

**PREPARATORY SURVEY  
FOR  
INTEGRATED SOLID WASTE MANAGEMENT  
IN NAIROBI CITY  
IN  
THE REPUBLIC OF KENYA**

**FINAL REPORT**

**VOLUME 3**

**SUPPORTING REPORT**

**SECTION B**

**ORGANISATIONAL, INSTITUTIONAL AND HUMAN RESOURCES  
DEVELOPMENT STUDY**

**TABLE OF CONTENTS**

<b>Table of Contents .....</b>	<b>i</b>
<b>List of Tables .....</b>	<b>iii</b>
<b>List of Figures.....</b>	<b>iv</b>
<b>List of Photos .....</b>	<b>iv</b>
<b>1. INTRODUCTION.....</b>	<b>B-1</b>
<b>2. DESCRIPTION AND EVALUATION OF CURRENT CONDITION.....</b>	<b>B-2</b>
2.1 Inefficient Structure and Improper Management of Organisation .....	B-2
2.2 Improper Zoning for SWM Services .....	B-4
2.3 Lack of Information on Costing for SWM Services by Private Operators .....	B-5
2.4 Vulnerable Private Sector.....	B-6
2.5 Complicated Procedures for Procurement of Spare Parts and Maintenance.....	B-7
2.6 Insufficient Budget for SWM Services .....	B-10
2.7 Insufficient On-the-Job Training for SWM-related Personnel.....	B-11
2.8 Insufficient Enforcement of Legal Framework.....	B-11
2.9 Summary of Results of Capacity Gap Assessment .....	B-17
<b>3. REVIEW OF RELEVANT STUDIES .....</b>	<b>B-19</b>
3.1 Review on Previous JICA Master Plan .....	B-19
3.2 Review on UNEP Integrated Solid Waste Management Plan .....	B-30

<b>4.</b>	<b>ORGANISATIONAL RESTRUCTURING AND HUMANRESOURCES DEVELOPMENT PLAN .....</b>	<b>B-31</b>
4.1	Objective .....	B-31
4.2	Planning Policy .....	B-31
4.3	Strategy .....	B-31
4.4	Goal .....	B-32
4.5	Action Plans for Organisational Restructuring .....	B-33
4.6	Action Plans for Human Resources Development .....	B-44
<b>5.</b>	<b>LEGAL AND INSTITUTIONAL REFORM PLAN .....</b>	<b>B-64</b>
5.1	Objective .....	B-64
5.2	Planning Policy .....	B-64
5.3	Strategy .....	B-64
5.4	Goal .....	B-64
5.5	Action Plans for Legal and Institutional Reform .....	B-65
<b>6.</b>	<b>PRIVATE SECTOR INVOLVEMENT PLAN.....</b>	<b>B-85</b>
6.1	Objective .....	B-85
6.2	Planning Policy .....	B-85
6.3	Strategy .....	B-85
6.4	Goal .....	B-85
6.5	Action Plans for Private Sector Involvement Promotion .....	B-86
<b>7.</b>	<b>PLAN OF OPERATIONS.....</b>	<b>B-110</b>
7.1	Plan of Operations for Organisational Restructuring and Human Resources Development Plan .....	B-110
7.2	Plan of Operations for Legal and Institutional Reform Plan.....	B-110
7.3	Plan of Operations for Private Sector Involvement Promotion Plan.....	B-110
<b>8.</b>	<b>PCM WORKSHOP .....</b>	<b>B-120</b>
8.1	Objectives.....	B-120
8.2	Procedures .....	B-120
8.3	Results .....	B-121
8.4	Subsequent Steps.....	B-122
	<b>REFERENCES.....</b>	<b>B-123</b>

## **LIST OF TABLES**

Table B.2.1	Number of Staff and Workers of Department of Environment by Scale.....	B-3
Table B.2.2	Breakdown of Unit Cost for Private Contractors .....	B-5
Table B.2.3	Additional Cost Required for Tendering and Contracting .....	B-5
Table B.2.4	Current Status of Waste Collection and Transport in Nairobi City .....	B-6
Table B.2.5	Number and Status of CCN Vehicles .....	B-7
Table B.2.6	Threshold for Maximum and Minimum Level of Expenditure under Current Procurement and Disposal Act 2005 .....	B-8
Table B.2.7	Organisations of Tender-related Committees under Current Procurement and Disposal Act of 2005 .....	B-9
Table B.2.8	CCN Revenue for Financial Year 2009/2010.....	B-10
Table B.2.9	CCN Expenditure for Financial Year 2009/2010 .....	B-11
Table B.2.10	Descriptions and Constraints of Major SWM-related Acts, Regulations and By-laws.....	B-13
Table B.2.11	Summary of Capacity Gap Assessment .....	B-17
Table B.3.1	Outline of Review on Performance of Previous JICA Master Plan (Organisational Level).....	B-20
Table B.4.1	Outline of the Proposed Organisational Structure of Preparatory Unit for SWMPC .....	B-34
Table B.4.2	Outline of the Proposed Organisational Structure of SWMPC .....	B-38
Table B.4.3	Incomplete Action Plans of Previous 1998 Master Plan to be Partially Reflected on the Occasion of Creation of SWMPC .....	B-41
Table B.4.4	Outline of Comprehensive Capacity Development Programme .....	B-47
Table B.4.5	Concept of Module Training Programme for CCDP (Module 1).....	B-49
Table B.4.6	Concept of Module Training Programme for CCDP (Module 2).....	B-50
Table B.4.7	Concept of Module Training Programme for CCDP (Module 3).....	B-51
Table B.4.8	Concept of Module Training Programme for CCDP (Module 4).....	B-52
Table B.4.9	Concept of Module Training Programme for CCDP (Module 5).....	B-53
Table B.4.10	Concept of Module Training Programme for CCDP (Module 6).....	B-54
Table B.4.11	Concept of Module Training Programme for CCDP (Module 7).....	B-55
Table B.4.12	Concept of Module Training Programme for CCDP (Module 8).....	B-56
Table B.4.13	Incomplete Action Plans of Previous Master Plan to be Included in the CCDP .....	B-59
Table B.4.14	Outline of Working Procedure Manuals to be Formulated.....	B-61
Table B.5.1	Outline of Minor Modifications of Other Related Legal Framework .....	B-66
Table B.5.2	Outline of Required Minor Modifications of CCN Solid Waste Management By-Laws .....	B-68
Table B.5.3	Major Contents of the Act for Establishment of SWMPC .....	B-71
Table B.5.4	Simplification of Thresholds of Category for Procurement under Procurement and Disposal Act .....	B-72
Table B.5.5	Typical Contents of Franchise Contract .....	B-79
Table B.6.1	Comparison of Possible PPP Options .....	B-88
Table B.6.2	Comparison of Options for BOT and Its Variations .....	B-88
Table B.6.3	Comparison of 3-grade Evaluation on PPP Option (Collection and Transport).....	B-94
Table B.6.4	Comparison of 3-Grade Evaluation on PPP Options .....	B-95
Table B.6.5	Outline of the New Zones for Collection Services.....	B-97
Table B.6.6	Overall Road Map for the Step-wise Introduction of Franchise System.....	B-100
Table B.6.7	Proposed Contents of Manifestos.....	B-109

## **LIST OF FIGURES**

Figure B.4.1	Snapshot of Current Organisational Structure of Water Sector .....	B-37
Figure B.4.2	Snapshot of the Proposed Organisational Structure of SWM Sector based on New Publicly-Owned SWM Company (SWMPC) .....	B-37
Figure B.4.3	Organisational Chart for Current DoE, Transitional SWMPC Preparatory Unit and Proposed SWMPC .....	B-39
Figure B.4.4	Image of External Assistance required for CCDP by a Donor Organisation...	B-57
Figure B.5.1	Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 1) .....	B-75
Figure B.5.2	Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 2) .....	B-76
Figure B.5.3	Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 3) .....	B-77
Figure B.5.4	Proposed Operational Flow of Subsidy Provision under SWMORF .....	B-78
Figure B.6.1	City-wide Map by Category of Socio-Economic Area.....	B-97
Figure B.6.2	Step-wise Introduction of the Franchise Zone (Phase 1: 2016-2020) .....	B-99
Figure B.6.3	Step-wise Introduction of the Franchise Zone (Phase 2: 2021-2025) .....	B-99
Figure B.6.4	Step-wise Introduction of the Franchise Zone (Phase 3: 2026-2030) .....	B-100
Figure B.6.5	Typical Structure of Concessional Loan from a Donor Organisation .....	B-102
Figure B.6.6	Image of Concept of PPPP (Public-Private-People Partnership) .....	B-108
Figure B.7.1	Plan of Operation of the Organisational Restructuring and Human Resources Development Plan (Short-Term Plan) .....	B-111
Figure B.7.2	Plan of Operation of the Organisational Restructuring and Human Resources Development Plan (Mid- and Long-Term Plans) .....	B-112
Figure B.7.3	Cost and Responsibilities of the Organisational Restructuring and Human Resources Development Plan .....	B-113
Figure B.7.4	Plan of Operation of the Legal and Institutional Reform Plan (Short-Term Plan) .....	B-114
Figure B.7.5	Plan of Operation of the Legal and Institutional Reform Plan (Mid- and Long-Term Plans) .....	B-115
Figure B.7.6	Cost and Responsibilities of the Legal and Institutional Reform Plan .....	B-116
Figure B.7.7	Plan of Operation of the Private Sector Involvement Promotion Plan (Short-Term Plan) .....	B-117
Figure B.7.8	Plan of Operation of Private Sector Involvement Promotion Plan (Mid- and Long-Term Plans) .....	B-118
Figure B.7.9	Cost and Responsibilities of the Private Sector Involvement Promotion Plan .....	B-119

## **LIST OF PHOTOS**

Photo B.2.1	Compactor of Licensed Collector .....	B-7
Photo B.2.2	Heavy Machine in CCN Workshop .....	B-7
Photo B.6.1	Zoning in Case of Ghana .....	B-93
Photo B.6.2	Zoning in Case of the New Master Plan .....	B-93
Photo B.8.1	Explanation Material on PCM Methodology .....	B-120
Photo B.8.2	Presentation Material on PCM Methodology .....	B-121

## SECTION B

### ORGANISATIONAL, INSTITUTIONAL AND HUMAN RESOURCES DEVELOPMENT STUDIES

#### 1. INTRODUCTION

This Supporting Report Section B covers a wide range of organisational, institutional and human resources development issues, including the private sector involvement issues. **Chapter 2** describes the current conditions and evaluation of major constraints in organisational, institutional and human resources development point of views. **Chapter 3** reviews the previous JICA Master Plan (1998) and the recent UNEP Integrated Solid Waste Management Plan. **Chapter 4, Chapter 5** and **Chapter 6** cover objectives, planning policies, strategies and action plans for the organisational and human resources development plan, the legal and institutional reform plan and the private sector involvement promotion plan, respectively. The action plans are described in three phases: Short-Term (2011-2015), Mid-Term (2016-2020), and Long-Term (2021-2030). Finally, **Chapter 7** describes the Plan of Operations for all plans.

## **2. DESCRIPTION AND EVALUATION OF CURRENT CONDITION**

### **2.1 Inefficient Structure and Improper Management of Organisation**

After the formulation of the previous Master Plan, the National Environment Management Authority (NEMA) was established under the Environmental Management and Coordination Act (EMCA) No. 8, 1999 as the principal instrument in the implementation of all policies relating to the environment. The enactment of EMCA, 1999 was a milestone in promoting sustainable environmental management. The EMCA 1999 provides an institutional framework and procedures for management of the environment. In accordance with the EMCA 1999, the Environmental Management and Coordination (Waste Management) regulations of 2006 as well as the CCN By-laws of 2007 (Solid Waste Management) stipulates the detailed mandates of the Department of Environment in the field of legislation to regulate the waste management activities.

Under the basic policy directions and supervision of the Ministry of Local Government, CCN is primarily responsible for providing and regulating solid waste management services in the City of Nairobi, while CCN delivers the said services through the Department of Environment. The Department of Environment is divided into the Administration Section and three operational sections (SWM Section, Parks/Open Spaces Section and Environmental Management Planning Section). The Department of Environment is headed by the Director of Environment who is assisted by two Deputy Directors.

The main responsibilities of the Department of Environment on solid waste management are:

- To implement CCN's SWM policies formulated by the Council's Environmental Committee;
- To maintain public cleanliness, protect public health and the environment, and keep public places aesthetically acceptable by providing services for the collection, transportation, treatment and disposal of solid wastes;
- To regulate and monitor the activities of all generators of solid wastes;
- To regulate and monitor private companies engaged in solid waste activities; and
- To enforce all laws and regulations relating to SWM.

The SWM Section is divided into 9 districts for operational purposes. Each district, headed by a Senior Environmental Officer (District Inspector), provides collection, transportation and street cleansing services, to a designated area of the city.

The major functions of SWM Section are:

- Waste collection and transportation;
- Medical wastes collection from hospitals, maternity homes, medical and veterinary clinics;
- Street cleansing;
- Cleaning and recovery of solid wastes from road gullies;
- Road side and estates drain cleaning;
- Night soil collection;
- Dead animal collection;
- Refuse disposal; and
- Supply of refuse bins to households.

In the previous Master Plan, the following organisational restructuring was proposed. However, although some organisational restructuring had been carried out in line with the proposal, the number of scales of personnel remains unchanged.

- The Department of Environment should be reorganised into the Division of Solid Waste Management, the Division of Environmental Planning and Management, the Division of Financial Affairs, and the Division of Parks.
- The Cleaning Section of the newly proposed Division of Solid Waste Management should be reorganised. More concretely, the sections for Community Development and Contracting Affairs should be formed. At the same time, the daily collection and road cleaning should be clearly divided, and the number of vertical organisations should be reduced.
- The new Division of Financial Affairs should be in charge of administering human resources development, financial affairs, general affairs and information management in the Department of Environment.
- The new Division of Environmental Planning and Management should be in charge of environmental planning, environmental management, and environmental impact assessment.

Currently, the City of Nairobi is divided into 9 operational zones based on constitutional boundaries including the Central Business District (CBD). The zones are CBD, Dagoretti, Embakasi, Kasarani, Kamukunji, Langata, Makadara, Starehe and Westlands. The following table shows the number of staff and workers of the Department of Environment.

**Table B.2.1** shows the number of staff and workers of the Department of Environment by scale. The total number of staff and workers of the Department of Environment was 860, while that of the SWM Section was 495 as of the end of April 2010.

**Table B.2.1 Number of Staff and Workers of Department of Environment by Scale**

Scale	Position	Admin- istrative	Position	Parks and Open Space	SWM	Policy & Planning
2	Director	1				
3			Deputy Director		1	1
4			Assistant Director of Environment	1	1	1
5	Chief Administrative Officer	1	Chief Environmental Officer	2	2	2
6	Principal Administrative Officer	1	Principal Environmental Officer	4	2	3
7	Senior Administrative Officer	2	Senior Environmental Officer	8	9	8
8	Administrative Officer I	9	Environmental Officer I	16	9	3
9	Administrative Officer II	14	Environmental Officer II	2	11	3
10	Administrative Officer III	10	Senior Environmental Assistant	16	16	16
11	Senior Clerk Officer	7	Environmental Assistant I	10	10	10
12	Clerical Officer I	10	Environmental Assistant II	2	14	14
13	Clerical Officer II	26	Environmental Assistant III (Senior Drivers)	18	150	20
14	Clerical Officer III	15	Artisan I	1	13	1
15	Messenger I	1	Artisan II	7	6	2
16	Messenger II	10	Artisan III	10	24	3
17			Ungraded Artisan	2	8	4
18			Labourer II	41	219	27
Total		107		140	495	118

Source: Human Resources Department, City Council of Nairobi

Note: The figures are as of April 2010.

The Department of Environment has difficulties in efficiently providing SWM services because of chronic constraints on organisational and human resources development matters. This inefficient operation of solid waste management services is attributed to the following management-related constraints.

**(a) Over-staffing and Overlapping under Vertical Structure associated with Duplicated Responsibilities of Staff**

Among the officers, there is a considerable overlapping of responsibilities making daily operations and performances extremely slow and inefficient. This is due to a series of reporting and approval chains with little value added in the organisation. For example, there are three different positions for environmental supervisors with similar tasks in each division. In addition to the overlapping of responsibilities, the over-staffing in the same scales and positions, especially in the lower positions, is another constraint. Furthermore, there are 18 levels in the vertical structure from the director down to manual workers, making the personnel management ineffective and the decision-making extremely slow.

**(b) Poor Intra-departmental and Inter-departmental Coordination and Communication**

Both intra-departmental and inter-departmental coordination and communication is rather poor. Lack of coordination and communication makes the organisation inefficient. Especially, there is little sharing of information and knowledge among the related officials. Currently information is not systematically shared but day-by-day, on-demand, or on spot basis.

**(c) Unclear Individual Mandates and Job Descriptions**

Although there are departmental performance contracts, there are no clear-cut individual mandates or job descriptions. Tasks are set but there are no formal procedures to monitor individual performance. Mandates and responsibilities are not clearly assigned, thereby making the organisation more inefficient.

**(d) Unaccountable and Slow Decision-making of Managers**

The decision-making capacity of managers and supervisors lacks effectiveness. This is not due to individual deficiencies but is a direct result of the weak management culture. Managers and supervisors need more training to develop their management skills.

**(e) Insufficient Monitoring of Individual Work Performance**

Although there is annual review on the work performance as an organisation, there is almost no periodical performance monitoring on the individual work results. Therefore, there is no substantial feedback to the continuous improvement of individual work performances.

**(f) No standardised and Planned Working Procedures**

The working procedures in solid waste management are not on a planned basis but on ad-hoc or day-by-day basis. For example, the collection and transport of wastes are on the weekly basis and not sufficiently planned.

## **2.2 Improper Zoning for SWM Services**

The current zoning for waste collection and transportation services is basically constituency boundaries, and there are currently no concepts of the internal cross-subsidising system where the revenues from better-off zones are transferred to the fund to provide solid waste management services in poorer zones. One of the possible ways for the internal cross-subsidy is to differentiate tariff-setting between better-off zones and poorer zones, thereby making it possible to internally cross-subsidise poorer zones in Nairobi



City. At present, licensed private waste collectors are charging various levels of collection fees in different zones, and, furthermore, there is no proper zoning system for the cross-subsidisation.

## 2.3 Lack of Information on Costing for SWM Services by Private Operators

The proper tariff setting for private contractors is also essential for the sustainable provision of solid waste management services by private contractors. It is generally recognised that in order to accurately calculate the actual cost of collecting, transporting and disposing wastes, financial information such as variable cost, fixed cost, total cost and break-even point for providing services should be clearly identified. Another institutional barrier against the sustainable provision of solid waste management services is lack of information on costing for solid waste management services by private contractors. The chart below illustrates the image of variable cost, fixed cost, total cost and break-even point per unit waste, and the table below shows the breakdown of unit cost by private contractors. It is obvious that the costing for private contractors does not sufficiently consider the overhead cost and the depreciation of capital investment cost.

**Table B.2.2** indicates the breakdown of unit cost for private contractors. The majority of the staff of the SWM section does not have accurate information on the latest unit cost breakdown of private contractors.

**Table B.2.2 Breakdown of Unit Cost for Private Contractors**

No.	Cost Item	Composition (%)
1	Fuel	23.5
2	Vehicle Insurance	1.3
3	Vehicle Maintenance Cost	2.7
4	Personnel Cost (Drivers)	8.1
5	Personnel Cost (Loaders)	8.1
6	Tipping Charges	7.5
7	Office Expenses	9.0
8	Other Expenses	2.7
9=1+2+3+4+5+6+7+8	Total Direct Cost	62.9
10	Inconvenience Adjustment (3% on Total Direct Cost)	1.9
11	Overheads (10% on Total Direct Cost)	6.3
12	VAT (16% on Total Direct Cost)	10.1
13	Profit (30% on Total Direct Cost)	18.8
14=9+10+11+12+13	Total Cost	100.0

Source: Department of Environment, City Council of Nairobi

On the other hand, **Table B.2.3** shows the additional cost required for tendering and contracting, implying that, in addition to the basic unit cost for private contractors, the additional cost required for tendering and contracting is not clearly included in the above breakdown of unit cost for private contractors.

**Table B.2.3 Additional Cost Required for Tendering and Contracting**

No.	Cost Item	Organisation	KSh
1	Purchasing Tender Document	CCN	5,000
2	Application Fee for Vehicle Inspection	NEMA	3,000
3	License Fee for Vehicles	NEMA	5,000
4	Policy Document	CCN	2,500
5	Performance Bond	CCN	20,000
6	Tipping Charges	CCN	280
7	Security Fee at Dandora Dumping Site	-	100
8	Other Charges at Dandora Dumping Site	-	250
9	Total		36,130

Source: Department of Environment, City Council of Nairobi

## 2.4 Vulnerable Private Sector

Under the status quo, there are a significant number of private contractors and licensed private waste collectors who provide waste collection services in Nairobi City. CCN has contracted out part of waste collection and street cleansing services, and, at the same time, waste collection services are also delivered by approximately 50 licensed private waste collectors under open and completely unregulated competition. Private companies are free to provide services to whom and to where they like and collect tariff directly from the customers. There are also CBOs which handle wastes but many are badly equipped. The contracted private waste collectors operate in designated zones as stipulated in their contract with CCN. These private stakeholders have vulnerabilities in the sustainable provision of waste collection services as below. **Table B.2.4** shows the current status of waste collection and transport in Nairobi City.

- Many private contractors and licensed private companies do not have offices and keep their vehicles in gas stations due to financial difficulties.
- They have also difficulties in refurbishing and increasing the number of their vehicles due to lack of financial sources to improve their collection services.
- Overhead and depreciation costs of vehicles are not completely included in their contracts.
- Payment to private contractors is frequently delayed due to the slow accounting process of CCN.

**Table B.2.4 Current Status of Waste Collection and Transport in Nairobi City**

No.	Zone	Classification	Number
1	CBD	Private Contractors	6
		CCN	3
2	Dagoretti	Private Contractors	5
		CCN	3
3	Embakasi	CBOs	61
		Private Contractors	3
		CCN	5
4	Kamukunji	Private Contractors	2
5	Kasarani	CBOs	28
6	Langata	CBOs	6
		Private Contractors	4
7	Makadara	CBOs	14
8	Starehe	CBOs	26
		CCN	3
9	Westlands	Private Contractors	21
		CCN	3

Source: Department of Environment, City Council of Nairobi

The licensing policy for licensed private collectors includes the category of private companies:

- Specialised Company - Category "A": Any company specialised in clinical or toxic waste collection, transportation and disposal. Such company shall engage qualified staff and appropriate equipment in the handling, transportation and disposal of the said wastes.
- General Wastes Company – Category "B": Any company qualified to handle non-toxic, industrial commercial and domestic waste.
- Small Waste Collectors – Category "C": Any small scale collector with small equipment like pick-ups, handcars, etc. These shall only qualify to collect and transport domestic and commercial wastes. These categories of operators will only operate in specified areas as approved or directed by the Director of Environment.



**Photo B.2.1 Compactor of Licensed Collector**

The financial qualifications for licensed private collectors are as below.

- No record of bankruptcy
- Reputable balance sheet and record of satisfaction of relevant authority
- value of business handled at any one time should not fall below KSh 500,000
- list of tools and equipment to be submitted
- city councils license
- name of bankers
- PIN No.
- VAT Registration No.



**Photo B.2.2 Heavy Machine in CCN Workshop**

## 2.5 Complicated Procedures for Procurement of Spare Parts and Maintenance

Due to the complicated procurement procedures of CCN, it takes a longer time to repair the grounded vehicles. Therefore, the insufficient and complicated procedures for procuring spare parts are critical institutional barriers for sustainable provision of solid waste management services. **Table B.2.5** indicates the number and status of CCN's vehicles related to the solid waste management services. It is revealed that the main reason for a lot of vehicles not in operation is that the Treasury Department takes a long time to provide the necessary budget for procurement of spare parts for the vehicles.

**Table B.2.5 Number and Status of CCN Vehicles**

No.	Status	Number
1	Vehicles in Operation	16 (12: Waste Collection Truck)
2	Grounded Vehicles (under repair)	7
3	Grounded Vehicles (cannot be repaired)	17
4	Total	40

Source: Department of Engineering, City Council of Nairobi

More specifically, the reason for the complicated procurement procedure is that CCN must comply with the tendering procedures stipulated by the complicated contracting threshold under the current Procurement and Disposal Act as below. **Table B.2.6** indicates the current complicated threshold for the maximum and minimum level of expenditure allowed for the use of a particular procurement method.

Furthermore, under the current system, the organisations as well as the procedures of the tender-related committees are also complicated. **Table B.2.7** indicates the current complicated organisation and the procedures required for those committees.

**Table B.2.6 Threshold for Maximum and Minimum Level of Expenditure under Current Procurement and Disposal Act 2005**

Current Procurement Threshold	Proposed SWMPC Procurement Threshold	Maximum or Minimum Level of Expenditure allowed for the Use of a Particular Method	
		Goods	Works
International Open Tender (s71 of the Act)	Open Tender	Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.	Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.
		There is no minimum level of expenditure under this method.	There is no minimum level of expenditure under this method.
National Open Tender (s54-(2) of the Act)	Restricted Tender	Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.	Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.
		When using this method the minimum expenditure that requires advertising is KSh 6,000,000.	When using this method the minimum expenditure that requires advertising is KSh 6,000,000.
Restricted Tender under s73-(2)-(a) of the Act		Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.	Maximum level of expenditure shall be determined by the funds allocated in the budget for the particular procurement.
		The minimum level of expenditure is KSh 20,000,000; below this threshold use open tender.	The minimum level of expenditure is KSh 20,000,000; below this threshold use open tender.
Restricted Tender under s73-(2)-(b) of the Act		The maximum level of expenditure shall be KSh 20,000,000; above this threshold use open tender.	The maximum level of expenditure shall be KSh 20,000,000; above this threshold use open tender.
		The minimum level of expenditure is KSh 1,000,000; below this threshold use request for quotations.	The minimum level of expenditure is KSh 2,000,000; below this threshold use request for quotations.
Restricted Tender under s73-(2) (c) of the Act		The maximum level of expenditure shall be KSh 20,000,000; above this threshold use open tender.	The maximum level of expenditure shall be KSh 20,000,000; above this threshold use open tender.
		The minimum level of expenditure is KSh 1,000,000; below this threshold use request for quotations.	The minimum level of expenditure is KSh 2,000,000; below this threshold use request for quotations.
Request for proposals (s76(1) of the Act)	Request for Proposal	This method is not applicable for procurement of goods.	This method is not applicable for procurement of works.
Direct Procurement under s74(2) and (3) of the Act		No minimum or maximum expenditure under this method provided the conditions under this section are met.	No minimum or maximum expenditure under this method provided the conditions under this section are met.
Request for quotations (s88 of the Act)		Maximum level of expenditure under this method is KSh 1,000,000.	Maximum level of expenditure under this method is KSh 2,000,000.
Low value procurement (s90 of the Act)		Maximum level of expenditure under this method is KSh 30,000 per procurement per item.	Maximum level of expenditure under this method is KSh 30,000 per procurement per item.
	There is no minimum expenditure for the use of this method.	There is no minimum expenditure for the use of this method.	

Source: Procurement and Disposal Act of 2005

**Table B.2.7 Organisations of Tender-related Committees under Current Procurement and Disposal Act of 2005**

Committee	Provisions under Current Disposal and Procurement Act, 2005
Tender Committee	Provision 10 (1): A procuring entity shall establish a tender committee in the manner set out in the Second Schedule.
Procurement Committee	Provision 13 (1): A procurement entity shall establish a procurement committee. Provision 13 (2): The procurement committee shall be responsible for procurement below the threshold of the tender committee set out in the First Schedule.
Evaluation Committee	Provision 16 (1): For each procurement within the threshold of the tender committee, the procuring entity shall establish an evaluation committee for the purposes of carrying out the technical and financial evaluation of tenders or proposals.
Inspection and Acceptance Committee	Provision 17 (1): A procuring entity shall establish an inspection and acceptance committee. Provision 17 (2): A procuring entity shall establish an inspection and acceptance committee.

Source: Procurement and Disposal Act of 2005

More specifically, the detailed procedures required for the tendering stipulated by the current Procurement and Disposal Act of 2005 is as below.

- Provision 12 (1): The accounting officer or the head of the procuring entity shall appoint an alternative member for each member of the tender committee and only the alternative shall attend meetings of the tender committee whenever the member is unable to attend.
- Provision 12 (2): A quorum of the tender committee shall be five members including the chairman.
- Provision 12 (3): Decisions of the tender committee shall be by consensus and where there is no consensus, the decision shall be through voting by simple majority and where there is a tie, the chairman shall have a second or casting vote.
- Provision 12 (4): Where any member of the tender committee has a direct or indirect interest in any matter. He or she shall declare his or her interest in the matter and shall not participate in the deliberations or decision-making process of the committee in relation to that particular matter.
- Provision 12 (5): Members of the tender committee may be paid such honoraria as the procuring entity may determine.
- Provision 12 (6): The tender committee shall cause to be prepared minutes of all its meetings and such records shall include:
  - a register of attendance
  - date of the meeting
  - list of all matters considered
  - the decision made for each matter, including any major issue discussed, the reasons for any rejection and any clarification or minor amendments to which the approval is subject
  - a note on the basis of interest declared by members
  - any conflict of interest declared by members
  - any dissenting opinions among tender committee members
  - such other records as many be necessary
- Provision 12 (7): The tender committee may invite independent advisers or members of the procurement unit to explain submission or provide technical advice, where required.
- Provision 12 (8): To enhance transparency of the procurement process, the procuring entity shall invite in addition to the representative of various departments, at least two observers to

- attend its meetings in cases where the value of the contract is estimated to be above fifty million shillings.
- Provision 12(9): At least one of the observers invited under Provision 12(8) shall come from a duly recognised private sector organisation or discipline relevant to the procurement under consideration.
  - Provision 12(10): The failure of an invited observer to attend a meeting shall not nullify the procurement proceedings.

## 2.6 Insufficient Budget for SWM Services

There are chronic financial constraints of CCN in terms of scale of budget. The revenue of CCN is basically supported by the several transfer funds from the central government such as Contribution in lieu of Rates (CILOR), Road Maintenance Levy Fund (RMLF), Local Authority Transfer Fund (LATF), and the financial base of CCN is rather fragile. **Table B.2.8** indicates CCN Revenue for Financial Year 2009/2010, and **Table B.2.9** indicates CCN Expenditure for Financial Year 2009/2010. The major findings are as below.

- The total receipt from the Central Government occupies 34.2% of the total revenue, which implies that there is a chronic shortage of revenue for the budget of CCN.
- The budget for capital investment on SWM is only 13.2% of the total expenditure of the Department of Environment, which is not enough to improve the level of SWM services;
- The budget for outsourcing to private contractors is limited; and
- The budget for maintenance such as the procurement of spare and repair of vehicles is only 6.9 % of the total expenditure of the Department of Environment.

**Table B.2.8 CCN Revenue for Financial Year 2009/2010**

No.	Total	2009/2010 Budget (1000 KSh)
1	Contribution in lieu of Rates (CILOR)	103,318
2	Road Maintenance Levy Fund (RMLF)	883,800
3	Local Authorities Transfer Fund (LATF): Service Component	1,174,044
4	Local Authorities Transfer Fund (LATF): Performance Component	782,696
5	Other Government Funds	0
6=1+2+3+4+5	Total Receipt from Central Government	2,943,858
7	Land Rates	1,849,950
8	Plot Rates	55,900
9	Single Business Permits	860,000
10	Total Cess Receipts	208,640
11	Game Parks	7,329
12	Markets and Slaughter Houses Fees	97,310
13	Vehicle Parking Receipts	714,428
14	House and Stall Rents	250,260
15	Water Supply and Sewerage Charges or Royalties	0
16	Conservancy Fees and Charges	5,031
17	Other Receipts	1,620,222
18=7~17	Total Receipt from Local Sources	5,669,070
19=6+18	Total Revenue	8,612,928

Source: Department of Treasury, City Council of Nairobi

**Table B.2.9 CCN Expenditure for Financial Year 2009/2010**

No.	Budget Item	CCN Total		Department of Environment		Solid Waste Management	
		(1000 KSh)	%	(1000 KSh)	%	(1000 KSh)	%
1	Personnel	4,051,948	40.7	175,167	32.2	59,881	16.8
2	Operation	1,892,924	19.0	249,800	45.9	204,010	57.3
3	Maintenance	996,778	10.0	37,350	6.9	22,200	6.2
4	Debt Repayment	1,700,000	17.1	0	0.0	0	0.0
5	Capital Expenditure	1,309,352	13.2	81,900	15.0	70,000	19.7
6	Total Expenditure	9,951,002	100.0	544,217	100.0	356,091	100.0

Source: Department of Treasury, City Council of Nairobi

Note: \*The total expenditure for the solid waste management in this table only includes the refuse removal budget of the Department of Environment, while the total expenditure in Table 2.9.1 of Volume 2, Main Report includes all other expenses for the solid waste management.

## 2.7 Insufficient On-the-Job Training for SWM-related Personnel

In the previous Master Plan, it has been pointed out that there have been no ample policies for human resources development. However, the Human Resource Department recently tried to improve this situation through a number of trials.

- The performance contract between the town clerk and each department of CCN has been annually entered to clarify the target. The contract includes vision, mission, objective of each department, commitment and responsibilities of each department and CCN, and frequency of monitoring and information flow together with the quantitative indicators.
- Based on the staff performance appraisal report, it has been intended to manage and improve the performance of the staff in providing the public services by enabling a higher level of staff participation and involvement in planning.
- The Results-Based Management (RBM) is being prepared by each department of CCN to assess the performance results of the annual operations together with performance indicators for the purpose of improving the performance of public services.
- Currently, the Human Resource Department is trying to obtain a certificate from the International Standards Organisation to improve the working procedures as well as the quality of works.
- The Human Resources Department recently embarked on the implementation of a baseline survey for skills and competency needs assessment to establish critical skills and competencies for performance of the staff.
- The consultancy works for the rationalisation of the organisational structure are being outsourced to external consultants for the establishment of efficient utilisation of human resources.

Nevertheless, due to the insufficient budget for the human resources development and training programme is not sufficient. Regarding the budget for human resources development of the Department of Environment, the budget is almost used for sending the staff to overseas academic institutions as well as attending international conferences, and is not allocated to the on-the-job training programmes for the solid waste management sector.

## 2.8 Insufficient Enforcement of Legal Framework

### 2.8.1 Policy Level

There are several policy documents which include the basic nationwide policy framework for the solid waste management. Although priorities are being put on the improvement of solid waste management in these policy documents, these policies are general conceptual frameworks for the solid waste

management. Therefore, the contents of these policy documents should be transformed into more detailed, tailor-made actions for the solid waste management in each local government.

### **(1) National Solid Waste Management Strategy**

The National Solid Waste Management Strategy was prepared by the Office of Deputy Prime Minister and the Ministry of Local Government in 2008. The strategies provide a framework for the transformation of the waste management sector from being disposal oriented to recovery oriented. Further, these strategies will guide all local authorities in setting a proper solid waste management.

- Strategy: To help meet the Kenya Vision 2030 and Millennium Development Goals in health poverty reduction and protection of the environment.
- Guiding principles: Zero Waste Principle (Waste is a resource that can be harnessed to create wealth, employment and reduce pollution of the environment.)
- Long-term goals: Achieve 50% waste recovery
- Short- and medium-term goals: Achieve 30% waste recovery
- Priorities: Capacity building at local authority level
- Performance indicators: Amount of waste recovered through recycling and composting programmes
- Instrument: Specific action programmes

### **(2) Vision 2030**

Kenya Vision 2030 is the country's new development blueprint covering the period 2008 to 2030. It aims to transform Kenya into a newly industrialising, "middle-income country providing a high quality life to all its citizens by the year 2030". The Vision has been developed through an all-inclusive and participatory stakeholder consultative process, involving Kenyans from all parts of the country. It has also benefited from suggestions by some of the leading local and international experts on how the newly industrialising countries around the world have made the leap from poverty to widely-shared prosperity and equity. Vision 2030 is divided into three fundamental pillars: Economic, Social and Political pillars. The social pillar aims at realising a just and cohesive society enjoying equitable social development in a clean and secure environment.

Under the Social Strategy, paragraph 5.4 of the strategy envisions Kenya becoming a nation that has a clean, secure and sustainable environment by 2030. So as to realise this strategy, the document explains that one of the specific strategies will be to improve pollution and waste management through the design and application of economic incentives, and the commissioning of public-private partnerships (PPPs) for improved efficiency in water and sanitation delivery. Some of the flagship projects earmarked for this strategy developing tight regulations for the plastic bags in order to limit production and usage of environmentally-detrimental plastic bags, and a solid waste management initiative that is to be characterised by the relocation of the Dandora Dumpsite, and the development of a solid waste in five leading municipalities and in the economic zones planned under Vision 2030.

