pristina, Prizren, Suhareka, Malesheva, Rahovec and Dragash)</li> <li>Japanese side : Provision of grant for (1) 30 Compactor Trucks with lifting device (10m<sup>3</sup>), (2) 6 Compactor Trucks with lifting device (6 m<sup>3</sup>), (3) 7 Compactor Trucks (6 m<sup>3</sup>), (4) Equipment used for vehicle maintenance and (5) Spare parts and tires for winter season</li> <li>Kosovo side: Repair of the entrance road of final disposal site in Prizren municipality</li> </ol>			
Project Period	E/N Date	March 30, 2011	Completion Date	October, 2012
	G/A Date	March 30, 2011		
Project Cost	E/N Grant Limit : 543 million yen, Actual Grant Amount : 449 million yen			
Executing Agency	Pristina municipality and Prizren municipality Ekoregjioni Public Company(Prizren municipality) and Pastrimi Public Company(Pristina municipality)			
Contracted Agencies	Main Contractor: Mitsubishi Shoji Corporation Main Consultant: Kokusai Kogyo Co. Ltd.			

**II. Result of the Evaluation**

<Special Perspectives Considered in the Ex-Post Evaluation>

[Indicators and supplemental information for Effectiveness]

Two indicators specified in the ex-ante evaluation sheet such as (1) Daily volume of waste collected and (2) Waste Collection Rate (%) are used to judge the effectiveness. Other indicators listed under the preparatory survey report such as (3) Coverage of waste collection service, (4) Volume of greenhouse gas (CO<sub>2</sub>) emission in Prizren municipality, and (5) Cost of fuel for waste collection in Ekoregjioni Public Company of Prizren municipality are considered as supplemental information. Because of the data type and numerical target specified for these supplemental information, they are included in the quantitative data although they are stated as qualitative information in the preparatory survey report. It is decided not to use the supplemental information, such as "Volume of greenhouse gas (CO<sub>2</sub>) emission in Prizren municipality" and "Cost of fuel for waste collection in Ekoregjioni Public Company of Prizren municipality" for the evaluation judgment since the reliable data has not been obtained at the field study and it cannot be perceived as the mainstream project effect from the "Objectives of the Project". It is confirmed that two indicators and other supplemental information suffice for the evaluation judgment.

[Target values for indicator 1 and 2]

Target values for indicator 1 and 2 were obtained individually from each municipality during this study because the ex-ante evaluation sheet only provides those for Prizren municipality. Furthermore, in terms of target value of indicator 1 for Prizren municipality, the ex-post evaluation study uses the one provided by Prizren municipality (116.74 ton /day). According to the Prizren municipality, the one shown in the ex-ante evaluation sheet (188.40 ton/day) was calculated based on the incorrect population data.

[Qualitative effect and impact of the project]

Better living environment (sanitary condition) of both Prizren and Pristina municipalities and increase of fees on waste collection services collected from citizens are stated as qualitative effects in the preparatory survey report. However, these changes are indirectly related to the project, so this ex-post evaluation considers them as impacts.

[Target areas for evaluation]

Target areas of the project include six municipalities. However, the indicators presented in the ex-ante evaluation sheet only refers to Prizren municipality, the area to which this project has given a high priority according to the preparatory survey report. This ex-post evaluation gives a high weightage to Prizren municipality, too, but also takes the other target municipalities into consideration roughly based on the ratio of allocated number of vehicles for each municipality against the total number of vehicles allocated. Based on the total number of collection vehicles allocated to each municipality, the ratio of allocation for each municipality is calculated; Prizren municipality for 58.1%, Pristina 23.3%, Rahovec 7.0%, Suhareka 4.7%, Malisheva 4.7% and Dragash 2.3%. In case sufficient quantitative data for municipalities other than Prizren are not available, but qualitative effects are confirmed, judgement will be made based on the qualitative data.

