

Country Name	The Project for Capacity Development of Solid Waste Management of Nairobi City
Republic of Kenya	

I. Project Outline

Background	<p>Nairobi's population was expected to increase from 3.04 million in 2009 to 5.94 million in 2030, with a corresponding increase in waste generation per day from 1,848 tons (2009) to 3,990 tons (2030). About half of the waste was collected and transported to the Dandora final solid waste disposal site; however, the rest was illegally dumped at various places in the city, adversely affecting the surrounding sanitary environment and landscape due to soil pollution and odors.</p> <p>In Nairobi, the solid waste had been collected by the following three types of service system including: 1) service by the Nairobi City County (NCC) directly, 2) service by private companies commissioned by NCC, and 3) service under contracts between licensed private companies and consumers without intervention by NCC. However, this system was not properly managed by NCC, and collection and transportation of solid waste were particularly difficult in low-income areas. Also, fees for waste collection were not necessarily collected in an appropriate manner.</p>										
Objectives of the Project	<p>Though (i) conducting improvement activities of waste collection and transportation, (ii) conducting a pilot project for introducing franchise system and awareness raising, (iii) implementing a pilot project for involvement of Community Based Organization (CBO) in informal settlements, (iv) implementing a plan for operationalizing Solid Waste Management (SWM) special account of Department of Environment (DoE), and (v) redesigning a roadmap of NCC, the project aimed at strengthening capacity of NCC on solid waste management, thereby contributing to expansion of waste collection and transportation services in Nairobi City by NCC.</p> <ol style="list-style-type: none"> Overall Goal: Waste collection and transportation services in Nairobi City are expanded by NCC. Project Purpose: Capacity of NCC on solid waste management is strengthened. 										
Activities of the project	<ol style="list-style-type: none"> Project site: Nairobi city county Main activities: (i) conducting improvement activities of waste collection and transportation, (ii) conducting a pilot project for introducing franchise system and awareness raising, (iii) implementing a pilot project of CBO's involvement, (iv) implementing a plan for operationalizing SWM special account of DoE, and (v) redesigning a roadmap of NCC Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Kenyan Side</td> </tr> <tr> <td>1) Experts: 9persons</td> <td>1) Staff allocated: 17 persons</td> </tr> <tr> <td>2) Training in Japan: 13 persons</td> <td>2) Office spaces for Japanese experts</td> </tr> <tr> <td>3) Equipment: Two vehicles, ten motorcycles, etc.</td> <td>3) Operation cost: A part of necessary expenses for local activities including office renovation for the Preparatory Unit for Solid Waste Management Corporation</td> </tr> </table> 			Japanese Side	Kenyan Side	1) Experts: 9persons	1) Staff allocated: 17 persons	2) Training in Japan: 13 persons	2) Office spaces for Japanese experts	3) Equipment: Two vehicles, ten motorcycles, etc.	3) Operation cost: A part of necessary expenses for local activities including office renovation for the Preparatory Unit for Solid Waste Management Corporation
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Project Period	February 2012-March 2016	Project Cost	(ex-ante) 330 million yen, (actual) 447 million yen								
Implementing Agency	Department of Environment (DoE), Nairobi City County (NCC)										
Cooperation Agency in Japan	CTI ENGINEERING INTERNATIONAL CO., LTD. EX RESEARCH INSTITUTE LTD. KITAKYUSHU INTERNATIONAL TECHNO-COOPERATIVE ASSOCIATION										

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

Continuation of the Project Purpose is analyzed as a factor for achieving the Overall Goal.

I Relevance

<Consistency with the Development Policy of Kenya at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Kenya. The "Vision 2030" prioritized environmental protection for the sustainable economic growth. Improvement in pollution control and waste management were included.

<Consistency with the Development Needs of Kenya at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Kenya for solid waste management. At the time of ex-ante evaluation, NCC was not able to properly manage the collection of solid waste, and fees for waste collection were not necessarily collected appropriately, as mentioned above.

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

The project was consistent with Japan's ODA Policy to Kenya. Environmental protection was one of the priority areas of ODA to Kenya, which included enhancement of environmental management capacity in accordance with the deteriorating urban environment¹.