### **(3) Nairobi Metro 2030**

Nairobi Metro 2030 is part and parcel of the overall national development agenda. This agenda is encapsulated in Vision 2030 and, these two documents are the country's response to dealing with five key development issues, namely rapid economic growth, employment and balanced wealth creation, poverty alleviation, meaningful youth engagement and a vigorous pursuit of regional equity in all its manifestations. In this connection, the Nairobi Metro 2030 aims at optimising the role of the Nairobi Metropolitan Region in the national development effort. It will be targeted at ensuring that it facilitates the effective and efficient utilisation of the Nairobi Metropolitan



Region's resource endowments as well as effectively integrating the region into the national fabric. Most importantly it will be applied as an instrument for developing the other regions of the country through effective economic and other structural linkages to the rest of the country.

## 2.8.2 Act, Regulation and By-law Levels

The enforcement of the provisions governing the management of solid waste is done mainly by NEMA and CCN. It is absolutely necessary to establish and implement a system of monitoring, inspections and enforcement of Acts, Regulations and By-laws related to solid waste management. However, it is found that the enforcement and monitoring is rather weak to implement the Acts, Regulations and By-laws as below. **Table B.2.10** summarises the descriptions and constraints of the major SWM-related Acts, Regulations and By-laws.

**Table B.2.10 Descriptions and Constraints of Major SWM-related Acts, Regulations and By-laws**

Acts, By-laws, Regulations	Descriptions and Constraints
Environmental Management and Co-ordination Act (EMCA) No. 8, 1999	<p><b><u>Solid Waste Segregation and Reduction at Production and Consumption Levels</u></b>  <b>Section 87:</b> prohibiting dangerous handling and inappropriate disposal of wastes.  <b>Section 87 (4):</b> demanding every person whose activities generate wastes to employ measures essential to minimise wastes such as waste treatment, reclamation and recycling.  <b>Section 87 (5):</b> describing that any person who contravenes this provision shall be guilty of an offence and liable to imprisonment or fine.  Although the Act aims at reducing wastes at source, the enforcement does not function well.</p>
	<p><b><u>Primary Storage, Collection, Transportation and Transfer Stations</u></b>  <b>Section 87(2)-(a):</b> stipulating that no person shall transport any waste other than in accordance with a valid license to transport waste issued by the Authority;  <b>Section 87 (2)-(b):</b> and to a waste disposal site established in accordance with a license issued by the Authority.  There are no ample monitoring and inspections by NEMA inspectors to check collection vehicles.</p>
	<p><b><u>Treatment and Landfills</u></b>  <b>Section 87 (5):</b> describing requirements to employ measures essential to minimise wastes through treatment, reclamation and recycling.  <b>Section 86 (2):</b> describing the standards for waste, their classification and analysis, and formulate and advise on standards of disposal methods and means for such wastes.  <b>Section 88 (1):</b> emphasising requirements to apply to the authority in writing for the grant of an appropriate license in case of transporting wastes within Kenya, operating a waste disposal site, or generating hazardous wastes.  These sections are not well abided by the relevant stakeholders.</p>
	<p><b><u>Resource Recovery and Construction and Demolition Waste</u></b>  <b>Section 87 (4):</b> demanding every person whose activities generate waste to employ measures essential to minimise wastes through treatment recycling.  The waste minimisation activities in line with this Section are not active.</p>
	<p><b><u>Hazardous Wastes</u></b>  <b>The third schedule (26) and (46):</b> describing the standards for treatment and disposal of hazardous wastes.  <b>The fourth schedule (22):</b> defining wastes categorised into hazardous wastes with a list of hazardous wastes.</p>
City Council of Nairobi (Solid Waste Management) By-Laws, 2007	<p><b><u>Solid Waste Segregation and Reduction at Production and Consumption Levels</u></b>  <b>Section 4(7):</b> providing a basic platform for the management of solid wastes.  <b>Section 8(4):</b> stipulating that segregation of municipal wastes shall be the duty of every occupier and every owner of premises wherein any hazardous waste or clinical waste is generated to make suitable arrangements.  These Sections are not abided by many stakeholders.</p>

Acts, By-laws, Regulations	Descriptions and Constraints
	<p><b><u>Primary Storage, Collection, Transportation and Transfer Stations</u></b>  <b>Section 8 (1):</b> mandating CCN to arrange the collection, treatment and disposal of, or otherwise dealing with, all domestic waste and street and other litter generated or otherwise arising within its area of jurisdiction and to take all necessary and reasonably practicable measures to maintain all places falling within its area of jurisdiction in a clean and sanitary condition at all times  <b>Section 8 (2):</b> mandating CCN to make provision for the registration of waste transporters.</p>
	<p><b><u>Treatment and Landfills</u></b>  <b>Section 8:</b> mandating CCN to arrange for collection, treatment and disposal of all domestic waste and street and other litter generated or otherwise arising within its area of jurisdiction and to take all necessary and reasonably practicable measures to maintain all places falling within its area of jurisdiction in a clean and sanitary condition at all times.  <b>Section 9 (7):</b> preventing any persons from sorting over or disturbing anything deposited at the facility.  There are many waste pickers around the disposal site who do not comply with this Section.</p>
	<p><b><u>Incineration and Recycling of Solid Waste</u></b>  <b>Section 8 (9):</b> demanding that every waste generator separate wastes that can be recycled.  Almost all stakeholders do not separate wastes.</p>
	<p><b><u>Hazardous Wastes</u></b>  <b>Section 8(4):</b> defining the duty of an occupier of a premise that produces hazardous waste and clinical waste to make arrangements for separation from non-hazardous wastes.</p>
The Environmental Management and Co-ordination (Waste Management) Regulations, 2006	<p><b><u>Solid Waste Segregation and Reduction at Production and Consumption Levels</u></b>  <b>Section 1:</b> prohibiting any person from disposing of any waste on public places.  <b>Section 2:</b> demanding that all waste generators collect, segregate and dispose or cause to be disposed of the waste generated as per the regulations.  <b>Section 3</b> requires that all waste generators have an obligation under Section 3 of the provisions to ensure that the waste generated is transferred to a licensed transporter and that the transferred waste is disposed of in a designated disposal facility.</p>
	<p><b><u>Primary Storage, Collection, Transportation and Transfer Station</u></b>  <b>Section 24(1):</b> providing that every generator of hazardous waste shall ensure that every container or package for storing hazardous wastes is secure and labeled in easily legible characters.</p>
	<p><b><u>Treatment and Landfills</u></b>  <b>Section 13:</b> providing that any operator of a disposal site or plant shall ensure that wastes do not present any imminent and substantial danger to public health, the environment and natural resources.  There are many cases of violation of this Section.</p>
Other SWM-related Acts	<p><b>The Factories Act (Cap 514 of the Laws of Kenya)</b>  <b>Section 13:</b> demanding every factory owner to mandatorily keep the factory environment clean.  Many factories do not abide by this Act.</p>
	<p><b>The Occupational Safety and Health Act of 2007</b>  <b>Section 55:</b> demanding that all plant machinery and equipment including incinerators shall be used only for work they are designed and be operated by a competent person.  The majority of incinerators have no experts to supervise operators.</p>
	<p><b>The Traffic Act (Cap 403 Laws of Kenya)</b>  <b>Section 55(1):</b> stipulating that no vehicle shall be used on a road unless all parts and equipment thereof comply with the requirements of the Act and such parts and equipment shall always be maintained in a safe condition.  <b>Section 56 (1):</b> regulating overloaded waste collection vehicles.  Many collection vehicles of the private operators are not complied with this Section.</p>
	<p><b>The Transport Licensing Act (Cap 404 Laws of Kenya)</b>  <b>Section 26:</b> allowing police officers to stop any vehicle or ship and inspect any</p>

Acts, By-laws, Regulations	Descriptions and Constraints
	vehicle or ship with a view to ascertain whether or not the provisions of this Act or of any regulation made there under are being complied with. This Section is not abided by the majority of drivers.
	<b>The Scrap Metal Act (Cap 503, Law of Kenya)</b> <b>Section 22(2):</b> prohibiting anybody from exporting any scrap metal unless he has given not less than seventy-two hours notice in writing of his intention to export the scrap metal to the public officer in charge of the police station nearest to the premises in which the scrap metal is stored before its being dispatched for export. This provision is not abided by stakeholders who transport scrap metals.
	<b>The Registered Land Act of 1963</b> This Act covers all the transactions on land including the candidate site for the sanitary landfill as well as the intermediate treatment facilities. In case of a lease of land, Section 93 is applied. <b>Section 93:</b> A transfer of land which is subject to a lease shall be valid without the lessee acknowledging the transferee as lessor, but nothing in this section (a) affects the validity of any payment of rent made by the lessee to the transferor; or (b) renders the lessee liable, on account of his failure to pay rent to the transferee, for any breach of agreement to pay rent, before notice of the transfer is given to the lessee by the transferee.

Source: Acts, Regulations and By-laws in the above table.

### 2.8.3 Guideline Level

#### (1) Guidelines on Private Sector Involvement in Solid Waste Management

The Guidelines on Private Sector Involvement in Solid Waste Management was prepared by CCN in 2001 to define a systematic approach and framework within which the private sector provides solid waste management services. It formalises and regulates solid waste management services so as to provide an enabling environment to waste operators, and, at the same time, the operators are expected to comply with the Environmental Management and Co-ordination Act, and other laws and regulations.

The contents of the Guideline include:

- Policy on private sector involvement in solid waste management;
- Licensing policy and regulations; and
- Guidelines on vehicles/equipment, clothing, collection frequency, charges, cleansing and financial qualifications.

#### (2) Guidelines on Public-Private Partnerships

The Guideline on Public-Private Partnership issued by the Public Private Partnership Steering Committee under the Ministry of Finance in 2006 is the basic policy framework for PPP projects. The Guideline specifies 13 general steps to be required for the promotion of PPP projects as below.

- Step 1: Project conceptualisation, identification, prioritisation and pre-feasibility analysis by public sector agency promoting or sponsoring the project.
- Step 2: Carrying out feasibility study and preparation of the draft Cabinet Memorandum Step 1 and 2 activities should include feasibility analysis and the proposed risk allocation structure. The two steps should clearly outline the projects required output levels of service, demand analysis, technical feasibility analysis, financial feasibility analysis, economic feasibility analysis, as well as environmental, legal, institutional feasibility analyses. Under these two steps the agency should also identify and analyse all material risks to the PPP, and, especially, the important proposed risk allocation structure for the project as a PPP (a concept to be forwarded to the PPP Secretariat should be prepared)

- Step 3: Evaluation of the proposed concept and pre-feasibility study/feasibility study by the PPP Secretariat based in Treasury.
- Step 4: Submission to the Cabinet of the Joint Cabinet Memorandum by the Minister for Local Government and the Minister for Finance.
- Step 5: Prequalification of potential bidders for PPP on SWM.
- Step 6: Preparation and submission of bid documents to the PPP Secretariat.
- Step 7: Approval by the PPP Secretariat of the bid documents including the Request for Qualifications (RFQ), Request for Proposal (RFP) and the proposed PPP contract. Upon approval, authority will be granted to advertise for RFQ and thereafter RFPs. Firms who respond to the RFP will be allowed to make comments on the RFPs.
- Step 8: Advertisement for RFPs based on approved bid documents
- Step 9: Evaluation and forwarding a bid evaluation report to the PPP Secretariat for approval.
- Step 10: Contract negotiations by the public entity promoting or sponsoring project with assistance of the PPP Unit.
- Step 11: Review of bid evaluation and negotiated contract and granting approval by the National Steering Committee for the project sponsor/promoter to sign the PPP contract.
- Step 12: Signing of the PPP contract.
- Step 13: Publishing of the PPP contract in the local dailies and posting on the website.

Based on the understanding of the PPP Guideline, the Department of Environment of CCN recently prepared the document named **“Towards an Integrated Solid Waste Management System for Nairobi through Private Public Partnership (PPP) Framework”**. However, both the PPP guideline and this policy document do not specify the detailed requirements and procedures for the long-term PPP schemes such as concessions and BOT projects. Hence, the Guideline is not being used for the formation of specific PPP projects, especially, long-term concessions, BOT projects and their variations. Although the Ministry of Finance and CCN are willing to formally legalise the Guideline, it is required to overcome the following constraints for the implementation of the successful PPP projects in order to legalise the Guideline.

- Lack of clause on risk allocations
- Lack of clause on termination of projects
- Lack of clause on reasonable concession terms
- Lack of clause on detailed methodologies of value for money analysis

### **(3) NEMA General Guideline for License Application to Own/Operate a Waste Treatment or Disposal Site**

As a regulatory agency, under the Waste Management Regulations of 2006, NEMA classifies various types of waste and recommended appropriate disposal methods for each waste type. Under the Waste Management Regulations, NEMA licenses transporters, incinerators, landfills, composers, recyclers and transfer stations. Facilities to be licensed include local authorities, transporters and handlers of various types of waste. The licensing employs a risk-based approach by concentrating on facilities considered to pose a high risk to the environment. On the other hand, NEMA has the **“General Guideline for License Application to Own/Operate a Waste Treatment or Disposal Site”**. Section A of the Guideline requires the obligatory documents which waste transporters must submit as below.

- Serial Number: Each tracking document to have a serial number starting with 001
- Registered Name of Transporter: As per license
- Usual Municipality/District of Operation: As per license

- License number: As per waste transportation license issued by NEMA
- Issuing Authority: NEMA

The procedures under the Guideline are duplicates for CCN's licensing procedures required for transporters. This is due to the fact that NEMA requires the license in terms of the overall environmental regulations, while CCN requires the license in terms of the individual solid waste management practices.

## 2.9 Summary of Results of Capacity Gap Assessment

By using the methodologies of the capacity gap assessment, the qualitative degree of the gap between the required capacity and the present capacity at individual and organisational levels was comprehensively assessed based on 5-grade score system. **Table B.2.11** tabulates the summary of the results of the capacity gap assessment related to solid waste management.

**Table B.2.11 Summary of Capacity Gap Assessment**

Area	Detailed Evaluation Items	5-Grade Score				
		Low ← → High				
		1	2	3	4	5
Individual Capacity of Staff of the Department of Environment (DoE)	• Level of Knowledge and Technologies on Solid Waste Management (Operation and Maintenance, etc.)			•		
	• Level of Awareness and Responsibilities of Staff		•			
	• Communication Skills			•		
	• Overall Management and Governance Level		•			
Organisational Capacity of the DoE*  *Items of "Financial Affairs" and "Financing Capacity for Facilities and Equipment" are related to the Department of Treasurers in addition to the DoE.	• Organisational Structure (Organisation Chart, Decision-making Mechanism, Coordination Capacity, Number and Category of Staff, Personnel Management)			•		
	• Financial Affairs (Level of Financial Management, Cost Structure, Revenue Structure, etc.)		•			
	• Financing Capacity for Facilities and Equipment		•			
	• Appropriateness on Current Tariff System and Fee Collection System		•			
	• Physical Assets (Landfill Sites, Equipment, Materials, etc.)		•			
	• Intellectual Assets (Maintenance and Management Manuals, Database, etc.)		•			
	• Level of Computerised Management	•				
	• Level of Information Sharing and Cooperation among Organisations		•			
	• Level of Labour Management for Workers	•				
	• Level of Management, Disposal Capacities and Methods etc., of Transported Solid Wastes		•			
	• Current Status on Improvement of Collection Efficiency of Solid Wastes		•			
Other Organisational Issues of the DoE	• Level of Know-how of Solid Waste Management System		•			
	• Arrangement of Statistics on Solid Waste Management		•			
	• Arrangement of Manuals for Operational Efficiency		•			
	• Level of Document Filing System	•				

Area	Detailed Evaluation Items	5-Grade Score				
		Low				High
		1	2	3	4	5
Partnership with Private Sector of the DoE	● Current Function of PPP (Public-Private Partnership)		●			
	● Efficiency of Licensing Procedures for Private Companies		●			
	● Efficiency of Contract Procedures for Private Companies		●			
	● Appropriateness of Methodologies for Estimating Costs for Contracting Out		●			
	● Appropriateness of Management Indicators for Contracting Out	●				
	● Supervising and Monitoring Measures on Contracting Out	●				
	● Legal Regulatory Measures on Illegal and Open Dumping		●			
Partnership with People of the DoE	● Level of People's Understanding and Awareness of Solid Waste Management Issues		●			
	● Level of Consideration on Gender Factors for Solid Waste Management Issues		●			
	● Level of Partnership with Communities		●			
	● Operational Rule on Waste Pickers		●			
Legal and Other Institutional Issues of the DoE	● Level of Current Legal and Institutional Status (Law, By-law, Regulation and Standard on Solid Waste Management)			●		
	● Level of Legal Framework of PPP		●			
	● Appropriateness of Definition of Solid Wastes		●			
	● Degree of Clarification of Administrative Responsibilities		●			
	● Categorisation and Coding of Solid Wastes	●				
	● Formulation of Database of Solid Wastes	●				

Source: JICA Survey Team Analysis

### **3. REVIEW OF RELEVANT STUDIES**

#### **3.1 Review on Previous JICA Master Plan**

##### **3.1.1 Organisational Aspect**

###### **(1) Brief Summary of Previous JICA Master Plan**

In the previous Master Plan, the organisational restructuring has been planned and implemented as the Institutional Restructuring Plan (IRP) with the following three (3) strategic objectives. Those contents were:

- To strengthen the organisational structure of the DoE so that it can effectively and efficiently manage its SWM responsibilities and services;
- To strengthen the organisational structure of the DoE so that it has the institutional capacity to manage and sustain the priority SWM projects proposed under the previous Master Plan; and
- To propose a strategy for the future role and structure of the DoE as a whole.

The strategic goal of the IRP was to fully implement the IRP's proposed organisational arrangements for the DoE by the end of the year 2000 on the completion of the proposed Capacity Building Assistance Program (CBAP) which is recommended in the IRP. The IRP proposed the most suitable institutional and organisational arrangements for the DoE, and defined the necessary implementing actions over the previous master planning period from 1999 to 2008 which was subject to achieve these strategic objectives.

###### **(2) Reviews on Previous JICA Master Plan**

The outline of the evaluation of the performance of the previous Master Plan can be summarised as below, and the outline of the evaluation on the performance of the previous Master Plan in the field of the organisational restructuring is in accordance with **Table B.3.1**.

- Although it was proposed that the number of vertical levels in the organisational structure of the DoE should be reduced for the purpose of achieving the organisational efficiency, the restructuring of the organisational structure is possible only when the rationalisation of CCN's entire organisation is decided. It was not realistic to simplify the vertical organisational structure of the DoE alone.
- Since the formulation of the previous Master Plan, there has been no step-wise and clear-cut road map for the organisational restructuring as well as the human resources development of the DoE to fill the gap between the existing level of the organisation and the required level of the organisation.
- At the time of the formulation of the previous Master Plan, there was no strong momentum for the new organisational setting-up or drastic mind-set change for the customer-oriented solid waste management services. Since the solid waste management section of the DoE is not a ring-fenced and autonomous organisation but a bureaucratic organisation for providing the solid waste management services, the organisational efficiency has not significantly been improved.
- No substantial funding sources was raised to recruit new staff with the expertise required for the new organisations such as the Community Support Section as well as the Contract Management Section in the DoE proposed by the previous Master Plan.

- Since the overall organisational capacity of the DoE depends on the individual capacities of the staff, the institutional memories of the DoE have not been accumulated inside the organisation, thereby hampering the improvement of the organisational capacity of the DoE.
- Although the working procedures of each department have recently been tried to be standardised for the purpose of obtaining the certificate of ISO (International Standard Organisation), the operational manuals related to the solid waste management services have not been well prepared in the organisation.
- There were lack of substantial feedbacks to the improvement of working procedures and incentives to staff. At the same time, there was no clear-cut linkage between the staff's responsibilities/obligations and incentives/awards, thereby making the staff less motivated.

**Table B.3.1 Outline of Review on Performance of Previous JICA Master Plan  
(Organisational Level)**

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
1. Organisational Restructuring of the DoE				
1-a. Reorganisation of the DoE into four Divisions (SWM, Environmental, Administrative and Parks divisions)	▲	The DoE has been reorganised into 4 sections (SWM, Environmental Management and Planning, Administrative and Parks/Open Spaces), although the functions of each section are not complete.	The functions of the solid waste management of the DoE will be comprehensively transferred to the SWMPC. Only policy and regulatory functions will be retained in the DoE of CCN even after the establishment of the SWMPC.	Establishment of the SWMPC and Reorganising the Current Functions of the DoE into the SWMPC
1-b. Reduction of number of vertical levels in the SWM Division and creating new manager positions	×	The number of vertical level cannot be decreased only for the DoE, since the organisational reform requires the consensus of the whole CCN.	The number of vertical levels of the organisational structure of the SWMPC will be reduced from 18 to 12.	Simplification of Vertical Structure of the SWMPC
1-c. Separation of disposal from collection and street cleansing	▲	The field manager in charge of the disposal site is separated from the operational manager for collection services, although they belong to the same division.	The function of the operation of the sanitary landfill site will be clearly separated from those of collection and street cleansing services in the SWMPC.	Complete Separation of Function of Collection Service from Function of Disposal Management
1-d. Separation of daily managements of collection and street cleansing	▲	The operational manager for collection services is separated from the operational manager for street cleansing services, although they belong to the same division.	The function of the daily management of collection services will be clearly separated from that of street cleansing services in the SWMPC.	Complete Separation of Function of Collection Service from Function of Street Cleansing Service



Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
1-e. Assignment of responsibilities throughout the DoE's Divisions	▲	Although the responsibilities of the DoE are defined in the performance contract of each department, there are some duplicated duties among departments, divisions and sections.	The responsibilities and functions of all the departments and units will be clearly defined at the outset of the operation of the SWMPC.	Clear-cut Documentation of Mandates and Functions of Departments and Units of the SWMPC
<b>2. Establishment of New Functions</b>				
2-a. Establishment of Community Development Section in SWM Division	×	Due to the lack of personnel and funds to recruit new staff, the contract management section has not been established in the DoE, although there are a couple of staff in charge of the public awareness in the environmental management and planning section of the DoE.	The function of the community support will be included in the independent department of the SWMPC.	Establishment of the SWMPC and Creation of New Function of Community Support in the SWMPC
2-b. Establishment of Contract Management Section in SWM Division	×	Due to the lack of personnel and funds to recruit new staff, the contract management section has not been established in the DoE, although there is a couple of staff in charge of the contractual issues in the administrative section of the DoE.	The function of the contract management will be included in the independent department of the SWMPC.	Establishment of the SWMPC and Creation of New Function of Contract Management in the SWMPC
2-c. Establishment of Environmental Planning and Management Division	▲	The Environmental Management and Planning Section has been established, although its function is not complete.	The function of the environmental planning and management will separately remain and be strengthen in the EMP section of the new DoE.	Strengthening of the Function of the Current EMP Section
2-d. Establishment of Finance Section in Administrative Division	×	Although the finance section has not been established in the administrative division, there is a finance officer in the administrative division of the DoE.	The function of the finance management will be included in the independent department of the SWMPC.	Establishment of the SWMPC and Creation of New Function of Finance Management in the SWMPC
2-e. Establishment of Human Resources Section in Administrative Division	×	Although the human resources section has not been established in the administrative division, there is a officer in charge of human resources development in the administrative division of the DoE.	The function of the human resources development will be included in the independent department of the SWMPC.	Establishment of the SWMPC and Creation of New Function of Human Resources Development in the SWMPC
2-f. Establishment of MIS Section under the Director of DoE	×	The management information system section has not been established under the Director of	The function of the management information system will be included	Establishment of the SWMPC and Creation of New

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
		the DoE.	in the independent department of the SWMPC.	Function of Management Information System in the SWMPC
2-g. Establishment of Logistics Section in SWM Division	×	Although the logistics section has not been established in the administrative division, there is a officer in charge of logistics in the SWM section of the DoE.	The function of the logistics will be included in the independent department of the SWMPC.	Establishment of the SWMPC and Creation of New Function of Logistics in the SWMPC

Source: JICA Survey Team

### 3.1.2 Human Resources Development Aspect

#### (1) Brief Summary of Previous JICA Master Plan

The human resources development plan in the previous Master Plan was planned to be conducted under the Capacity Building Assistance Programme (CBAP) which comprises direct implementation assistance and a series of associated training programmes provided in classes or workshops, covering the following 8 components. It was recommended that the CBAP would begin in April 1999 and would continue for 14 months up to May 2000.

- Development of key management capabilities
- Community development
- Financial management
- Environmental regulation
- Formatting and drafting of the SWM By-laws
- Contract management
- Human resource management
- Development of technical capability.

At the same time, organisational and management consultants and human resource development consultants were expected to assess the impacts and effectiveness of the training programmes provided under the CBAP. Based on the assessment, those consultants were expected to review the DoE's further training needs, prepare future training programmes and recommend the financing for the programmes.

#### (2) Reviews on JICA Previous Master Plan

The outline of the evaluation of the performance of the previous Master Plan can be summarised as below, and the outline of the evaluation on the performance of the previous Master Plan in the field of the human resources development is in accordance with **Table B.3.2**.

- Since the formulation of the previous Master Plan, there has been no clear-cut road map for the human resources development of the DoE to fill the gap between the existing level of the capacities and the required level of capacities.

- Although the working procedures of each department have been recently standardised for the purpose of trying to obtain the ISO (International Standard Organisation) certificate, the operational manuals related to the solid waste management services have not been well prepared.
- Due to the low priority on the human resources development programme in the field of solid waste management services and lack of funds to support the programme, no ample follow-up of human resources development programmes has been implemented after the termination of the CBAP training programme.
- The CBAP training programme in the previous Master Plan did not specifically target the key capabilities in the field of the overall solid waste management. The CBAP was not a customised and tailor-made programme which targeted specific capacities required for the staff in charge of the solid waste management services.
- No close link between the human resources development programme under the CBAP and the organisation and legal reforms was established.

**Table B.3.2 Outline of Review on the Performance of the Previous JICA Master Plan  
(Human Resources Development Issues)**

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
<b>1. Development of Key Management Capabilities</b> Assistance in establishing Management Team, planning capability, procedures for objective setting and performance measurement, MIS setup and improving managers' effectiveness	▲	The CBAP training programme did not specifically target the key management capabilities in the field of overall solid waste management. At the same time, due to the low priority on human resources development and training programme in the field of solid waste management and lack of funds to support the programme, no ample follow-up has been implemented after the termination of the CBAP training programme.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of key management capacities will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.
<b>2. Financial Capabilities</b> Assistance in establishing financial systems in the Finance Section including implementation of computerised financial system	▲	The CBAP training programme did not specifically target the financial capabilities specifically in the field of solid waste management. At the same time, due to the low priority on human resources development and training programme in the field of solid waste management and lack of funds to support the programme, no ample follow-up has been implemented after the termination of the CBAP training programme.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of financial capacities will be merged into the comprehensive capacity development programme of the new Master Plan with full-scale external assistance.

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
<b>3. Environmental Regulation</b> Assistance in establishing Environmental Division's monitoring methodologies and systems and procedures for handling non-municipal wastes	▲	The CBAP training programme did not specifically target the environmental regulation capabilities especially in the field of solid waste management. At the same time, due to the low priority on human resources development and training programme in the field of solid waste management and lack of funds to support the programme, no ample follow-up has been implemented after the termination of the CBAP training programme.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of environmental regulation capacities will be merged into the comprehensive capacity development programme of the new Master Plan with the higher priority on SWM and full-scale external assistance.
<b>4. Formatting and Drafting SWM By-laws</b> Assistance in the formatting, drafting and enactment of SWM By-laws	▲	Although the CBAP training programme partially contributed to the formatting and drafting of the Environmental Management By-laws, there has been almost no follow-up training programmes after the termination of the CBAP training programme.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of legal capacities will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.
<b>5. Contract Management</b> Assistance in establishing Contract Management Section's functions and procedures for both pre-contract award and post-contract award	▲	The CBAP training programme did not specifically target contract management specifically in the field of solid waste management. Furthermore, no Contract Management Section was established in DoE.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of contract management capacities will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.
<b>6. Human Resource Management and Development</b> Assistance in establishing Human Resource Section's functions covering personnel functions, HR planning, improving employee performance and occupational health	×	The CBAP training programme did not specifically target the contract management especially in the field of solid waste management. Furthermore, no Human Resource Section was established in DoE.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of human resources management and development capacities will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: ×, Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
<b>7. Community Development</b> Assistance in establishing the Community Development Section	×	The CBAP training programme did not specifically target the contract management especially in the field of solid waste management. Furthermore, no Community Development Section was established in DoE.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of community development capacities will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.
<b>8. Development of Technical Capability for Collection and Transportation</b> -Planning, Scheduling, Staffing & Vehicle Management Assists in establishing operations management staff's planning methodologies and functions covering arrangement, routing for collection, scheduling, staffing and reviewing systems. Also, assists in establishing Vehicle Management subunit's functions covering procurement of spare parts and tools, store methods and inventory management. -Maintenance Assists in establishing Maintenance subunit's functions focusing on improvement of craftsman's skills based on the job training.	×	The CBAP training programme did not target the technical capacities for collection and transportation.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of technical capacities for collection and transportation will be merged into the comprehensive capacity development programme of the new Master Plan with higher priority on SWM and full-scale external assistance.
<b>9. Final Disposal</b> -Planning, Scheduling, Staffing & Maintenance Assists in developing operations management staff's planning,	×	The CBAP training programme did not target the technical capacities for final disposal.	To be merged into the comprehensive capacity development programme in the New Master Plan	The development of key management capacities will be merged into the comprehensive capacity development

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
operating and reviewing systems.				programme of the new Master Plan with higher priority on SWM and full-scale external assistance.

Source: JICA Survey Team

### 3.1.3 Legal and Institutional Aspect

#### (1) Brief Summary of Previous Master Plan

In the previous Master Plan, the Legal Restructuring Plan (LRP) proposed the most suitable legal arrangements for solid waste management and defined the actions required to implement them. The major proposals in the previous Master Plan include:

- recommendations for legal reforms at the national level;
- recommendations for legal reforms for Nairobi City; and
- implementation of the LRP and capacity building assistance.

At the time of the previous Master Plan, the Ministry of Environment and Mineral Resources (MEMR) had just formulated the Environmental Management and Coordination Bill with general provisions covering waste management and standard setting, disposal site licensing, the control of hazardous, industrial and hospital waste and environmental impact assessments. It was recommended that the MENR enact a comprehensive SWM law either as a National Act or a National Regulation.

#### (2) Reviews on JICA Previous Master Plan

After the formulation of the previous Master Plan, the National Environment Management Authority (NEMA) was established under the Environmental Management and Coordination Act (EMCA) No. 8 of 1999 as the principal instrument in the implementation of all policies relating to the environment. The enactment of EMCA, 1999 was a milestone in promoting the sustainable environmental management. The EMCA 1999 provides an institutional framework and procedures for management of the environment. In accordance with the EMCA 1999, the Environmental Management and Coordination (Waste Management) regulations 2006 as well as CCN (Solid Waste Management) By-laws 2007 stipulates the detailed legal provisions to regulate the waste management activities. However, even after these legalisations, there are mainly the following three problems:

- Although the Environmental Management and Coordination (Waste Management) regulations of 2006 and CCN (Solid Waste Management) By-laws of 2007 were enacted, the actual enforcement of these regulations and by-laws is not sufficient due to the lack of provisions related to monitoring and inspection.
- The enforcement capacities such as the number and capabilities of inspectors are not sufficient due to the lack of funds to support them.
- Due to the lack of legal framework for the Public-Private Partnership, the PPP project in the field of solid waste management has not been well promoted.

**Table B.3.3** indicates the outline of review on the performance of the previous Master Plan in the field of legal and institutional reform.

**Table B.3.3 Outline of Review on the Performance of the Previous JICA Master Plan  
(Legal and Institutional Issues)**

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
1. The By-law should clearly stipulate the policies and objectives to be achieved by SWM and state that CCN has the primary Duty of Care for SWM in Nairobi City.	▲	<u><b>CCN Solid Waste Management By-laws of 2007, Section 4(1)</b></u> stipulates that CCN has the primary duty to regulate waste and its management within the area of jurisdiction of the City, and for this purpose all waste generated or otherwise arising within the area of the City shall be managed and regulated in accordance with these By-laws. <u><b>This Section 4 does not completely specify the primary duty of care for SWM.</b></u>	Minor Modification of Section 4(1) of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
2. The By-law should categorise solid wastes according to the characteristics presented by each category of waste.	▲	<u><b>CCN Solid Waste Management By-laws of 2007, Section 3</b></u> defines “domestic waste”, “hazardous waste”, “municipal waste” and “solid waste”. <u><b>This Section 3 does not completely specify the categorisation of solid wastes.</b></u>	Minor Modification of Section 3 of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
3. The By-law should impose a statutory requirement for solid waste management planning on CCN.	▲	<u><b>CCN Solid Waste Management By-laws of 2007, Section 4(2)</b></u> stipulates that CCN shall prepare a waste management plan of its arrangements for managing waste arising within its area of jurisdiction and Section 4(3) defines the contents of a waste management plan. <u><b>This Section 4(2) does not completely specify the solid waste management plan.</b></u>	Minor Modification of Section 4(2) of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: ×, Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
4. The By-law should impose a Duty of Care on the generators of waste to handle all wastes in their charge in an environmentally sound manner and, in any case, to dispose of them only by giving them to an authorised collector of waste.	▲	<b><u>CCN Solid Waste Management By-laws of 2007, Section 8(3), (4), (5), (6), (7), (8), (9) and (10)</u></b> stipulate a duty of care on the generators of proper handling of wastes. <b><u>These Sections do not completely specify the primary duty of care on the generators of waste to handle all wastes.</u></b>	Minor Modification of Section 8(3), (4), (5), (6), (7), (8), (9) and (10) of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
5. The By-law should impose a Duty of Care on all waste operators to handle all wastes in their charge in an environmentally sound manner and to dispose of them only at a licensed landfill facility.	▲	<b><u>CCN Solid Waste Management By-laws of 2007, Section 9(1) and 9(2)</u></b> stipulates a duty of care on all waste operators to dispose wastes at a proper sanitary landfill facility. <b><u>These Section 9(1) and 9(2) do not completely specify the primary duty of care on all waste operators to handle all wastes.</u></b>	Minor Modification of Section 9(1) and 9(2) of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
6. The By-law should set standards for collecting, treating and transporting solid waste and for the proper management of sanitary landfills.	×	Although <b><u>Environmental Management and Co-ordination (Waste Management) Regulations of 2006, which are applied to the CCN Solid Waste Management By-laws of 2007, Third Schedule</u></b> stipulates the detailed technical standards for treatment and disposal of wastes, the CCN Solid Waste Management By-laws of 2007 does not have an ANNEX which shows the technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills.	With reference to Environmental Management and Coordination (Waste Management) Regulations of 2006, detailed technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills should be attached as ANNEX of the By-laws. (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
7. The By-law should impose a requirement for private sector SWM operators and landfill operators to be licensed by the NCC.	×	<b><u>CCN Solid Waste Management By-laws of 2007, Section 9 1)</u></b> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, and <b><u>Section 9(2)</u></b> also stipulates that it shall be the duty of CCN to provide places at which to deposit waste before its transfer to any other place for its	Minor Modification of Section 9(1) of CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.



Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: × Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
		final disposal and places at which to dispose of waste and plant and equipment for processing or other disposal thereof. However, there is no clear-cut standard for the requirements for private sanitary landfill operators.		
8. The By-law should specify the technical and financial qualifications to be met by waste operators including landfill operators.	×	<b>CCN Solid Waste Management By-laws of 2007, Section 5(1)</b> stipulates that CCN shall issue permit to waste operators who satisfy such requirements as to technical and financial capability as it shall stipulate, and <b>Section 9(1)</b> also stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility. However, CCN Solid Waste Management By-laws of 2007 does not have a section which shows the detailed technical and financial qualifications to be met by waste operators including landfill operators.	With reference to the Environmental Management and Coordination (Waste Management) Regulations of 2006, detailed technical and financial qualifications to be met by waste operators including landfill operators should be attached as ANNEX of the By-laws. (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
9. The By-law should impose a requirement for Environmental Impact Assessment to be carried out and approved by the NCC before the licensing of any landfill site.	×	Although <b>CCN Solid Waste Management By-laws 2007, Section 9(1)</b> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, there is no clear statement on the requirement for EIA before licensing of any sanitary landfill site.	Minor Modification of Section 9(1) of the CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.
10. The By-law should provide for "restraint notices" to be served by NCC to empower it to prevent situations of waste mismanagement which threaten the environment or public health.	▲	<b>CCN Solid Waste Management By-laws of 2007, Section 11(2)</b> stipulates that any officer or agent of CCN duly authorised in that behalf, may at all reasonable times, enter any residential dwelling or trade premises within the area of jurisdiction of the Council for the purpose of conducting any inspection, inquiry or the execution of works under the	Minor Modification of Section 11(2) of the CCN Solid Waste Management By-Laws of 2007 (The details are in Table 4.7.3.)	The relevant Section of the By-laws will be expressed in more concrete manner for the purpose of effective enforcement of the By-laws.

Action Plans in Old Master Plan 1998	Actual Performance of Action Plans in Old Master Plan 1998		Proposed Action Plans in New Master Plan 2010	New Concepts to Remove Constraints in Old Master Plan 1998
	Results (Done: ●, Not done yet: ×, Partially done: ▲)	Cause or Constraints of "Not done yet" or "Partially done"		
		provisions of these By-laws. However, this section does not have a statement on "restraint notices" to be served by CCN.		

