

4. THE "TECHNICAL ASSISTANCE FOR CAPACITY BUILDING OF NAIROBI CITY COUNCIL" IMPLEMENTED BY MOLG AND UNDP

4.1 Background to the "Technical Assistance for Capacity Building of Nairobi City Council"

A capacity building program (CBP) called the "Technical Assistance for Capacity Building of Nairobi City Council" (TACBNCC) has been jointly implemented by MOLG and the UNDP under the UNDP Programme Support Implementation Arrangement (PSIA).

The PSIA is based on the UNDP's Programme Support Document (PSD) on the Enhanced Public Administration and Participatory Development (EPAPD) agreed between the UNDP and the Government of Kenya.

The CBP started in January 1998 and will continue for two years until 31 December 1999.

4.2 The Objectives of the Capacity Building Program

The overall objective of the Capacity Building Program is to develop and strengthen the management capability of Nairobi City Council (NCC).

The CBP's immediate objectives are to:

- (a) explore new strategies for institutional and human resource management and development in NCC;
- (b) initiate strategies for enhanced services delivery by NCC; and
- (c) introduce performance improvement programmes so that NCC is able to operate at a higher level of efficiency and effectiveness.

The CBP's long term objective is to improve the management systems and processes of NCC including financial management, human resource management and the enhancement of managerial skills to enable NCC to function as a model local authority in Kenya.

4.3 The Structure of the Capacity Building Program

The CBP comprises eight Program Components. These are:

- (a) Streamlining NCC governance structures and NCC's organisation.
- (b) Improved NCC budgeting, revenue planning and collection.
- (c) Personnel management and training.
- (d) Modernisation of NCC Information Systems.
- (e) Developing an enabling environment for investment and economic growth to alleviate poverty and create employment.
- (f) Planned and controlled urban land use.
- (g) Developing a slum free and adequately housed city.

- (h) Improved service delivery to citizens and the business community.

Within each Program Component the CBP has set a number of strategic objectives and goals which are called "benchmarks". Under Component 1 NCC will rationalise human resources, establish a Personnel Department and appoint a Personnel Director by December 1998.

4.4 Implementation Mechanisms and Institutional Responsibilities

The CBP is being executed by MOLG under the overall direction of the Permanent Secretary, MOLG and with the coordination of the Office of the Vice President and the Ministry of Planning and National Development (OVPMPND) within the framework of the EPAPD. The Directorate of Personnel Management (DPM) in the Office of the President (OP) will also give assistance to the CBP concerning the rationalisation of human resources in NCC.

Organisational arrangements for the management of the CBP include a:

- (a) Joint Task Force (JTF);
- (b) Technical Support Group (TSG);
- (c) Program Implementation Unit (PIU); and
- (d) Component Coordinator (CC).

The role of the **Joint Task Force** is to review and report on the performance of the CBP, to make recommendations on program implementation, to ensure that the CBP is on track and to advise the PIU. Membership of the JTF is from the NCC, MOLG, DPM, Office of the President, OVPMPND, UNDP, Ministry of Finance, Office of the Provincial Commissioner of Nairobi and a number of NGOs.

The **Technical Support Group** formulated the CBP. Its role now is to give technical advice and support to the CBP's Component Coordinator who heads the Program Implementation Unit. The TSG's members are drawn from the MOLG and NCC.

The CBP will be implemented and managed by NCC through the **Program Implementation Unit** which is headed by the **Component Coordinator**. The PIU's responsibilities are to implement the day to day activities of the CBP's program components, to manage any international and local consulting services which are procured to assist implementation of the CBP and to prepare monitoring and performance reports on the CBP. The CC is under the supervision of NCC's Town Clerk and was appointed by the Permanent Secretary, MOLG.

Figure B.4-1 below summarises the organisational arrangements for the CBP.