## 1 Relevance

### <Consistency with the Development Policy of Kosovo at the Time of Ex-Ante and Ex-Post Evaluation>

At the time of ex-ante evaluation, this project was consistent with development plans such as “Kosovo Environmental Strategy” (2003) which stated the need of establishment of social infrastructure for solid waste management and gradual waste minimization. “National Solid Waste Management Strategy (2010-2020)” which was in the process of preparation at that time, also stated its policy to establish a sound material-cycle society through reduction of environmental pollution caused by waste, to improve the waste collection service by setting the numerical targets. At the time of ex-post evaluation, “The Strategy of the Republic of Kosovo on Waste management (2013-2022)” which is one of the main documents for solid waste management policy in Kosovo, sets main goals as to establish sustainable system for waste management in accordance with the standards and requirements of the EU and national legislation on waste.

### <Consistency with the Development Needs of Kosovo at the Time of Ex-Ante and Ex-Post Evaluation>

This project has been consistent with the development needs of solid waste management in Kosovo at the time of ex-ante evaluation as described in “Background” above. At the time of ex-post evaluation, there are continuing needs for waste collection vehicles and equipment provided by the project since it is presumed that the daily volume of waste and the coverage of waste collection have been increased due to the population increase in all target municipalities.

### <Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

Priority areas of the Japan’s ODA Policy for Kosovo as of 2011, were assistance to economic development and stabilization of society including capacity development and assistance in the field of environment.

### <Evaluation Result>

In light of the above, the relevance of the project is high.

## 2 Effectiveness/Impact

### <Effectiveness>

The project objective of improving the waste collection services of target municipalities by procuring small collection vehicles suitable for urban area has been achieved.

For quantitative effects, waste collection service of the target municipalities in Kosovo is improved. Regarding Indicator 1, Actual (ton/day) in 2013 in Prizren increased compared to Actual (ton/day) in 2010, while it decreased in Rahovec, Suhareka, Malisheva and Dragash. The achievement level of Prizren municipality to which the high priority was given with provision of 25 vehicles, shows 88%.. For other municipalities, the levels of achievement are from 77% to 106%. The weighted achievement, which takes into account the allocation % of collection vehicles for each municipality, has reached to 92% in average, which implies that each municipality has performed well enough to produce the outcome in proportion to the number of vehicles donated. For the period between target year (2013) and four years after completion (2016), much improvement has been identified for all six municipalities showing the percentage increase for these three year as about 41% in average. This shows that the effect by the project has steadily been continued.

With respect to Indicator 2, the waste collection rate (%) means the proportion of waste collected (ton/year) against the waste generated (ton/year). Prizren municipality achieved the waste collection rate of 100% of their coverage area. (According to the interview with Ekoregioni Company, their service contributes to 70% of total waste generated in Prizren municipality and remaining percentage is covered by other companies.) The subject rates in 2013 of other municipalities are from 36 % to 58%, which shows no positive improvement compared to 2010 (No data is available for Rahovec and Malisheva municipalities). It is presumed that the outstanding performance of Prizren municipality in this indicator is partly due to the effect of technical cooperation project “the Project for Enhancement of the Capacity for Waste Management toward Sound Material-cycle Society (2011-2015)”. This indicator has followed the similar pattern of change over the time as indicator 1 because of its close correlation between the two indicators. No positive change has been made for the period between the baseline year (2010) and the target year (2013) for three municipalities except Prizren, but major improvement has been identified for the three years period after the target year for Suhareka, Malisheva and Dragash municipalities.

The coverage of waste collection services (Supplemental information 1) indicates the proportion of population who receive the waste collection service against the total population of the municipality. Prizren, Suhareka and Pristina municipalities have reached the 51% to 80% coverage, showing the achievement level of around 100%. (No data was available for other three municipalities.) All municipalities except Dragash has achieved more than 90% four years after the completion (2016) for coverage. As for the utilization of collection vehicles (Supplemental Information 4), it is confirmed by the field study that all vehicles procured under this project have been properly operating at each municipality and they have accounted for 33% in average of total number of operating collection vehicles by all municipalities.

As for qualitative effects, the questionnaire survey with municipalities has revealed that the collection vehicles procured by the project, has greatly contributed to the quality of waste collection services, especially the punctuality of collection services. All municipalities have commented that they have expanded coverage of waste collection services compared with that of before the project.