Source: JICA Survey Team

## 3.2 Review on UNEP Integrated Solid Waste Management Plan

### 3.2.1 Organisational Aspect

The recently submitted draft final report of UNEP Integrated Solid Waste Management Plan (ISWMP) provides the basic strategies for the sustainable solid waste management services in Nairobi City. Although the report pointed out the importance of strategies such as public-private-people partnership, polluter-pays principle, and harmonisation of mandates among a wide range of SWM-related organisations in the success factor analysis, no concrete action plans in the field of organisational matters are proposed.

### 3.2.2 Human Resources Development Aspect

In the field of the human resources development, only building awareness and capacity for waste reduction and source separation are emphasised, and no concrete action plans in this field are proposed.

### 3.2.3 Legal and Institutional Aspect

In the field of the legal and institutional reform, Action 3.2 demands legally-formalised waste collection contracts. Action 3.2 states that contracts entered into between private waste collectors and CBOs are required to provide legal protection to both parties regarding fee collections and service provision as per set standards. More specifically, waste collection contracts will need the following minimum stipulations for the efficient provision of the collection services:

- Explicit mention of service charges in line with streamlined collection fees;
- Legal requirement for all generators to adequately separate waste at source into recyclables, pure organic/biodegradables and residual waste;
- Provision of separation of wastes at source;
- Stipulation of minimum area cleanliness standards, collection frequency and penalties accrued on failure to achieve agreed terms;
- Penalties on generators if found to be engaged in illegal dumping; and
- Explicit mention of entity that will transport collected waste to designated landfill if different from contracted waste collector/CBO, and attachment of associated sub-contract for this purpose.

It is critical to formally document the terms and conditions for the private waste collectors for the promotion of PPP in the field of collection and transportation.

## **4. ORGANISATIONAL RESTRUCTURING AND HUMAN RESOURCES DEVELOPMENT PLAN**

### **4.1 Objective**

The organisational restructuring and human resources development plan has two objectives as below:

- (1) To comprehensively reorganise functions of the Department of Environment to the ring-fenced new public organisation so that it can effectively and efficiently manage its responsibilities and services of solid waste management; and
- (2) To comprehensively strengthen the human resources capacities of the candidate staff and workers of the new organisation to support its functions.

### **4.2 Planning Policy**

The planning policies for the organisational restructuring and human resources development plan are as below:

- (1) For the establishment of the new organisation in charge of the solid waste management services, the function of the Department of Environment should be comprehensively reviewed in terms of the organisational and individual capacity assessment;
- (2) Responsibilities and obligations of the new organisation should not be fragmented or overlapping among the staff and workers;
- (3) Linkages and coordination arrangements between different department in the new organisation should be efficient and effective;
- (4) The organisational structure should be optimised in line with the selected structure for the Public-Private Partnership;
- (5) The functions of the Department of Environment to the new organisation should be smoothly transferred; and
- (6) Human resources development for providing solid waste management services should be comprehensively designed and implemented based on the results of the capacity assessment.

### **4.3 Strategy**

The implementation strategies for the organisational restructuring and human resources development plan are as below:

- (1) The organisation of the Department of Environment should be comprehensively restructured for the establishment of the new organisation based on the following concepts:
  - An efficient and rationalised organisational structure with clear reporting lines, reasonable spans of control and number of levels of staff and workers, and the appropriate vertical structure to attain the operational efficiency of the solid waste management;
  - A clear assignment and delegation of responsibilities and adequate authority to managers and supervisors with accountability for individual performance as well as the simple workflow for the quick decision process;

- The streamlined workflow based on the practical basis to avoid the overlapping of the organisational structure;
- Clear-cut directing functions from the strategic level down to middle management and supervisors;
- Effective and appropriate management information systems and other procedures;
- Periodic assessment and feedback of managers' performance and private operators based on agreed performance targets and criteria; and
- Streamlined zoning of the service areas for the cross-subsidisation which makes the enlarged services to poorer area possible.

(2) The following functions should be added to the new organisation:

- The new organisation should have the function of managing and regulating the proper Public-Private Partnership scheme; and
- The new organisation should have the function of raising public awareness on best practices in solid waste management such as recycling, segregation, re-use, recovery as well as inculcating the culture of waste reduction and proper storage among producers and consumers.

(3) More practical human resources development including on-the-job training programme based on the capacity assessment and feedback system to share job skills among staff and workers should be implemented.

## **4.4 Goal**

### **4.4.1 Short-Term Plan**

The short-term goals for the period from 2011 to 2015 for the organisational restructuring and human resources development plan are as below.

- Establishment of the new public-owned and ring-fenced corporation in charge of the overall solid waste management services by the end of 2014;
- Establishment of the preparatory organisation for the new public-owned corporation inside the Department of Environment by the middle of 2011;
- Establishment of transparent financial management for the solid waste management services by the new public-owned corporation by the end of 2011; and
- Strengthening of the technical and managerial capacities of the candidate staff of the new public-owned corporation with the support of the external technical cooperation through implementation of a comprehensive capacity development programme during the 5-year period from 2011 to 2015.

### **4.4.2 Mid-Term Plan**

The mid-term goals for the period from 2016 to 2020 for the organisational restructuring and human resources development plan are as below.

- Improvement of the organisational structure of the new public-owned corporation based on the feedback of the results of the mid-term performance monitoring and assessment; and
- Improvement of staff's capacities of the new public-owned corporation based on the feedback of the results of the mid-term performance monitoring and assessment on the capacity development programme.

### 4.4.3 Long-Term Plan

The long-term goals for the period from 2021 to 2030 for the organisational restructuring and human resources development plan are as below.

- Improvement of the organisational structure of the public-owned and corporation based on the feedback of the results of the long-term performance monitoring and assessment; and
- Improvement of staff's capacities of the new public-owned corporation for based on the feedback of the results of the long-term performance monitoring and assessment on the capacity development programme.

## 4.5 Action Plans for Organisational Restructuring

### 4.5.1 Short-Term Action Plan

#### (1) Establishment of Preparatory Unit for Solid Waste Management Public Corporation (SWMPC)

In order to smoothly transfer the responsible organisation for the solid waste management services from the current DoE to the ring-fenced SWM Public Corporation (SWMPC), the preparatory unit of the SWMPC will be set up inside the DoE with operations to start from 2011. The staff of the preparatory unit would be the main target of the Comprehensive Capacity Development Programme proposed in the human resources development plan. Three (3) Project Management Units (PMUs) for a wide range of preparatory operations for the transfer to the SWMPC will be established in the preparatory unit, and the organisational features are shown as below. **Table B.4.1** indicates the outline of the function of the PMU in the Preparatory Unit of the SWMPC.

- The matrix-type organisational structure will be employed for the operation of the preparatory unit for the SWMPC. The matrix-type organisation is suitable for operating the preparatory unit for the SWMPC in parallel with the operation of the current responsibilities of the DoE.
- The unit managers and staff in charge of the PMUs will be selected from the DoE and other related departments of CCN.
- The nominated staff will be given some incentives for their additional tasks.
- The staff of the preparatory unit for the SWMPC will be the main counterpart for the external technical assistance during the implementation period of the comprehensive capacity development programme.
- The SWM Special Account and Revolving Funds Management Sub-Unit will be supported by the Treasury Department of CCN.
- The Administrative PMU will be in charge of the smooth transfer of staff, budget and assets to the SWMPC.
- The Franchise PMU will be in charge of the preparation of the tendering and procurement for the zone-wise franchise system.
- The Construction PMU will be in charge of the management of the construction projects of the sanitary landfill site and the intermediate treatment facilities as well as the preparation of tendering and procurement for the private service provider.
- The NEMA staff will be seconded at the affiliate office inside the preparatory unit for the strengthening of monitoring and enforcement activities.

**Table B.4.1 Outline of the Proposed Organisational Structure of Preparatory Unit for SWMPC**

PMU	Sub-Unit	Function
Administrative PMU	Budget Transfer Sub-Unit	● To prepare the transfer of the SWM operating budget from the DoE/CCN to the SWMPC.
	Staff Transfer Sub-Unit	● To prepare the transfer of the SWM staff from the DoE/CCN to the SWMPC.
	Asset Transfer Sub-Unit	● To prepare the transfer of the SWM-related assets from the DoE/CCN to the SWMPC.
	Legal Reform Sub-Unit	● To prepare the draft SWMPC Act and other related legal actions to be required in the Master Plan.
	Monitoring Sub-Unit	● To strengthen the monitoring of the solid waste management activities.
	NEMA Affiliate Office	● To assist in the inspection and enforcement activities as an affiliate office of NEMA inside the SWMPC.
	SWM Special Account and Revolving Fund Management Sub-Unit	● To manage the special account for solid waste management services as well as to prepare the establishment of the SWM revolving fund.
Franchise PMU	Tender Preparation Sub-Unit	● To prepare the tendering of the zone-wise franchise contracts in franchise 3 zones for the 1 <sup>st</sup> Phase of the franchise system.
	Contract Sub-Unit	● To manage the contractual process of the zone-wise franchise contracts in 3 franchise zones.
	Zonal Management Sub-Unit	● To plan the detailed guidelines for managing the franchised collection zones before starting the new franchise system.
Construction PMU	Tender Preparation Sub-Unit	● To prepare the tendering related to the service contract for the management of the sanitary landfill site and the intermediate treatment facilities.
	Contract Sub-Unit	● To manage the contractual process of the service contract for the management of the sanitary landfill site and the intermediate treatment facilities.
	Sanitary Landfill Site Construction Sub-Unit	● To manage the construction project of the sanitary landfill site.
	Intermediate Treatment Facilities Construction Sub-Unit	● To manage the construction project of the intermediate treatment facilities.

Source: JICA Survey Team

Out of the functions of the preparatory unit for the SWMPC, the franchise PMU and the construction PMU play important roles on the success of introducing the new PPP scheme. It is critical to have a capable PMU with ample expertise in the financial, legal and technical fields.

## (2) Establishment Solid Waste Management Public Corporation (SWMPC)

In order to significantly improve the efficiency and sustainability of the solid waste management services, the public-owned and ring-fenced Solid Waste Management Corporation (SWMPC) will be established as a fundamental organisational reform of the solid waste management sector. The SWMPC will be established by the end of 2014 with operations to start at the beginning of 2016. A one-year preparation period is required for the tendering process for the zone-wise franchise system by the SWMPC.

When the basic structure of the SWMPC is studied, the case of the Nairobi City Water and Sewerage Company (NCWSC) of the water sector should be carefully referred to as a similar public-owned corporation. The Nairobi City Water and Sewerage Company (NCWSC) was created in accordance with the enactment of the Water Act of 2002, which sought to delineate the water infrastructure management and service provision in Kenya. The new structure established seven (7) water services boards, each allocated a jurisdiction. NCWSC was incorporated in December 2003 under the Companies Act and is wholly-owned by CCN. NCWSC took over the provision of water and sewerage services in Nairobi and surrounding districts from the CCN's water and sewerage

department. The regulatory structure comprises the Water Services Regulatory Board (WSRB), whose responsibility is to enforce the Water Act. Under the Act, the Ministry of Water and Irrigation (MWI) is responsible for policy formulation through the Water Sector Reform Steering Committee (WSRSC) and the Water Sector Reform Secretariat (WSRS). The structure of the water sector is illustrated in **Figure B.4.1** as an example.

With references to these organisational features in the water sector, the basic organisational structure of the solid waste management sector based on the SWMPC is illustrated in **Figure B.4.2**, and the detailed organisational structure of the SWMPC, which is composed of nine (9) departments and three (3) units, is shown in **Table B.4.2**. The description of each department of the SWMPC is as below. The image of the organisational transition from the current DoE to SWMPC in transit of the preparatory unit for SWMPC is also illustrated in **Figure B.4.3**.

- **Auditing Unit:** This Unit will be in charge of overall auditing of performance of SWMPC, private franchisees and service providers.
- **Capital Revolving Fund Management Unit:** This Unit will be in charge of management of the SWM Capital Revolving Fund whose financial sources will be the franchise fees. The Fund will be used to subsidise the private franchisees.
- **Operating Revolving Fund Management Unit:** This Unit will be in charge of management of the SWM Operating Revolving Fund whose financial sources will be the tipping fees. The Fund will be used for the monitoring and capacity development activities of the SWMPC.
- **Administrative Department:** This Department will be in charge of administrative works and will consist of (i) the budgeting and accounting section; (ii) the human resources development section; and (iii) the legal section.
- **Strategy and Planning Department:** This Department will be in charge of strategic and financial planning and environmental appraisal works and will consist of (i) the tariff planning section; (ii) the subsidy planning and management section; and (iii) the environmental impact assessment section.
- **Zonal Management Department:** This Department will be in charge of the collection and monitoring services in the franchised zones and will consist of (i) the zonal franchise management section; (ii) the zonal monitoring section; and (iii) the zone operation offices [9 offices].
- **Disposal and Intermediate Treatment Department:** This Department will be in charge of the overall disposal and intermediate treatment services and will consist of (i) the disposal site management section; (ii) the intermediate treatment section; and (iii) the environmental monitoring section.
- **Direct Service Department:** This Department will be in charge of contracting collection services, market waste collection services and road sweeping services and will consist of (i) the contracting-out zone service section; (ii) the market waste service section; and (iii) the road sweeping service section.
- **Procurement and Contract Department:** This Department will be in charge of overall procurement, contracting and tendering procedures and will consist of (i) the franchise contract section; (ii) the contract-out section; and (iii) the licensing section.
- **Technical Department:** This Department will be in charge of overall technical, engineering and mechanical matters including repair shops and will consist of (i) the technical support section; (ii) the mechanical section for collection vehicles; and (iii) the mechanical section for heavy-duty vehicles.
- **Monitoring and Enforcement Department:** This Department will be in charge of overall monitoring and enforcement operations and will consist of (i) the monitoring

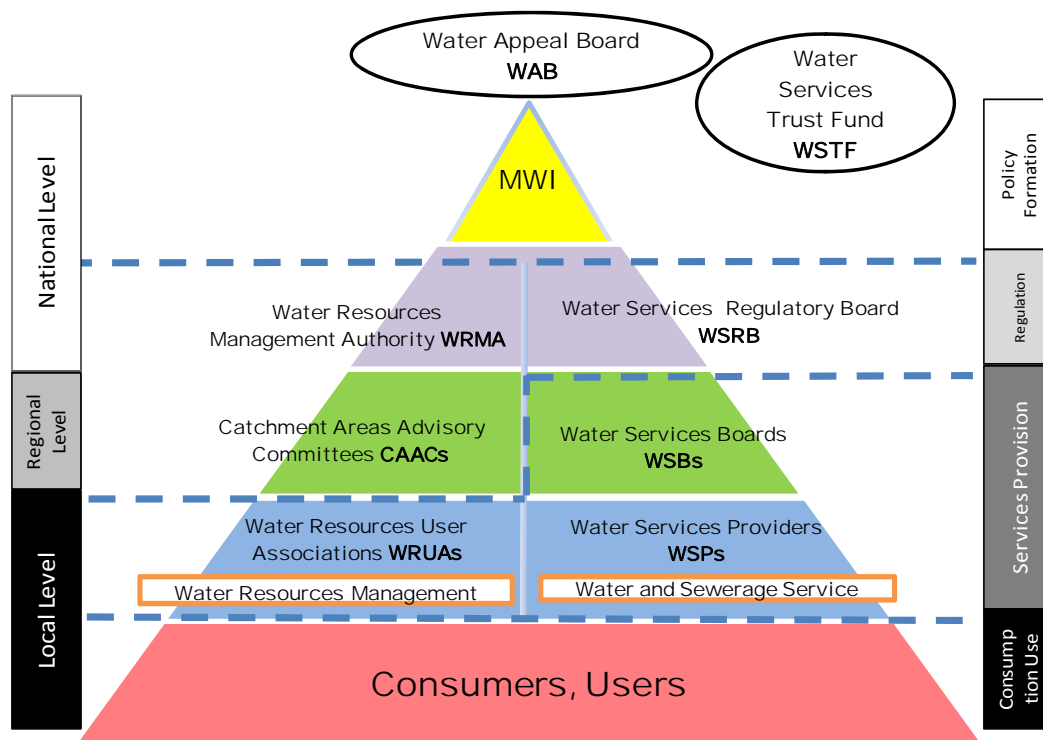
section (inspector office); (ii) the enforcement section; and (iii) the NEMA affiliate office.

- **Community Support Department:** This Department will be in charge of community support activities and will consist of (i) the public awareness section; (ii) the primary collection support section; and (iii) the coordination and facilitation section.

In order to smoothly transfer from the preparatory unit of the SWMPC to the full-scale SWMPC, the following matters related to the operations of the organisation should be carefully taken into account.

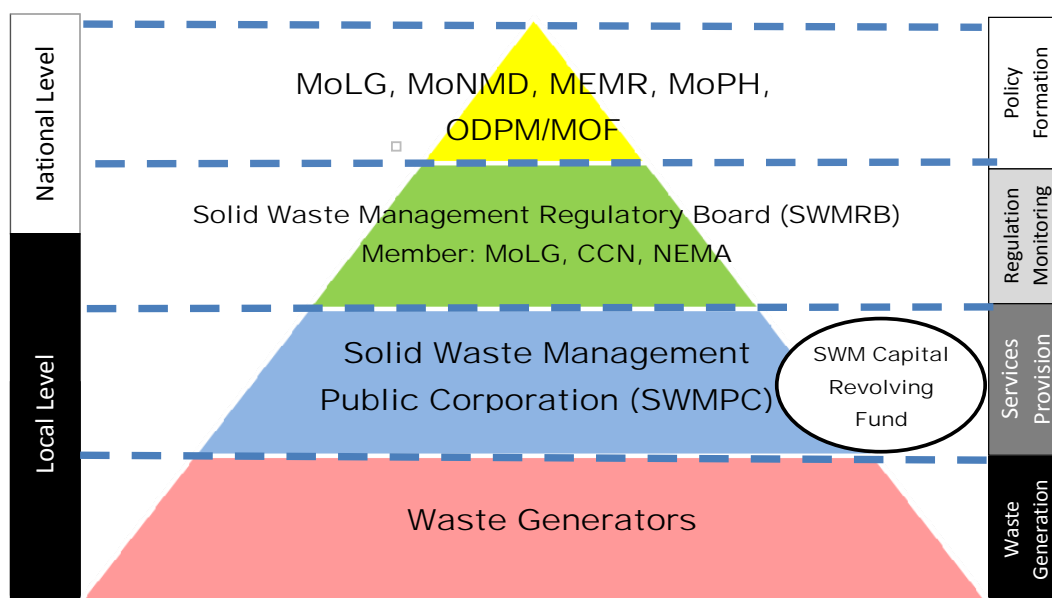
- **Transfer of Staff:** A majority of the staff and workers of the current DoE directly in charge of the SWM services except for the policy and regulatory staff and some staff of other related administrative departments will be transferred to the SWMPC. The policy and regulating functions and other environmental services will still remain in the DoE even after the establishment of the SWMPC. All the staff and workers in the current operational zones in the DoE including the road sweepers will be transferred to the newly established Direct Service Department of the SWMPC. **There will be no lay-off due to this organisational reform.**
- **Transfer of Budget:** The SWM-related regular budget of the DoE will be transferred to the general budget of the SWMPC as the initial working capital required for the operation of the SWMPC. Since half of the franchise fees will be transferred to the general budget of the SWMPC after starting the zone-wise franchise system, the financial burden of CCN will be decreasing in proportion to the increase in the collected franchise fees.
- **Transfer of Assets:** The vehicles and equipment required for the contracting of solid waste management services by the SWMPC will be transferred from CCN. The CCN workshop for repairing vehicles and equipment will not be transferred to the SWMPC, however, it will be leased out for the use of SWMPC.
- **Ownership of New Assets:** Regarding the ownership of infrastructure such as the sanitary landfill site and intermediate treatment facilities to be newly constructed, one of the possible options is that those facilities will be owned by CCN and leased out to the SWMPC, which would be decided during the preparation period to establish the SWMPC.
- **Board Members:** The number of board members will be seven (7), consisting of a political representative and a member each from the CCN, the Ministry of Local Governments (MoLG), the Ministry of Nairobi Metropolitan Development (MoNMD), the Ministry of Environment and Mineral Resources (MENR), the Ministry of Public Health (MoPH), and the Office of the Deputy Prime Minister and Ministry of Finance (ODPM/MOF).
- **Simplification of Vertical Levels:** The 18-level (18-scale) vertical organisational structure of the DoE will be significantly reduced to 12 levels in the SWMPC.
- **One-Stop and Single Window Service:** The one-stop and single window service is a customer-oriented service. Under the SWMPC, this system will be applied to the grievance and licensing service for the private service providers.
- **Establishment of NEMA Affiliate Office:** To strengthen the monitoring and inspection services under the Environmental Management and Coordination By-laws, a couple of inspectors from NEMA will be stationed regularly at the Monitoring and Enforcement Department of the SWMPC.
- **Remaining Function of the Department of Environment:** The major remaining functions of the Department of Environment after the establishment of the SWMPC include the regulatory and licensing related to the solid waste management activities.





Source: Nairobi City Water and Sewerage Company

**Figure B.4.1 Snapshot of Current Organisational Structure of Water Sector**



Source: JICA Survey Team

**Figure B.4.2 Snapshot of the Proposed Organisational Structure of SWM Sector based on New Publicly-Owned SWM Company (SWMPC)**

**Table B.4.2 Outline of the Proposed Organisational Structure of SWMPC**

No.	Division/Section		Original Department of Transferred Staff	Estimated No. of Staff
1	Executive Board		● Political Representative, MoLG, CCN, MoNMD, MEMR, MoPH, ODPM/MOF	7
2	Auditing Unit		● DoE/Administrative Section ● Audit Department	5
3	Capital Revolving Fund Management Unit		● DoE/Administrative Section ● Treasurer Department	5
4	Operating Revolving Fund Management Unit		● DoE/Administrative Section ● Treasurer Department	5
5	Administrative Department	Budget and Accounting Section	● DoE/Administrative Section ● Treasurer Department ● Planning Department.	10
		Human Resources Development Section	● DoE/Administrative Section ● Human Resource Department	5
		Legal Section	● Legal Affairs Department	5
6	Strategy and Planning Department	Tariff Planning Section	● DoE/Administrative Section ● Treasurers Department	5
		Investment and Subsidy Planning Section	● DoE/Administrative Section ● Treasurers Department	5
		EIA Section	● DoE/EMP Section ● NEMA/EIA Unit (Seconded from NEMA)	5
7	Zonal Management Department	Zonal Franchise Management Section	● DoE/SWM Section ● DoE/Divisional Office	20
		Zonal Performance Monitoring Section	● DoE/EPM Section ● DoE/Divisional Office	10
		Zonal Operational Offices	● DoE/SWM Section ● DoE/Divisional Office	45
8	Disposal and Intermediate Treatment Department	Disposal Site Management Section	● DoE/SWM Section	5
		Intermediate Treatment Section	● DoE/SWM Section	5
		Environmental Monitoring Section	● DoE/SWM Section	5
9	Direct Service Department	Contracting-out Zone Service Department	● DoE/SWM Section ● Procurement Department	80
		Market Waste Service Section	● DoE/SWM Section	40
		Road Sweeping Service Section	● DoE/SWM Section	120
10	Procurement and Contract Department	Franchise Contract Section	● DoE/SWM Section ● Procurement Department	10
		Contracting-out Section	● DoE/Administrative Section ● DoE/SWM Section	10
		Licensing Section	● DoE/EPM Section ● NEMA/Licensing Unit (Seconded from NEMA)	10
11	Technical Department	Technical Support Section	● DoE/SWM Section	10
		Mechanical Section (Collection Vehicle)	● DoE/SWM Section ● Department of Engineering	20
		Mechanical Section (Heavy Duty Vehicle)	● DoE/SWM Section ● Department of Engineering	20
12	Monitoring and Enforcement Department	Monitoring and Inspection Office	● DoE/Administrative Section ● Department of Inspectorate	5
		Enforcement Section	● DoE/SWM Section	10
		NEMA Affiliate Office	● NEMA/Inspector (Seconded from NEMA)	2
13	Community Support Department	Public Awareness Section	● DoE/SWM Section	10
		Primary Collection Support Section	● DoE/SWM Section	10
		Coordination and Facilitation Section	● DoE/SWM Section	5
			Total Number of Staff	509

Source: JICA Survey Team

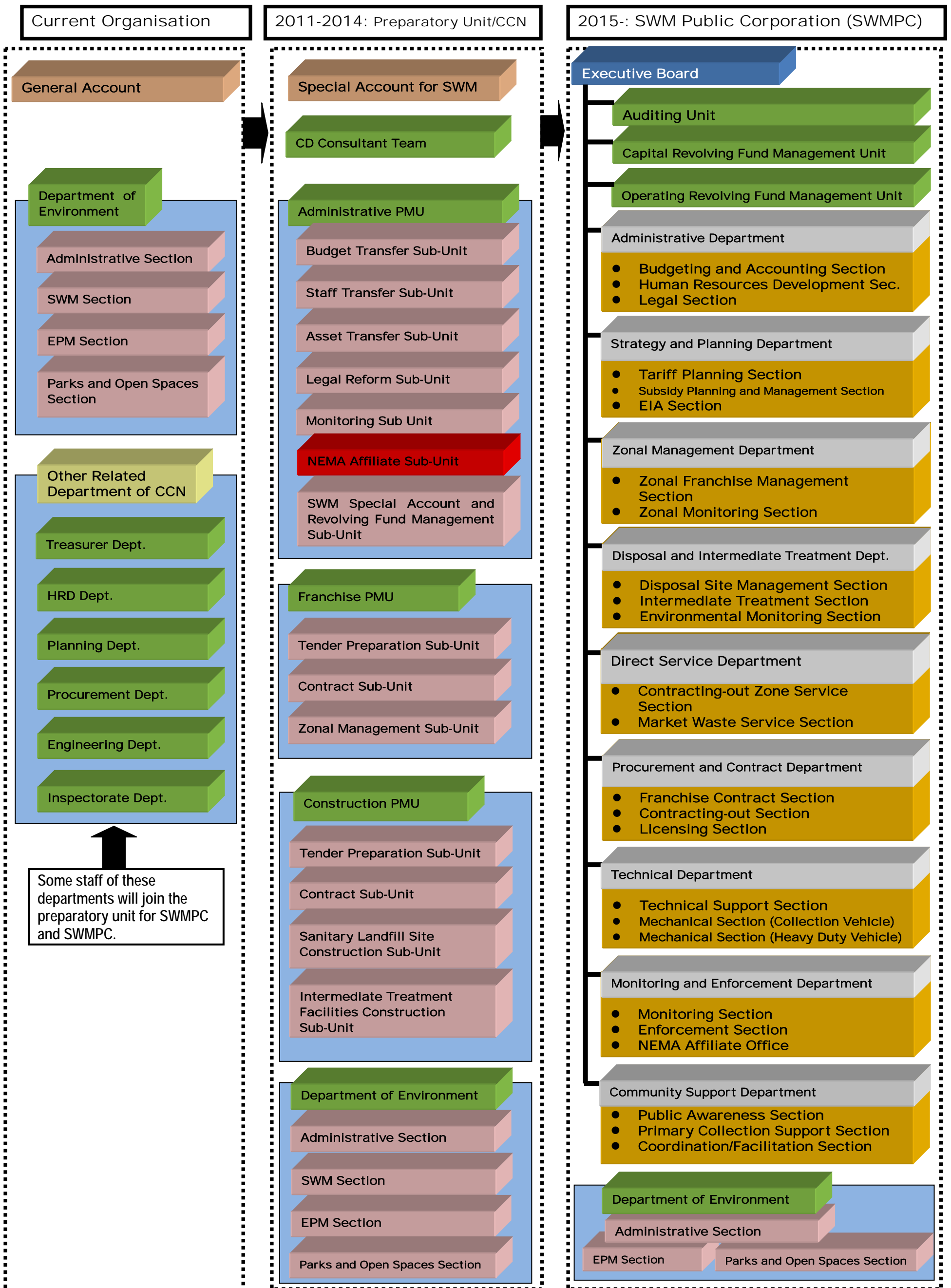


Figure B.4.3 Organisational Chart for Current DoE, Transitional SWMPC Preparatory Unit and Proposed SWMPC



### (3) Consideration of Incomplete Action Plans of the Previous 1998 Master Plan

There are some incomplete action plans in the previous 1998 Master Plan which should be partially reflected even in the new Master Plan. **Table B.4.3** summarises the outline of the incomplete action plans to be partially reflected in the new Master Plan.

**Table B.4.3 Incomplete Action Plans of Previous 1998 Master Plan to be Partially Reflected on the Occasion of Creation of SWMPC**

Area	Contents of Incomplete Action Plans of the 1998 Previous Master Plan	Considered Issues for Creation of the SWMPC
Organisational Restructuring of DoE	1. Reorganising the DoE into four Divisions (SWM, Environmental, Administrative and Parks Divisions)	<ul style="list-style-type: none"> <li>The functions of the solid waste management of the DoE will be transferred comprehensively to the SWMPC. Only policy and regulatory functions will be retained in the DoE of CCN after the establishment of the SWMPC.</li> </ul>
	2. Reducing the number of vertical levels in the SWM Division and creating new manager positions	<ul style="list-style-type: none"> <li>The number of vertical levels of the organisational structure of the SWMPC will be reduced from 18 to 12.</li> </ul>
	3. Separating disposal from collection and street cleansing	<ul style="list-style-type: none"> <li>The function of the operation of the sanitary landfill site will be separated clearly from those of collection and street cleansing services in the SWMPC.</li> <li>While the function of the operation of the sanitary landfill site will belong to the disposal and intermediate treatment department of the SWMPC, that of collection and street cleansing services will belong to the direct service department of the SWMPC.</li> </ul>
	4. Separating daily management of collection and street cleansing	<ul style="list-style-type: none"> <li>The function of the daily management of collection services will be separated clearly from that of street cleansing services in SWMPC.</li> <li>In SWMPC, while the function of the daily management of collection service will belong to the zonal management department in case of the franchised area, that of street cleansing services will belong to the direct service department.</li> </ul>
	5. Assigning responsibilities throughout the DoE's Divisions	<ul style="list-style-type: none"> <li>Responsibilities of all assignments of the departments of SWMPC will be clearly described in the job descriptions.</li> </ul>
Establishment of New Function	6. Establishing Community Development Section in SWM Division	<ul style="list-style-type: none"> <li>The new function of the community support will belong to the community support department of the SWMPC.</li> </ul>
	7. Establishing Contract Management Section in SWM Division	<ul style="list-style-type: none"> <li>The new function of the contract management will belong to the procurement and contract department of the SWMPC.</li> </ul>
	8. Establishing Environmental Planning and Management Division	<ul style="list-style-type: none"> <li>The functions of the environmental planning and management section of the DoE will remain the same, and will be strengthened.</li> </ul>
	9. Establishing Finance Section in Administrative Division	<ul style="list-style-type: none"> <li>The new function of the finance management will belong to the administrative department of the SWMPC.</li> </ul>
	10. Establishing Human Resources Section in Administrative Division	<ul style="list-style-type: none"> <li>The new function of the human resources development will belong to the administrative department of the SWMPC.</li> </ul>
	11. Establishing MIS Section under the Director of Environment	<ul style="list-style-type: none"> <li>The new function of the management information system will belong to the strategy and planning department of the SWMPC.</li> </ul>
	12. Establishing Logistics Section in Administration Division	<ul style="list-style-type: none"> <li>The new function of the logistics support will belong to the technical department of the SWMPC.</li> </ul>

Source: JICA Survey Team

#### **(4) Rectification of Remaining Functions of the DoE**

In parallel with the establishment of the preparatory unit for the SWMPC until the formal creation of the SWMPC, the remaining functions on licensing and contracting-out activities for the current private sector involvement will be rectified in the following ways during the transition period to the new zone-wise franchise system.

- Improvement of licensing to the private sector
  - Strengthening the performance monitoring of licensed private waste collectors
  - Strict zone management for licensed private waste collectors
  - Single and one-stop services for obtaining licenses
  - Extension of license period from 1 year to 2 years
- Improvement of contracting out to the private sector
  - Strengthening the performance monitoring of licensed private waste collectors together with the obligations of submitting annual and monthly activity and financial reports
  - Strict zone management for private contractors
  - Single and one-stop services for obtaining licenses
  - Extension of contract period from 1 year to 2 years
  - Introduction of monthly work plans for private contractors

#### **(5) Creation of SWM Special Account**

The general account budget, commonly referred to as "the budget" is the basic account of CCN. The expenditures in the general account of CCN are classified by the departmental programmes such as the provision of a wide range of local public services and public investments required for Nairobi City. As a preparatory and autonomous budgetary structure for SWMPC, the special account will be created apart from the general account of CCN. The special account under the preparatory unit of the DoE will be transferred to the special account of SWMPC at the beginning of 2014, when SWMPC is formally established.

### **4.5.2 Mid-Term Action Plan**

#### **(1) Starting Operations of Revolving Funds and Provision of Subsidies**

##### **(a) Starting Operations of SWM Capital Revolving Fund and Provision of Subsidies**

In line with the guidelines of the SWM Capital Revolving Fund (SWMCRF) proposed in the private sector involvement plan, the SWMCRF will be operated by the capital revolving fund management unit of the SWMPC. At the same time, the subsidy under the SWMCRF for the private franchisees will be provided by the subsidy planning and management section of the strategy and planning department of the SWMPC.

##### **(b) Starting Operations of SWM Operating Revolving Fund**

In line with the guidelines of the SWM Operating Revolving Fund (SWMORF) proposed in the private sector involvement plan, the operations of the SWMORF will be started by the operating revolving fund management unit of the special account of the SWMPC.

#### **(2) Mid-Term Organisational Assessment and Feedback to SWMPC**

The mid-term organisational assessment of the SWMPC on the achieved level is essential for accurately assessing the impacts on the improvement of the capacities at the timing of the mid-term stage after the implantation of the first 5-year franchise contract with the private sector. The ex-post

monitoring system will significantly contribute to the feedback mechanisms for rectifying the performances of the awarded franchisees in 3 zones for the 1<sup>st</sup> phase.

### **(3) Mid-Term Organisational Restructuring of SWMPC**

After the 1<sup>st</sup> phase of the franchise system, the mid-term organisational restructuring of the SWMPC is also required for the improvement of the SWMPC to meet the increasing demand for the solid waste management services for the 2<sup>nd</sup> phase. The continuously tuned organisation based on the periodical organisational assessment of the SWMPC will be required, thereby leading to exploring organisational restructuring options in the following areas.

- Basic organisational structures (hierarchy-type, project-type and matrix-type) required for the mid-term time frame
- Functions and responsibilities of departments and units
- Number of staff for mid-term prospect
- Number of vertical levels and span of control
- Directing functions and controlling responsibilities
- The organisational responsiveness to the introduction of the franchise system

#### **4.5.3 Long-Term Action Plan**

##### **(1) Continuous Management of Revolving Funds and Provision of Subsidies**

###### **(a) Continuous Management of SWM Capital Revolving Fund and Subsidies**

The SWMCRF will be continuously managed by the capital revolving fund management unit of the SWMPC. At the same time, the subsidy provision under the SWMCDR for the private franchisees will be also continuously managed by the subsidy planning and management section of the strategy and planning department of the SWMPC.

###### **(b) Continuous Management of SWM Operating Revolving Fund**

The SWMORF will be managed continuously by the operating revolving fund management unit of the SWMPC.

##### **(2) Long-Term and Continuous Organisational Assessment and Feedback to SWMPC**

The long-term organisational assessment of the SWMPC on the achieved level is essential for accurately assessing the impacts on the improvement of the organisational capacities at the timing of the long-term stage after the implementation of the second 5-year franchise contract with the private franchisees. The long-term ex-post monitoring system will significantly contribute to the feedback mechanisms for rectifying the performances of the awarded franchisees in 6 zones for the 3<sup>rd</sup> phase.

##### **(3) Long-Term and Continuous Organisational Restructuring of SWMPC**

After the 2<sup>nd</sup> phase of the franchise system, the long-term organisational restructuring of the SWMPC is also required for the improvement of the SWMPC to meet the growing demand for the solid waste management services for the 3<sup>rd</sup> phase. The continuously tuned organisation based on the periodical organisational assessment of the SWMPC will be required, thereby leading to exploring organisational restructuring options in the following areas:

- Basic organisational structures (hierarchy-type, project-type and matrix-type)
- Functions and responsibilities of departments and units

- Number of staff required for long-term prospect
- Number of vertical levels and span of control
- Directing functions and controlling responsibilities

## 4.6 Action Plans for Human Resources Development

### 4.6.1 Short-Term Action Plan

#### (1) Implementation of Comprehensive Capacity Development Programme (CCDP)

A major challenge of the human resources development plan in the new Master Plan is how to incorporate the improvement of individual capacities into the organisational capacities of SWMPC which will be established at the beginning of 2014 as a new organisational framework required for providing the zone-wise franchise system. Another challenge is how to upgrade the capacities and motivation of the candidate staff of SWMPC in response to the massive human resources development demand of the said new organisation. Based on a wide range of the capacity gap assessment on human resources for the improvement of the current solid waste management system, the human resources development plan has been identified as a comprehensive capacity development programme required for the establishment of SWMPC, thereby identifying the following eight (8) modular human resources development projects.