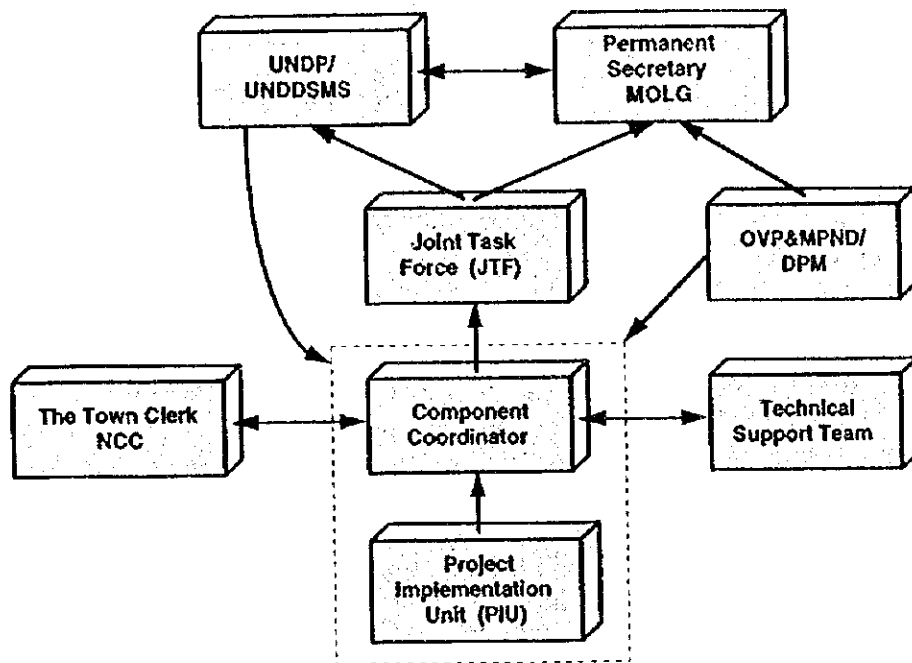


Figure B.4-1 Organisational Arrangements for the CBP

4.5 Procurement of Technical Services

NCC will require assistance from international and local consultants or “Support for Technical Services” (STS) in order to carry out the CBP’s components. To obtain STS NCC has to apply through MOLG and the UNDP. Consulting services will then be procured for the CBP by the United Nations Department of Development Support and Management Services (UNDDSMS).

4.6 Financing Arrangement for the CBP

\$1.2 million is available for the CBP of which \$600,000 will be initial core funding from the UNDP and \$600,000 will be come from the Government of Kenya.

4.7 Current Status of the CBP

In January the MOLG started to prepare the CBP’s first Work Program covering the period January 1998 to June 1998. Based on this Work Program the UNDDSMS will procure services from international and local consultants within the first quarter of 1998.

5. ORGANISATIONAL AND MANAGEMENT DEVELOPMENT WORKSHOP FOR THE DEPARTMENT OF ENVIRONMENT

5.1 Introduction

During the Feasibility Phase of the Study, two Institutional and Organisational Development Workshops were held for the Department of Environment, Nairobi City Council (NCC). These were:

- (a) an "Organisation and Management" Workshop; and
- (b) a "Contract Management" Workshop.

The overall purposes of the Workshops were to:

- (a) formulate and initiate a number of organisational reforms to the DoE. These are the Preparatory Actions;
- (b) use the outputs from the Workshop to finalise the formulation of the Institutional Restructuring Plan (IRP); and
- (c) transfer knowledge about good practice in organisation and management and contract management to Workshop participants.

5.2 The "Organisation and Management" Workshop for the Department of Environment

The "Organisation and Management" Workshop was a joint and cooperative effort amongst the Ministry of Local Government (MOLG), Nairobi City Council (NCC) and the JICA Study Team to formulate and agree actions to strengthen the Department of Environment.

The Workshop was held over two days on the 16 and 17 December 1997 at the Holiday Inn, Nairobi Mayfair Court. It was opened by the Town Clerk, Nairobi City Council and closed by the Deputy Permanent Secretary, Administration, of the Ministry of Local Government (MOLG) on behalf of the Permanent Secretary.

Altogether 35 participants from NCC, MOLG, the Ministry of Environment and Natural Resources, the Ministry of Health attended the Workshop. Representatives from the Embassy of Japan and JICA also attended.

This Chapter presents and describes the:

- (a) background to the Workshop;
- (b) role of the Workshop - its objectives, key components and basic methodology;
- (c) structure of the Workshop;
- (d) formulation and the results of the key components of the Workshop;
- (e) description of the Workshop's first session on "What is Good Organisation and Management?";
- (f) conclusions and recommendations for the Way Forward.

Section 2.1 of Data Book (1) contains the complete Organisation and Management Workshop "Package" which was prepared for the participants to guide them through the Workshop. The "Package" comprehensively details the Workshop's objectives, key components, methodology and structure and the material for the participant's group work.

5.3 Background of the "Organisation and Management" Workshop

5.3.1 The Study on Solid Waste Management in Nairobi City in the Republic of Kenya

The initiative for the Workshop arose from the *The Study on Solid Waste Management in Nairobi City in the Republic of Kenya* (the Study) undertaken by the JICA Study Team.

Under the draft Institutional Restructuring Plan (IRP) of the Study, a number of recommendations concerning the organisation and management of the Department of Environment (DoE) were made. These draft recommendations have been discussed and agreed in principle amongst MOLG, NCC and the JICA Study Team.

The primary focus of these draft recommendations is on strengthening the DoE's Solid Waste Management (SWM) functions which are currently provided by the Department's Cleansing Section.

The secondary focus of these draft recommendations addresses the future role and status of the DoE.

5.3.2 Strategy for Strengthening the DoE's SWM Functions

Recommendations for strengthening the DoE's SWM functions cover three major areas, as follows:

- (1) restructuring the existing organisational structure;
- (2) establishing a number of new functions; and
- (3) development of key management capabilities.

Some of these recommendations can be implemented fully or partially by NCC itself, but most of them require assisted implementation provided by international consultants under a separate Capacity Building Assistance Program (CBAP) which the IRP proposes will begin in 1999. The CBAP will critically support the implementation of the IRP.

(1) Preparatory Actions

The recommendations which NCC can implement fully or partially by itself are essentially Preparatory Actions for the CBAP, i.e., they must be substantively completed to enable the CBAP to begin. Altogether there are seven Preparatory Actions and they need to be substantively implemented during 1998. They cover:

- (a) restructuring the existing organisational structure of the DoE's SWM functions; and

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- (b) setting up of a number of new functions, including the appointment of new managers and staff to them.