<Evaluation Result>

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

¹ Source: ODA Databook 2012

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was achieved at the time of project completion. Although it can be said that counterparts' (C/Ps) partially acquired the ability to expand pilot project activity to other area (indicator 1), NCC became able to grasp the data about the amount of collected waste (indicator 2). As for indicator 1, C/Ps gained the knowledge and skills, and expanding the activities with CBO also showed progress. However, implementation of the franchise system was limited, because Private Sector Providers (PSP) in the pilot zone 7 filed a lawsuit, as the franchise system tried to allow certain collectors to provide services exclusively and Nairobi City County ordered PSP to leave from the zone.

<Status of Continuation of the Project Effects>

The effects of the project have partially continued. As mentioned above, the status of continuation of the project effects at the time of ex-post evaluation was verified as the part of the verifiable indicators of the Overall Goal and the factors affecting the achievement levels of the verifiable indicators of the Overall Goal. Many of the activities proposed under this project have continued and implemented after the completion of the project to expand waste management in Nairobi City as NCC's capacity was increased. These are considered to have contributed to the partial achievement of the Overall Goal.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was partially achieved. After project completion, NCC embarked on determination of appropriate collection spots and identified 127 waste collection spots in 2018 (indicator 1) although they reduced to 108 in 2019 due to reduction of illegal dumpsites. At the same time, while the ruling of the litigation against NCC by PSPs resulted in termination of the franchise system (indicator 2), NCC and PSPs mutually co-existed peacefully and agreed on allocation of waste collection zones amongst the latter. NCC also continued to support CBOs whose collection points increased after closure of illegal dumpsites and effective administration to 76 in 2019 (indicator 3), and NCC also introduced effective mechanism to co-work with CBOs. NCC also closely and regularly collaborate with other stakeholders in all 85 wards of the 17 sub-counties (indicator 4).

After the project was completed, a lot of activities in the revised roadmap, proposed by the project, have been implemented by NCC towards expanding waste management in Nairobi City County including increasing the rate of waste collection of 60% to 71%, devolution of activities to the sub-county level and improvement of road infrastructure in informal settlements and access to the designated dumpsite at Dandora. Approval of establishment of the Nairobi City County Waste Management Authority by the County Assembly is also a major positive step towards strengthening solid waste management.

<Other Impacts at the time of Ex-post Evaluation>

According to NCC, no negative impact on the natural environment by this project has been observed, and no land acquisition and resettlement occurred.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results					
(Project Purpose) Capacity of NCC on solid waste management is strengthened.	Indicator 1: C/Ps get the ability to expand pilot project activity to other area.	Status of the Achievement: achieved (Project Completion) The indicator was partly fulfilled as at the time of the terminal evaluation. - The C/Ps gained plenty of knowledge and skills on the franchise system. The tendering procedures were one of the highlights in terms of acquired knowledge. - On the other hand, the experiences on countermeasures introduced in the course of implementation of the franchise system were still limited due to its slow progress. - Meanwhile, the ability to expand pilot project activities regarding CBO has been showing steady progress.					
	Indicator 2: NCC can grasp the data about the amount of collected waste in Pilot project area.	Status of the Achievement: achieved (Project Completion) The indicator was fulfilled at the time of the terminal evaluation. Since NCC required the franchise contractor to submit data not only the sum of collected amount but also the number of customers, collection ratio, collected service charges by district basis, NCC became able to grasp more detailed picture on the franchise zone. In addition, NCC was now double checking the both data on transported waste volume, as submitted by the franchise contractor and the one recorded at the Dandora dump site.					
(Overall Goal) Waste collection and transportation services in Nairobi City are expanded by NCC.	Indicator 1: Increase in waste collection coverage area	(Ex-post Evaluation) achieved					
	Note: Joint terminal evaluation report interprets "increase in waste collection coverage area" as the "increase in the intensity of waste collection spots" (because the coverage area itself has not been changed and would not change).	<table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>Number of waste collection spots</td> <td>127</td> <td>108</td> </tr> </tbody> </table> <p>Between 2012 and 2016 the number of known illegal collection spots stood at 91. In 2017 NCC embarked on determination of appropriate collection spots while closing down illegal dumpsites. Therefore between 2017 and 2019 the number of waste collection coverage/ area/ collection spots increased as a result of: 1) Increased fleet capacity of hired contractors 2) Increased fleet capacity and number of PSPs 3) Increased number and capacity of CBOs</p>		2018	2019	Number of waste collection spots	127
	2018	2019					
Number of waste collection spots	127	108					