However, it is acknowledged that **“human resources development project approach”** based on a single human resource development project alone does not comprehensively solve the constraints of the solid waste management services. Since **“human resources development programme approach”** is the process of managing a portfolio of multiple inter-dependent projects, the programme approach can be used for the management of the identified multiple modular projects. The programme approach provides the human resources development plan with a common platform to implement these modular projects under the Comprehensive Capacity Development Programme (CCDP). The CCDP acts as a key pre-condition to maximise the sustainability of the city-wide solid waste management services.

Regarding the time frame required for the CCDP, it might be noted that the implementation of the multi-modular CCDP will take a long-term period to implement. In parallel with the preparation of establishing SWMPC, the long-term CCDP will be required. It might take approximately 5 years to complete the CCDP, when the establishment of the SWMPC is synchronically prepared under the new PPP scheme. At the same time, the long-term CCDP will also require the full-scale technical assistance from an external donor organisation. Based on this recognition, the implementation period for the CCDP will substantially start from 2011 and complete in 2015, while the financial year 2010 is regarded as the preparation period for the CCDP.

The proposed CCDP should be implemented under the full-scale technical assistance by an external donor organisation. In order to smoothly transfer the responsible organisation for the solid waste management services from the current Department of Environment to the proposed SWMPC, the creation of the preparatory unit of the SWMPC inside the Department of Environment, starting its operations from the middle of 2011, is separately proposed. The staff of the said preparatory unit will be engaged in a wide range of preparatory operations for the establishment of the SWMPC, and the overall goals of the proposed CCDP is to create the organisational structure of the SWMPC as well as to upgrade the technical and managerial capacities for the candidate staff of the SWMPC, thereby upgrading the comprehensive capacity to implement the updated Master Plan.

The major urgent tasks to be implemented before undertaking the proposed CCDP include the following:



(i) **Priority 1: Setting up of Preparatory Unit (PU) in the Department of Environment (DoE) for the SWM Public Corporation (SWMPC)**

- SWMPC should be established by the beginning of 2015 for starting the operation from the beginning of 2016. One-year preparation period will be required for the tendering process by SWMPC after its establishment. The Preparatory Unit for SWMPC should be urgently established inside the DoE.
- The detailed concept for the organisational structure for the Preparatory Unit is recommended in the Section B of the Supporting Report of the JICA Master Plan Final Report.
- The preparatory unit will be the target of the proposed Comprehensive Capacity Development Programme (CCDP).
- To initiate the CCDP, the following actions are required to be carried out.
  - **PA(Priority Action)-1-1:** Selection of 3 Unit Managers and 13 Sub-Unit Chiefs in accordance with the JICA Master Plan Final Report
  - **PA-1-2:** Selection of Staff of each Unit
  - **PA-1-3:** Setting up of the office (The Office of the JICA Survey Team is recommend to be utilised for the office of the Preparatory Unit.)
  - **PA-1-4:** Official Declaration of Setting-up the Preparatory Unit
  - **PA-1-5:** Formulation of the Detailed Job Description of Staff of the Preparatory Unit in accordance with the Recommendations by the JICA Master Plan Final Report
  - **PA-1-6:** Preparation of Provision of Incentives for Additional Tasks for the Selected Unit Managers, Chiefs and Staff
  - **PA-1-7:** Application of the Budget of the Preparatory Unit for the Financial Year 2012

(ii) **Priority 2: Preparation for the Construction of New Sanitary Landfill Site and Closure of Dandora Dumpsite**

- To construct a new landfill site and close the existing Dandora on time, the following actions are required to be carried out:
  - **PA-2-1:** Preparation for the Implementation of Environmental Impact Assessment (EIA) for Constructing the New Sanitary Landfill Site at Ruai
  - **PA-2-2:** Preparation for the Implementation of Environmental Impact Assessment (EIA) for Decommissioning the Dandora Dumpsite

(iii) **Priority 3: Preparation for the Creation of SWM Special Account**

- To create the SWM Special Account, the following actions are required to be carried out:
  - **PA-3-1:** Formation of Task Force for SWM Cost Accounting
  - **PA-3-2:** Request to MoLG to Create the SWM Special Account
  - **PA-3-3:** Preparation of a List of Revenue and Expenditure Items
  - **PA-3-4:** Preparation for the Transfer of the Current SWM Budget to the SWM Special Account
  - **PA-3-5:** Preparation for the Legalisation of the SWM Special Account

(iv) **Priority 4: Preparation for the Drafting of By-law for the Establishment of SWMPC**

- In order to smoothly draft the By-law for the Establishment of SWMPC, the following preparatory works should be initiated:

- **PA-4-1:** Review of Water Act 2002
- **PA-4-2:** Conduct of Prior Consultation with MoLG
- **PA-4-3:** Listing up of Major Sections and Clauses of the Draft By-law for the Establishment of SWMPC

(v) **Priority 5: Preparation for the Introduction of the Step-wise Franchise System**

- To establish the zones for the franchise system, the following actions are required to be carried out:
  - **PA-5-1:** Drafting of Boundaries of Franchise Zones by using Zoning Map based on the Recommendation by the JICA Master Plan Final Report
  - **PA-5-2:** Rough Estimate of Population of Franchise Zones (If the latest Census data is available, the population of the Zones should be updated based on the new data.)

The outline of the proposed 5-year Comprehensive Capacity Development Programme (CCDP) is in **Table B.4.4**, and the concept of the detailed modular training projects under the CCDP are shown in **Table B.4.5 to Table B.4.12**. On the other hand, **Figure B.4.3** gives an image of the assistance required for the CCDP by an external donor organisation. The cost of implementation of the CCDP is estimated at USD5.822 million (KSh 441 million) including pilot projects that cost USD 964 thousand (KSh 73 million).

**Table B.4.4 Outline of Comprehensive Capacity Development Programme**

No.	Modular HRD Project	Training No.	Specific Subjects for Human Resources Development	Target			Old Master Plan	Pilot Project	Follow-up
				SWMPC Staff	Private Sector	CBOs			
1	Overall Management	1-a	Overall capacity for SWM	•			•		
		1-b	Capacity for SWM information system	•			•		
2	Collection and Transport	2-a	Capacity to efficiently operate collection and transport services	•			•		
		2-b	Capacity to maintain collection vehicles and equipment	•			•		
3	Intermediate Treatment	3-a	Capacity to implement 3R	•	•	•			
		3-b	Capacity to operate intermediate treatment facilities	•					
		3-c	Capacity to maintain intermediate treatment facilities	•					
4	Sanitary Landfill Site	4-a	Capacity to select candidate sanitary landfill sites	•			•		
		4-b	Capacity to operate sanitary landfill sites	•			•		
		4-c	Capacity to implement EIA and monitor environment for sanitary landfill sites	•			•		
		4-d	Capacity to design sanitary landfill sites	•			•		
5	PPP Contractual Management	5-a	Capacity to manage PPP tender and procurement procedures	•	•		•		•
		5-b	Capacity to provide franchised collection services	•	•				
		5-c	Capacity to provide service contracts for sanitary landfill management	•					
6	Financial Management	6-a	Capacity to implement proper financial management	•			•		
		6-b	Capacity to finance SWM projects	•					
		6-c	Capacity to collect and manage service fees	•					
		6-d	Capacity to manage SWM special account and revolving funds	•					
7	Organisational and Legal Improvement	7-a	Capacity to improve organisation for SWM	•			•		
		7-b	Capacity to improve legal system for SWM	•			•		
		7-c	Capacity to monitor and enforce SWM regulations	•					•
8	Community Participation	8-a	Capacity to primary collection at community and raise public awareness	•	•	•	•	•	

Source: JICA Survey Team



**Table B.4.5 Concept of Module Training Programme for CCDP (Module 1)**

<b>Module:</b>	<b>Module 1</b>	<b>Training No.:</b>	<b>1-a, 1-b</b>
<b>Title of Training Programme:</b>	<b>Overall Management Capacity for SWM</b>		
<b>Target:</b>	<b>SWMPC Officials</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>Years</b>
<b>Objectives and Outlines:</b>			
<p>The provider of SWM services in local governments needs to develop effective management capabilities. These management capabilities should include:</p> <ul style="list-style-type: none"> <li>● An efficient organisational structure with clear reporting lines, rational departmentalisation, reasonable spans of control and number of levels of managers and supervisors, and appropriate senior management structure;</li> <li>● A clear assignment and delegation of responsibilities, and adequate authority to managers and supervisors with accountability for individual performance;</li> <li>● Procedures to clearly set and monitor objectives from the strategic level down to middle management and supervisors;</li> <li>● Effective planning and policy formulation; and</li> <li>● Effective integration of financial planning into the planning process, implementing budgetary planning and control, and appropriate accounting systems.</li> </ul>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of the overall management for solid waste management services will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>● Basic understanding on management (organising, staffing, directing, controlling)</li> <li>● Type of organisation (functional type, project type, matrix type)</li> <li>● Major constraints for efficient organisation: <ul style="list-style-type: none"> <li>▶ Over staffing and overlapping of responsibilities</li> <li>▶ Broad span of controls</li> <li>▶ Decision-making mechanism</li> <li>▶ Allocation of duties</li> <li>▶ Number of staff</li> <li>▶ Training programmes</li> <li>▶ Motivation and incentives</li> <li>▶ Coordination and communication</li> <li>▶ Unclear mandates and job description</li> <li>▶ Monitoring and assessment</li> <li>▶ Standardisation of working procedures and manuals</li> </ul> </li> <li>● Understanding basic information on the service area (population, socio-economic profile, natural condition, map and GIS)</li> <li>● Coordination with national and municipal policies (national SWM policies, SWM legal framework, subsidies from the central government, environmental impact assessment, land acquisition and compensation, licensing for private waste service providers)</li> </ul>			

Source: JICA Survey Team

**Table B.4.6 Concept of Module Training Programme for CCDP (Module 2)**

<b>Module:</b>	<b>Module 2</b>	<b>Training No.:</b>	<b>2-a, 2-b</b>
<b>Title of Training Programme:</b>	<b>Capacities for Collection and Transport</b>		
<b>Target:</b>	<b>SWMPC Officials, Private Sector Staff</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>● The primary objective of the collection and transportation of wastes is to increase the collection service coverage in order to maintain public health and cleanliness, and to protect the people's environment.</li> <li>● The CCN is required to provide a minimum level of service throughout the city, and the minimum level of service is defined as collection service to be conducted once a week from communal collection points.</li> <li>● A collection and transportation system which is the most economical and efficient as well as the least socially and environmentally harmful, should be adopted, in comparison with possible technical options such as station type and door-to-door type collection as well as direct and indirect transport methods.</li> <li>● The newly established Solid Waste Management Public Corporation (SWMPC) should promote and make the maximum use of private sector involvement in terms of collection services with full control by the private sector.</li> <li>● In this connection, the staff of the private sector will also be invited for this programme.</li> </ul>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of collection and transport will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>● Establishing a collection system <ul style="list-style-type: none"> <li>▶ Clarifying the responsibility for collection</li> <li>▶ Establishing organisations responsible for collection</li> </ul> </li> <li>● Formulating collection plans <ul style="list-style-type: none"> <li>▶ Assessing the current situation</li> <li>▶ Appropriate planning an implementation</li> </ul> </li> <li>● Expanding the coverage of collection services <ul style="list-style-type: none"> <li>▶ Upgrading collection equipment</li> <li>▶ Promoting the involvement of CBOs in primary collection</li> <li>▶ Outsourcing collection services to the private sector</li> </ul> </li> <li>● Improving collection efficiency <ul style="list-style-type: none"> <li>▶ Improving collection methods</li> <li>▶ Reviewing collection routes</li> <li>▶ Improving personnel management methods</li> <li>▶ Replacement and improvement of equipment</li> <li>▶ Improving the maintenance system</li> <li>▶ Ensuring compliance with discharge rules</li> <li>▶ Collection cost analysis</li> <li>▶ Improving the quality of collection service</li> <li>▶ Improving public area sanitation</li> </ul> </li> </ul>			

Source: JICA Survey Team

**Table B.4.7 Concept of Module Training Programme for CCDP (Module 3)**

<b>Module:</b>	<b>Module 3</b>	<b>Training No.:</b>	<b>3-a, 3-b, 3-c</b>
<b>Title of Training Programme:</b>	<b>Capacity on 3R and Intermediate Treatment Plan</b>		
<b>Target:</b>	<b>SWMPC Officials, Private Sector Staff, Representatives of CBOs</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>● The objective of the Waste Reduction Plan is to lighten the cost burden to the newly established SWMPC through reduction of solid waste amount for collection and disposal.</li> <li>● The objective of the Recycling Plan is to save finite resources and minimise landfill space as a result.</li> <li>● The objective of the Intermediate Treatment Plan is stabilisation and reduction of residuals in addition to resource recovery through waste conversion.</li> <li>● Waste reduction shall be carried out for domestic, commercial and other business wastes, and formulation of the Waste Reduction Plan shall take public participation into consideration.</li> <li>● The newly established SWMPC shall have the primary responsibility for promotion, guidance and assistance to the community groups, enterprises, recycling companies, etc., for organising the recycling groups and operations.</li> <li>● The staff of the private sector and the representatives of CBOs will be also invited to this programme.</li> </ul>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of 3R and Intermediate Treatment will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>● Introducing and Improving Proper Intermediate Treatment <ul style="list-style-type: none"> <li>▶ Volume reduction (Introducing and improving size-reduction facilities, Introducing and improving the compaction process)</li> <li>▶ Waste reduction (Introducing and improving incineration facilities, Collection of recyclables, Introducing and improving compost facilities)</li> <li>▶ Stabilisation and detoxification</li> <li>▶ Energy recovery</li> <li>▶ Introducing facilities to select recyclables</li> <li>▶ Promoting the purchase of recycled products</li> </ul> </li> <li>● Promoting Recycle <ul style="list-style-type: none"> <li>▶ Promoting source separation of recyclables</li> <li>▶ Promoting community-based collection of recyclables</li> <li>▶ Institutionalising informal collection activities</li> <li>▶ Introducing separate collection of waste</li> <li>▶ Introducing facilities to select recyclables</li> <li>▶ Promoting the purchase of recycled products</li> </ul> </li> <li>● Promoting waste reduction <ul style="list-style-type: none"> <li>▶ Promoting waste reduction at home</li> <li>▶ Promoting waste reduction at establishments</li> <li>▶ Introducing separate collection of waste</li> <li>▶ Introducing facilities to select recyclables</li> </ul> </li> </ul>			

Source: JICA Survey Team

**Table B.4.8 Concept of Module Training Programme for CCDP (Module 4)**

<b>Module:</b>	<b>Module 4</b>	<b>Training No.:</b>	<b>4-a, 4-b, 4-c, 4-d</b>
<b>Title of Training Programme:</b>	<b>Sanitary Landfill Site Management</b>		
<b>Target:</b>	<b>SWMPC Officials</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>● Disposal of waste is problematic due to lack of space remaining at disposal sites and improper controls on dumping procedures. The latter causes odour, litter and smoke nuisance as well as posing health risks to nearby communities.</li> <li>● Disposal of waste is a component of all waste management systems. Properly sited and managed waste disposal sites are protective of public health and the environment. Waste disposal sites are operations that can be designed to accommodate recovery of recyclable materials by the informal sector. Final disposal involves getting rid of all wastes that are not reused, recycled, processed or treated.</li> <li>● The sanitary landfill is evaluated to be the most appropriate disposal method from both economic and environmental viewpoints. Therefore, the final disposal plan shall be formulated for the construction and operation of a sanitary landfill.</li> <li>● The scale of sanitary landfill facilities and their operation shall take financial availability into consideration. At the same time, the design should be examined also from the environmental and social points of view. Due to financial constraints concerning SWM financing, a phased construction of the disposal site also shall be considered.</li> <li>● The programme will contribute to the upgrading in the field of the enhancement of the management of the sanitary landfill site.</li> </ul>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of 3R and Intermediate Treatment will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>● Landfill Design</li> <li>● Environmental Impact Assessment (EIA) for Sanitary Landfill</li> <li>● Proper Operation of Final Disposal Sites <ul style="list-style-type: none"> <li>▶ Control and management of incoming vehicles</li> <li>▶ Securing cover soil</li> <li>▶ Securing and maintaining heavy machinery</li> <li>▶ Training and allocating engineers</li> <li>▶ Operating and maintaining environmental pollution control facilities</li> <li>▶ Securing of operating capital</li> <li>▶ Establishing the monitoring framework</li> <li>▶ Outsourcing to the private sector</li> <li>▶ Waste picker control</li> <li>▶ Landfill leachate and gas</li> </ul> </li> <li>● Access Road</li> <li>● Environmental Monitoring <ul style="list-style-type: none"> <li>▶ Groundwater Monitoring</li> <li>▶ Quality and Treatment of Leachate</li> </ul> </li> <li>● Handling of Industrial Wastes</li> </ul>			

Source: JICA Survey Team



**Table B.4.9 Concept of Module Training Programme for CCDP (Module 5)**

<b>Module:</b>	<b>Module 5</b>	<b>Training No.:</b>	<b>5-a, 5-b, 5-c</b>
<b>Title of Training Programme:</b>	<b>Public-Private Partnership</b>		
<b>Target:</b>	<b>SWMPC Officials, Private Sector Staff</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>There are wide modes and types for of the private sector involvement based on the particular situation of the service area for the solid waste management. It is essential to opt for the most acceptable and carefully-designed private sector involvement promotion plan taking into account the basic advantages of the private sector involvement over the service provision by the public sector alone.</li> <li>The private sector is regarded as a more efficient service provider than the public sector. It is generally believed that the private sector can provide an equivalent level of the service at a relatively lower cost.</li> <li>The involvement of the private sector can enlarge the access to capital such as procurement of collection vehicles required for the improvement of solid waste management services</li> </ul> <p>This programme will contribute to the upgrading of the capacities to select and design the most suitable PPP options as well as to acquire the knowledge on contracting procedures on PPP projects.</p>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of PPP will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>Possible PPP Options <ul style="list-style-type: none"> <li>Short-term and Mid-term PPP Projects: Service Contract, Management Contract, etc.</li> <li>Long-term PPP Projects: Lease, Concession, BOT and its Varieties, etc.</li> </ul> </li> <li>Advantages and Risks of PPP Projects <ul style="list-style-type: none"> <li>Advantages of PPP Projects</li> <li>Risks of PPP Projects</li> </ul> </li> <li>Selection Criteria of PPP Projects</li> <li>Mitigation Measures of PPP Risks</li> <li>International Experiences and Lessons Learned</li> <li>Contractual Issues for PPP Projects <ul style="list-style-type: none"> <li>Preparation of Expression of Interests and Pre-qualification</li> <li>Preparation of Tender Documents</li> <li>Preparation of Bids</li> <li>Clarifications and Feedback to Tender Documents</li> <li>Bid Bond</li> <li>Submission of Bids</li> <li>Tender Evaluation and Selection of Private Service Provider</li> </ul> </li> </ul>			

Source: JICA Survey Team

**Table B.4.10 Concept of Module Training Programme for CCDP (Module 6)**

<b>Module:</b>	<b>Module 6</b>	<b>Training No.:</b>	<b>6-a, 6-b, 6-c, 6-d</b>
<b>Title of Training Programme:</b>	<b>Financial Management</b>		
<b>Target:</b>	<b>SWMPC Officials</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>● Achieving the sustainable solid waste management requires the allocation and management of adequate financial resources.</li> <li>● The long-term sustainability of waste management facilities requires that cost recovery frameworks are secured in place to ensure the proper operation and maintenance of those facilities.</li> <li>● Legal and institutional structures for financing and recovering costs for waste management are in place at national and local levels.</li> <li>● Accounting, budgetary and management systems for the solid waste management are in place at the local level.</li> <li>● The proper level of the tariff as well as the efficient tariff charging system is also critical for the sustainable provision of solid waste management services.</li> </ul> <p>This programme will significantly contribute to the upgrading of the financial management capacity in these fields.</p>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of the financial management will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>● Ensuring proper financial management <ul style="list-style-type: none"> <li>▶ Clarification of SWM costs and expenses</li> <li>▶ Clarification of budget and income</li> <li>▶ Understanding on the financial management for balancing revenue and expenditure</li> <li>▶ Understanding on the special account for SWM</li> </ul> </li> <li>● Ensuring the financial arrangement for the cost recovery <ul style="list-style-type: none"> <li>▶ Proper assessment of understanding of the fixed cost, variable cost, total cost and the break-even point</li> <li>▶ Proper planning of the tariff level</li> <li>▶ Proper planning of the charging system</li> <li>▶ Understanding of the cross-subsidy system by the tariff differentiation</li> </ul> </li> <li>● Increasing access to investment financing from various funding option <ul style="list-style-type: none"> <li>▶ Public financing options</li> <li>▶ Private financing options</li> <li>▶ PPP financing options</li> </ul> </li> <li>● Other Analytical Tools <ul style="list-style-type: none"> <li>▶ Value for Money Analysis</li> <li>▶ Willingness to Pay Survey</li> <li>▶ Affordability to Pay Survey</li> </ul> </li> </ul>			

Source: JICA Survey Team

**Table B.4.11 Concept of Module Training Programme for CCDP (Module 7)**

<b>Module:</b>	<b>Module 7</b>	<b>Training No.:</b>	<b>7-a, 7-b, 7-c</b>
<b>Title of Training Programme:</b>	<b>Organisational and Legal Improvement</b>		
<b>Target:</b>	<b>SWMPC Officials</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>Organisational and institutional strengthening is essential for sustainable improvements in providing solid waste management services</li> <li>However, due to a low priority and lack of funds to the solid waste management sector, the organisational capacity for providing the solid waste management services is rather weak in developing countries. The public sector is normally not provided with sufficient resources to keep fulfill its mandates, while the private sector is not successfully filling the gap between the current insufficient coverage by the public sector and the required level of services. It is critical to build the sustainable organisational structure as well as establishment the related organisational reform.</li> <li>The lack of effective legal framework as well as the institutional capacity to enforce the acts, regulations and by-laws in the field of solid waste management is also one of the major constraints.</li> </ul>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of organisational and institutional reforms will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>Improvement in the organisational aspect <ul style="list-style-type: none"> <li>Assessment of organisational capacities <ul style="list-style-type: none"> <li>Organisational structure</li> <li>Decision-making mechanism</li> <li>Coordinating ability</li> <li>Job classification</li> <li>Number of staff</li> <li>Human resources development and training opportunities</li> </ul> </li> <li>Defining job descriptions within organisations</li> <li>Ensuring appropriate personnel distribution in both quality and quantity</li> <li>Development of organisational management capacity</li> </ul> </li> <li>Improvement in the institutional aspect <ul style="list-style-type: none"> <li>National SWM policies</li> <li>Laws, regulations, by-laws, ordinances related to SWM</li> <li>Environmental impact assessment system</li> <li>SWM planning</li> <li>Category, classification and coding system of wastes</li> <li>Construction standards for treatment and disposal facilities</li> <li>Monitoring and law enforcement mechanism</li> <li>Partnership with the private sector and communities</li> </ul> </li> </ul>			

Source: JICA Survey Team

**Table B.4.12 Concept of Module Training Programme for CCDP (Module 8)**

<b>Module:</b>	<b>Module 8</b>	<b>Training No.:</b>	<b>8-a</b>
<b>Title of Training Programme:</b>	<b>Community Participation</b>		
<b>Target:</b>	<b>SWMPC Officials, Private Sector Staff, Representatives of CBOs</b>		
<b>Lecturers:</b>	<b>Foreign Consultant</b>	<b>Type of Training:</b>	<b>Capacity Development</b>
<b>Funding Sources:</b>	<b>Donor Organisation</b>	<b>Duration:</b>	<b>4 Years</b>
<b>Objectives and Outlines:</b>			
<ul style="list-style-type: none"> <li>The objective of the community participation promotion is to raise awareness of the residents for their cooperation in the solid waste management. The community participation should be designed to promote a better understanding of citizens through public and school environmental education by establishing a workable implementation system.</li> <li>The CCN's own awareness of the requirements of a new solid waste management strategy is to be raised through a programme of seminars and workshops directed at council officials. This should be made prior to a public announcement by CCN on the implementation of the new strategy.</li> <li>Following its decision to implement the new strategy, the CCN has to inform the public of the measures it proposes taking to improve SWM services in the city and of its proposals to increase the existing charge levels to pay for the services. A properly structured communications strategy is to be proposed.</li> <li>A public education and awareness programme should accompany the CCN's announcement of the new strategy. Any attempt to introduce such a programme before the NCC has spelt out the steps it is to take to improve solid waste management conditions in the city would be futile.</li> </ul> <p>The programme will significantly contribute to the upgrading the methodologies to promote community participation and to raise public awareness in the solid waste management services.</p>			
<b>Descriptions of Training Programme:</b>			
<p>The following capacities in the field of community participation will be upgraded through the training programme.</p> <ul style="list-style-type: none"> <li>Raising Public Awareness <ul style="list-style-type: none"> <li>Improving solid waste education</li> <li>Disseminating information on the proper store and discharge of waste</li> <li>Improving methods for guiding the residents</li> </ul> </li> <li>Proper Discharge Methods <ul style="list-style-type: none"> <li>Selecting proper discharge methods</li> <li>Developing discharge rules and ensuring compliance with them</li> </ul> </li> <li>Environmental Education <ul style="list-style-type: none"> <li>School education</li> <li>Community education</li> </ul> </li> <li>Partnership <ul style="list-style-type: none"> <li>Partnership with CBOs</li> <li>Reflection of input from communities in policies, systems and services</li> <li>Establishment of effective communication channels</li> <li>Information networks (information and communication technologies)</li> </ul> </li> <li>Assistance to Communities <ul style="list-style-type: none"> <li>Selection of suitable primary collection equipment</li> <li>Financial assistance to procurement of collection equipment</li> </ul> </li> </ul>			

Source: JICA Survey Team

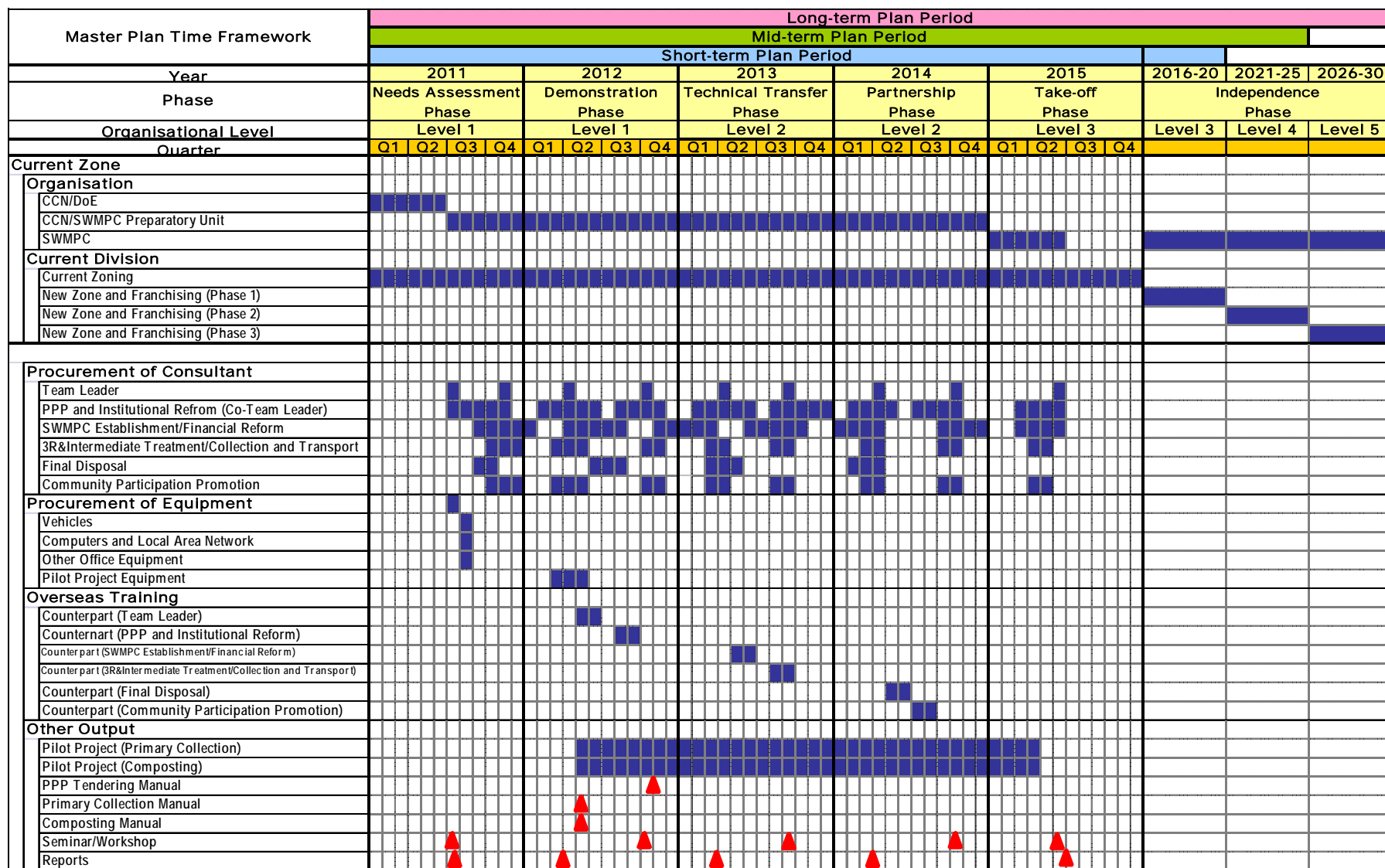


Figure B.4.4 Image of External Assistance required for CCDP by a Donor Organisation



## (2) Consideration of Incomplete Action Plans of the Previous Master Plan

There are some incomplete action plans in the previous Master Plan which should be reflected even in the new Master Plan. **Table B.4.13** summarises the outline of the incomplete action plans to be considered in the CCDP.

**Table B.4.13 Incomplete Action Plans of Previous Master Plan to be Included in the CCDP**

No.	Provision	Detailed Actions Recommended in New Master Plan
1	<b>Development of Key Management Capabilities</b> Assistance in establishing Management Team, planning capability, procedures for objective setting and performance measurement, MIS setup and improving managers' effectiveness	<ul style="list-style-type: none"> <li>The development of key management capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 1-a and 1-b of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the administrative department of the SWMPC as well as the managers of all PMUs of the preparatory unit of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
2	<b>Financial Management Capacities</b> Assistance in establishing financial systems in the Finance Section including implementation of computerised financial system	<ul style="list-style-type: none"> <li>The development of financial management capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of financial management capacities are included in <b><u>the module number 6-a, 6-b, 6-c and 6-d of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the budgeting and accounting section of the administrative department of the SWMPC as well as the staff of the administrative PMU of the preparatory unit of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
3	<b>Environmental Regulation</b> Assistance in establishing Environmental Division's monitoring methodologies and systems and procedures for handling non-municipal wastes	<ul style="list-style-type: none"> <li>The development of environmental regulation capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 4-c of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the EIA section of the strategy and planning department as well as the environmental monitoring section of the disposal and intermediate treatment department of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
4	<b>Formatting and Drafting SWM By-laws</b> Assistance in the formatting, drafting and enactment of SWM By-laws	<ul style="list-style-type: none"> <li>The development of legal capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 7-b and 7-c of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the administrative department as well as the monitoring and enforcement department of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
5	<b>Contract Management</b> Assistance in establishing Contract Management Section's functions and procedures for both pre-contract award and post-contract award	<ul style="list-style-type: none"> <li>The development of contract management capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 5-a, 5-b and 5-c of the comprehensive capacity</u></b></li> </ul>

No.	Provision	Detailed Actions Recommended in New Master Plan
		<p><b>development programme</b>, and the target is the staff of the franchise PMU of the preparatory unit of SWMPC as well as the candidate staff of the EIA section of the strategy and planning department as well as the procurement and contract department of the SWMPC.</p> <ul style="list-style-type: none"> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
6	<p><b>Human Resource Management and Development</b> Assistance in establishing Human Resource Section's functions covering personnel functions, HR planning, improving employee performance and occupational health</p>	<ul style="list-style-type: none"> <li>The development of human resources management capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 7-a of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the human resources development section of the administrative department of SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be conducted regularly.</li> </ul>
7	<p><b>Community Development</b> Assistance in establishing the Community Development Section</p>	<ul style="list-style-type: none"> <li>The development of community supporting capacities will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 8-a and 8-b of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the community support department of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
8	<p><b>Development of Technical Capability (Collection and Transportation)</b> -Planning, Scheduling, Staffing &amp; Vehicle Management Assists in establishing operations management staff's planning methodologies and functions covering arrangement, routing for collection, scheduling, staffing and reviewing systems. Also, assists in establishing Vehicle Management subunit's functions covering procurement of spare parts and tools, store methods and inventory management. -Maintenance Assists in establishing Maintenance subunit's functions focusing on improvement of craftsman's skills based on the job training.</p>	<ul style="list-style-type: none"> <li>The development of technical capacities for collection and transportation will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 2-a and 2-b of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the direct service department and the zonal management department of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>
9	<p><b>Development of Technical Capability (Final Disposal)</b> -Planning, Scheduling, Staffing &amp; Maintenance Assists in developing operations management staff's planning, operating and reviewing systems.</p>	<ul style="list-style-type: none"> <li>The development of technical capacities for sanitary landfill management will be merged into the comprehensive capacity development programme of the new Master Plan.</li> <li>The contents of the training programme are included in <b><u>the module number 4-a, 4-b, 4-c and 4-d of the comprehensive capacity development programme</u></b>, and the target is the candidate staff of the disposal site management section of the disposal and intermediate treatment department of the SWMPC.</li> <li>The monitoring for the performance assessment on the capacity improvement will be regularly conducted.</li> </ul>

Source: JICA Survey Team



### (3) Formulation of Standard Working Procedures and Manuals

In order to standardise the working procedures for SWMPC, manuals in the field of the SWM operations, PPP, financial management and community support will be formulated and continuously updated. **Table B.4.14** summarises the outline of working procedure manuals to be formulated.

**Table B.4.14 Outline of Working Procedure Manuals to be Formulated**

No.	Area	Manual
1	SWM Operations Manual	Collection and Transport Manual for Franchise Zone
		Collection and Transport Manual for Contracting-out Zone
		Intermediate Treatment Manual
		Sanitary Landfill Operation Manual
		Monitoring and Enforcement Manual
2	PPP Manual	Tender Manual
		Contract Manual
3	Financial Management Manual	SWM Special Account Management Manual
		SWM Capital Revolving Fund Management Manual
		SWM Operating Revolving Fund Management Manual
		Capital Subsidy Management Manual
4	Community Support Manual	Community Support Manual
		Public Awareness Raising Manual

Source: JICA Survey Team

#### 4.6.2 Mid-Term Action Plan

##### (1) Implementation of Ex-Post Mid-Term Performance Monitoring and Assessment

Ex-post performance monitoring of the achieved level of capacity development is essential for accurately assessing the impacts on the improvement of the capacities at the timing of the mid-term stage after the implantation of the 5-year CCDP. The ex-post monitoring system will significantly contribute to the feedback mechanisms for rectifying poor performance of the targeted staff of the CCDP, thereby sustainably upgrading the level of staff to meet the requirements of SWMPC.

Performance monitoring is a complicated assessment of capacities involving qualitative rather than quantitative performance indicators. Benchmarks as performance indicators for monitoring and assessment should be developed for the continuous feedbacks to the capacity development activities. Since the capacity development is a continuous process from *learning by doing* in parallel with the starting of operations of SWMPC, feedback mechanisms to the human resources development are absolutely required. The results of the ex-post mid-term monitoring will be utilised for designing the follow-up skill-targeted training programme which will be implemented after the 5-year CCDP.

There are different methods of monitoring as shown below. The applied method for the ex-post mid-term performance monitoring would be outcome-based monitoring. The monitoring sub-unit of the administrative PMU will be in charge of the outcome-based monitoring.

- Continuous Monitoring
- Random (Sample) Monitoring
- Planned and Scheduled Monitoring
- Outcome-based Monitoring
- Complaints-based Monitoring
- Self Monitoring

## **(2) Implementation of Skill-Targeted Follow-up Training Programme**

Since the capacity development is a transformational change through an accumulated incremental process, the performance assessment on the implementation of the first 5-year CCDP based on the mid-term performance monitoring will be utilised for studying the further necessities for the follow-up skill training programme for the staff of SWMPC. The follow-up programme would be a supplementary to the CCDP and specific skill-targeted training for the selected expertise specially required for the further trainings. The duration of the programme would be another 2 or 3 years in addition to the 5-year CCDP. The candidate targeted expertise for the training would be as below.

### **(a) Skill Training for PPP Management Capacity**

Since the new PPP scheme such as the introduction of the zone-wise franchise system is introduced under the control of the SWMPC, the following skills should be further trained in addition to the capacity development under the CCDP. The targeted staff of the training would be a manager and deputy managers and section chiefs of the Procurement and Contract Department of the SWMPC.

- Basic tendering process for the franchise contract and the collection services
  - Preparation for Expression of Interests and Pre-qualification of Bidders
  - Preparation of Tender Documents
  - Preparation of the Bid
  - Clarifications and Feedbacks to Tender Documents
  - Bid Bond
  - Submission of Bids
- Evaluation of franchisees and management service providers
- Types of public-private partnership and long-term risks
- Contractual provisions for franchise contract
- Contractual provisions for management service contract
- Calculation and estimate for value for money of public-private partnership projects

### **(b) Skill Training for Monitoring and Enforcement Capacity**

The training for monitoring inspectors who are in charge of monitoring and inspection of the solid waste management services is critical for the successful enforcement of the By-laws. The shortage of such inspectors is one of the major constraints for the proper solid waste management.