### <Impact>

Improvement of waste collection services by the project has contributed to the establishment of the effective waste management system and to the improvement of the living environment of the people in target municipalities as well. Responses to the questionnaires from municipalities showed that the percentage of those who was paying the waste collection fee has increased for the past four years. According to the persons in charge of fee collection at municipalities, the citizens are willing to pay the waste collection fee because they receive good quality services. Also, employees engaged in waste collection operation mentioned that, because vehicles are small-sized and suitably designed for waste collection by door-to-door services in urban areas with narrow roads, they have found the vehicle very easy to maneuver capable to handle large waste load and to drop them directly into the vehicle, which eventually has helped them to save their service time. No negative impacts were found on environment.

### <Evaluation Result>

In light of the above, the effect of the project has been observed mostly as planned. Therefore, the effectiveness /impact of the project is high.

Quantitative Effects:

Indicators	Name of Municipality (Number of collection vehicles provided by the project and allocation [%] of total number of collection vehicles)	Baseline 2010	Target 2013				Actual 2016	
		Baseline Year	1 year after Completion				4 years after Completion	
		Actual (ton/day)	Target (ton/day)	Actual (ton/day)	Achievement (%)	Weighted Achievement (%)	Actual (ton/day)	% increase from Actual(2013)
Indicator 1 Daily volume of waste collected (ton/day)	Prizren municipality (25 vehicles [58.1%])	93.10	116.74	102.68	87.96%	51.1%	143.97	40.21%
	Rahovec (3 [7.0%])	18.44	23.30	17.94	77.00%	5.39%	28.66	59.75%
	Suhareka (2 [4.7%])	20.95	19.65	20.37	103.66%	4.87%	27.32	34.12%
	Malisheva (2 [4.7%])	15.50	na	14.74	na	na	29.77	101.97%
	Dragash (1 [2.3%])	18.24	na	17.74	na	na	19.62	10.60%
	Pristina (10 [23.3%])	na	90.00	95.00	105.56%	24.59%	130.00	36.84%
	Total ton/day (average %)	na	na	268.47	(93.54%)	(92.33%)	379.34	(41.30%)
Indicator 2: Waste collection rate (%) <sup>(1)</sup>		Actual (%)	Target (%)	Actual (%)	Achievement (%)	Weighted Achievement (%)	Actual (%)	% increase from Actual(2013)
	Prizren municipality (25 vehicles [58.1%])	39.00%	70.00%	100.0%	142.86%	83.00%	100.00%	0.00%
	Rahovec (3 [7.0%])	12.00%	24.00%	na	na	na	53.00%	na
	Suhareka (2 [4.7%])	42.00%	60.00%	42.00%	70.00%	3.29%	80.00%	90.48%
	Malisheva (2 [4.7%])	na	na	56.00%	na	na	98.00%	75.00%
	Dragash (1 [2.3%])	37.50%	38.00%	36.00%	94.74%	2.18%	48.00%	33.33%
	Pristina (10 [23.3%])	na	50.00%	58.00%	116.00%	27.03%	65.00%	12.07%
	Average %	na	na	na	105.90%	130.65%	74.00%	na

<Source> Ex-ante Evaluation Sheet, Questionnaires of the targeted municipalities for both Public companies and field survey

Note: (1) Waste collection rate (%)= Waste collected (ton/year)/Waste generated (ton/year)

#### Supplemental Information 1: Coverage of waste collection service <sup>(2)</sup>

Name of Municipality  % achieved against plan	Baseline 2010	Target 2013		Actual 2013			Actual 2016	
	Baseline year	1 year after Completion		1 year after Completion			4 years after Completion	
	Beneficiary population	Beneficiary population	Coverage for total population (%)	Beneficiary population	Coverage for total population (%)	Achievement Against target value (%)	Beneficiary population	Coverage for total population (%)
Prizren municipality (25 vehicles [58.1%])	na	185,809	70.00%	184,126	69.37%	99.09%	194,015 <sup>(3)</sup>	99.63%
Rahovec (3 [7.0%])	na	na	na	na	51.00%	na	59,499	100.00%
Suhareka (2 [4.7%])	na	34,707	56.00%	35,109	56.65%	101.16%	58,455	90.00%
Malisheva (2 [4.7%])	na	54,655	na	30,607	56.00%	na	56,133	98.00%
Dragash (1 [2.3%])	na	24,200	71.18%	na	na	na	20,500	60.23%
Pristina (10 [23.3%])	na	na	80.00%	na	80.00%	100.00%	178,393	90.00%

<Source> Preparatory Survey Report, Project Inspection Report, Questionnaires of the targeted municipalities for both Public companies and field survey.