Four of these Preparatory Actions are key Actions were formulated in the Workshop and are detailed in the Section "The Role of the Workshop".

(2) Strengthening under the CBAP

The actions to be implemented under the Capacity Building Assistance Program cover:

- (a) full development and implementation of the new functions which are initially set up by NCC in 1998; and
- (b) development of key management capabilities.

Figure B.5-1 below summarises how the recommendations for strengthening the DoE's SWM functions are scheduled between (1) Preparatory Actions and (2) Actions to be implemented under the CBAP.

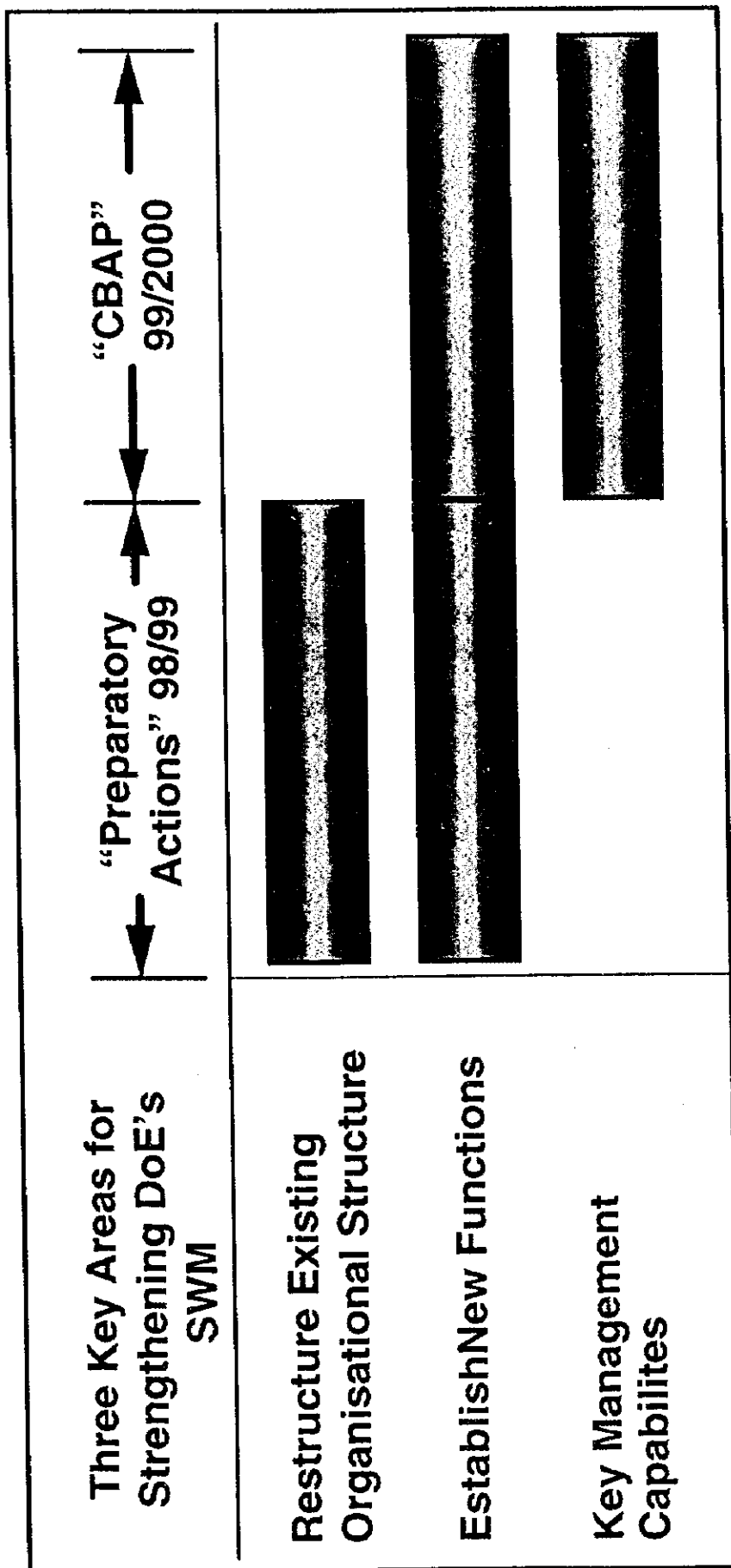


Figure B.5-1 Strategy for Strengthening the DoE's SWM Functions

5.4 The Role of the "Organisation and Management" Workshop

The participants objectives in the "Organisation and Management" Workshop were twofold:

The Primary Objective was for participants to jointly formulate and agree four of the Preparatory Actions for strengthening the DoE's SWM functions. The four key Preparatory Actions are:

- (a) Restructuring the Existing Organisational Structure of the DoE's SWM Functions;
- (b) Establishing a new Community Development Unit;
- (c) Establishing a new Contract Management Unit; and
- (d) Establishing a new Environmental Regulation Unit for Solid Wastes.

The basis which the participant's used to formulate these Actions was the draft recommendations on strengthening the DoE's Solid Waste Management functions contained in the Institutional Restructuring Plan.

The Secondary Objective was for participants to jointly formulate a strategy for the future role, status and organisational structure for the Department of Environment.