- Clear-cut understanding of legal framework and legal steps required for monitoring and enforcement
- Understanding on detailed monitoring and enforcement measures
- Well-managed consultation and communications with the private sector and communities

## **4.6.3 Long-Term Action Plan**

### **(1) Implementation of Long-Term Performance Monitoring and Establishment of Feedback System**

In addition to the ad-hoc mid-term performance monitoring and assessment, the long-term and periodical performance monitoring and assessment on the capacity development is required for the sustainable human resources development. While the mid-term review after the 5-year CCDP is absolutely necessary for the rapid feedback to the short-term rectification of the human resources

development, the long-term and periodical performance monitoring and assessment should highlight a wide range of feedback mechanisms such as an incentive system.

Incentive systems are closely related with the acquired skills and job performances. Furthermore, incentives and motivation also are linked as key inter-related ingredients of successful capacity development activities in addition to tangible aspects such as skills and organisational structures. Monetary and non-monetary forms of incentives contribute to enhancing the staff's willingness to further improve the capacities by ensuring that effective capacities are transformed into good performance of individuals. The feedback system links those incentives with the actual performance of the staff, and the feedback system of the SWMPC should be established through utilising the improvement of the following current feedback mechanisms of CCN.

- **Performance Contract:** The performance contract is annually being entered into between the town clerk and each department of CCN. The contract includes, vision, mission, objective of each department, commitment and responsibilities of each department and CCN, and frequency of monitoring and information flow together with the quantitative indicators.
- **Staff Performance Appraisal Report:** The staff performance appraisal report intends to manage and improve the performance of the staff in providing the public services by enabling a higher level of staff participation and involvement in planning.
- **Results-Based Management (RBM):** The results-based management (RBM) is being prepared by each department of CCN to assess the performance results of the annual operations together with performance indicators for the purpose improving the performances of the public services.

In addition to the improvement of the current feedback mechanisms, meritocracy in the SWMPC should be established as one of the feedback mechanisms. Meritocracy should be the guiding principle for the staff recruitment and promotion inside SWMPC, ensuring that the staff recruitment as well as the promotion takes the following conditions:

- The candidates for promotion should be selected on the basis of meritocracy;
- Fulfilment of the required level of knowledge, skills, experiences and attitude for the positions should be taken into account; and
- Transparency should be applied in the selection process during the entry and promotion.

## **(2) Long-term and Continuous Staff Deployment and Redeployment**

For the sustainable provision of the solid waste management services, the long-term and continuous staff deployment and redeployment based on the continuous performance assessment of the staff of the SWMPC will be required. To streamline staff deployment and redeployment guidelines in the SWMPC, the SWMPC is required:

- to formulate comprehensive guidelines for staff deployment and promotion;
- to establish appropriate staff assessment system; and
- to establishment of appropriate procedures and mechanisms on the selection of staff to be promoted.

## **5. LEGAL AND INSTITUTIONAL REFORM PLAN**

### **5.1 Objective**

The objective of the legal and institutional reform plan is to propose the most suitable legal arrangements which will enable the new organisation to effectively and efficiently regulate solid waste management activities in Nairobi City.

### **5.2 Planning Policy**

The planning policies for the legal and institutional reform plan are as below:

- (1) SWM-related Acts, Regulations and By-laws should be improved in terms of better enforcement.
- (2) Monitoring system should be strengthened for the better enforcement of Acts, Regulations and By-laws.
- (3) Policy documents and guidelines should be transformed into the actual enforcement.

### **5.3 Strategy**

The implementation strategies for the legal and institutional reform plan are as below:

- (1) Enactment of Basic By-laws for the establishment of the new organisation in charge of the solid waste management services;
- (2) Establishment and implementation of a system of inspection, enforcement and monitoring of solid waste management activities;
- (3) Preparation of operation manuals with respect to the solid waste management services which must comply with the relevant Acts, Regulations and By-laws;
- (3) Introduction of the regulations to set up the basic PPP structure, the proper zoning, tariff setting, and cross-subsidisation for the proposed PPP scheme.

### **5.4 Goal**

#### **5.4.1 Short-Term Plan**

- Legalisation for the establishment of the new public-owned and ring-fenced corporation as well as the transparent financial management for the solid waste management services
- Strengthening and modification of the monitoring and enforcement functions of the legal framework related to the solid waste management
- Legalisation for simplification of the procurement and contractual process for the new public-owned corporation
- Legalisation for financial assistance system for the enlargement of the investment on the improvement of the collection and transportation services by the private sector

## 5.4.2 Mid-Term Plan

- Selecting and implementing the optimum public-private partnership scheme through arrangement of the comprehensive legal framework and procedures
- Improvement of the SWM-related Acts, Regulation and By-laws based on the feedback of the results of the mid-term performance monitoring and assessment on the status of the legal enforcement

## 5.4.3 Long-Term Plan

- Achievement of efficient legal enforcement by consolidating the SWM-related Acts, Regulation and By-laws into the comprehensive SWM legal framework
- Improvement of the SWM-related Acts, Regulation and By-laws based on the feedback of the results of the long-term performance monitoring and assessment on the status of the legal enforcement

## 5.5 Action Plans for Legal and Institutional Reform

### 5.5.1 Short-Term Action Plan

#### (1) Improvement of Monitoring and Enforcement in CCN Solid Waste Management By-laws, 2007

One of the major legal constraints to be removed is lack of monitoring and enforcement of the By-laws. The current statements on the monitoring and enforcement described in the following sections of the By-laws alone are not adequate for the proper enforcement of the solid waste management. A clear-cut process monitoring and enforcement of By-laws are required to be added in the By-laws.

- **Section 11(1):** CCN shall establish and implement a system of monitoring, inspections and enforcement of waste management activities and shall regularly inform waste generators of the procedures to implement and improve waste management within Nairobi City.
- **Section 11(2):** Any officer or agent of CCN duly authorised in that behalf, may at all reasonable times, enter any residential dwelling or trade premises within the area of jurisdiction of CCN for the purpose of conducting any inspection, inquiry or the execution of works under the provisions of these By-laws.
- **Section 11(3):** In addition to such penalties for non-payment as may be stipulated in the directions issued by CCN for non-payment of charges for waste management services, all waste management charge payable under the By-laws shall be a debt due and owing to collector and may be recovered as a civil debt at the instance of the collector or any person authorised by the collector to collect on its behalf.
- **Section 11(4):** Any power or function conferred on CCN under these By-laws may be exercised or performed by a third party and shall be deemed to have been exercised or performed under the authority of these By-laws.
- **Section 12:** Any person who refuses or fails to comply with any provision of these By-laws or gives false information in relation to any requirements of these By-laws shall be guilty of an offence, and, in addition to any other penalty which may lawfully be available, shall be liable on conviction to a fine not exceeding three thousand shillings or to imprisonment for a term not exceeding six months or to both such fine and imprisonment.

More specifically, the following two contents for the improvement of monitoring and enforcement should be included in the By-laws in more concrete manner:

### **Step 1: Strengthening functions of monitoring and inspection**

An important component of the enforcement process is the authority to monitor and inspect related facilities regularly or on random basis in accordance with the By-laws. Especially, an inspection is a formal visit by an inspector to a facility to review records, take samples, and observe facility operation. More detailed roles, responsibilities and empowerment regarding the inspection should be specified.

### **Step 2: Strengthening administrative actions**

An administrative action is a non-judicial enforcement action taken by the authority. These actions can be broken down into three categories: informal, formal and penalty actions.

#### **(i) Informal Actions**

Offenders will be informally given notice of its noncompliance and the steps to take to correct the violations. Informal actions are most appropriate where the violations are minor threats to human health and the environment. A warning letter, sometimes referred to as a notice of violation, may be sent, which lays out the specific actions that need to be taken by the offenders to correct the violations.

#### **(ii) Formal Actions**

In cases of a serious offender who has failed to respond to an informal action, the SWMPC together with the assistance of the proposed NEMA affiliate office in the SWMPC can issue an administrative order with the following varieties.

- Orders to mandatory inspection and warning letter
- Corrective action order
- Compliance order and warning of penalties

#### **(iii) Penalty Actions**

Possible penalty actions include permit revocations, facility closure, and criminal prosecutions. If a private operator is engaged by means of a contract that specifies financial penalties for failures to achieve good operating standards, persistent failures could result in the cancellation of the contract by the SWMPC.

## **(2) Improvement of Enforcement and Monitoring in Other Related Legal Framework**

In the same manner as the improvement of enforcement and monitoring in CCN Solid Waste Management By-laws, 2007, the following other related legal framework will be modified. **Table B.5.1** shows the improvement of enforcement and monitoring in other related legal framework.

**Table B.5.1 Outline of Minor Modifications of Other Related Legal Framework**

No.	Related Section	Actions Recommended in New Master Plan
1	<p><b><u>Public Health Act, 1986:</u></b></p> <p><b><u>Section 121(1):</u></b> Any person who fails to obey an order to comply with the requirements of the medical officer of health or otherwise to remove the nuisance shall, unless he satisfies the court that he has used all diligence to carry out such order, be guilty of an offence and liable to a fine not exceeding eighty shillings for every day during which the default continues; and any person will fully acting in contravention of a closing order issued under Section 120 shall be guilty of an offence and liable to a fine not exceeding eighty shillings for every day during which the contravention continues.</p> <p><b><u>Section 121(2):</u></b> The medical officer of health may in such case enter</p>	<p><b><u>In relation to Section 55 of the Occupation Safety and Health Act which regulates the operation of incinerators, more concrete steps for monitoring, inspection and administrative actions should be included in the Act.</u></b></p>

No.	Related Section	Actions Recommended in New Master Plan
	the premises to which any such order relates, and remove the nuisance and do whatever may be necessary in the execution of such order, and recover in any competent court the expenses incurred from the person on whom the order is made.	
2	<p><b><u>Scrap Metal Act, 1993:</u></b>  <b><u>Section 17(1):</u></b> Any police officer not below the rank of Sub-Inspector or the appropriate licensing officer may at any time enter upon any premises in respect of which a license has been issued under this Act, or in respect of which he has reasonable cause to believe an offence under this Act or under any rule made there under has been or is about to be committed, and may inspect such premises and any scrap metal, book, account, register, record, document or thing found therein and may require any person appearing to be in control thereof or employed therein or who has been employed therein within the last preceding three months to give such information as will enable the police officer or licensing officer to determine whether or not the Sections of this Act are being or have been complied with.  <b><u>Section 18(2):</u></b> Any scrap metal found without an apparent owner may be seized by a police officer or a licensing officer and shall as soon as possible be taken before a magistrate, who, if satisfied that the owner cannot be found, shall declare it to be forfeited.  <b><u>Section 19(1):</u></b> When any licensed dealer is convicted of an offence under this Act or of an offence involving fraud or dishonesty or stolen property, his license shall, unless the court for special reasons thinks fit to order otherwise, be cancelled forthwith, and the court may order that no license shall be granted to him for such period as it shall think fit.</p>	<p><b><u>In relation to the sections which regulate the treatment of wastes, more concrete steps for monitoring, inspection and administrative actions should be included in the Act.</u></b></p>
3	<p><b><u>Traffic Act, 1993:</u></b>  <b><u>Section 67(1):</u></b> Any person who contravenes or fails to comply with any of the Sections of this Part shall be guilty of an offence and liable, where no penalty is specifically provided, on first conviction to a fine not exceeding two thousand shillings or to imprisonment for a term not exceeding three months, and on each subsequent conviction to a fine not exceeding five thousand shillings or to imprisonment for a term not exceeding six months or to both.  <b><u>Section 99(1):</u></b> Any license issued under this Part may be cancelled at any time by the Registrar if he is satisfied that, by reason of the conduct of the holder of such license or the condition of any vehicle in respect of which the license is issued, such cancellation would be in the public interest; and upon receipt of a notice of such cancellation, the license holder shall forthwith deliver up such license to the Registrar.</p>	<p><b><u>In relation to Section 22(2) of the Scrap Metal Act which regulates the export of scrap metal, more concrete steps for monitoring, inspection and administrative actions should be included in the Act.</u></b></p>
4	<p><b><u>Transport Licensing Act, 1993:</u></b>  <b><u>Section 13(1):</u></b> A license of any class may be revoked or suspended by the Licensing Authority on the ground that any of the conditions of the license have not been complied with or that the authorised vehicle has not been used for a period of three months.</p>	<p><b><u>In relation to Section 55(1) and 56(1) of the Traffic Act which regulates the overloading on trucks, more concrete steps for monitoring, inspection and administrative actions should be included in the Act.</u></b></p>
5	<p><b><u>Transport Licensing Act, 1993:</u></b>  <b><u>Section 13 (1):</u></b> A license of any class may be revoked or suspended by the Licensing Authority on the ground that any of the conditions of the license have not been complied with or that the authorised vehicle has not been used for a period of three months.</p>	<p><b><u>In relation to Section 26(2) of the Transport Licensing Act which regulates the conditions of vehicles on roads, more concrete steps for monitoring, inspection and administrative actions should be included in the Act.</u></b></p>

Source: JICA Survey Team

### (3) Minor Modifications of CCN Solid Waste Management By-Laws, 2007

Although some legal reforms on the solid waste management were proposed in the previous Master Plan, the majority of them have not been well reflected even in the current CCN Solid Waste

Management By-laws, 2007. These incomplete legal reforms should be completed by the minor modifications of the By-laws. **Table B.5.2** shows the outline of the required minor modifications of CCN Solid Waste Management By-laws.

**Table B.5.2 Outline of Required Minor Modifications of CCN Solid Waste Management By-Laws**

No.	Related Section	Actions Recommended in New Master Plan
1.	The By-law should clearly stipulate the policies and objectives to be achieved by SWM and state that CCN has the primary Duty of Care for SWM in Nairobi City.	<ul style="list-style-type: none"> <li>● <u>CCN Solid Waste Management By-laws 2007, Section 4(1)</u> stipulates that CCN has the primary duty to regulate waste and its management within the area of jurisdiction of the City, and for this purpose all waste generated or otherwise arising within the area of the City shall be managed and regulated in accordance with these By-laws.</li> <li>● <u>Modification: This section should be changed to mean that CCN and SWMPC have the primary duties to regulate waste and its management within the area of jurisdiction of the City.</u></li> </ul>
2.	The By-law should categorise solid wastes according to the characteristics presented by each category of waste.	<ul style="list-style-type: none"> <li>● <u>CCN Solid Waste Management By-laws, 2007, Section 3</u> defines “domestic waste”, “hazardous waste”, “municipal waste” and “solid waste”. It also defines municipal waste as waste which is the responsibility of the Council whether under the By-laws or under any other law to collect, treat and other dispose of and includes refuse.</li> <li>● <u>Modification: This section should be more concretely expressed by adding a table of clear-cut categories of wastes in the ANNEX to the By-laws.</u></li> </ul>
3	The By-law should impose a statutory requirement for solid waste management planning on NCC.	<ul style="list-style-type: none"> <li>● <u>CCN Solid Waste Management By-laws 2007, Section 4(2)</u> stipulates that CCN shall prepare a waste management plan of its arrangements for managing waste arising within its area of jurisdiction and <u>Section 4 (3)</u> defines the contents of the waste management plan.</li> <li>● <u>Modification: The outline of the Integrated Solid Waste Management Master Plan, which is currently formulated, should be attached as ANNEX to the By-laws.</u></li> </ul>
4	The By-law should impose a duty of care on the generators of waste to handle all wastes in their charge in an environmentally sound manner and, in any case, to dispose of them only by giving them to an authorised collector of waste.	<ul style="list-style-type: none"> <li>● <u>CCN Solid Waste Management By-laws, 2007, Section 8(3), (4), (5), (6), (7), (8), (9) and (10)</u> stipulate a duty of care on the generators of proper handling of wastes.</li> <li>● <u>Modification: The detailed guidelines on 3R should be attached as ANNEX to the By-laws.</u></li> </ul>
5	The By-law should impose a Duty of Care on all waste operators to handle all wastes in their charge in an environmentally sound manner and to dispose of them only at a licensed landfill facility.	<ul style="list-style-type: none"> <li>● <u>CCN Solid Waste Management By-laws, 2007, Section 9(1)</u> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, and <u>Section 9(2)</u> also stipulates that it shall be the duty of CCN to provide places at which to deposit waste before its transfer to any other place for its final disposal and places at which to dispose of waste and plant and equipment for processing or other disposal thereof.</li> <li>● <u>Modification: The detailed guidelines on the final disposal at sanitary landfill sites should be attached as ANNEX to the By-laws.</u></li> </ul>
6	The By-law should set standards for collecting, treating and transporting solid waste and for the proper management of sanitary landfills.	<ul style="list-style-type: none"> <li>● <u>ANNEX 1 of Policy on Private Sector Involvement in Solid Waste Management</u> issued by CCN in 2001 stipulates CCN’s guidelines on private sector involvement in solid waste management in the field of collection and transport.</li> </ul>



No.	Related Section	Actions Recommended in New Master Plan
		<ul style="list-style-type: none"> <li>● <b><u>CCN Solid Waste Management By-laws, 2007, Section 9(1)</u></b> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, and <b><u>Section 9(2)</u></b> also stipulates that it shall be the duty of CCN to provide places at which to deposit waste before its transfer to any other place for its final disposal and places at which to dispose of waste and plant and equipment for processing or other disposal thereof. However, there are no clear-cut standards for the proper management of sanitary landfills.</li> <li>● Although the <b><u>Environmental Management and Coordination (Waste Management) Regulations of 2006, which are applied to CCN Solid Waste Management By-laws, 2007, Third Schedule</u></b> stipulates the detailed technical standards for treatment and disposal of wastes, CCN Solid Waste Management By-laws, 2007, does not have an ANNEX which shows the technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills.</li> <li>● <b><u>Modification: With reference to the Environmental Management and Coordination (Waste Management) Regulations of 2006, detailed technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills should be attached as ANNEX to the By-laws.</u></b></li> </ul>
7	The By-law should impose a requirement for private sector SWM operators and landfill operators to be licensed by the CCN.	<ul style="list-style-type: none"> <li>● <b><u>ANNEX 1 of the Policy on Private Sector Involvement in Solid Waste Management</u></b> issued by CCN in 2001 stipulates CCN's guidelines on private sector involvement in solid waste management in the field of collection and transport.</li> <li>● <b><u>CCN Solid Waste Management By-laws, 2007, Section 9(1)</u></b> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, and <b><u>Section 9(2)</u></b> also stipulates that it shall be the duty of CCN to provide places at which to deposit waste before its transfer to any other place for its final disposal and places at which to dispose of waste and plant and equipment for processing or other disposal thereof. However, there are no clear-cut standards for the proper management of sanitary landfills.</li> <li>● Although the <b><u>Environmental Management and Coordination (Waste Management) Regulations of 2006, which are applied to the CCN Solid Waste Management By-laws, 2007, Third Schedule</u></b> stipulates the detailed technical standards for treatment and disposal of wastes, the CCN Solid Waste Management By-laws, 2007, does not have an ANNEX which shows the technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills.</li> <li>● <b><u>Modification: With reference to the Environmental Management and Coordination (Waste Management) Regulations of 2006, detailed technical standards for collecting, treating and transporting solid wastes and for the proper management of sanitary landfills should be</u></b></li> </ul>

No.	Related Section	Actions Recommended in New Master Plan
		<b><u>attached as ANNEX to the By-laws.</u></b>
8	The By-law should specify the technical and financial qualifications to be met by waste operators including landfill operators.	<ul style="list-style-type: none"> <li>● <b><u>Section 3 of the Policy on Private Sector Involvement in Solid Waste Management</u></b> issued by CCN in 2001 stipulates CCN's regulations and general qualifications of private operators.</li> <li>● <b><u>CCN Solid Waste Management By-laws, 2007, Section 5(1)</u></b> stipulates that CCN shall issue permit to waste operators who satisfy such requirements as to technical and financial capability as it shall stipulate, and <b><u>Section 9(1)</u></b> also stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility.</li> <li>● <b><u>Environmental Management and Coordination (Waste Management) Regulations of 2006, which are applied to CCN Solid Waste Management By-laws, 2007, Section 7 and Section 10</u></b> stipulate the general qualifications required for the waste transportation license and for the disposal facility license, respectively, the CCN Solid Waste Management By-laws, 2007, does not have an ANNEX which shows the detailed technical and financial qualifications to be met by waste operators including landfill operators.</li> <li>● <b><u>Modification: With reference to the Environmental Management and Coordination (Waste Management) Regulations of 2006, detailed technical and financial qualifications required for the waste transportation license and for the disposal facility license should be attached as ANNEX to the By-laws.</u></b></li> </ul>
9	The By-law should impose a requirement for Environmental Impact Assessment to be carried out and approved by the CCN before the licensing of any landfill site.	<ul style="list-style-type: none"> <li>● Although <b><u>CCN Solid Waste Management By-laws, 2007, Section 9(1)</u></b> stipulates that no person shall dispose of waste other than in permitted disposal areas or at an approved disposal facility, there is no clear statement on the requirement for EIA before licensing of any sanitary landfill site.</li> <li>● <b><u>Modification: This section should be more concretely expressed by adding the requirements for EIA before licensing of any sanitary landfill site.</u></b></li> </ul>
10	The By-law should provide for "restraint notices" to be served by CCN to empower it to prevent situations of waste mismanagement which threaten the environment or public health.	<ul style="list-style-type: none"> <li>● <b><u>CCN Solid Waste Management By-laws, 2007, Section 11(2)</u></b> stipulates that any officer or agent of CCN duly authorised in that behalf, may at all reasonable times, enter any residential dwelling or trade premises within the area of jurisdiction of the Council for the purpose of conducting any inspection, inquiry or the execution of works under the provisions of these By-laws. However, this section does not have a statement on "restraint notices" to be served by CCN.</li> <li>● <b><u>Modification: This section should be more concretely expressed by adding the requirements of "restraint notices" to be served by CCN to prevent waste mismanagement.</u></b></li> </ul>

Source: JICA Survey Team

#### (4) Legalisation of Act for Establishment of SWMPC

In order to establish the new ring-fenced SWMPC by the end of 2014, legal arrangement for the establishment of SWMPC is required. Since the establishment of SWMPC will not be applied to the solid waste management services in municipalities nationwide, the legal action to establish SWMPC in Nairobi City shall be carried out not only under the National Act but also the CCN's By-law. The Act for the Establishment of Solid Waste Management Public Corporation (SWMPC) as well as the related By-laws shall stipulate the missions and institutional framework of the SWMPC, which will be in charge of the solid waste management services in Nairobi City.

The Act for the Establishment of SWMPC as well as the relevant By-laws should be enacted not later than 2014 to secure a one-year preparation period for the tendering process to start the zone-wise franchise system by the beginning of 2016. The Act shall be designed to provide SWMPC with authorities and powers to enforce and monitor the solid waste management services in the whole city. In accordance with the organisational structure proposed in the organisational and human resources development plan, the Act for the Establishment of SWMPC should be created with reference to the Water Act which stipulates the organisational structure of the Nairobi City Water and Sewerage Company (NCWSC). **Table B.5.3** indicates the major contents for the Establishment of SWMPC.

**Table B.5.3 Major Contents of the Act for Establishment of SWMPC**

No.	Major Contents	Item
1	SWM Public Corporation	<ul style="list-style-type: none"> <li>● Establishment of Corporation</li> <li>● Shareholders of Corporation</li> <li>● Board Membership of Corporation</li> <li>● Organisational Structure</li> <li>● Mission of Corporation</li> <li>● Statutory Declaration by members of Corporation</li> <li>● Tenure of office</li> <li>● Allowances of members of Corporation</li> <li>● Revocation of appointment and resignation</li> <li>● Vacation of office</li> <li>● Council Members</li> <li>● Disclosure of interest</li> <li>● Disqualifications and termination of members of Corporation</li> <li>● Actions and proceedings of Corporation not affected by vacancy, etc.</li> <li>● Duties of members of Corporation</li> <li>● Regular Meetings</li> </ul>
2	Transfer from CCN	<ul style="list-style-type: none"> <li>● Redeployment of Human Resources from CCN</li> <li>● Transfer of Assets from CCN</li> </ul>
3	Functions of Corporation	<ul style="list-style-type: none"> <li>● Functions of Corporation</li> <li>● Delegation of functions of Corporation</li> <li>● Returns, reports, accounts and information</li> </ul>
4	Provision Relating to Officers and Employees	<ul style="list-style-type: none"> <li>● Chief Executive Officer</li> <li>● Appointment of Officers and Employees</li> <li>● Scale of Positions</li> <li>● Salaries, Retirement Benefits, etc.</li> </ul>
5	Finance	<ul style="list-style-type: none"> <li>● Annual Budgeting</li> <li>● General Account</li> <li>● Special Account</li> <li>● Solid Waste Management Capital Revolving Fund</li> <li>● Solid Waste Management Operating Revolving Fund</li> <li>● Bank Accounts</li> <li>● Auditing Procedures</li> <li>● Power to Borrow</li> <li>● Financial Year</li> <li>● Financial Report</li> </ul>
6	Contractual Provision	<ul style="list-style-type: none"> <li>● General Procurement Guidelines</li> <li>● Establishment of Tendering Committee</li> <li>● Tendering Procedures</li> </ul>

Source: JICA Survey Team

## (5) Amendment of Procurement and Disposal Act, 2005

Since Section 3 of the current Procurement and Disposal Act, 2005 demands that public Organisations must comply with the complicated tendering procedures stipulated by the Act, it is also applicable to the SWMPC. In order to simplify the procurement procedure and achieve the procurement efficiency by the SWMPC, a special arrangement to exempt public utility corporations such as the SWMPC from the requirements in Section 3 of the current Procurement and Disposal Act is proposed. Section 3 of the Act defines a public organisation, as below.

- Provision 3(a): Any body that uses public assets in any form of contractual undertaking including public private partnership.
- Provision 3(b): A company owned by a public entity to carry out functions that would have otherwise been performed by the public entity.
- Provision 3(c): Any body in which the Government has a controlling interest.

After exempting the procurement procedures of the SWMPC from the Procurement and Disposal Act, the procurement procedures by the SWMPC should be legalised in the contractual provisions in the Act for the Establishment of SWMPC. In this case, the following two provisions should be modified to improve the efficiency of the tendering and procurement procedures.

### (a) Unification of Committees in Tendering and Procurement Process

The complicated functions of the tendering committee, the procurement committee, evaluation committee and inspection and acceptance committee should be simplified and unified to the new tendering committee which will function as the unified procurement and tendering committee for the public organisations.

### (b) Simplification of Thresholds for Categories of Procurement

The complicated threshold for the categories of procurement under the current Procurement and Disposal Act in which the SWMPC must comply with will be more simplified. **Table B.5.4** indicates the proposed simplified thresholds of category under the Procurement and Disposal Act.

**Table B.5.4 Simplification of Thresholds of Category for Procurement under Procurement and Disposal Act**

Current Category	Proposed Category
International Open Tender under s71 of the Act	Open Tender
National Open Tender under s54(2) of the Act	Restricted Tender
Restricted Tender under s73(2)(a) of the Act	
Restricted Tender under s73(2)(b) of the Act	
Restricted Tender under s73(2)(c) of the Act	
Request for proposals under s76(1) of the Act	Request for Proposal
Direct Procurement under s74(2) and (3) of the Act	
Request for quotations under s88 of the Act	
Low Value Procurement under s90 of the Act	

Source: JICA Survey Team

## **(6) Legalisation for Establishment of SWM Special Account**

Currently, the solid waste management services are provided under the general-account budget of CCN. The waste collection fees go to the general budget of CCN. **Section 220 (1)** of the Local Government Fund Act stipulates that a municipal council, county council or town council may, in accordance with rules made by it with the approval of the Minister, establish a capital fund for the purpose of defraying capital expenditure and reducing outstanding debts.

This section of the Local Government Fund Act only stipulates the setting up the special account for capital investment. Therefore, this section is required to be modified so that CCN will be able to establish the special account for the operational budget for the solid waste management.

## **(7) Legalisation of Establishment of SWM Revolving Fund (SWMCRF) and SWM Operating Revolving Fund (SWMORF)**

The establishment of the SWM Capital Revolving Fund (SWMCRF) and the SWM Operating Fund (SWMORF) should be legally documented in the Provisions of the Act for the establishment of SWMPC. These funds will be legally positioned as a sort of a public trust fund. Generally speaking, a public trust fund can be categorised into three types: true, sinking and revolving trust funds.

### **(a) True Trust Fund**

A true trust fund has the following characteristics:

- The initial funds and subsequent funds put into the fund are preserved and not consumed unless the trust fund is dissolved;
- All or part of the initial moneys placed in the fund are invested in order to earn investment income;
- The real value of the principal is always maintained; and
- The income arising from investment of all or part of the principal (less any management fees for the fund) can be used for waste management activities, or can be re-invested.

### **(b) Sinking Trust Fund**

With a sinking trust fund, the principal capital and income from any investments are consumed over a fixed period. At the end of this period, the fund is dissolved.

### **(c) Revolving Trust Fund**

Revolving trust funds are those in which both the investment income and the principal are consumed, but the fund is regularly replenished from other financial sources. Most revolving funds have a limited life and are usually dissolved when predetermined goals or conditions are met.

## **(8) Legalisation of Franchise Fee**

The collection of a franchise fee from the franchisee in each zone shall be legalised in the relevant section of the Act for the establishment of SWMPC. In case of developed countries, the franchise fee ranges from 18% to 25% of the collected charges of wastes. However, taking into account the tariff level and the beneficiaries' willingness to pay in Nairobi City, the level of the franchise fee is tentatively set at **15% of the collected charges of wastes**. In the section of the Act, the initial level of the franchise fee of 15% as well as the mechanism of updating the level of the franchise fee will be stipulated.

## (9) Legalisation of Operational Regulations on Subsidy Provision to Franchisees

The operational regulations on the subsidy provision to the franchisees shall be legalised in the relevant section of the Act for the establishment of SWMPC. The contents of the regulations include the target, the operational guidelines and the eligibility of the subsidy.

### (a) Target of Subsidy

Since the SWM Capital Revolving Fund is designed to assist the private franchisees by subsidising the investment on collection vehicles to be replaced and additionally procured, the fund will cover the following investment on collection vehicles for the purpose of improving the collection and transport services in the franchised zones. Fifty percent (50%) of the franchise fees (7.5% of the collected charges) paid by the franchisees will go to the SWM Capital Revolving Fund.

### (b) Operational Guideline of Subsidy

There are several options for the operation of the SWM Capital Revolving Fund as below. **Option 1 would be recommended** as the optimum operational option for the use of the subsidy.

**Option 1:** In proportion to the accumulated amount of the franchise fees paid by the awarded franchisees, the cost for the additional procurement and replacement of collection vehicles will be directly subsidised by SWMPC based on the application by the franchisees. (In this case, the ownership of collection vehicles belongs to the private operators.)

**Option 2:** In order to promote the investment on vehicles by the private franchisees, the public assistance to guaranteeing fees as well as interests for commercial loans for the procurement of collection vehicles will be provided to the private franchisees. (In this case, the ownership of collection vehicles belong to the private operators.)

**Option 3:** By utilising the SWM Capital Revolving Fund, collection vehicles will be leased out to the private franchisees at a lower lease fee during the contract term. The lease fees paid by the franchisees will be deposited in the revolving fund for the future reinvestment. (In this case, the ownership of collection vehicles belong to SWMPC.)

**Figure B.5.1, Figure B.5.2 and Figure B.5.3** illustrate the proposed operational flow of the SWM Capital Revolving Fund, while **Figure B.5.4** illustrates the proposed operational flow of the SWM Operating Fund whose major revenue sources are tipping fees.

In addition to the operational guidelines for the subsidy provision to the private sector, the eligibilities to be entitled to the subsidies should be clearly stated in the subsidy clauses of the SWMPC Act. The requirements for private franchisees to be entitled to the subsidies include:

- To have experiences of providing collection services on any of the service zones;
- To properly pay the franchise fees in accordance with the relevant regulations;
- To submit regular performance and financial reports;
- To meet the performance requirements set by SWMPC during the contract term;
- To receive the proper auditing; and
- To submit the vehicle procurement plan.