Note: (2) Coverage of waste collection service = proportion of population who receive waste collection service to the total population in municipality.

(3) Beneficiary population of Prizren municipality for 2016 was calculated using the annual population growth rate of 1.76% which was computed from the official registration of the population in 2011.

#### Supplemental Information 4: Utilization of collection vehicles

Name of Municipality (Number of collection vehicles provided by the project and allocation [%] of total number of collection vehicles)	Completion Year	5 years after Completion	
	2012	2017	
	The number of collection vehicles procured under this project	Total number of operating collection vehicles in each municipality	The proportion (%) of the number of operating collection vehicles procured by the project to the total number of operating collection vehicles in each municipality
Prizren municipality (25 vehicles [58.1%])	25	37	67.57%
Rahovec (3 [7.0%])	3	5	60.00%
Suhareka (2 [4.7%])	2	6	33.33%
Malisheva (2 [4.7%])	2	8	25.00%
Dragash (1 [2.3%])	1	4	25.00%
Pristina (10 [23.3%])	10	72 <sup>(4)</sup>	13.89%
Total	43	132	32.58%

<Source>Questionnaires of the targeted municipalities, both Public companies and field survey  
 Note: (4) The total number of vehicles of 72 for Pristina Municipality includes 64 vehicles, 6 loaders & 2 small trucks.

### 3 Efficiency

Both of the project cost and the project period (planned as 15 months)<sup>(5)</sup>were within the plan (ratio against plan: 83%, 93%). Therefore, efficiency of the project is high.

Note: (5) The project period (in months) should be counted, in principle, on the basis of the number of months given in the ex-ante evaluation sheet. However, the project period of this study was counted on the basis of the time schedule of work (14.5 months) shown in the Preparatory Survey Report as the starting month given in the ex-ante evaluation sheet was not clear. Therefore, the planned project period is 15 months by including both start and end months and by considering that the starting month is when the Detailed Study was commenced.

### 4 Sustainability

#### <Institutional Aspect>

At the central level, the Environmental Protection and Water Department of Ministry of Environment and Spatial Planning is responsible for the Solid Waste Management (SWM) Policy and Environmental Impact Assessment. At the local level, the Public Service Department is responsible for supervising the SWM operation for Prizren municipality. The capacity of this department has been strengthened by establishing Solid Waste Management Sector with 9 staff since 2015. Waste collection services of Prizren municipality and four other municipalities, such as Rahovec, Suhareka, Malisheva and Dragash municipalities, have been provided by Ekoregjioni Public Company with the increased number of staff to operate the collection vehicle procured by the Project. The company maintains sufficient number of staff (352 in total) with 52 drivers and 11 staff for maintenance and repair work for collection vehicles. As for Pristina municipality, the Solid Waste Management Section (12 staff) of Public Service Department is responsible for supervising the SWM operation. The organizational reform to strengthen the capacity is expected by establishment of Solid Waste Management Sector just like Prizren municipality. Waste collection services of Pristine municipality have been provided by Pastrimi Public Company which maintains sufficient number of staff (558 in total) with 65 drivers and 26 staff for maintenance and repair work for collection vehicles.

#### <Technical Aspect>

It was observed that most of drivers and maintenance staff of Ekoregjioni Public Company and Pastrimi Public Company who received training by the project <sup>1</sup>have maintained sufficient skill and are still working for the respective companies. Therefore, there are no problems in terms of current technical skills. However, it was pointed out by both companies that there are some needs to train their electricians to cope with the electrical malfunction of vehicles which may occur in the future.

#### <Financial Aspect>

No major problems have been identified in the financial aspect. Both Ekoregjioni Public Company and Pastrimi Public Company have secured the financial condition by waste collection fees as revenues. Both companies have enough budgets for operation and maintenance of collection vehicles. Pastrimi Public Company allocates about 2% of total expenditure to the operation and maintenance for collection vehicles. Negative net income recorded in 2014 for Ekoregjioni Public Company is partly due to the low collection rate during that period and timing difference of booking between billing and payment received, etc. Some issues related to the old debts to Kosovo Landfill Management Company have been observed, however, measures have already been taken through reprogramming debt settlement agreement.