Both of these objectives were tackled in the key sessions of the Workshop. Before they were considered, however, the Workshop examined, in a separate session, what good organisation and management is. The purpose of this session was to inform participants of fundamental management concepts and practices and to give a more consistent conceptual framework to the Workshop.

Outputs from the Workshop form the basis for: the DoE to implement the Preparatory Actions for setting up the new functions and restructuring the DoE and (2) completing the formulation of the IRP. **Figure B.5-2** illustrates the role of the Workshop within the Study.

5.5 The Workshop Structure

The key sessions of the Workshop were:

Day 1

- (a) What is good organisation and management?
- (b) Formulation of the four key Preparatory Actions for strengthening the Department of Environment s solid waste management functions.

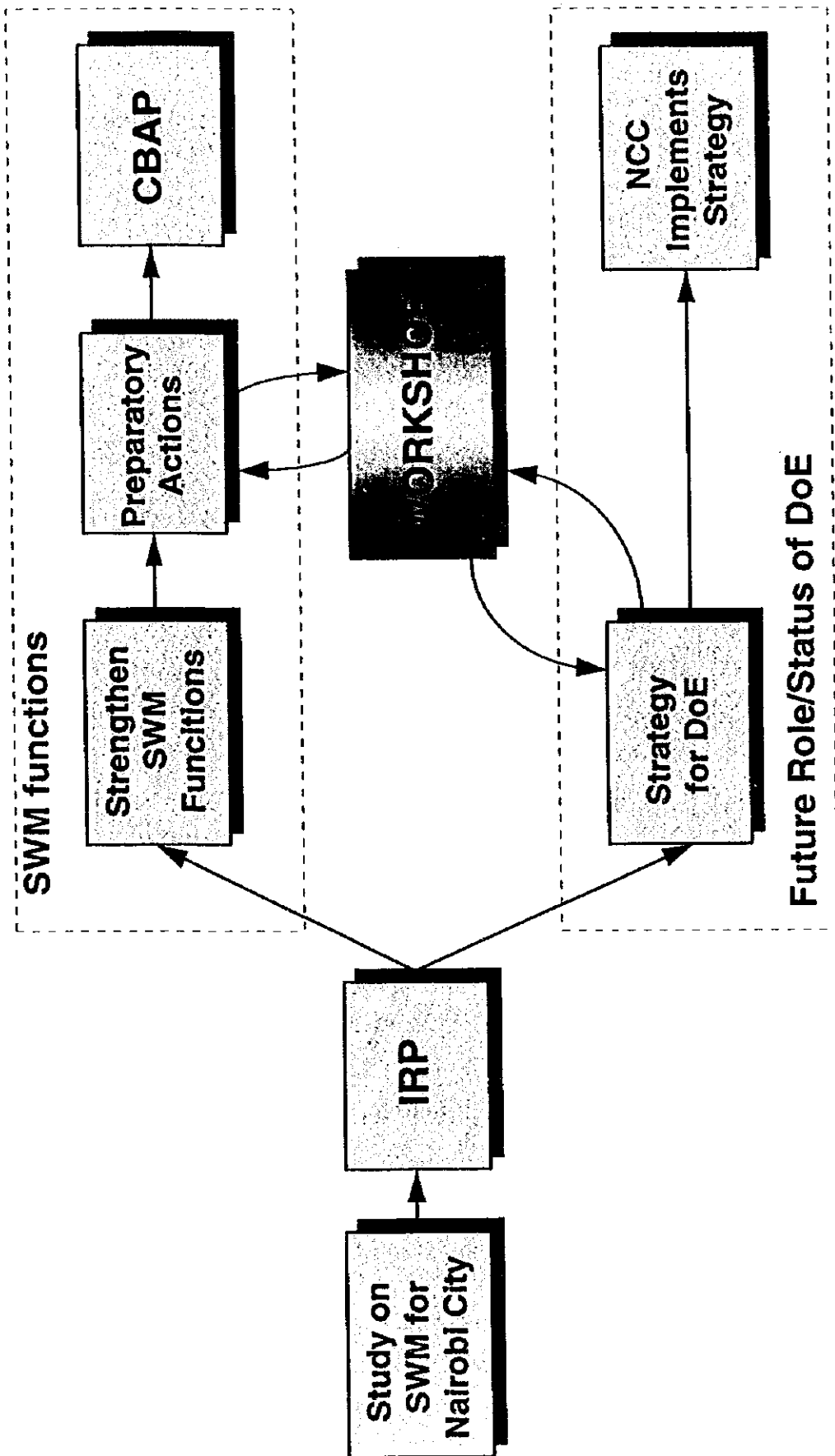


Figure B.5-2 The Role of the Organisation and Management Workshop

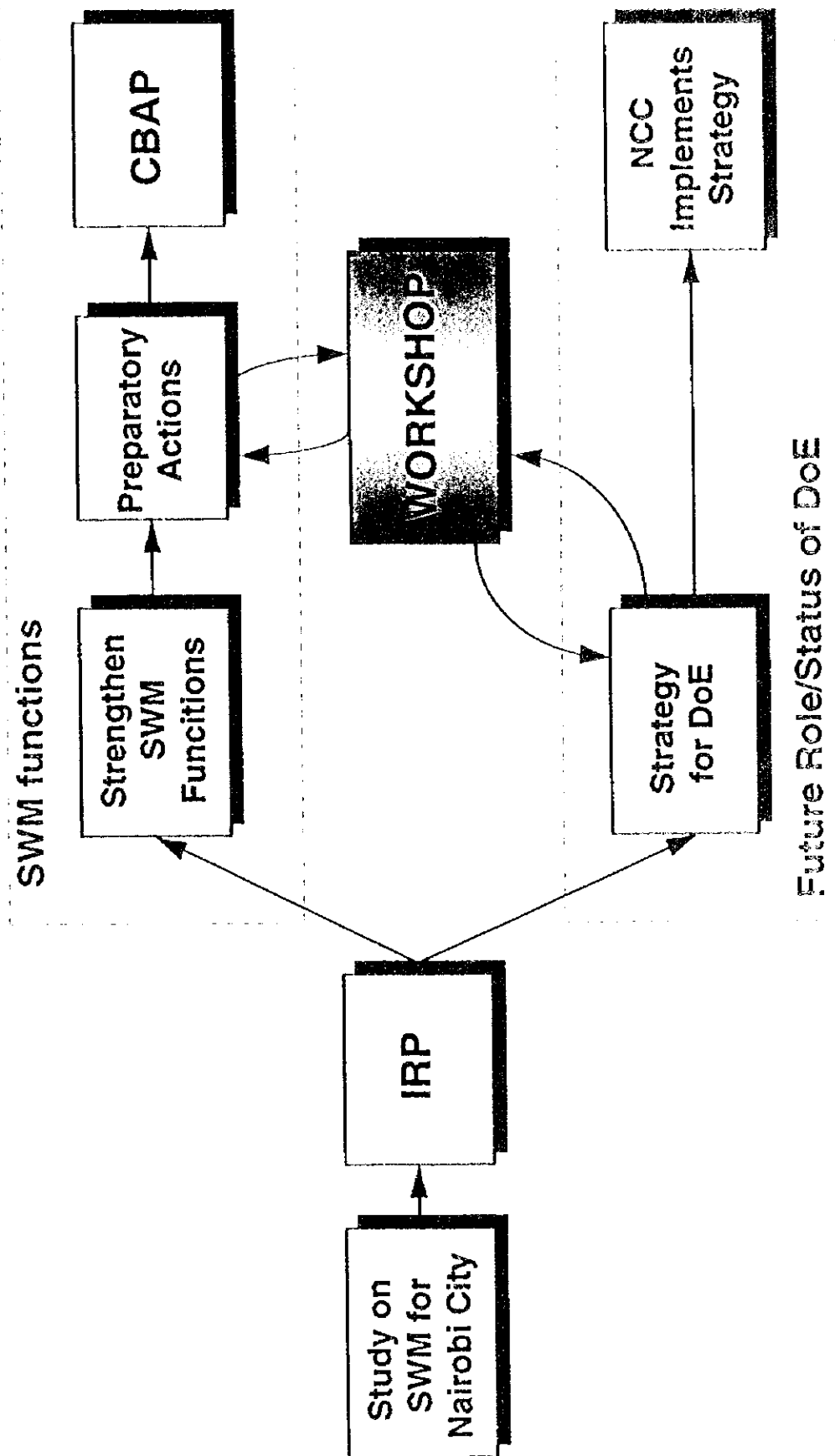


Figure 3.5.2 The Role of the Organisation and Management Workshop

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Day 2

- (a) Formulate and agree a strategy for the future role and status of the Department of Environment.
- (b) Finalise formulation of the four key Preparatory Actions for strengthening the Department of Environment's solid waste management functions.
- (c) Closing session:
 - (i) presentation of the Workshop's key decisions and recommendations to the Deputy Permanent Secretary, MOLG; and
 - (ii) Closing speeches by the Deputy Permanent Secretary, Administration, MOLG, on behalf of the Permanent Secretary, MOLG and the Town Clerk, Nairobi City Council.