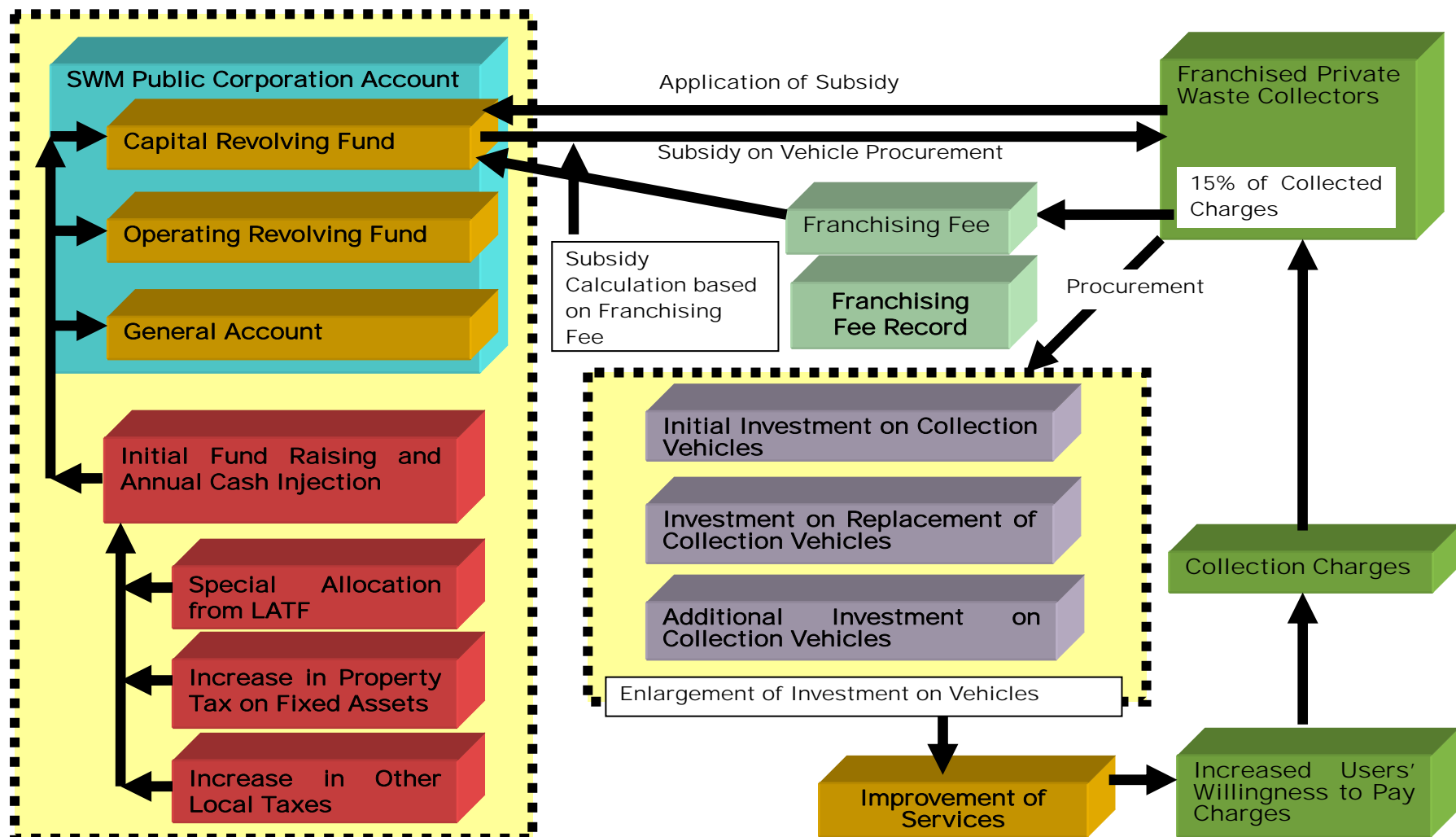


Figure B.5.1 Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 1)

Source: JICA Survey Team

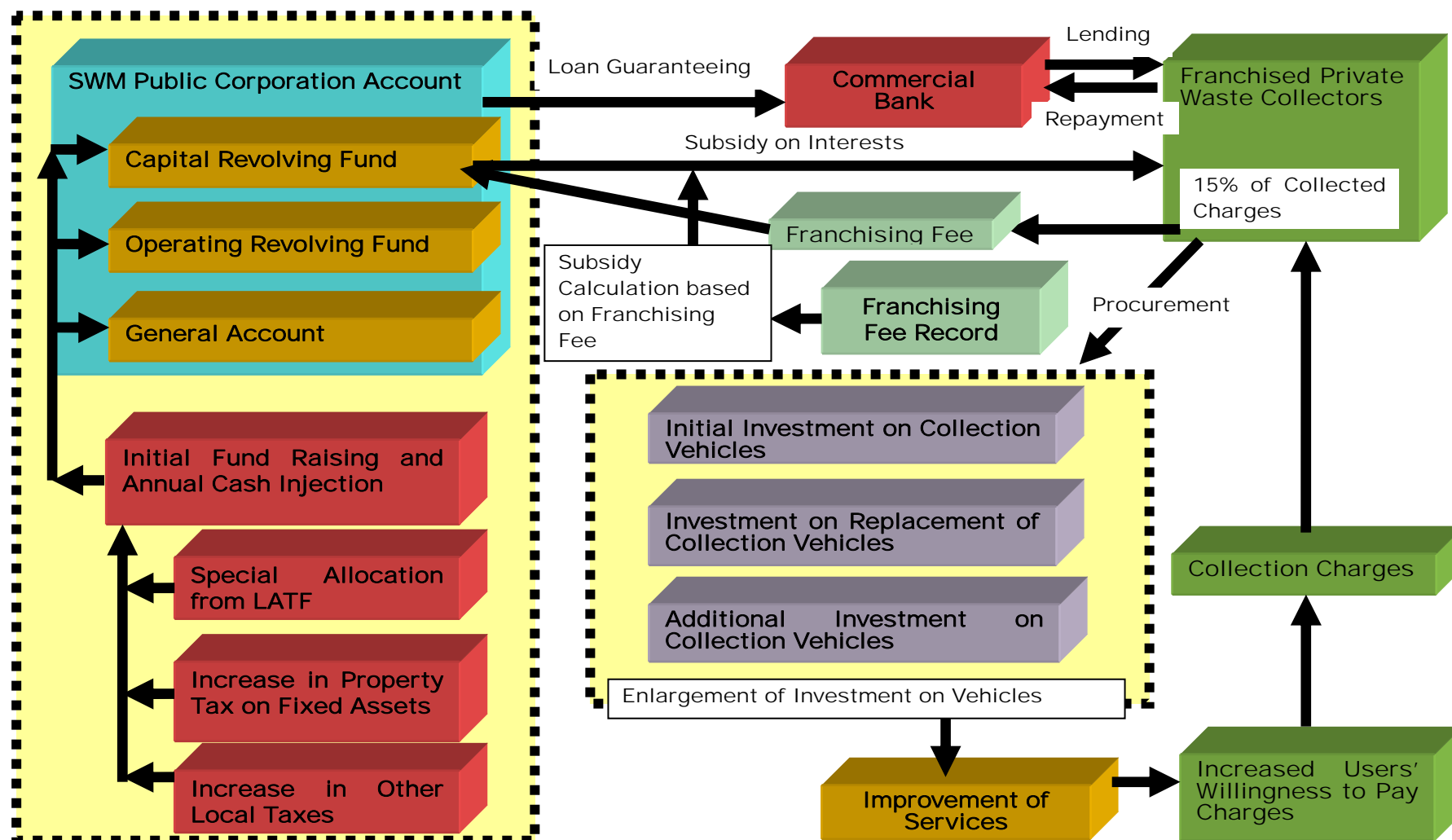


Figure B.5.2 Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 2)

Source: JICA Survey Team



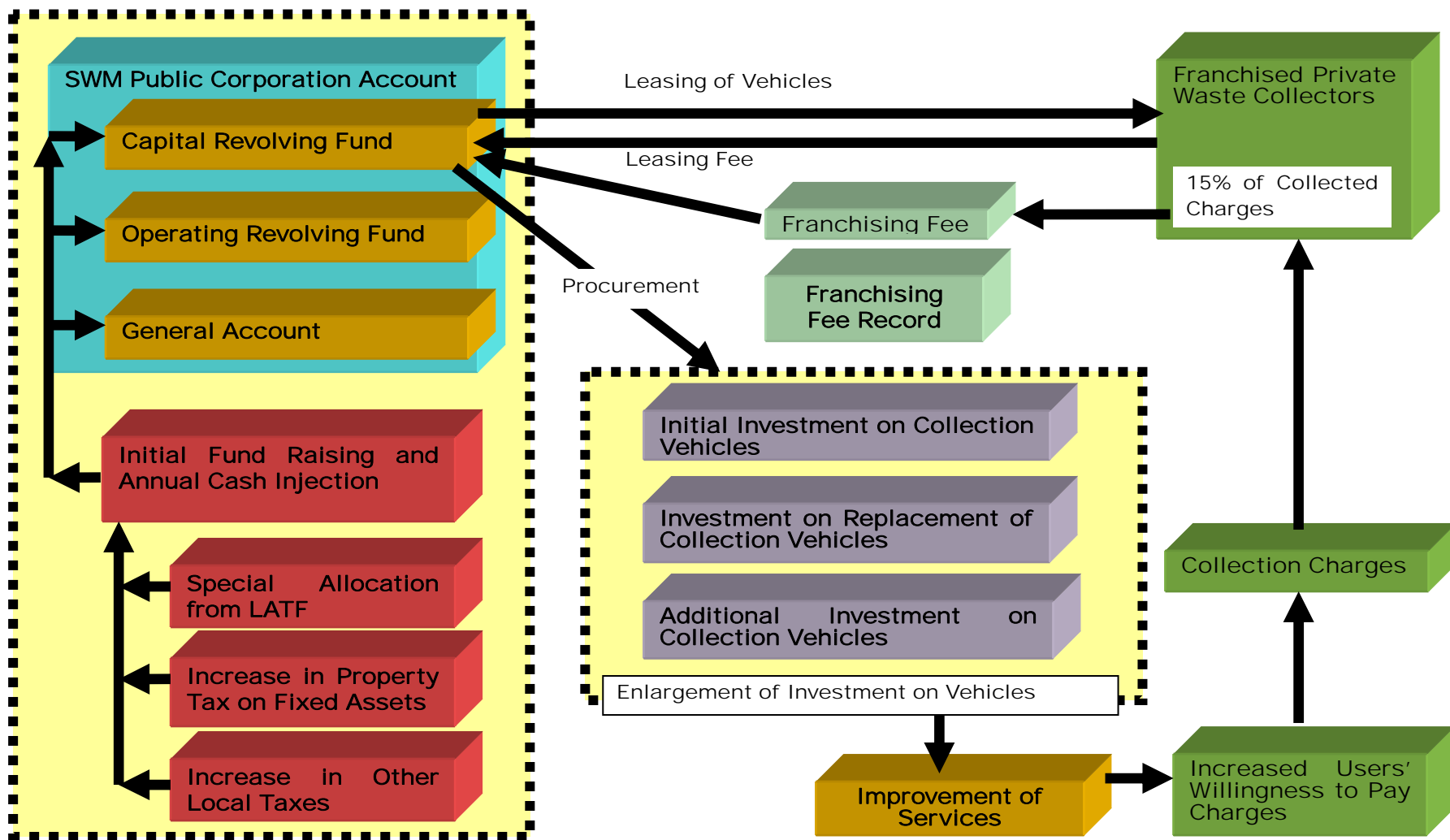
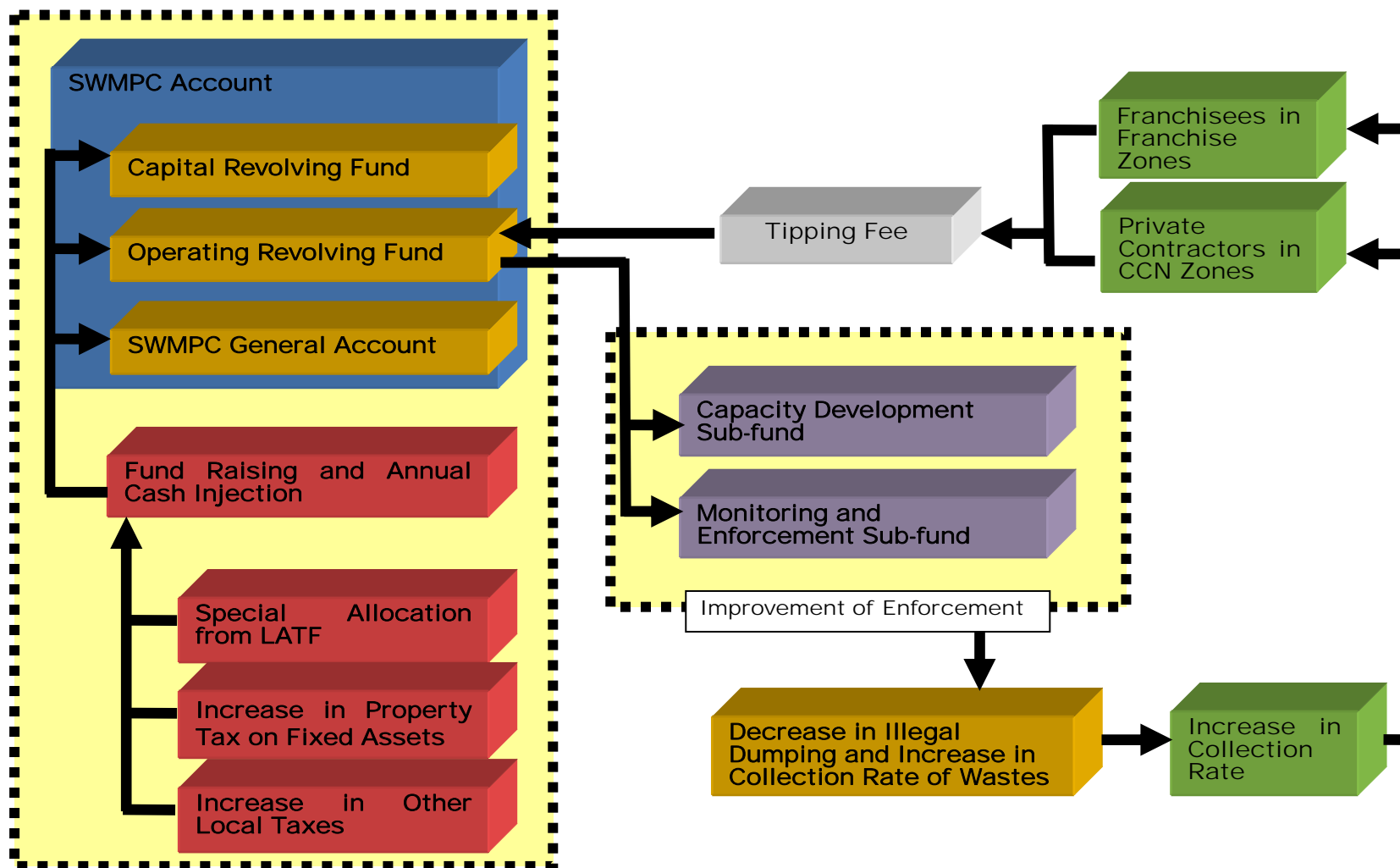


Figure B.5.3 Proposed Operational Flow of Subsidy Provision under SWMCRF (Option 3)

Source: JICA Survey Team



**Figure B.5.4 Proposed Operational Flow of Subsidy Provision under SWMORF**

Source: JICA Survey Team

## 5.5.2 Mid-Term Action Plan

### (1) Legalisation of the Comprehensive PPP Act

#### (a) Requirements for the Legal Framework of PPP

The Guideline on Public-Private Partnership issued by the Public-Private Partnership Steering Committee under the Ministry of Finance in 2006 is the basic policy framework for PPP projects. Based on the understanding of the PPP Guideline, the Department of Environment of CCN prepared the document named “Towards an Integrated Solid Waste Management System for Nairobi through Private Public Partnership (PPP) Framework”. However, the PPP guideline as well as this document does not stipulate the specific requirements and procedures for the detailed long-term PPP schemes such as concession, BOT and its related variations. In order to provide the regulatory framework for PPP projects, the Guideline will be upgraded to the comprehensive PPP Act.

#### (b) Inclusion of Franchise Contract Guideline for Collection and Transport in the Current PPP Guideline

After selecting the franchisees for the collection services in the tendering process, the SWMPC should prepare a clear-cut contract document which defines terms and conditions of the services. The franchise contract basically explain the rights and obligations of the authority and private franchisees. The guideline for the franchise includes the following items. More detailed typical contents of franchise contract are shown in **Table B.5.5**.

- Contents of Services to be Rendered
- Zones and Service Coverage
- Tariff and Payment to Franchisees
- Franchise Fee
- Subsidies to Franchisees
- Performance Security
- Regulatory Framework
- Identification, Uniforms and Corporate Logo
- Liability and Indemnity
- Performance Monitoring
- Auditing
- Vehicles and Equipment
- Arbitration
- Termination of Contract

**Table B.5.5 Typical Contents of Franchise Contract**

No.	Provision	Contents of Contract
1	Service	<ul style="list-style-type: none"> <li>● Basic Service</li> <li>● Commissioning Period</li> <li>● Public Awareness and Compliance</li> <li>● Hours of Service</li> <li>● Disposal and Transfer</li> <li>● Tipping Fees</li> <li>● Hazardous Waste</li> <li>● Additional Service</li> <li>● Personnel</li> <li>● Franchisee's Inventory</li> <li>● Registration, Permits and Taxes</li> <li>● Service Goals</li> </ul>

No.	Provision	Contents of Contract
		<ul style="list-style-type: none"> <li>• Holidays</li> <li>• Force Majeure</li> <li>• Default in Performance</li> <li>• Warnings</li> <li>• Independent Franchisee</li> <li>• Grievance Resolution</li> </ul>
2	Ownership of Solid Waste	<ul style="list-style-type: none"> <li>• Pre-discharge or Disposal</li> <li>• Post-discharge or Disposal</li> <li>• Residential Recycling</li> </ul>
3	Zones and Services	<ul style="list-style-type: none"> <li>• Service Coverage</li> <li>• Boundaries of Zones</li> <li>• Residential and Commercial Area</li> <li>• Slum Area</li> <li>• Institutions</li> <li>• Special Collection</li> <li>• Declinations</li> <li>• Miscellaneous Services</li> </ul>
4	Payment to Franchisee	<ul style="list-style-type: none"> <li>• Franchise</li> <li>• Tariff and Fees for Door-to-Door Collection</li> <li>• Tariff and Fees for Station Collection</li> <li>• Tariff Charging System for Door-to-Door Collection</li> <li>• Tariff Charging System for Door-to-Door Collection</li> <li>• Counter-measures for Non-payment of Fees</li> <li>• Franchise Fees</li> <li>• Recordkeeping of Franchise Fees</li> </ul>
5	Subsidy	<ul style="list-style-type: none"> <li>• Eligibility for Application of Subsidies</li> <li>• Procedures for Application of Subsidies</li> <li>• Calculation Method for Amount of Subsidies</li> <li>• Reporting on Investment Schedule for Vehicles</li> <li>• Acceptance on Auditing on Subsidies</li> </ul>
6	Performance Security	<ul style="list-style-type: none"> <li>• Franchisee's Obligations</li> <li>• Environmental Contingency</li> <li>• Failure to Maintain Security</li> <li>• Termination of Security</li> </ul>
7	Regulatory Framework	<ul style="list-style-type: none"> <li>• SWMPC</li> <li>• Regulatory Framework</li> <li>• Sanitary Landfill Site</li> <li>• Intermediate Treatment Facilities</li> </ul>
8	Identification, Uniforms and Corporate Logo	<ul style="list-style-type: none"> <li>• Identification</li> <li>• Uniforms</li> <li>• Protective Gears</li> <li>• Vehicle Identification</li> <li>• Corporate Logo</li> </ul>
9	Liability and Indemnity	<ul style="list-style-type: none"> <li>• Indemnity</li> <li>• Insurance</li> <li>• Certificates of Insurance</li> <li>• Proceeds</li> <li>• Defense</li> </ul>
10	Performance Monitoring	<ul style="list-style-type: none"> <li>• Inspection</li> <li>• Monitoring</li> <li>• Cooperation</li> <li>• Complaints</li> <li>• Complaint Logs</li> <li>• Vehicle Routes and Logs</li> </ul>
11	Auditing	<ul style="list-style-type: none"> <li>• Audit on Service Performance</li> <li>• Audit on Fee Collections and Franchise Fees</li> <li>• Audit on Subsidies</li> </ul>
12	Vehicles and Equipment	<ul style="list-style-type: none"> <li>• Fleet Requirement</li> <li>• Registration</li> <li>• Repair and Maintenance</li> <li>• Operation and Vehicle Logs</li> <li>• Weights and Volumes</li> </ul>
13	Arbitration	<ul style="list-style-type: none"> <li>• Duty to Resolve</li> </ul>

No.	Provision	Contents of Contract
		<ul style="list-style-type: none"> <li>● Appointment of Panel</li> <li>● Arbitration</li> <li>● Legal Fees</li> </ul>
14	Termination	<ul style="list-style-type: none"> <li>● By Franchisee</li> <li>● By SWMPC</li> <li>● Delinquent and Closed Accounts</li> <li>● Records</li> </ul>

Source: JICA Survey Team

**(c) Inclusion of Service Contract Guideline in the Current PPP Guideline**

After selecting the private service provider for the management of the sanitary landfill site and intermediate treatment facilities in the tendering process, the SWMPC should prepare the clear-cut service contract document which defines terms and conditions of the operational services of those facilities. The service contract basically explains the rights and obligations of the authority and private service providers. The guideline for the service contract includes the following items:

- Contents of Services to be Rendered
- Payment to Service Provider
- Tipping Fee
- Performance Security
- Regulatory Framework
- Liability and Indemnity
- Performance Monitoring
- Auditing
- Vehicles and Equipment
- Arbitration
- Termination of Contract

**(d) Legalisation of the Comprehensive PPP Act**

The PPP guideline as well as the document named “Towards an Integrated Solid Waste Management System for Nairobi through Private Public Partnership (PPP) Framework” prepared by DoE does not stipulate the specific requirements and procedures for the detailed long-term PPP schemes such as concession, BOT and its related variations.

The current PPP guideline includes the following contents:

- Definitions
- Basic Procedures for Entering into Public-Private Partnership
- PPP Steering Committee
- Price of Services
- Security of Supplies
- Minimum Revenue Guarantee
- Government Guarantee
- Duration of the Public-Private Partnership
- Steps in PPP Approval
- Planning for PPP
- Transparency
- Procurement Procedures

- Contractual Provisions
- Contract Administration
- Unsolicited Bids

The above contents in the guideline should be upgraded to the new PPP Act by adding the following missing ingredients required for the implementation of the successful PPP projects.

**(i) Identification and Allocation of Risks**

Risks for the public sector and the private sector embedded in PPP contracts, including payment mechanism based on satisfying performance levels, should be properly identified and allocated among the contractual parties. It is commonly said that, in a PPP contract, risks should be allocated to the party most capable of managing those risks. As a result, PPP contracts should have a mechanism allocating a wide range of risks related to concession, BOT and its related variations among both the public sector and the private sector. The provisions for the identification and allocation of risks should be clearly stipulated in the new PPP Act to be upgraded from the PPP guideline.

More specifically, the contents of the new PPP Act to be included in relation to the identification and allocation of risks are:

- To define the different risks existing in the contract and establish to what extent they are going to be held by the public sector and the private sector;
- To clearly specify which risks may cause the modification of the economic terms of the contract in order to rebalance the financial terms of the contract so as to make the bidders know, at the time of preparing their offers, which specific cases may lead to changes in the contract conditions initially stated;
- To help avoid future renegotiations between the private contractors and the public sector arising from offers that were initially too optimistic and is an incentive to the bidders to prepare offers as realistically as possible;
- To reduce the demand risk by estimating, depending on the accumulated present value of the revenues finally obtained by the private contractors, the future changes in the economic conditions of the contract; and
- To permit the uses of variables, such as the contract term, which are easy to modify in an automatic way to re-establish the economics of the contract once the bands have been surpassed.

**(ii) Reasonable Concession Term**

The methodologies to determine the concession term should be clarified in the contractual provision of the new PPP Act. In case of concession, the key determinant of the concession term is minimisation of lifecycle cost of the facilities being delivered in the PPP contract. The ideal methodology is that the term should be long enough so that the concessionaire is incentivised to make efforts to keep the total costs down in designing, operating and maintaining those facilities. Therefore, a concession term matching the useful economic life of the facilities is recommended in the new PPP Act. On the other hand, the concession term should not be so long that it adversely impacts the flexibility of the public sector in managing the facilities such as sanitary landfill sites and intermediate treatment facilities.

**(iii) Clear-cut Termination Clause**

A clear-cut contract termination clause is an essential prerequisite for avoiding an early termination risk of the long-term PPP projects such as concession, BOT and their

variations. Therefore, the methodologies to determine the conditions of the contract termination clause should be clarified in the contract provision of the new PPP Act.

**(iv) Detailed Methodology of Value for Money Analysis**

The Value for Money (VfM) test or assessment is an integral part of the measurement of the cost performance of the long-term PPP projects such as concession, BOT and their variations in comparison with the implementation by the conventional public sector. Without the clear-cut methodologies of the VfM test or assessment, there would be no criteria to choose the optimum PPP option from a wide range of PPP options. The clause to stipulate the clear-cut methodologies for the VfM test or assessment should be also included in the contractual provision of the new PPP Act.

**(2) Legal Arrangement and Implementation of Auditing on SWMPC and Revolving Funds**

The accountability and transparency of the SWMPC as well as the revolving funds kept in the special account of SWMPC is a key to the sustainable provision of the solid waste management services. In this connection, the auditing and monitoring by the relevant authorities should be clearly stated in the provision of the SWMPC Act, and should be continuously carried out for a long period.

The Kenya National Audit Office (KENAO) is a constitutional office mandated to audit the central government, local authorities and state corporations. The KENAO is a statutory agency to provide audit services for keeping the accountability and transparency in using the public resources.

The Department of State Corporations normally carries out financial audits for state corporations. Sections 12 to 20 of the Public Audit Act stipulate the auditing for the state corporations by KENAO. Since the newly established SWMPC is a sort of public corporation, KENAO is basically in a position to periodically audit the SWMPC itself. In the SWMPC Act, the acceptance of the auditing by KENAO should be indicatively stipulated. Under the same legal framework, the auditing should be also conducted for the management of SWM Capital and Operating Revolving Funds in the special account of SWMPC.

On the other hand, the Specialised Audit Department of KENAO is in charge of the auditing of other organisations in which the public sources are injected. Since the private franchisees will be subsidised by the public sources, the franchisees should be also audited by the Specialised Audit Department of KENAO in terms of the subsidy utilisation and the fee collections.

**5.5.3 Long-Term Plan**

**(1) Legalisation of Consolidated SWM Act**

The currently fragmented SWM-related acts, regulations and by-laws should be consolidated among the relevant authorities concerned. The following organisations are required to form the joint committee for the formulation of the consolidated SWM Act:

- MoLG
- CCN
- MENR/NEMA
- ODPM/MOF
- MOH
- Other Relevant Line Ministries

## **(2) Long-Term Monitoring and Enforcement of SWM-related Acts, Regulations and By-laws**

A long-term and periodical performance monitoring and assessment on the enforcement status of the SWM-related acts, regulations and by-laws is required for the sustainable legal and institutional reform. The long-term review of monitoring process on the enforcement status of the SWM-related legal framework should have a feedback mechanism for modifying the SWM-related acts, regulations and by-laws.



## **6. PRIVATE SECTOR INVOLVEMENT PLAN**

### **6.1 Objective**

The objective of the private sector involvement promotion plan is to establish the optimum “PPP (Public-Private Partnership) Model” for the purpose of providing the best solid waste management services based on the optimum partnership between the public sector and the private sector.

### **6.2 Planning Policy**

- (1) Utilisation of the past experiences of success and failure of Public-Private Partnership
- (2) Selection of the optimum Public-Private Partnership option based on comparative analysis of the alternative options
- (3) Further extension of concept of Public-Private Partnership (PPP) to Public-Private-People Partnership (PPPP) with the involvement of the communities

### **6.3 Strategy**

#### **(1) Maximisation of Benefits by PPP**

The extent to which the private sector can bring benefits is reflected by the level of competition in the sector. Usually private sector management brings a number of benefits including:

- A more committed and innovative management;
- Better management skills and more effective decision-making;
- Improved resource management of assets and human resources;
- More efficient financing and management of capital investment;
- Motivated workforce.
- Quick management decision
- Higher labour productivity; and
- More efficient operational procedures.

#### **(2) Formulation of New Public-Private Partnership based on Long-Term, Stable and Win-Win Basis**

The key objective of involving the private sector is to explore a new source of capital financing. Private sector companies should be provided an incentive for making investments to improve the level of services for a long-term, stable and win-win based PPP scheme.

### **6.4 Goal**

#### **6.4.1 Short-Term Plan**

- Establishment of efficient and reliable private sector involvement scheme for the collection and transportation services, and the construction and management of sanitary landfill sites and intermediate treatment facilities through the new public corporation for SWM.
- Establishment of financial assistance system for the enlargement of investment for the improvement of collection and transportation services by the private sector.

#### 6.4.2 Mid-Term Plan

- Delivering services in lower income areas by the concept of cross-subsidy and introduction of new collection service boundaries for the first three zones.
- Securing transparency and accountability of contracts and tendering process with private service providers based on the feedback of the results of the mid-term performance monitoring and assessment on private service providers after their 5-year operations.
- Achievement of transparency and accountability of the financial assistance to the private sector based on the feedback of the results of the mid-term performance monitoring and assessment.

#### 6.4.3 Long-Term Plan

- Securing transparency and accountability of the contracts and tendering process with private service providers based on the feedback of the results of the long-term performance monitoring and assessment on private service providers after their 10-year operations.
- Improvement of collection and transportation services in low income areas by expansion of the new collection service boundaries for the additional six zones.
- Achievement of transparency and accountability of the financial assistance to the private sector based on the feedback of the results of the long-term performance monitoring and assessment.
- Achievement of the long-term agreement in the solid waste management among the public sector, the private sector and communities based on the concept of public-private-people partnership.

### 6.5 Action Plans for Private Sector Involvement Promotion

#### 6.5.1 Short-Term Action Plan

##### (1) Establishment of Optimum PPP Scheme

##### (a) Possible PPP Options

There is a wide variety of Public-Private-Partnership (PPP) options which can be implemented to make maximum use of the private sector involvement scheme. Out of the following options, the optimum private sector involvement plan will be selected.

- **Licensing (Private Subscription):** Licensing or private subscription allows qualified private service providers licensed by an authority to compete for the delivery of solid waste management collection services in a specific zone. Under this arrangement, waste generators make contracts with individual private service providers. The authority licenses private firms and encourages competition with each other in providing solid waste collection services. No firm has a monopoly in a specific zone, and each firm collects service charges from its customers or subscribers. CCN currently adopts this system in the entire city. The license is utilised to guarantee that a licensed service provider operates in accordance with the operational standards, and might be withdrawn if the service provider's performance is poor.
- **Service Contract:** Service contract is also a finite-term contract to a private firm to provide solid waste services, and an authority pays the firm for charges in response to the services to be delivered. Part of solid waste management services such as collection and transportation of wastes and management of a sanitary landfill site can be contracted out to a private operator for a certain period. In case of a service contract, collection vehicles are basically owned by an outsourced private firm, and a guaranteed payment from the

authority to the service provider is clearly defined in the contract document. While the authority is responsible for charge collections, the service provider has to bear the operational risks.

- **Franchise:** Franchise contract is a contract through competition in a finite-term to grant a private firm an exclusive monopoly to deliver a specific type of solid waste services within a specific zone. The awarded private franchisee directly collects its own revenues from waste generators within the designated zone. The franchisee pays a franchise fee to cover the authority's costs of managing and monitoring the performance of the solid waste management services.
- **Management Contract:** Management contract is a contract entrusting a specific solid waste management service under private management for a certain period of time, for which a management fee is paid to the management contractor. The management fee could be paid in accordance with the performance of the management contractor. Although management contract could be an attractive first step to the full-scale private sector involvement, it does not directly lead to the investment on the improvement of solid waste management services due to the relatively shorter contract term. A management contractor is required to mainly focus on improving its services to existing customers rather than on enlarging the service coverage such as delivering the services to the lower-income area.
- **Lease Contract:** Lease contract grants a private operator full control over delivering specific solid waste management services in exchange for use of the fixed assets whose ownership and responsibilities belong to the authority. Under an enhanced lease, while partial improvements of the leased facilities are the responsibility of the private operator, major investments remain the responsibility of the authority.
- **Concession:** Concession is a long-term contractual arrangement in which a private operator is awarded an official license to provide specific solid waste management services over a longer period of time in exchange for a negotiated fee. A concession agreement stipulates the rights and obligations of the awarded concessionaire who retains ownership of the principal assets. Normally, during an average period of 25 years, the concession contract transfers all responsibilities for capital investment and operation and maintenance to a private concessionaire. While the fixed assets legally remain the property of the authority, the concessionaire might pay a fee to use them.
- In case of the solid waste management services, concession contracts typically involve constructions of large-scale facilities such as a sanitary landfill site and intermediate treatment facilities. The authority may pay a tipping fee or service charge to use those facilities. The concession for a sanitary landfill site is subject to be operated on a "take or pay" basis, where tipping fees are paid even if the guaranteed minimum daily amount of wastes to be dumped of waste is not provided.
- **Build-Operate-Transfer (BOT) Contract and Its Variations:** Build-Operate-Transfer (BOT) contract and its variations are options which are similar to concession and are primarily suitable for large-scale investments on facilities such as sanitary landfill sites. During a relatively longer period up to 30 years, depending upon the size of the investment which has to be amortised, a BOT operator provides a wide range of solid waste management services in exchange for guaranteed service fees in the contract, although the operator accepts the risk to design, build and operate the facilities at the agreed standards of services in exchange for a guaranteed cash flow.
- **Full Privatisation:** Full privatisation is the most radical form of private sector involvement in which existing operations and assets for the solid waste management services are sold to the private sector, in some cases, with a limited term license.

**Table B.6.1** shows a variety of possible PPP options with the comparison of asset ownership, operations and maintenance, capital investment, commercial risks and duration of contract.

**Table B.6.1 Comparison of Possible PPP Options**

Option	Asset Ownership	Operations and Maintenance	Capital Investment	Commercial Risks	Duration of Contract
Service Contract	Public	Public and Private	Public	Public	1-2 Years
Franchise	Public	Public and Private	Public	Public	1-5 Years
Management Contract	Public	Private	Public	Public	3-5 Years
Lease Contract	Public	Private	Public	Public and Private	8-15 Years
Concession	Public	Private	Private	Private	25-30 Years
BOT and Its Variations	Public and Private	Private	Private	Private	20-30 Years
Full Privatisation	Private or Private and Public	Private	Private	Private	Indefinite

Source: Public-Private Partnership Handbook, Ministry of Finance, Singapore, 2004

Out of the above possible options, the BOT-related PPP options have a wide range of varieties and can be applied in different forms to different phases and facilities of solid waste management services. **Table B.6.2** shows possible BOT-related PPP options with the comparison of asset ownership, operations and maintenance, capital investment, commercial risks and duration of contract.

**Table B.6.2 Comparison of Options for BOT and Its Variations**

<b>DB</b>	Design-Build	One entity enters a contract with the owner to provide both architectural/engineering design services and construction services.
<b>BOT</b>	Build-Operate-Transfer	A concession is granted to a constructor to design, finance, maintain, and operate a facility for a period of time. The constructor recoups the cost of the project by collecting tolls during the life of the concession period.
<b>BTO</b>	Build-Transfer-Operate	A private developer finances and builds a facility and, upon completion, transfers legal ownership to the sponsoring government agency. The agency then leases the facility back to the developer under a long-term lease. During the lease, the developer operates the facility and earns a reasonable return from user charges.
<b>BOOT</b>	Build-Own-Operate-Transfer	Ownership of the facility rests with the constructor until the end of the concession period, at which point ownership and operating rights are transferred to the host government.
<b>BOO</b>	Build-Own-Operate	Resembles outright privatisation. Projects of this type are often let with no provision for the return of ownership to government.
<b>DBO</b>	Design-Build-Operate	The contractor is responsible for the design and construction of a facility. Upon completion transfer of legal ownership to the sponsoring government agency. The contractor is also responsible for Operating and Maintaining the facility for the stipulated period.
<b>DBFO</b>	Design-Build-Finance-Operate	A constructor is responsible for the design, construction, maintenance, and financing. The constructor is compensated by specific service payments from government during the life of the project.
<b>BLTM</b>	Build-Lease-Transfer-Maintain	In this type of arrangement, a facility is typically designed, financed, and constructed by the private sector and is then leased back to government for some predetermined period of time at a pre-agreed rental.
<b>LROT</b>	Lease-Renovate-Operate-Transfer	This model is for facilities that need to be modernised. The private sector constructor pays a rental to government and agrees to renovate the facility. In exchange, the constructor is granted a concession to operate the facility for a fixed period of time and to charge a fee for the service.

Source: NETAP Regional Solid Waste Management Project: Regional Guideline

## (b) Criteria for Selecting Optimum PPP Scheme

The following criteria are employed in an attempt to select the best and optimum option for the private sector involvement scheme in providing the solid waste management services. However, when applying these criteria, the current site-specific conditions of Nairobi City should be carefully taken into account. Choosing the optimum private sector involvement option is one of the most crucial decisions before formulating the organisational and legal contents of the Master Plan as it indicatively defines the major conditions between the public sector and private sector. However, as the decision-making process depends on various factors, no substantial solution can be applied. A broad range of the past experiences indicate that a mere copying of approaches that have been successful in other countries will tend to fail when they are not properly adapted to the local and site-specific situation.

- **Effectiveness:** Effectiveness is the quantitative degree of increasing the service coverage and qualitative significance of improving the quality of services through involving the private sector.
- **Competition and Efficiency:** Compared with an inefficient public waste management services, the private sector involvement through a competitive bidding can improve the efficiency of solid waste management services. By using the private sector's cost-saving expertise, the private sector involvement will significantly reduce the financial burden on the authority. The efficiency will be normally measured by the value for money analysis. If the efficiency of the solid waste management services through competition is significantly improved, the tariff level will eventually be reduced due to the further rationalised private sector, thereby benefitting the whole society.
- **Accessibility to Capital Investment:** The involvement of the private sector can enlarge the access to capital or financial resources for procurement of collection vehicles as well as the access to human capital for expertise and skills. The degree of the accessibility to those financial and human capital by the public sector is one of the important motivation for the private sector involvement.
- **Accountability and Transparency:** Accountability and transparency under the private sector involvement depends on the degree to which the procurement process is open to competitive market forces and the extent to which corruption distorts the process. On the other hand, accountability and transparency in the implementation phase depends on the performance monitoring.
- **Risks and Sustainability:** The risks in private sector involvement are important factors for sustainably providing the solid waste management services. By sharing the risk factors between the public sector and the private sector, the regulatory framework which removes the risk factors will protect the private sector, thereby making private sector involvement on the solid waste management services function sustainably.
- **Equity:** The private sector involvement will not necessarily benefit the whole population. The level of equity in universally providing fair solid waste management services to all beneficiaries under the private sector involvement is also one of the important evaluation criteria.

## (c) International Experiences

While there have been a number of successful experiences on private sector involvement in the major cities of developed countries, there have been also considerable number of failures especially in terms of long-term sustainability. Private sector participation in the field of solid waste management services has been involving a broad spectrum of options. "Private Sector Participation in Municipal Solid Waste Management, Part I: Executive Overview" by the

World Bank” listed up varieties of major international experiences of the private sector participation as below<sup>1</sup>. However, it is not advisable to directly apply these international experiences to other countries, and country-specific or site-specific conditions should be carefully taken into account. (Note: *Figure affixed at the end of a word or a sentence refers to the source listed at the end of this supporting report.*)

- Provision of vehicles or heavy equipment: **By lease or rental agreement with equipment owners**
- Pre-collection of residential solid waste: **By private subscription**
- Pre-collection of residential solid waste: **By franchise**
- Pre-collection of residential solid waste: **By service contract**
- Collection of construction and demolition debris: **By private subscription**
- Collection of industrial wastes from large factories: **By private subscription**
- Collection of commercial wastes from hotels, offices, markets or stores: **By private subscription**
- Collection and final disposal of infectious healthcare wastes from hospitals and clinics: **By private subscription**
- Collection of general municipal wastes from entire neighbourhoods: **By service contract or franchise, or by management contract**
- Sweeping or cleaning of streets and open areas: **By service contract**
- Repair of municipal solid waste equipment: **By service contract on an as-needed basis**
- Repair of municipal solid waste equipment: **By service contract on a long-term basis**
- Conversion of waste to compost : **By service contract or concession**
- Operation of a transfer station and long distance hauling system: **By service contract or concession**
- Operation of a disposal site: **By service contract or concession**
- Collection of user charges or waste taxes: **By franchise with bill collection agents, water authority, or electricity utility**

(d) **Factors to be Considered in Designing Optimum PPP Scheme**

The following factors should be carefully taken into account in designing a full-scale private sector involvement plan.

**Duration of Contract**

The duration of a contract is a cardinal issue to be taken into account by the private sector for the access to capital investment. If the duration of a contract is relatively short, a private service provider would not have sufficient time to repay a loan for the procured collection vehicles as well as the acquisition and construction of facilities. As a result, the private service provider will not be able to properly replace its fleet of collection vehicles and equipment. It is widely recognised that the economic life of a typical collection vehicle is approximately 5 to 10 years. Therefore, the minimum contractual interval of solid waste collection services which require the purchase of vehicles should be at least 5 years to allow the service provider to repay its loan for those vehicles. In other words, the contract period should be in such a term which allows the depreciation of vehicles and equipment used to achieve the service level in the contract. A limited contract period would be a disincentive for the service provider to make investment on new and replaced vehicles as it faces the risk of termination of its contract before depreciating vehicles and repayment of its loan.