Revenue and Expense of Ekoregjioni Public Company in Prizren municipality and Pastrimi Public Company in Pristina municipality  
 (Currency in Euro)

Items	Ekoregjioni Public Company* (Prizren municipality)			Pastrimi Public Company (Pristina municipality)		
	2014	2015	2016	2014	2015	2016
Revenue	2,655,973	2,933,927	3,227,511	5,578,949	6,041,194	6,377,534
Operating expense	2,968,724	2,796,657	3,042,454	5,313,459	5,810,733	6,009,328
Of which O&M expenditure for collection vehicles	na	na	na	91,891	101,551	128,770
Operating revenue	Δ312,751	137,270	185,057	265,490	230,461	368,206
Depreciation	61,739	62,397	63,157	247,692	204,663	293,358
Operating revenue after depreciation	Δ374,490	74,873	121,900	17,798	25,798	74,847
Tax		13,727	18,506	1,780	2,580	7,485
Net income	Δ374,490	61,146	103,394	16,018	23,218	67,363

<Source>Questionnaire of Ekoregjioni and Pastrimi Public Companies

\* Ekoregjioni Public Company covers waste collection services of 5 cities except Pristina.

#### <Current Status of Operation and Maintenance>

During the field survey, it was observed that collection vehicles and equipment for maintenance procured by the project have been well maintained by both Ekoregjioni and Pastrimi Public Companies. Both companies have carried out the periodical inspection in order to maintain the good condition. In terms of procurement of some spare parts which they often need to look them for in neighboring markets, such as hydraulic pumps coupling cylinders, which make them face the higher prices due to transport or inter trade charges, however, both public companies have managed with the cost by themselves.

#### <Evaluation Result>

In light of the above, there is no problem in institutional, technical and financial aspects of the executing agencies. Therefore, the sustainability of the project effect is high.

<sup>1</sup>Prior to the operation, this project conducted basic trainings for drivers of collection vehicles and maintenance staff of both public companies to operate vehicles and equipment procured by the project.

## 5 Summary of the Evaluation

The project has achieved its objectives, “to improve the waste collection services of municipalities” as it was observed that both indicators, the daily volume of waste collected and the waste collection rate, have achieved more than 80% of the target level on average for the target municipalities. Positive impacts were observed in the increase of waste collection fees and the reduction of waste collection service time due to the use of small-sized and suitably designed collection vehicles for urban areas with narrow roads. As for sustainability, there is no problem in institutional, technical and financial aspects.

Considering all of the above points, this project is evaluated to be highly satisfactory.

## III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

To: Prizren Municipality (Ekoregjioni Public Company) and Pristina Municipality (Pastrimi Public Company)

Both public companies have secured staffs with very good technical skills. On the other hand, they have recognized that their employees in charge of vehicle maintenance lack diagnostic technique of electrical malfunctioning of Japanese vehicles. In order to enhance the sustainability of the project, it is recommended that public companies should request JICA to offer them a suitable training scheme after specifying which skills should be improved. The training should be done either by dispatching the experts to public companies or/and by accepting trainees in Japan from the public companies.

Lessons Learned:

Suitability of vehicles and equipment which can fully respond to user’s needs contribute to improving the effect by the project.

Small sized collection vehicles that are suitably designed for door-to-door collection services in urban areas with narrow roads have greatly contributed to improving the waste collection service system. Those collection vehicles have made it possible for operators and drivers of the collection vehicle to easily drop waste into the vehicle with maximum waste load, which eventually have helped save their service time. Furthermore, those vehicles are durable but simple without complicated electronic devices, which have enabled maintenance staff to do maintenance with ease. It is very important, therefore, at the planning stage, to select the equipment which can fully respond to the user’s needs.



Ekoregjioni Company (Prizren) – regular maintenance of donated vehicle



Pastrimi Company (Pristina) – preparation of the vehicle for the waste collection