5.6 Results of the Workshop

The formulation of the key recommendations and the results of the Workshop are now described in detail below. The results of the four Preparatory Actions are given first in **Section 5.7**. After this the formulation of the strategy for the future role and status of the DoE is given in **Section 5.8**.

For each one there is a brief summary of the:

- (a) IRP's draft recommendations are presented (Preparatory Actions only);
- (b) workshop tasks and methodology used; and
- (c) participants outputs and key recommendations as they presented them at the Workshop.

The participants outputs and key recommendations are reported "verbatim", i.e., as they were actually presented by the participants at the Workshop. To improve the expression and clarity of the outputs and key recommendations they have, where necessary, been subject to minor literary edits.

After this a short summary of the session on "What is Good Organisation and Management" is presented in **Section 5.9**.

5.7 Formulation of Key Preparatory Actions for Strengthening the DOE's SWM Functions

The four key Preparatory Actions that were formulated were:

- (a) Restructuring the existing organisational structure of the DoE's SWM functions;
- (b) Establishing a new Community Development Section;
- (c) Establishing a new Contract Management Section; and
- (d) Establishing a new Environmental Planning and Management Division for solid waste.

Each Action is separately dealt with below. For each one the draft IRP recommendations are firstly presented and then the participants outputs and recommendations are given. Participants used these recommendations to formulate their outputs.