### **Mitigation of Long-Term Risk**

Although the duration of a contract should be reasonably long, another risk on the contract term to be considered would be a long-term contract risk. If a private service provider is awarded a long-term contract, it might put the private company into a monopoly position so that there are no alternative service providers, where it is rather difficult for the authority to keep the service level satisfactory.

### **Step-wise Approach:**

It is not advisable to entrust the entire service area to the private sector from the initial phase of the private sector involvement. In other words, it is better to start the private sector involvement with a stepwise approach, and expand the degree of involvement of private companies in a gradual manner, so that the financial and service-quality risks by private sector involvement should be minimised and subsequent contractual arrangements can be modified to improve the performance of the private operator.

More specifically, in case of waste collection services, it may be possible to start with a small number of service zones and to extend service zones to areas city-wide based on the experiences. In such a situation, a stepwise involvement of the private sector can significantly mitigate the risks of private sector involvement. On the other hand, in case of the operation services of a sanitary landfill site and intermediate treatment facilities, a stepwise approach also can be applied and it may still be possible to start with the construction of the downsized scale of facilities rather than the large-sized facilities.

### **Continuous Competitions**

Competition is widely regarded as a key to successful private sector involvement. Continuous competitions in the tendering process ensure competitively-priced services by the private service provider. It is beneficial to divide a large-scale city-wide service into several zone-wise contracts so that there are competitions among private service providers. If those private service providers are competing each other in different zones, the performance and the level of the services can be compared, and if one service provider fails, others can take over the service.

### **Size of Zone**

It is also important to take into account the size of the service zones that will be outsourced to a private service operator.

## **(2) Selection of General Framework for PPP**

### **(a) Franchise System for Collection and Transport**

The continuation of the private subscription, which is currently adopted in Nairobi City, is not recommended for the waste collection services, because it does not utilise the economies of contiguity. The efficiency can be achieved only when one collection vehicle delivers collection services through a continuous collection route. Furthermore, since private subscription is the most common method of collecting wastes from large generators such as large hotels, restaurants, large apartments and commercial complexes, extending the service to low-income areas could not be a solution for increasing the service coverage.

On the other hand, the franchise system is one of the preferred methods to privatise solid waste collection services in lower-income cities with limited financial sources. In low-income countries, beneficiaries may prefer the franchise method for solid waste collection services, since beneficiaries expect that the private franchisees will be motivated to deliver services in return for fees.

There are some experiences of introducing the franchise system in other developing countries. One of the typical experiences is the case of Ghana. The main type of collection service in three major cities (Accra, Kumasi and Tema) are communal collection and house-to-house. Communal collection is a system for solid waste collection in which individuals bring their solid waste directly to communal skip containers at secondary collection points from where the waste is collected and transported to the disposal site by the companies. The communal solid waste collection services are provided under service contract arrangements between the municipal authority and the private companies. The Municipal Authorities pay the companies for the services delivered.

The house-to-house service is rendered to residents in high and middle income areas. Another form of house-to-house solid waste collection called “block collection” is a predominant mode of solid waste collection. House-to-house solid waste collection services are provided under franchise contract arrangements between the municipal authorities and the private companies. Under the franchise contract, the companies collect revenue from the users and subsidy from the municipal authority for some areas. For the purpose of waste collection, the city has been divided into waste collection districts where a company is contracted by the public sector to collect waste in one district or two. Fifteen (15) waste collection companies have been contracted. On the franchise basis, a house-to-house collection is done in high income areas and the contractors charge the households some fees with weekly collection frequency. The main constraints include inadequate logistics, inadequate funding, and a low charge collection rate in low-income areas.

On the other hand, the waste collection services of Dar es Salaam which is the capital of Tanzania have been covered by the combination of the direct services by the Dar es Salaam City Council and the contracting out for the private contractors in major residential areas, market places, open spaces, roads and streets. In addition, community-based waste collection services involving CBOs are rendered in the lower-income areas. However, in the same situation as Ghana, there has been also no mechanism of the cross-subsidy system to utilise the revenue from the collection charges generated in the higher-income areas in the current combined services in Dar es Salaam.

**Photo B.6.1** is the zoning in case of Ghana without cross-subsidy<sup>2</sup>, while **Photo B.6.2** is the zoning in this new Master Plan with subsidy by combined zoning of high-income areas and low-income areas.





**Photo B.6.1 Zoning in Case of Ghana**



**Photo B.6.2 Zoning in Case of the New Master Plan**

**Table B.6.3** indicates the 3-grade evaluation results of PPP options for collection and transport services, taking into account the special conditions in Kenya in which there is no clear-cut regulatory framework for the long-term PPP schemes.

**Table B.6.3 Comparison of 3-grade Evaluation on PPP Option (Collection and Transport)**

Evaluation Criteria	PPP Option							
	License	Franchise	Service Contract	Management Contract	Lease	Concession	BOT and Variations	Full Privatisation
Effectiveness	B	A	B	A	B	B	B	B
Efficiency and Competition	B	B	B	B	B	B	B	A
Access to Capital	B	B	C	B	C	A	A	A
Accountability	B	A	B	B	B	B	B	C
Risks and Sustainability	A	A	A	B	B	C	C	C
Equity	B	B	B	B	C	C	C	C

Source: Evaluated by JICA Survey Team

Note: A: Good, B: Moderate, C: Not good

**(b) Concessional Loan combined with Service Contract for Disposal Site and Intermediate Treatment Facilities**

There are sizable risks in the long-term PPP options such as concession, BOT and its variations. Private sector involvement requires a clear regulatory framework to mitigate and control the long-term contractual risks. It also requires that careful studies on the risk allocations should be conducted in advance, so that the best technical systems are selected and specified. The major risks are as shown below.

**Economies of Scale**

Bidders for concession, BOT and other long-term PPP variations are required to bear higher bidding costs due to the complicated tendering process. Hence, only large-scale PPP projects can generate sufficient cost performance to offset the higher bidding costs from the PPP procurement. It is generally argued that a large-scale PPP project such as concession, BOT and other variations should be used on projects which involve the construction of assets with a capital value above USD 50 million. Since the amount of the sanitary landfill site or the intermediate treatment facilities in the Master Plan is slightly less than this threshold, the economies of scale will not function in case of concession, BOT and other long-term PPP variations.

**Service Discontinuity**

If the awarded private service provider encounters financial difficulties during the contract period, there would be a risk that SWMPC will not be able to immediately take over the operation, which will eventually result in the termination of the services. This long-term risk of failure by the private sector involvement exists if the service is outsourced for a relatively longer period under PPP arrangement such as concession, BOT and other long-term variations. To remove the risks of suspending the services, the long-term PPP options should include provisions for SWMPC to intervene into and takeover the operation to continue delivering the services. Nevertheless, in some cases, service contracts for the management of sanitary landfill sites have no penalty clauses. Even if a penalty clause is included in the contract, SWMPC has little capacities to immediately take over the operation of the facilities.

**Downsized Demand Risk**

Before a concessionaire agrees to a concession for the construction and operation of a sanitary landfill site and intermediate treatment facilities, a concession contract will guarantee a minimum revenue, which is provided by means of a minimum tonnage agreement. This type of

a long-term agreement in the concession contract is frequently cited as “put or pay agreement” or “off-take purchase agreement”, which defines a minimum tonnage of wastes regardless of the actual amount of wastes to be disposed or treated in those facilities. Without the proper risk management, the authority cannot respond to these demand risks. This kind of downsized demand risk belongs to the SWMPC.

Since the investment on the new sanitary landfill site as well as the intermediate treatment facilities requires large-scale financial resources with long-term risks, the most realistic financial option is to seek funding through **a concessional loan from an international lending institution together with the service contract** for the efficient use of the private sector. A concessional loan from an international lending institution is designed to financially support developing countries by providing long-term and low-interest loans for development projects of large-scale facilities. This type of concessional loan has a longer repayment period together with a low and preferential interest rate as well as a longer grace period.

**Table B.6.4** indicates the 3-grade evaluation results of PPP options for sanitary landfill site and intermediate treatment facilities, taking into account the special conditions in Kenya where there is no clear-cut regulatory framework for the long-term PPP schemes.

**Table B.6.4 Comparison of 3-Grade Evaluation on PPP Options  
(Sanitary Landfill Site and Intermediate Treatment Facilities)**

Evaluation Criteria	PPP Option							
	Licensing	Service Contract	Franchise	Management Contract	Lease	Concession	BOT and Variations	Full Privatisation
Effectiveness	n.r. (not relevant)	A	n.r.	A	B	B	B	B
Efficiency and Competition	n.r.	B	n.r.	B	B	B	B	A
Access to Capital	n.r.	C	n.r.	B	C	A	A	A
Accountability	n.r.	B	n.r.	B	B	B	B	C
Risks and Sustainability	n.r.	A	n.r.	B	B	C	C	C
Equity	n.r.	B	n.r.	B	C	C	C	C

Source: Evaluated by JICA Survey Team

Note: A: Good, B: Moderate, C: Not good

### (3) Formation of Detailed PPP Structure for PPP

#### (a) Establishment of PPP Structure for Collection and Transport

##### (i) Streamlining of Zoning System by Socio-Economic Category

It is widely recognised that a large collection zone enables a private service provider to increase efficiency through economies of scale. The economies of scale include an integrated large-scale workshop for the operation and maintenance of collection vehicles, and the reduction of indirect overhead cost. On the other hand, the award of a large-scale contract to one bidder might create a monopoly with negative long-term effects such as increasing prices and decreasing performance quality.

The zone-wise division of a large-sized service area and the award of the contract to the separated service zones can guarantee long-term competitions within the city-wide service area and also provide opportunities to replace a service provider who does not fulfill its contractual requirements. However, even in the case of separated service areas,

the smallest units to be operated by a private service provider should ideally involve at least 100,000 beneficiaries in order to achieve economies of scale and flexibility.

It is generally argued that the zones should at least have approximately 400,000 beneficiaries to attract international investors<sup>3</sup>. In order to attract experienced international service providers, even much larger collection zones or the procurement packages which combine the services of waste collection, transfer and disposal should be considered. Therefore, the feasible size of the collection service zones for the local private franchisees ranges from 100,000 to 400,000 beneficiaries.

Apart from the size of zone, the zoning system for the solid waste collection services is streamlined in accordance with the following basic principles:

- (i) The internal cross-subsidy system where the revenues from the high-income areas are transferred to the fund to provide solid waste management services in low-income areas is introduced.
- (ii) In order to establish the cross-subsidy system between the high-income areas and the low-income areas in the city, the current zoning system based on the administrative will be comprehensively reviewed and the new zoning system based on the economic level will be explored.
- (iii) The new zoning system is carefully decided by adopting the following socio-economic categories of areas in accordance with the results of the poverty map prepared by the World Bank<sup>4</sup>. **Figure B.6.1** illustrates the city-wide map showing 3 categories of the socio-economic areas. Those 3 categories of the socio-economic areas are based on the poverty rate of each area which is the rate of the number of households under the poverty line defined by the World Bank as below. Out of these 3 categories, the majority of slums which belong to the lowest income group category is included in the red-coloured area.
  - **Blue-coloured Area:** High-income areas with relatively higher willingness to pay for charges which can independently cover their SWM services and generate the fund for low-income zones (Poverty Rate: less than 25%)
  - **Yellow-coloured Area:** Middle-income areas with average-level willingness to pay for charges which can independently cover their SWM services (Poverty Rate: 25 % to 50%); and
  - **Red-coloured Area:** Low-income areas with relatively lower willingness to pay which require the subsidies from high-income zones (Poverty Rate: more than 50%).
- (iv) The new zoning system is designed to assure the reasonable profit of private service providers in the long-term even under the cross-subsidy system so that “Win-Win” situation between the SWMPC and private service providers will function well.



The major concepts of the new zoning system are as below.

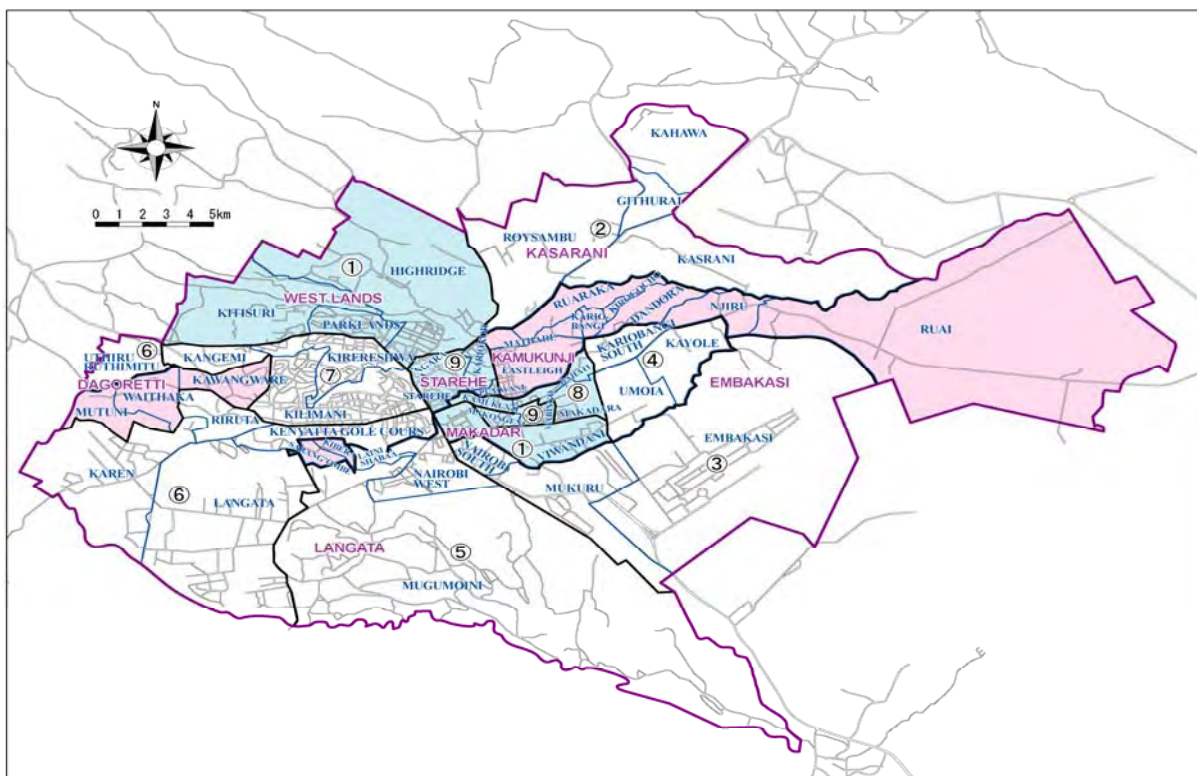
- The high-income areas are combined with the low-income areas to make the private sector keep providing their services.
- The middle-income areas are clustered as financially independent zones.
- The number of zones is 9, which is same as the current number of administrative operational zones.
- The approximate number of beneficiaries is 200,000 in each zone.
- The major slums such as Kibera and Mathare belong to the low-income areas, since those slums cannot afford to pay for the charges and the private sector alone cannot deliver the collection services.
- The direct contract-out zone by the SWMPC in low-income areas including major slums will be established except for the designed 9 zones, since those areas could not be covered by the private sector due to the low-level affordability to pay for collection charges.
- The contract-out area will be reduced and transformed into the new zones when those areas become economically affordable to pay for collection charges.
- The SWMPC will act as the agency for supervising the private sector in all zones and contract-out in low-income areas.

**(iii) Step-wise Introduction of Franchised System**

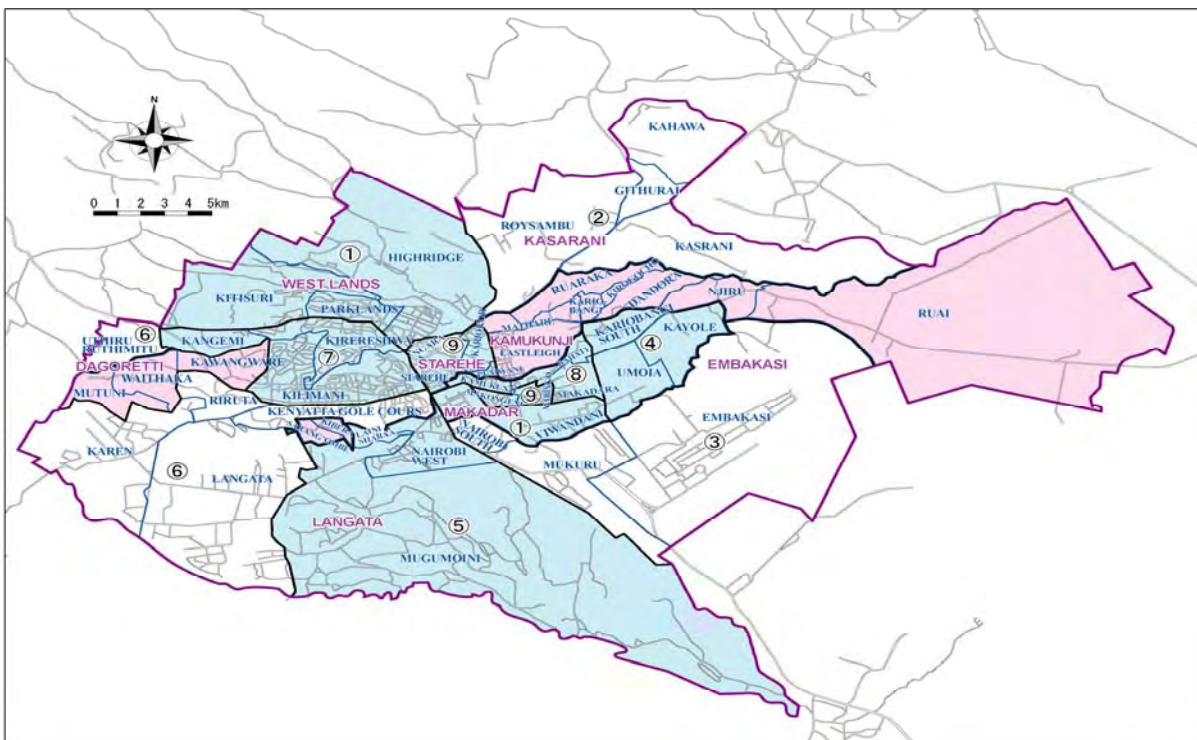
It is advisable that the franchise system should be introduced through a step-wise and gradual manner to avoid the long-term contract risks. This system has the following features:

- (i) In each zone, one franchisee will be selected through tendering process.
- (ii) Formation of the consortium of companies will be allowed.
- (iii) Each franchisee will be allowed to collect wastes and charges in one zone exclusively.
- (iv) The following step-wise enlargement of the franchise zones in 3 phases is proposed.  
**Figure B.6.2, Figure B.6.3 and Figure B.6.4** illustrate the step-wise introduction of franchise system in 3 phases as below.
  - Phase 1: 3 zones starting from 2016
  - Phase 2: 3 additional zones starting from 2021 (6 zones in total)
  - Phase 3: 3 additional zones starting from 2026 (9 zones in total)
- (v) The contract period is 5 years in which the awarded franchisees will be able to redeem the capital investment on collection vehicles.
- (vi) Before stepping into the new system, stakeholder meetings will be held in order to make the private sector and communities fully understand the new system.

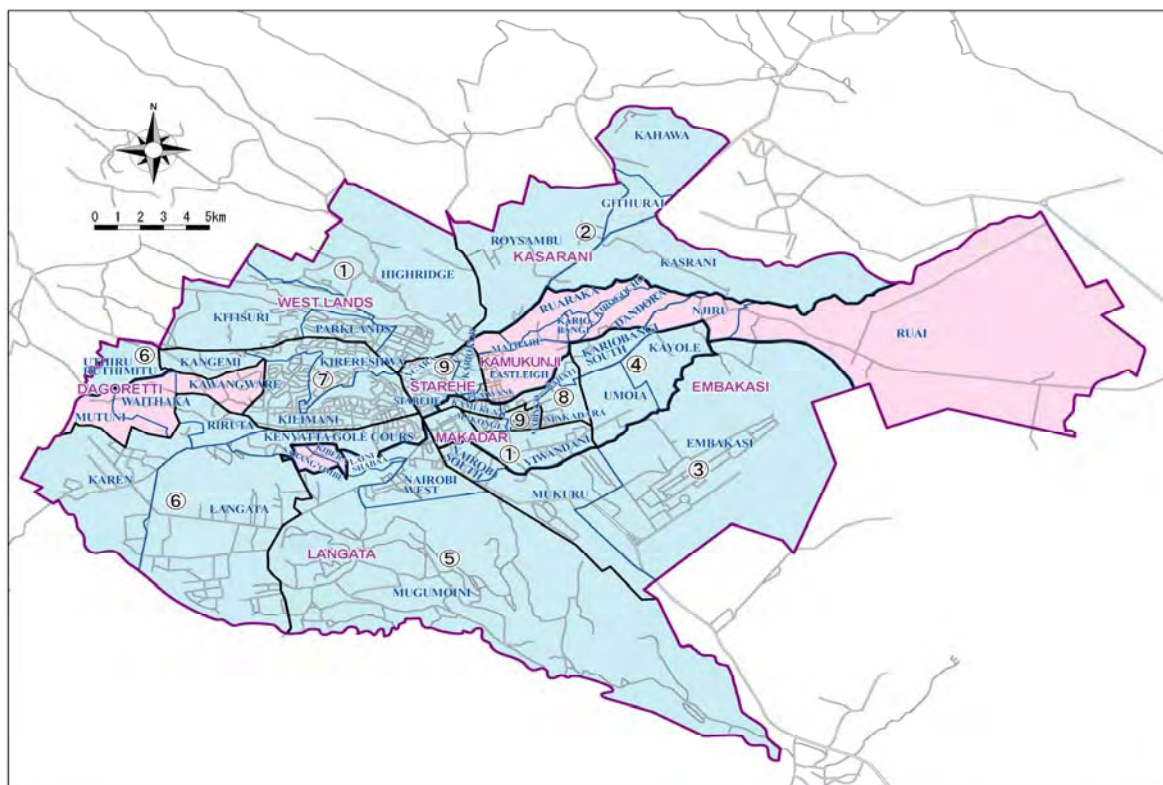




**Figure B.6.2 Step-wise Introduction of the Franchise Zone (Phase 1: 2016-2020)**



**Figure B.6.3 Step-wise Introduction of the Franchise Zone (Phase 2: 2021-2025)**



Source: JICA Survey Team

**Figure B.6.4 Step-wise Introduction of the Franchise Zone (Phase 3: 2026-2030)**

In accordance with the proposed organisational restructuring plan, **Table B.6.6** indicates the overall road map for the step-wise introduction of the franchise system.

**Table B.6.6 Overall Road Map for the Step-wise Introduction of Franchise System**

Year	PPP Option	Type of Organisations Responsible for SWM	Zoning System
2010-2011	Improvement of Current Licensing / Contracting Out System	DoE	Current Zoning System
2012-2015	Improvement of Current Licensing / Contracting Out System and Preparation of New 5-Year Zone-wise Franchise System	DoE, Setting Up Special Account for SWM in CCN	Current Zoning System
2016-2020	New 5-Year Zone-wise Franchise System (Phase 1: 3 zones)	SWM Public Corporation separated from CCN	New (1 <sup>st</sup> Phase)
2021-2025	New 5-Year Zone-wise Franchise System for (Phase 2: 6 zones)	SWM Public Corporation separated from CCN	New (2 <sup>nd</sup> Phase)
2026-2030	New 5-Year Zone-wise Franchise System (Phase 3: 9 zones)	SWM Public Corporation separated from CCN	New (3 <sup>rd</sup> Phase)

Source: JICA Survey Team



**(iv) Creation of Franchise Fee and SWM Capital Revolving Fund**

The SWM Capital Revolving Fund (SWMCRF) will be set up in the SWM special account of SWMPC as a sort of trust fund which can be used to provide long-term subsidisation assistance to the cost for replacement and new investment on collection vehicles by the private franchisees. SWMCRF will be managed separately from the general account of SWMPC. Legally, it is a sort of trust fund in which one party donates money to another party who manages the money on behalf of a third party. The beneficiary is allowed to be subsidised to use part of the fund exclusively for a specified purpose agreed beforehand. The main financial sources for the fund are franchise fees collected from private franchisees, which is **15 percent of the collected SWM fees**. The level of subsidy will be decided separately by the SWMPC.

**(b) Establishment of PPP Structure for Sanitary Landfill Site and Intermediate Treatment Facilities**

**(i) Concessional Loan for Capital Investment**

The major features of a concessional loan option are as follows. **Figure B.6.4** illustrates the typical structure of a concessional loan from a donor organisation. The major features of a concessional loan option are as below.

- The cash flow for the repayment will be generated through part of tipping fees as well as franchise fees.
- A concessional loan has normally a long-term grace period as well as a long-term repayment period with a low interest rate.
- The Project Management Unit inside the SWMPC should be established for the management of the construction with the external technical assistance.

**(ii) Service Contract for Operation of Sanitary Landfill Site and Intermediate Treatment Facilities**

Service contracts include the provision of services for operating a sanitary landfill site or intermediate treatment facilities for the payment of service fees. The responsibility for the operation of the facilities will be transferred to the private service provider. The private service provider receives a payment from the SWMPC for operating these facilities. Service contracts leave all responsibility for investment with the public sector. However, service contracts can be a first step toward a more comprehensive private sector involvement.

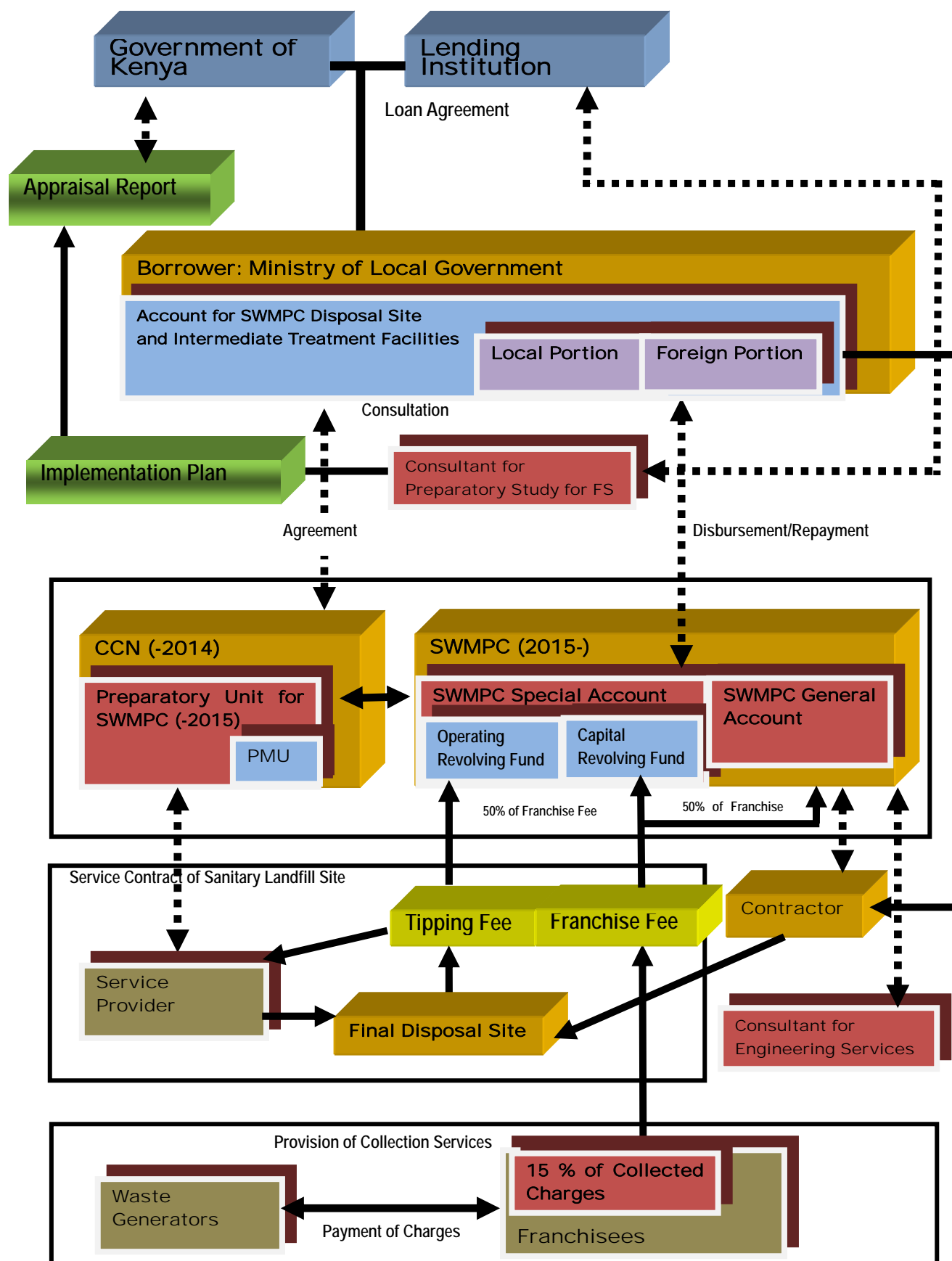


Figure B.6.5 Typical Structure of Concessional Loan from a Donor Organisation

**(iii) Alternative Option for Capital Investment**

**If a concessional loan is not available**, the DBFO (Design-Build-Finance-Operate) scheme would be the 2<sup>nd</sup> option. DBFO is the most common mode of PPP scheme among the BOT and its variations, integrating the functions of Design, Build, Finance and Operate within single private service provider. The service provider will raise the financing from private financial institutions to construct the facilities required for delivering the services to the public sector. In addition, the private service provider will build, maintain and operate the constructed facilities to meet the requirement of the public sector. The private service provider will be paid based on the services delivered in accordance with specified performance standards throughout the entire contract period. Another possible variation to DBFO is the DBO model, in which the public sector provides the fund for the design and building of the facilities by the private sector, and then continues to entrust the same private service provider to operate the facilities with the payment of a management fee. These models are suitable if there is lack of financial sources on the following conditions.

The following risks should be carefully taken into account, when the option of DBFO is selected.

- Long-term contract: DBFO contracts are usually long-term, depending on the type of the facilities.
- Formation of special purpose vehicle: In the DBFO scheme, the private service provider is usually a consortium formed by multiple companies.
- Sharing of responsibilities: Responsibilities and risks for activities which can be better controlled and managed by the private partner are transferred to the SPV.
- Performance based payment mechanism: The public sector pays only when services are delivered, depending on whether the services provided meet specified performance standards.

**(iv) Creation of SWM Operating Revolving Fund**

The SWM Operating Revolving Fund (SWMORF) will be set up to fund the monitoring system as well as the capacity development for the ultimate purpose of improving the enforcement of the solid waste management services. Part of the collected tipping fees will be used for the revolving financial sources of SWMORF, and tipping fees will be applied at the point of entry at the sanitary landfill site. The basic principles of SWMORF are as below:

- The tipping fee is based on the amount of wastes to be disposed at the sanitary landfill site, which can be measured on a weight or volume basis. Using a weight-based charge requires a weigh-bridge at the sanitary landfill site.
- In case of the funding of the loan option from an international lending institution for the construction of the sanitary landfill site and intermediate treatment facilities, part of the tipping fees will be used for the fund for the repayment of the loan, while the balance will be utilised for the monitoring and the capacity development for improving the enforcement of the solid waste management services. The allocation between the repayment of the loan and the improvement of the enforcement of the solid waste management services will depend on the negotiations between the borrower and the SWMPC.

#### **(4) Implementation of Contract Procedures for Franchise Contracts and Service Contracts**

The pre-contract requirements for a zone-wise franchise contract for a waste collection service as well as a service contract for a sanitary landfill operation are the management of the complicated tendering procedures for the private sector involvement. Especially, it is crucial to secure the following 7-step clear-cut process of preparing for private sector involvement.

##### **Step 1: Preparation for Expression of Interests and Pre-qualification of Bidders**

The preparation for the expression of interests as well as the pre-qualification of bidders is the first step for the tendering process. The pre-qualification of bidders will screen out those interested companies which do not satisfy certain criteria, thereby selecting eligible bidders to compete in the full tendering stage. A pre-procurement briefing is open to any interested private companies.

##### **Step 2: Preparation of Tender Documents**

Tender documents will be issued to bidders who are interested in providing the required services, and are judged to be competent to provide the solid waste management services. These tender documents are expected to be the model for the contract which would be finally agreed between SWMPC and the awarded bidder. As well as providing the pattern and basis for the contract, tender documents should also provide technical information which bidders will need in preparing their offers, and instructions regarding the preparation and submission of bids and the tendering process.

Before finalising tender documents it is advisable to invite comments on draft tender documents from potential bidders, especially when the authority has little experience in the preparation of the tendering process for the franchise contract as well as the service contract, which is applicable to the case of SWMPC. The experiences of preparing tender documents provide useful training opportunities for the technical, legal and financial staff of SWMPC who will be involved in assessing the bids and working with the private sector.

##### **Step 3: Preparation of the Bid**

Bidders are required to provide considerable efforts and expenses in the preparation of bids to offer the technical and financial proposals in accordance with the final tender documents.

##### **Step 4: Clarifications and Feedbacks to Tender Documents**

An ad-hoc meeting should be arranged to allow bidders to request the authority to clarify any unclear aspects of the tender documents. The meeting should be held in a transparent way, and clarifications and feedbacks to tender documents should be properly carried out.

##### **Step 5: Bid Bond**

The purpose of a bid bond is to encourage all bidders to be serious and ready to commit themselves to providing the required services in the tender documents. All bid bonds should be returned when the contract is signed. If a candidate franchisee or a management service provider does not enter into the contract, the bid bond is forfeit. Apart from the bid bond, at the signing of the contract, the awarded bidder is required to submit a performance bond.

##### **Step 6: Submission of Bids**

The preparation of a bid for a complicated contract such as a franchise or a service contract involves a considerable amount of works. Private companies which organise their resources in an effective way are able to produce their technical and financial proposals in time for the announced deadline for submission.

##### **Step 7: Selection of Franchisee and Management Service Provider**

The selection of a franchisee or a management service provider is the most critical decision in the entire process, since the cost performance of the awarded private companies will affect the success

or failure of the private sector involvement in the long run. While the bidders' proposals can be evaluated only by experts, the process should be monitored by independent officials, so that there is general perception that the decision is purely based on technical and cost evaluations. Evaluation criteria must be prepared and each bid must be assessed in a transparent way.

The tender evaluation committee in the procurement and contract department of the SWMPC shall evaluate the proposals on the basis of their responsiveness to the terms of reference and the point system specified in the evaluation score card. A proposal shall be rejected at this stage if it does not respond to important aspects of the terms of reference, or if it fails to achieve the minimum technical score indicated in the evaluation score card. Quality and Cost Based Selection (QCBS) method will be employed to select the highest-ranked bidder to negotiate its proposal and the contract on the basis of the technical and financial proposals submitted in accordance with the instructions. The criteria to select a franchisee in each collection zone would be based on the price factors such as the level of collection charges and franchise fees, and the technical factors such as the number of collection vehicles, frequency of collection services and the collection routes. On the other hand, the criteria to select a service provider for the management of the sanitary landfill site and intermediate treatment facilities would be based on the price factors such as the unit operational cost to dispose the waste per ton, and the technical factors such as the quality of equipment and staff.

The level of the tariff for the franchised collection and transport services or the service fee for the service provider for the management of the sanitary landfill site and intermediate treatment facilities will be decided based on the negotiations with reference to the results of the tender in which the bid price is submitted. The SPWMC will finally decide the level of the tariff and the service fee with its own cost calculation of the service delivery in each collection zone and the management of the sanitary landfill and intermediate treatment facilities. In the case of a franchise, the bidders who are competing for a franchise may be asked to compete on the basis of the fee which that they will charge for the services, and the bidder who offers a satisfactory service at the lowest user fee is awarded the franchise. Alternatively, the user fee may be set by the SWMPC and the franchise awarded to the bidder that offers the largest franchise fee to the SWMPC. In this case, the SWMPC will carefully take into account the service charges in other zones than the awarded zones.

## **6.5.2 Mid-Term Action Plan**

### **(1) Mid-Term Monitoring of Franchise Zone Management**

It is critical to monitor the franchised zones in which a monopoly is granted a franchisee to provide collection services and collect fees for the services in a defined area for a specific period. The major concern in the franchise system is that unauthorised private companies might collect wastes from waste generators in exchange for fees, and illegally dump wastes. These activities might deteriorate the sustainability and basis for the franchise system itself by reducing its customers and fees. Therefore, the proper mid-term monitoring of the franchised zones and boundaries is a key to the sustainable operation of the franchise system.

### **(2) Mid-Term Performance Monitoring of Franchisees and Service Providers**

The mid-term monitoring system will significantly contribute to the feedback mechanisms for rectifying poor performance of franchisees and service providers at the timing of the renewal of the 1<sup>st</sup> 5-year contracts with franchisees and service providers, the mid-term performance monitoring by using benchmarks will be carried out.