	Indicator 2: Expansion of franchised collection zones	(Ex-post Evaluation) not achieved				
		2012	2016	2017	2018	2019
	Number of franchised collection zones	1	2	0	0	0
		The litigation came to an end with the end of the project in 2016. From 2019 the NCC has been working on to roll out franchise system in zone 9.				
	Indicator 3: Expansion of CBOs collection zones	(Ex-post Evaluation) Achieved				
		2017	2018	2019		
	Number of CBOs collection zones	Data not available	96	76		
	Number of CBOs	184	201	205		
		<ul style="list-style-type: none"> - The CBO collection zones increased because the number of CBOs engaging the County Government has been increasing. A number of collection zones have more than one CBOs. (Note: The figure in 2018 includes inappropriate sites which were cleared and closed.)				
		<ul style="list-style-type: none"> - The NCC has continued to support CBOs by: <ol style="list-style-type: none"> 1) Provision of waste collection trucks 2) Inclusion in local waste management initiatives 3) Linkages with other stakeholders who offer technical and material support 				
	Indicator 4: Increase in public participation	(Ex-post Evaluation) achieved				
		2016	2017	2018	2019	
	Number of locations for monthly cleanup activities	340	204	1,020	1,020	
		<ul style="list-style-type: none"> - Clean ups are conducted with stakeholders. The activities include waste collection, litter picking, grass slashing, hedge trimming, drainage clearing and awareness creation. - They were conducted as follows: <ul style="list-style-type: none"> 2012-2016: In selected areas across the city with stakeholders on selected dates 2017: Monthly in each of the 17 sub-counties with stakeholders 2018-2019: Monthly in each of the 85 wards with stakeholders 				

Source : Questionnaire and interviews with NCC

3 Efficiency

Although the project cost exceeded the plan (ratio against the plan: 135%), the project period was as planned (the ratio against the plan: 100%). The outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Policy and legislation have been progressively formulated as foundations for sustainability of solid waste management activities. The Nairobi City County Solid Waste Management Act, 2015 came into effect during the project period and provides the legal framework for implementation of the system and activities established by the project. This will be anchored in the National Sustainable Waste Management Policy Draft and bolstered by the National Sustainable Waste Management Bill once they are approved and passed.

<Institutional/Organizational Aspect>

Although there were no changes in terms of organization structure to promote project activities, NCC has made some efforts towards strengthening its organization structure by creating positions of Assistant Directors at the county level and at the sub-county level and recruiting respective staff to fill the positions. An information office to promote and disseminate the system, model and activities introduced by the project has also been established. However, there are budgetary constraints to support recruitment of adequate staff.

<Technical Aspect>

The project effects have continued to be driven by project counterparts by utilizing the knowledge that they gained during the project. However, in order to maintain capacity and ensure retention of institutional memory that might be lost in the event of staff retirement and change of jobs, NCC need to strengthen and institutionalize on-the-job training of inexperienced/new staff.

<Financial Aspect>

NCC has continued to fully fund solid waste management activities. Considering its inadequate budget against the increasing need to expand solid waste management activities in view of a growing population and matching upsurge in waste generation, it is incumbent upon NCC to seek partnerships with other stakeholders including the private sector in order to ensure continuation of the project's effects.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose at the project completion, as the C/Ps partially acquired the ability to expand the pilot project activity to other area, and NCC became able to grasp the data about the amount of collected waste. The Overall Goal was partially achieved, as NCC increased the waste collection spots, started working on franchising system and continued to support CBOs. As for sustainability, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency; however, there is no problem on the policy aspect. As for efficiency, both project cost and project period exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

DoE is recommended to establish a stable and concrete legal process for optimizing collection and transportation services, based on lessons learned in the operation of franchise system.

Lessons Learned for JICA:

It was found that NCC has made some efforts towards strengthening its capacity for solid waste management through recruitment and training of staff including instructor training. Meanwhile, to ensure retention of institutional memory that might be lost in the event of staff retirement and change of jobs, more emphasis should have been placed on liaising with NCC's human resources department to institutionalize orientation of solid waste management to new staff, on-the-job training and subsequent refresher courses during the project planning stage. Further, the systematic usage and updates of educational materials and guidelines related to these training courses are needed for continuous human resource development.

	
<p><i>Overfilling open truck that can spill waste in transit.</i></p>	<p><i>Appropriate waste collection truck currently in use for Solid Waste Management</i></p>
	
<p><i>Mismanaged waste collection point that appeared as a dumpsite in Kangemi Cemetery.</i></p>	<p><i>Site transformed to children's playground (Kangemi Memorial Park) in collaboration with the umbrella CBO (Clean Vision) managing the collection point by the side in a smaller space.</i></p>