5.7.1 Methodology for Formulating each Action

On Day 1 the Workshop's participants to split into 3 groups. Each group formulated one or two of the Actions.

Group 1 formulated "Restructuring the existing organisational structure of the DoE's SWM functions".

Group 2 formulated two of the Actions - Establishing a new Community Development Section and Establishing a new Contract Management Section.

Group 3 formulated Establishing a new Environmental Planning and Management Division.

Each group prepared outputs for presentation in plenary on the following basis:

- (a) Define the objectives and goals of the Preparatory Action: e.g., to improve organisational efficiency, state mission of new units, strategic goals, etc.
- (b) Define what is to be implemented: e.g., what functions, responsibilities and tasks to be implemented and performed, structure of new units, staffing positions, etc.
- (c) How to implement the Preparatory Action: e.g., approvals needed to create new units and staff positions, and the recruitment staff.
- (d) When to implement the Preparatory Action.
- (e) Identify who within and/or outside the DoE are the main Actors with responsibility for implementation.

It was assumed that at this stage new functions were to be established in skeletal form in preparation for the Capacity Building Assistance Program, i.e., units and positions would be created, new managers and senior staff appointed and objectives and simple tasks defined. Full implementation of these functions will require assistance under the CBAP.

At the end of Day 1 each group presented their Preparatory Action(s) in the plenary session which discussed them, adjusted them as appropriate and reached agreement on them.

On the afternoon of Day 2 the Preparatory Actions were finalised when Day 1 participants presented the key recommendations of each Preparatory Action to a senior audience of policy makers from MOLG, NCC and other Ministries who joined the Workshop on the Day 2.

5.7.2 First Key Preparatory Action - "Restructuring the Existing Organisational Structure of the DoE's SWM Functions"

(1) The IRP's Draft Recommendations

The DoE needs substantial restructuring of the existing organisation of its SWM activities currently provided by the DoE's Cleansing Section. The key elements of the restructuring are:

- (a) transforming the existing Cleansing Section into a SWM Division and reducing the number of vertical levels in senior and middle management and creating new positions for a SWM Deputy Director, a SWM Operations Manager and two deputy SWM Operations Managers;
- (b) separating disposal from collection and street cleansing services and establishing a Disposal Section; and
- (c) separating the management of collection services from street cleansing.

The Organisation Chart of the existing DoE is shown in the preceding Figure B.2-3. The detailed IRP recommendations are:

(a) Reducing the Number of Vertical Levels in the Organisational Structure

Several vertical levels in the organisational structure should be removed to improve organisational efficiency. It is recommended that on balance 4 levels are removed reducing the number from 13 to 9.

Firstly, the position of Assistant Deputy Director of Cleansing which has not yet been filled should be removed. Instead we recommend that the Director is supported by one Deputy Director heading a new SWM Division. Other Deputy Directors would be appointed to other Divisions in the DoE.

Secondly, the position of Cleansing Superintendent should be removed and replaced with four Managers each reporting to the new Deputy Director of SWM.

It is recommended that one Manager will head the existing Collection and Street Cleansing Section, one heads a new Community Development Section, one heads the new Disposal Section, and one heads a new Contract Management Section.

Thirdly, within the Collection and Street Cleansing Section the positions of the two Deputy Superintendents and the two Assistant Deputy Superintendents should be removed and instead replaced by two Deputy Operations Managers. This will remove one level.

Each Deputy Manager will manage one Operating Division comprising 3 Districts similar to the existing arrangements.

Lastly, the positions of Foreman I and II should be removed in each District. There is no need to replace them. Instead the Senior Headman should report directly to the Senior Foreman. This will remove two levels.

It is recommended that the DoE implement all these structural changes and new appointments in 1998.

(b) Disposal is Separately Managed from Collection and Street Cleansing

Currently the Dandora dumpsite is managed under Embakasi District by one Foreman who reports to a Senior Foreman. Disposal is a key responsibility of the DoE and should be managed at a much higher level than the District level, given the environmental and social responsibilities involved.

It is recommended that disposal is separately managed from collection and street cleansing in a new Disposal Section. The Section would be managed by a Disposal Manager reporting directly to the head of the Cleansing Section. It is thought that the DoE can implement this in 1998. It will need to recruit or internally promote the new manager.

(c) Separate the Management of Collection from Street Cleansing

The daily management of collection and transportation should be separated from the daily management of street cleansing within each of the Cleansing Section's Districts.

It is recommended that in each District each of these activities is separately managed by one Senior Foreman instead of Senior Foreman managing both collection and street cleansing. This will require the appointment 4 more Senior Foreman.

This would reduce wide spans of control, e.g., in Western District, rationalise the organisational structure and strengthen daily management.

It is recommended that the DoE implement this in 1998.

(2) Participants' Output and Key Recommendations

(a) Objectives and Goals of Preparatory Action

Create an efficient organisational structure which will improve decision making and the flow of information up and down the organisational structure.

(b) What is to be implemented

Transform the Cleansing Section into a Solid Waste Management Division by:

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- (i) reducing the number of vertical levels in senior and middle management positions;
- (ii) creating relevant senior and middle management positions for solid waste management operations; and
- (iii) separating the operational management of:
 - disposal;
 - collection; and
 - street cleansing services.

These recommendations entirely concur with the IRP's recommendations.