For example, the benchmarks for the franchisees include:

- Degree of meeting contractual level of quality of services;

- Degree of meeting contractual frequency of services;
- Waste collection rate;
- Charge collection rate;
- Degree of cooperation for 3R activities;
- Contents of financial and activity reports;
- Number of grievances; and
- Degree of meeting other contractual requirements

Effective performance monitoring requires that the SWMPC monitors whether or not the service is actually and properly being delivered by private franchisees or service providers in accordance with the contracted standards. The staff of the monitoring and enforcement department together with the zonal management department of SWMPC should monitor the performance of private franchisees and service providers on regular and random-spot basis. The performance should be measured and reported reliably and accurately.

### **6.5.3 Long-Term Action Plan**

#### **(1) Auditing of Franchisees, Service Providers and Revolving Funds**

The accountability and transparency of the operation of franchisees, service providers and revolving funds is a key to the sustainable private sector involvement for a long period. Therefore, the auditing by the relevant audit authority should be carried out periodically over a long period.

The Specialised Audit Department of Kenya National Audit Office (KENAO) is in charge of the auditing of the organisations in which public financial sources are injected. Since the franchisees, service providers and revolving funds are receiving public financial sources, they should be audited by the Specialised Audit Department of KENAO in terms of fee collections by franchisees, service fee payments for service providers and subsidy utilisation by revolving funds.

#### **(2) Continuous and Long-term Performance Monitoring of Franchisees and Service Providers, and Enlargement of Franchise Zones**

After the 2<sup>nd</sup> 5-year franchise contract period, the overall private sector involvement system will be reviewed comprehensively to achieve a longer-term sustainability based on the continuous and long-term performance monitoring of franchisees and service providers.

At the same time, in the longer period, there is a possibility that the franchise zones will be enlarged by transferring some CCN/SWMPC contracting-out zones to franchise zones, if the willingness and affordability to pay for the collection charges of the contracting-out zones increases.

#### **(3) Long-Term Management of Revolving Funds and Provision of Subsidies**

The long-term and continuous management of revolving funds is essential for the sustainable private sector involvement, since one of the revolving funds contribute to the investment of collection vehicles through the provision of subsidies. The continuous management of revolving funds should be carried out in a transparent way; the management tools for the long-term management of funds are:

- Record of payment of franchise fees and auditing;
- Record of receipt of subsidies; and
- Financial and activity reports on franchisees.

#### (4) Extension of PPP Model to PPPP Model

##### (a) Concept of PPPP Model

Under a franchise contract between SWMPC and a private franchisee for the collection and transport services as well as a service contract between SWMPC and a private service provider for the sanitary landfill management and intermediate treatment facilities, the rights and obligations of both parties can be clearly stipulated in the contracts, and if problems arise, they can be resolved within the terms and conditions of the contracts. Therefore, the Public-Private-Partnership (PPP) can be defined indicatively in the franchise and service contract documents under the selected private sector involvement scheme. Although this sort of a contractual relationship under the private sector involvement is frequently referred to as Public-Private Partnership (PPP), the partnership must involve another important stakeholder, that is, “People”. In other words, the partnership should be extended to three-way **“Public-Private-People Partnership (PPPP)”**.

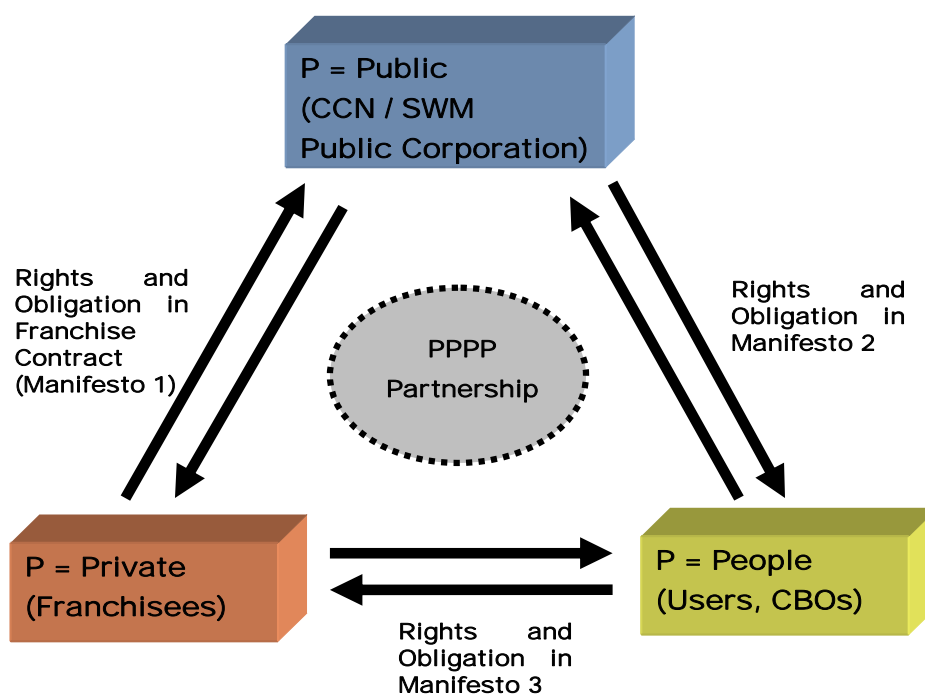
The concept of three-party PPPP is crucial to the success of the private sector involvement. All parties should have equal rights and obligations in accordance with the agreement among them. Such an equal partnership will successfully result in effective and sustainable solid waste management services which will continue for a long period.

The successful implementation of the new Master Plan can be achieved in the framework of a **win-win-win relationship** among these three parties. In this win-win-win framework, the public sector will benefit from the efficient outsourcing and utilisation of the private capital, the private sector will benefit from a reasonable profit, valuable experiences and stable working opportunities, and the people will benefit from sustainable, satisfactory and affordable solid waste management services. This win-win-win relationship can be attained only when these three parties respect the rights and obligations of each party in relation to the sustainable solid waste management.

**Figure B.6.5** gives an image of the concept of PPPP concept.

##### (b) Proposed Contents of Manifestos

Clear descriptions of the rights and obligations in the contract document are the first step to establish the long-term and desirable relationship between the public sector and the private sector. In the same manner, In the case of the relationship between the public sector and people or the private sector and communities, agreed manifestos should be documented to clarify the obligations of these parties for the long-term partnerships. **Table B.6.7** shows the proposed contents of manifestos.



Source: JICA Survey Team

**Figure B.6.6 Image of Concept of PPPP (Public-Private-People Partnership)**



**Table B.6.7 Proposed Contents of Manifestos**

Stakeholders	Obligations	Documents	Updating Timing of Documents
<b>Manifesto 1: Between SWMPC and Private Franchisees/Private Service Providers</b>			
SWMPC	<ul style="list-style-type: none"> <li>● Strict management of franchise zones</li> <li>● Monitoring of illegal dumping</li> <li>● Enforcement of penalties for non-payment of collection fees</li> <li>● Payment of service fees to service providers</li> </ul>	Franchising and Service Contract	In 2016, 2021 and 2026 at the time of contracts
Franchisees and Service Providers	<ul style="list-style-type: none"> <li>● Fulfilment of delivering collection services</li> <li>● Fulfilment of delivering operation services for management of sanitary landfill site and intermediate treatment facilities</li> <li>● Cooperation for 3R activities</li> <li>● Cooperation for monitoring activities</li> </ul>	Franchising and Service Contract	In 2016, 2021 and 2026 at the time of contracts
<b>Manifesto 2: Between SWMPC and CBOs/Communities</b>			
SWMPC	<ul style="list-style-type: none"> <li>● Provision of contracting-out collection services in low-income areas</li> <li>● Provision of assistance in the field of public awareness</li> <li>● Provision of information on basic knowledge of solid waste management</li> <li>● Provision of information on the zoning and franchise contract</li> <li>● Provision of information on financial and activity reports on SWMPC</li> <li>● Provision of assistance in the field of primary collection practices and technologies</li> </ul>	MOU (Minutes of Understanding)	Annual stakeholder meeting from 2016
CBO and Communities	<ul style="list-style-type: none"> <li>● Commitment to payment of waste collection charges stipulated in the franchise contract in each zone</li> <li>● Cooperation for primary collection and pilot projects</li> <li>● Cooperation for 3R and pilot projects</li> <li>● Cooperation for public awareness and pilot projects</li> </ul>	MOU (Minutes of Understanding)	Annual stakeholder meeting from 2016
<b>Manifesto 3: Between Franchisees and CBOs/Communities</b>			
Franchisees	<ul style="list-style-type: none"> <li>● Delivery of waste collection services</li> <li>● Provision of information on level and frequency of collection services</li> <li>● Provision of franchisee's management information</li> <li>● Provision of information on grievance solution procedures</li> </ul>	MOU (Minutes of Understanding)	Annual stakeholder meeting from 2016
CBO and Communities	<ul style="list-style-type: none"> <li>● Payment of fees to franchisees</li> <li>● Cooperation for minimisation of wastes at source</li> <li>● Cooperation for primary collection</li> <li>● Cooperation for raising public awareness</li> </ul>	MOU (Minutes of Understanding)	Annual stakeholder meeting from 2016

Source: JICA Survey Team

## **7. PLAN OF OPERATION**

While the Plan of Operations (PO) includes the short-term, mid-term and long-term work breakdown structures which are the minimum work packages for the action plans included in the Master Plan, the Responsibility Assignment Matrix includes the detailed responsibility assignment together with the cost breakdown.

### **7.1 Plan of Operation for Organisational Restructuring and Human Resources Development Plan**

**Figure B.7.1** and **Figure B.7.2** indicate the short-term and mid-term/long-term Plan of Operations, respectively, and **Figure B.7.3** indicates the Responsibility Assignment Matrix in the field of Organisational Restructuring and Human Resources Development Plan.

### **7.2 Plan of Operation for Legal and Institutional Reform Plan**

**Figure B.7.4** and **Figure B.7.5** indicate the short-term and mid-term/long-term Plan of Operations, respectively, and **Figure B.7.6** indicates the Responsibility Assignment Matrix in the field of Legal and Institutional Reform Plan.

### **7.3 Plan of Operation for Private Sector Involvement Promotion Plan**

**Figure B.7.7** and **Figure B.7.8** indicate the short-term and mid-term/long-term Plan of Operations, respectively, and **Figure B.7.9** indicates the Responsibility Assignment Matrix in the field of Private Sector Involvement Promotion Plan.

Time Framework of the Master Plan					Short-Term Plan Period																			
Year					2011				2012				2013				2014				2015			
Quarter					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WBS for Short-Term Plan																								
S-4-1	Establishment of Preparatory Unit for SWMPC																							
S-4-1-1	Selection of Staff																							
S-4-1-2	Budget Allocation																							
S-4-2	Establishment of SWMPC																							
S-4-2-1	Nomination of Candidate Board Members and Staff																							
S-4-2-2	Transfer of Budget to SWMPC																							
S-4-2-3	Transfer of Assets to SWMPC																							
S-4-2-4	Transfer of Budget to SWMPC																							
S-4-3	Rectification of Remaining Functions of DoE																							
S-4-4	Creation of SWM Special Account																							
S-4-4-1	Preparation of SWM Special Account																							
S-4-4-2	Transfer of General Account to Special Account																							
S-4-5	Implementation of Comprehensive Capacity Development Programme (CCDP)																							
S-4-5-1	Preparation of Comprehensive Capacity Development Programme (CCDP)																							
S-4-5-2	Implementation of Comprehensive Capacity Development Programme (CCDP)																							
S-4-6	Consideration of Incomplete Action Plans of the Previous MP																							
S-4-7	Formulation of Standard Working Procedures and Manuals																							
PPPP Option					Improvement of Current Contracting Out/Licensing								Improvement of Current Contracting Out/Licensing and Preparation of New Franchising Contract											
SWM Organisation Type					CCN/DoE, Separate Account								CCN/DoE, Special Account								SWM Public Corporation			
Zoning System					Current Zone																			

**Figure B.7.1 Plan of Operation of the Organisational Restructuring and Human Resources Development Plan (Short-Term Plan)**

Time Framework of the Master Plan						Mid-Term Plan Period					Long-Term Plan Period									
Year						2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WBS for Mid-Term Plan																				
M-4-1	Start of Operations of Revolving Funds and Provision of Subsidies																			
M-4-1-1	Starting Operations of SWM Capital Revolving Fund and Provision of Subsidies																			
M-4-1-2	Starting Operations of SWM Operating Revolving Fund																			
M-4-2	Mid-Term Organisational Assessment and Feedback to SWMPC																			
M-4-3	Mid-Term Organisational Restructuring of SWMPC																			
M-4-4	Implementation of Ex-post Mid-Term Performance Monitoring and Assessment on CCDP																			
M-4-5	Implementation of Skill-Targeted Follow-up Training Programme																			
M-4-5-1	Preparation of Skill-Targeted Follow-up Training Programme																			
M-4-5-2	Implementation of Skill-Targeted Follow-up Training Programme																			
WBS for Long-Term Plan																				
L-4-1	Continuous Management of the Revolving Funds and Subsidies																			
L-4-1-1	Continuous Management of SWM Capital Revolving Fund and Subsidies																			
L-4-1-2	Continuous Management of SWM Operating Revolving Fund																			
L-4-2	Long-Term and Continuous Organisational Assessment and Feedback to SWMPC																			
L-4-3	Long-Term and Continuous Organisational Restructuring of SWMPC																			
L-4-4	Implementation of Long-Term Performance Monitoring and Establishment of Feedback System on CCDP																			
L-4-5	Long-Term and Continuous Staff Deployment and Redeployment of Staff of SWMPC																			
PPPP Option						Zone-wise Franchising Contract (Phase 1)					Zone-wise Franchising Contract (Phase 2)					Zone-wise Franchising Contract (Phase 3)				
SWM Organisation Type						SWM Public Corporation														
Zoning System						New Zone (3 Zones)					New Zone (6 Zones)					New Zone (9 Zones)				

**Figure B.7.2 Plan of Operation of the Organisational Restructuring and Human Resources Development Plan (Mid- and Long-Term Plans)**

Programme No.	WBS No.	WBS	Legal Action (Required=●)	Name of Act/Regulation/By-law	Budgetary Arrangement (Required=●)	Total Budget (Thousand Ksh)	Responsibility Assignment Matrix: M=Main Responsibility, S=Sub Responsibilities. B=Budgetary Arrangement, L=Legal Action, P=Participation In Discussions																			
							CCN/Dept. of Environment	CCN/Dept. of Treasury	CCN/Dept. of Procurement	CCN/Dept. of Human Resources	SWM Preparatory Unit	SWM Corporation	MoLG	MoNMD	NEMA	Office of Deputy Prime Minister and MoF	KRA	Donor Organisations	Private Contractors	Private Licensed Collectors	Recyclers	CBOs	Waste Pickers	PAPs around Dandora Dumping Site	PAPs around New Dumping Site	
Programme 4: Organisational Restructuring and Human Resources Development Plan																										
Short-Term Plan																										
	S-4-1	Establishment of Preparatory Unit for SWMPC			CCN		M	S	P	S			S	P		P										
	S-4-2	Establishment of SWMPC	●	SWMPC Act	CCN		M		P	S			L	P		P										
	S-4-3	Rectification of Remaining Functions of the DoE			CCN		M		P	P			S	P		P										
	S-4-4	Creation of SWM Special Account	●	Local Gov't Fund Act	CCN		S	M		P	S		L	P		P										
	S-4-5	Implementation of Comprehensive Capacity Development Programme (CCDP)			368,200		S	P		S	M		S	P		P		B	P	P		P				
	S-4-6	Consideration of Incomplete Action Plans of the Previous Master Plan			CCN		S	P	P	P	M		S	P		P										
	S-4-7	Formulation of Standard Working Procedures and Manuals			CCN		S	P	P	P	M															
		Sub-Total																								
Mid-Term Plan																										
	M-4-1	Starting Operations of Revolving Funds and Provision of Subsidies	●	SWMPC Act	CCN		P	P		P			M	L	P		P									
	M-4-2	Mid-term Organisational Assessment and Feedback to SWMPC			CCN		P			P			M	S	P		P									
	M-4-3	Mid-Term Organisational Restructuring of SWMPC			CCN		P			P			M	S	P		P									
	M-4-4	Implementation of Ex-post Mid-Term Performance Monitoring and Assessment on CCDP			CCN		P			P			M	S	P		P		P	P		P				
	M-4-5	Implementation of Skill-Targeted Follow-up Training Programme			CCN		P			P			M	S	P		P									
		Sub-Total																								
Long-Term Plan																										
	L-4-1	Continuous Management of the Revolving Funds and Subsidies	●	AWMPC Act	CCN		P	P		P			M	L			P									
	L-4-2	Long-Term and Continuous Organisational Assessment and Feedback to SWMPC			CCN		P			P			M	P			P									
	L-4-3	Long-Term and Continuous Organisational Restructuring of SWMPC			CCN		P			P			M	P			P									
	L-4-4	Implementation of Long-Term Performance Monitoring and Establishment of Feedback System on CCDP			CCN		P			P			M	P			P									
	L-4-5	Long-Term and Continuous Staff Deployment and Redeployment of Staff of SWMPC			CCN		P			P			M	P			P									
		Sub-Total																								
		Grand Total			368,200																					

**Figure B.7.3 Cost and Responsibilities of the Organisational Restructuring and Human Resources Development Plan**

Note: Cost of CCDP (S-4-5) does not include the cost of pilot projects.

Time Framework of the Master Plan					Short-Term Plan Period																			
Year					2011				2012				2013				2014				2015			
Quarter					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WBS for Short-Term Plan																								
S-5-1	Improvement of Monitoring and Enforcement In CCN Solid Waste Management By-law 2007																							
S-5-1-1	Drafting Amendment of CCN Ssolid Waste Management By-law 2007																							
S-5-1-2	Formal Amendment of CCN Ssolid Waste Management By-law 2007																							
S-5-2	Improvement of Enforcement and Monitoring In Other Related Legal Frameworks																							
S-5-2-1	Drafting Improvement of Enforcement and Monitoring In Other Related Legal Frameworks																							
S-5-2-2	Formal Amendment of Improvement of Enforcement and Monitoring In Other Related Legal Frameworks																							
S-5-3	Minor Modifications of CCN Solid Waste Management By-law 2007																							
S-5-3-1	Drafting Minor Modifications of CCN Solid Waste Management By-law 2007																							
S-5-3-2	Formal Amendment of Minor Modifications of CCN Solid Waste Management By-law 2007																							
S-5-4	Legalisation of Act for Establishment of SWMPC																							
S-5-4-1	Drafting Act for Establishment of SWMPC																							
S-5-4-2	Formal Enactment of Act for Establishment of SWMPC																							
S-5-5	Amendment of Procurement and Disposal Act 2005																							
S-5-5-1	Drafting Amendment of Procurement and Disposal Act 2005																							
S-5-5-2	Formal Amendment of Procurement and Disposal Act 2005																							
S-5-6	Legalisation of Establishment of SWM Special Account																							
S-5-6-1	Drafting Establishment of SWM Special Account																							
S-5-6-2	Formal Legalisation of Establishment of SWM Special Account																							
S-5-7	Legalisation of Establishment of SWM Capital Revolving Fund and SWM Operating Revolving Fund																							
S-5-7-1	Drafting Establishment of SWM Capital Revolving Fund and SWM Operating Revolving Fund																							
S-5-7-2	Formal Legalisation of Establishment of SWM Capital Revolving Fund and SWM Operating Revolving Fund																							
S-5-8	Legalisation of Franchise Fee																							
S-5-8-1	Drafting Legalisation of Franchise Fee																							
S-5-8-2	Formal Ligalisation of Franchise Fee																							
S-5-9	Legalisation of Operational Regulations on Subsidy Provision to Franchisees																							
S-6-9-1	DraftingLegalisation of Operational Regulations on Subsidy Provision to Franchisees																							
S-5-9-2	Formal Legalisation of Operational Regulations on Subsidy Provision to Franchisees																							
PPPP Option					Improvement of Current Contracting Out/Licensing								Improvement of Current Contracting Out/Licensing and Preparation of New Franchising Colntract											
SWM Organisation Type					CCN/DoE, Separate Account								CCN/DoE, Special Account								SWM Public Corporation			
Zoning System					Current Zone																			

Figure B.7.4 Plan of Operation of the Legal and Institutional Reform Plan (Short-Term Plan)

Time Framework of the Master Plan						Mid-Term Plan Period					Long-Term Plan Period									
Year						2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WBS for Mid-Term Plan																				
M-5-1	Legalisation of PPP Act																			
M-5-1-1	Drafting PPP Act																			
M-5-1-2	Formal Legalisation of PPPAct																			
M-5-2	Legal Arrangement of Auditing for SWMPC and Revolving Funds																			
M-5-2-1	Drafting Auditing on SWMPC and Revolving Funds																			
M-5-2-2	Formal Legalisation of Auditing on SWMPC and Revolving Funds																			
WBS for Long-Term Plan																				
L-5-1	Legalisation of Consolidated SWM Act																			
L-5-1-1	Drafting Consolidated SWM Act																			
L-5-1-2	Formal Legalisation of Consolidated SWM Act																			
L-5-2	Long-Term Monitoring and Enforcement of SWM-related Acts, Regulations and By-laws																			
L-5-2-1	Preparation of Long-Term Monitoring on Enforcement of SWM-related Acts, Regulations and By-laws																			
L-5-2-2	Implementation of Long-Term Monitoring on Enforcement of SWM-related Acts, Regulations and By-laws																			
PPPP Option						Zone-wise Franchising Contract (Phase 1)					Zone-wise Franchising Contract (Phase 2)					Zone-wise Franchising Contract (Phase 3)				
SWM Organisation Type						SWM Public Corporation														
Zoning System						New Zone (3 Zones)					New Zone (6 Zones)					New Zone (9 Zones)				

**Figure B.7.5 Plan of Operation of the Legal and Institutional Reform Plan  
(Mid- and Long-Term Plans)**

Programme No.	WBS No.	WBS	Legal Action (Required=●)	Name of Act/Regulation/By-law	Budgetary Arrangement (Required=●)	Total Budget (Thousand Ksh)	Responsibility Assignment Matrix: M=Main Responsibility, S=Sub Responsibilities, B=Budgetary Arrangement, L=Legal Action, P=Participation In Discussions																			
							CCN/Dept. of Environment	CCN/Dept. of Treasury	CCN/Dept. of Procurement	CCN/Dept. of Human Resources	SWM Preparatory Unit	SWM Corporation	MoLG	MoNMD	NEMA	Office of Deputy Prime Minister and MoF	KRA	Donor Organisations	Private Contractors	Private Licensed Collectors	Recyclers	CBOs	Waste Pickers	PAPs around Dandora Dumping Site	PAPs around New Dumping Site	Nairobi Citizens
Programme 5: Legal and Institutional Reform Plan																										
Short-Term Plan																										
	S-5-1	Improvement of Monitoring and Enforcement in CCN Solid Waste Management By-law 2007	●	SWM By-Laws	CCN		P				M	S														
	S-5-2	Improvement of Enforcement and Monitoring in other Related Legal Frameworks	●	All Related Acts	CCN		P				M	S														
	S-5-3	Minor Modifications of CCN Solid Waste Management By-Law 2007	●	SWM By-Laws	CCN		P				M	S														
	S-5-4	Legalisation of Act for Establishment of SWMPC	●	SWMPC Act	CCN		P		P	M	S	P	P	P				P	P		P					
	S-5-5	Amendment of Procurement and Disposal Act 2005	●	Procurement Act	CCN				S		M	L														
	S-5-6	Legalisation of Establishment of SWM Special Account	●	Local Gov's Fund Act	CCN		P	M			M	L														
	S-5-7	Legalisation of Establishment of SWM Capital Revolving Fund and SWM Operating Revolving Fund	●	SWMPC Act	CCN						M	S														
	S-5-8	Legalisation of Franchise Fee	●	SWMPC Act	CCN						M	S														
	S-5-9	Legalisation of Operational Regulations on Subsidy Provision to Franchisees	●	SWMPC Act	CCN						M	S														
		Sub-Total																								
Mid-Term Plan																										
	M-5-1	Legalisation of PPP Act	●	PPP Act	CCN		P	P	P			S			M											
	M-5-2	Legal Arrangement of Auditing for SWMPC and Revolving Funds	●	SWMPC Act	CCN		P	P			M	S	P					P								
		Sub-Total																								
Long-Term Plan																										
	L-5-1	Legalisation of Consolidated SWM Act	●	Consolidated SWM Act	CCN		S				M	S	P	P	P			P	P			P				
	L-5-2	Long-Term Monitoring and Enforcement of SWM-related Acts, Regulations and By-laws	●	All Related Laws	CCN		S				M	S														
		Sub-Total																								
		Grand Total																								

Figure B.7.6 Cost and Responsibilities of the Legal and Institutional Reform Plan



Time Framework of the Master Plan					Short-Term Plan Period																			
Year					2011				2012				2013				2014				2015			
Quarter					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WBS for Short-Term Plan																								
S-7-1	Establishment of PPP Structure for Collection and Transportation																							
S-7-1-1	Streamlining of Zoning System by Socio-economic Type																							
S-7-1-2	Establishment of Sustainable Operational Zones based on Cross-subsidy																							
S-7-1-3	Study on Step-wise Introduction of Franchised System																							
S-7-1-4	Creation of Franchise Fee and SWM Capital Revolving Fund																							
S-7-2	Establishment of PPP Structure for Sanitary Landfill Site and Intermediate Treatment Facilities																							
S-7-2-1	Arrangement of Concessional Loan for Capital Investment																							
S-7-2-2	Service Contract for Operation of Sanitary Landfill Site and Intermediate Treatment Facilities																							
S-7-2-3	Creation of SWM Operating Revolving Fund																							
S-7-3	Implementation of Contract Procedures for Franchise Contracts and Service Contracts																							
PPPP Option					Improvement of Current Contracting Out/Licensing								Improvement of Current Contracting Out/Licensing and Preparation of New Franchising Contract											
SWM Organisation Type					CCN/DoE, Separate Account								CCN/DoE, Special Account								SWM Public Corporation			
Zoning System					Current Zone																			

**Figure B.7.7 Plan of Operation of the Private Sector Involvement Promotion Plan (Short-Term Plan)**

Time Framework of the Master Plan						Mid-Term Plan Period					Long-Term Plan Period									
Year						2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
WBS for Mid-Term Plan																				
M-7-1	Mid-term Monitoring of Franchise Zone Management																			
M-7-2	Mid-term Performance Monitoring of Franchisees and Service Providers																			
M-7-2-1	Mid-term Performance Monitoring of Franchisees																			
M-7-2-2	Mid-term Performance Monitoring of Service Providers																			
WBS for Long-Term Plan																				
L-7-1	Auditing of Franchisees, Service Providers and Revolving Funds																			
L-7-1-1	Auditing of Franchisees																			
L-7-1-2	Auditing of Service Providers																			
L-7-1-3	Auditing of Revolving Funds																			
L-7-2	Continuous and Long-Term Performance Monitoring of Franchisees and Service Providers, and Enlargement of Franchise Zones																			
L-7-2-1	Continuous and Long-Term Performance Monitoring of Franchisees																			
L-7-2-2	Continuous and Long-Term Performance Monitoring of Service Providers																			
L-7-2-3	Enlargement of Franchise Zones																			
L-7-3	Long-Term Management of Revolving Funds and Provision of Subsidies																			
L-7-3-1	Long-Term Management of Revolving Funds																			
L-7-3-2	Long-Term Management of Provision of Subsidies																			
L-7-4	Management of PPPP Manifestos																			
L-7-4-1	Creation of PPPP Manifestos																			
L-7-4-2	Updating of PPPP Manifestos																			
PPPP Option						Zone-wise Franchising Contract (Phase 1)					Zone-wise Franchising Contract (Phase 2)					Zone-wise Franchising Contract (Phase 3)				
SWM Organisation Type						SWM Public Corporation														
Zoning System						New Zone (3 Zones)					New Zone (6 Zones)					New Zone (9 Zones)				

**Figure B.7.8 Plan of Operation of Private Sector Involvement Promotion Plan  
(Mid- and Long-Term Plans)**

Programme No.	WBS No.	WBS	Legal Action (Required=●)	Name of Act/Regulation/By-law	Budgetary Arrangement (Required=●)	Total Budget (Thousand Ksh)	Responsibility Assignment Matrix: M=Main Responsibility, S=Sub Responsibilities. B=Budgetary Arrangement, L=Legal Action, P=Participation In Discussions																			
							CCN/Dept. of Environment	CCN/Dept. of Treasury	CCN/Dept. of Procurement	CCN/Dept. of Human Resources	SWM Preparatory Unit	SWM Corporation	MoLG	MoNMD	NEMA	Office of Deputy Prime Minister and MoF	KRA	Donor Organisations	Private Contractors	Private Licensed Collectors	Recyclers	CBOs	Waste Pickers	PAPs around Dandora Dumping Site	PAPs around New Dumping Site	
Programme 7: Private Sector Involvement Promotion Plan																										
Short-Term Plan																										
	S-7-1	Establishment of PPP Structure for Collection and Transportation	● SWMPC Act	CCN	S	P	P	P	M		P	P	P	P		P	P	P		P						
	S-7-2	Establishment of PPP Structure for Sanitary Landfill and Intermediate Treatment Facilities	● SWMPC Act	CCN	S	P	P	P	M		P	P	P	P		P	P	P		P						
	S-7-3	Implementation of Contract Procedures for Franchise Contracts and Service Contracts		CCN	S	P	P	P	M		P	P	P	P		P	P	P		P						
		Sub-Total																								
Mid-Term Plan																										
	M-7-1	Mid-Term Monitoring of Franchised Zone Management		CCN	P					M	P						P	P								
	M-7-2	Mid-Term Performance Monitoring of Franchisees and Service Providers		CCN	P					M	P		P				P	P								
		Sub-Total																								
Long-Term Plan																										
	L-7-1	Auditing of Franchisees, Service Providers and Revolving Funds	● SWMPC Act	CCN	P					M	S						P	P								
	L-7-2	Continuous and Long-Term Performance Monitoring of Franchisees and Service		CCN	P					M	P		P				P	P								
	L-7-3	Long-Term Management of Revolving Funds and Provision of Subsidies	● Local Gov's Fund Act	CCN	P	P				M	P						P	P								
	L-7-4	Management of PPPP Manifestos		CCN	P					M	P	P	P	P			P	P		P						
		Sub-Total																								
		Grand Total																								

Figure B.7.9 Cost and Responsibilities of the Private Sector Involvement Promotion Plan

## 8. PCM WORKSHOP

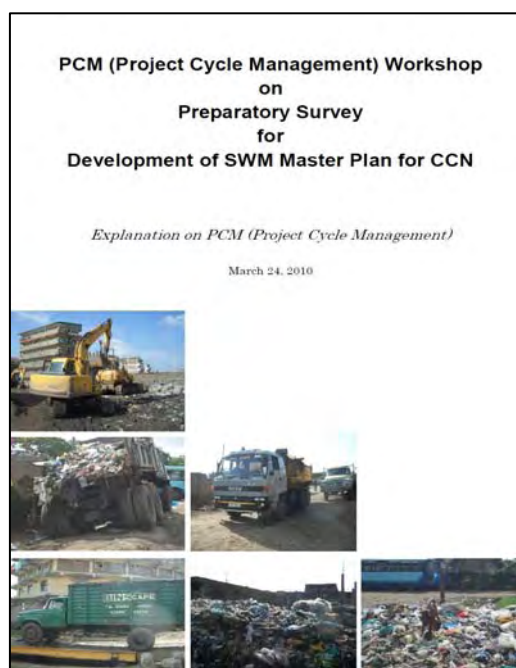
### 8.1 Objectives

On March 24, 2010, before starting the full-scale formulation of the new Master Plan for Integrated Solid Waste Management, the one-day workshop on the PCM (Project Cycle Management) was conducted, inviting a wide range of stakeholders such as CCN officials, officials of line ministries, donor organisations, the representative of CBOs and NGOs and donor organisations, academic institutions, etc. The PCM was employed as a basic tool for managing the project life cycle, which is comprised of three phases, Planning, Implementation and Monitoring/Evaluation, by means of a project format named Project Design Matrix (PDM).

Since this formulation of the Master Plan could be positioned in a planning stage in the project cycle, in an attempt to maximise the effects of participatory approach, stakeholders who represent different perspectives on the solid waste management were invited to participate in the PCM workshop. Snapshots of the PCM workshop are given in **Section B of Volume 4, Data Book**.

### 8.2 Procedures

After the opening remarks by the Director of Environment, one of the team members of the JICA Survey Team made a presentation on PCM methodologies so that all the participants will be able to positively participate in the workshop based on a clear-cut understanding of the methodologies of the PCM workshop. Following the presentation, approximately 30 participants were split into 2 groups (Group A and Group B) chaired by moderators of the JICA Survey Team, respectively.



**Photo B.8.1 Explanation Material on PCM Methodology**

The PCM workshop especially focused on **“problem analysis”** and **“objective analysis”** after the simple stakeholder analysis. By using the results of the problem analysis and objective analysis, **“alternative analysis”** was carried out, so that the proto-type projects could be identified for the future formulation of Project Design Matrix (PDM).

**“Problem Analysis”** is a method for graphically displaying the problematic environment related to the issues. The analysis lays problems out in a cause and effect tree with roots and branches showing relationships between problems. Roots represent causative factors and branches represent consequent effects. One problem in a tree is one of the causes of the problem located above as well as the effect of the problem located beneath.

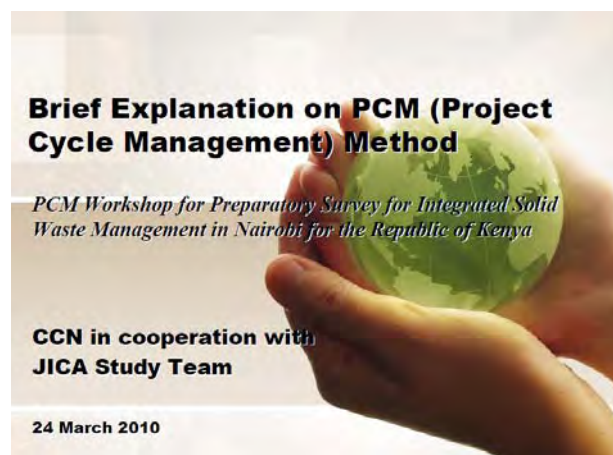
On the other hand, converting negative current situation described in a problem tree into positive future situation by rewording problems into their solutions, **“Objective Analysis”** illustrates a desirable future situation that would be attained once problems has been solved. The analysis lays the objectives out in a means and ends tree with roots and branches showing relationships between objectives. One objective in a tree is one of the means of the objective above as well as the end of the objectives located beneath.

## 8.3 Results

### 8.3.1 Group A

Through the discussions, the core problem of “*The solid waste management in Nairobi City is not sufficient.*” is traced back to the following major causes.

- The collection rate of wastes is very low. This main cause was further attributed to the following root causes.
  - Waste charges are not adequately collected.
  - Waste collectors are not well coordinated and controlled.
  - Appropriate number of collection vehicles is lacking.
  - Lack of secondary storage facilities
  - Lack of sufficient number of collectors at grass-root levels.



**Photo B.8.2 Presentation Material on PCM Methodology**

- The appropriate sanitary landfill is lacking. This main cause was further derived from following root causes:
  - Proper landfill planning is lacking.
  - Finance is not enough.
- The level of recycling and recovery in the solid waste management system is low. This main cause is further traced back to the following root causes:
  - Lack of supporting policies and incentives for recycling.
  - Rudimentary technology for material recovery and recycling.
  - Low-level of awareness for recycling.
  - Lack of manuals for recycled products.

### 8.3.2 Group B

The core problem of “*Poor Solid Waste Management*” was traced back to the following wide range of major causes:

- Lack of financial sources
- Improper zoning of SWM service areas
- Inefficient organisational structure of CCN
- Insufficient disposal site
- No affordability for long-term investment on SWM by private sector
- Poor enforcement of laws and regulations
- Inadequate system for recycling and material recovery
- Poor waste collection and transportation system
- Lack of public awareness on SWM

- Insufficient transfer stations
- Insufficient support for CBOs

As a result of the group discussions, the problem trees made by “*problem analysis*” and the objective trees made by “*objective analysis*” were created as shown in **Section B of Volume 4, Data Book**.

## 8.4 Subsequent Steps

Through the alternative analysis, the following proto-type approaches to the formulation of concrete projects were identified through positive discussions of Group A and Group B. These alternative approaches were fully reflected and utilised for the formulation of the new Master Plan. In other words, this Master Plan can be called “Participatory-type Master Plan”, which is desirable for the ownership of the Master Plan.

- Financial improvement approach
- Proper zoning approach for collection services
- CCN’s organisational restructuring approach
- Private sector investment strengthening approach
- Law monitoring and enforcement improvement approach
- 3R promotion and public awareness raising approach
- Recycling and material recovery promotion approach
- Collection and transport improvement approach
- Transfer and Intermediate treatment improvement approach
- Final Disposal Improvement approach

## **REFERENCES**

1. Private Sector Participation in Municipal Solid Waste Management: Guidance Pack, Part I, page 17.
2. Integration of Municipal Solid Waste Management in Accra (Ghana): Bioreactor Treatment Technology as an Integral Part of the Management Process, November 2004, page 47.
3. METAP Regional Solid Waste Management Project Private Sector Participation Guideline, Tool PSP 2.1, 2004, page 11.
4. Kenya Inside Informality: Poverty, Jobs, Housing and Services in Nairobi's Slums, May 2006, the original data, The World Bank.