(c) How the Preparatory Action is to be implemented

The following steps are required for approval:

- (i) the Department of Environment finalises the formulation of the proposed changes to the Department's organisational structure;
- (ii) approval of proposals by NCC's Heads of Departments;
- (iii) approval of proposals by NCC's relevant Committee's (about one month required);
- (iv) approval of proposals by the Full Council (about one month required);
- (v) approval of proposals by Ministry of Local of Government; and
- (vi) requests for staff recruitment to fill approved positions made to the Public Service Commission through the Ministry of Local Government.

(d) Indicative timing on implementation of the Preparatory Action

The most likely time for completion is by October 1998.

(e) Which Actors are responsible for implementation

At Nairobi City Council:

- (i) the Director of Environment; and
- (ii) the Town Clerk.

At the Ministry of Local Government:

- (i) the Desk Officer for Local Authorities; and
- (ii) the Senior Principle Personnel Officer.

(3) Comments

These recommendations are substantially in congruence with the IRP's recommendations.

5.7.3 Second Key Preparatory Action - Establishing a New Community Development Section

(1) The IRP's Draft Recommendations for Establishing a Community Development Section

It is recommended that a new Community Development Section (CDS) is established in the Cleansing Section. The DoE will need to appoint a Community Development Manager to head the Section who will report to the new Deputy Director of the Cleansing Section. The Manager will need several assistant managers.

Creation of the CDS and the seniority of its manager gives recognition to the fact that some 50% of Nairobi citizens live in informal settlements which are largely beyond the reach of conventional centralised SWM services, and that a key role of the NCC is to facilitate the development of demand-based self-help community services in these areas.

Three distinct areas of work are identified which will form the core activities of the Section during its initial years. These are to:

- (a) establish links with NGOs and CBOs to facilitate the extension of self-help community schemes throughout the informal areas to improve sanitary conditions;
- (b) facilitate the formation of local residents associations through which to establish community-based primary collection schemes to complement minimum level secondary collection services provided by the NCC;
- (c) work with NGOs and CBOs to help facilitate the improvement of the conditions of scavengers, especially those operating at the landfill site.

The DoE should appoint the Community Development Manager and staff in 1998.

(2) Participants Output and Key Recommendations

(a) Objectives and Goals of New Community Development Section

- (i) improve sanitary conditions in Nairobi giving priority to informal settlements;
- (ii) creating Public Awareness and experience sharing in SWM;
- (iii) to achieve a cleaner environment and a healthier community; and
- (iv) coordination of activities of all stakeholders in SWM.

(b) What is to be implemented

Establish and set up Community Development Section.

Functions

- (i) establish linkage with Non Governmental Organisations (NGOs), CBOs and other operators involved in SWM to improve sanitary conditions;
- (ii) facilitate formation of local residents associations to complement NCC's SWM services; and
- (iii) work with NGOs, CBOs and others to improve conditions of resource recovery.

Structure of Units

As given in the proposed DoE structure.

Staffing

The Section should be staffed with the appropriate:

- (i) managers;
- (ii) operations managers; and
- (iii) district level officers.

(c) How the Preparatory Action is to be implemented

No indication.

(d) Indicative timing on implementation of the Preparatory Action

As soon as possible; by October 1998, at the latest.

(e) Which Actors are responsible for implementation

- (i) The Director, Department of the Environment
- (ii) The Town Clerk, Nairobi City Council
- (iii) The Permanent Secretary, Ministry of Local Government
- (iv) The Public Service Commission

(3) Comments

These recommendations are substantially in congruence with the IRP's recommendations.

5.7.4 Third Key Preparatory Action - Establishing a new Contract Management Section

(1) The IRP's Draft Recommendations for Establishing a new Contract Management Section

The system of contract management should be established before the DoE contracts out further collection or street cleansing services.

The principle role of the Contract Management Section is to manage contracts with the private sector. It will be headed by a Contract Manager who will report directly to the Regulation Manager. The appointee will need contracting expertise.

By contract management is meant the system of controlling and managing contracts from their very inception, i.e. preparation of the contract specification, to the completion of the contract. This includes include the procedures and systems to monitor the delivery of the contractor's services.

Pre-contract arrangements: these should typically should include specification preparation, contract planning, setting tender evaluation criteria, prequalification, preparation of the invitation to tender, the tendering process itself, post tender negotiation and award of the contract.

The Section will play an important role in the pre-contract process, i.e., in formulating contract strategy, preparation of the contract specification, prequalification, contract design and contract negotiation.

Post-contract arrangements: the Section needs to set up a strong system of contract control and monitoring of services to ensure that after the contract is awarded, it is executed and carried out according to the contract's performance standards, terms and conditions. These arrangements should be included as a minimum:

Monitoring the service delivery: A performance measurement system should be established to enable the DoE to monitor and to report on the performance of the contractor and to effectively identify "failures to perform". Monitoring systems therefore need to be planned and designed with respect to the requirements of the specification.

Monitoring for compliance with contract terms and conditions: contract terms and conditions set out the framework of the respective parties' obligations. Monitoring them is essential to ensure that these obligations are complied with by both parties.

Terms and conditions normally cover the payment conditions, responsibilities for contract monitoring and measurement, and procedures for variation, failure to perform, default and termination.

It is essential that proper documentary evidence is maintained where the contractor fails to perform or there is default. Maintaining good documentary evidence facilitates the correction of failures to perform and enables default procedures to be effectively implemented.

A workable structure to resolve legal and commercial issues should also be implemented.

Meeting contracting goals and objectives: Good contract management should ensure that optimal VFM is assured for NCC and that contracting goals and objectives are met. Senior management should be kept appropriately informed.

Monitoring is also essential to enable the DoE to assess whether the contract is giving Value for Money (VFM). The VFM assessment considers the balance between risk, cost, service delivery and quality. The contract should be

managed to ensure that all costs are recorded, services are delivered on a timely basis, there is no change to the balance of risk and that quality is assured.

The DoE should appoint the Contract Manager and his staff in 1998.

(2) Participants' Output and Key Recommendations

(a) Objectives and Goals of the New Contract Management Section

- (i) regulate private sector involvement in SWM services;
- (ii) achieve efficient and economical SWM service for Nairobi residents; and
- (iii) implement SWM policies relating to private sector involvement.

(b) What is to be implemented

The responsibilities of the Section will be:

- (i) management of contracts with the private sector i.e. pre/post contract award.
- (ii) monitoring service delivery for compliance with terms and conditions of the contract.
- (iii) procedures to manage change to contract's provisions and terms and conditions.
- (iv) carrying out value for money assessment (to be carried out by the internal audit in City Treasurer) to assess whether contracting goals and objectives have been met.

Staffing numbers would depend on the number of contracts to be handled; managers and assistants would need to be appointed.

(c) How the Preparatory Action is to be implemented

No indication.

(d) Indicative timing on implementation of the Preparatory Action

Implementation should be completed during 1998.

(e) Which Actors are responsible for implementation

Action to be taken by:

- (i) The Director, Department of the Environment
- (ii) The Town Clerk, Nairobi City Council
- (iii) The Ministry of Local Government
- (iv) The Public Service Commission

(3) Comments

These recommendations are substantially in congruence with the IRP's recommendations.

5.7.5 Fourth Key Preparatory Action - Establishing a new Environmental Planning and Management Division for Solid Waste

(1) The IRP's Draft Recommendations for Establishing a new Environmental Planning and Management Division for Solid Waste

The role of the Division will not only cover monitoring and enforcement of solid wastes but also some technical responsibilities.

The principle role of the Division is to monitor the SWM activities of (1) generators of waste, (2) private collection companies licensing them, as well as, (3) the DoE's own activities, and to enforce SWM legislation. These activities are cover the storage, transportation and disposal of wastes.

The Division will also take responsibility with the Town Clerks Department for formulating the new SWM By-laws proposed under the Institutional Restructuring Plan.

The Division will regulate private collection companies by issuing licenses to them and monitoring the licences for compliance. The focus of monitoring the DoE's activities would be on the handling of industrial, hazardous and clinical wastes. Currently the DoE is having to accept at its Dandora dumpsite site and sometimes collect these wastes. The Environmental Planning and Management Division will need to formulate basic procedures for the safe handling of these wastes and to develop its staff's technical knowledge.

The Division will also monitor the activities of generators of industrial, hazardous or clinical wastes in Nairobi. When the new Environmental Bill and NCC's SWM By-laws are enacted and generators comply with the new legislation, the DoE can cease monitoring their activities. It is assumed that MENR will then have these responsibilities.

The Division's role will then be to enforce the new SWM By-laws as well as any provisions of the new Environmental Act. It should also review the workings of the SWM By-laws and recommend amending them as appropriate. The DoE should appoint the Division Manager and his supervisory staff in 1998.

(2) Participants' Output and Key Recommendations

(a) Objectives and Goals of the new Environmental Planning and Management Division for Solid Waste

The Mission of the DoE is to have its own independent capability to environmentally regulate solid wastes.

The objectives and goals of the Division are:

- (i) monitoring and enforcement of SWM and any other environmental by-laws and relevant legislations.
- (ii) monitoring the SWM activities of:
 - solid waste generators,
 - private collection companies; and
 - the DoE's own SWM activities.

(b) Functions and Responsibilities

The Division's functions and responsibilities are:

- (i) to formulate and enforce the SWM and Environmental By-laws;
- (ii) to license and regulate private collection companies;
- (iii) to monitor the DoE's collection, storage, transportation and disposal activities;
- (iv) to monitor the activities of solid waste generators including industrial and clinical wastes;
- (v) to promote safe handling of solid wastes including industrial, hazardous and clinical wastes; and
- (vi) to harmonise the new SWM By-Laws and other existing legislation.

(c) Organisation of Functions into Sub-Units

Prosecution Sub-Unit

The Sub-Unit will undertake all prosecutions related to SWM including those concerning industrial and clinical, i.e., pathogenic wastes.

Licensing Sub-Unit

The Sub-Unit will license all private waste operators including those involved in recycling. At the moment waste operators are principally private collection companies.

Monitoring and Enforcement Sub-Unit

The Sub-Unit will monitor activities at each stage of the waste cycle ie at generation, storage, transportation and disposal and will enforce all SWM By-Laws and other regulations.

(d) Procedures for the Creation of the Division

- (i) finalise the preparation of the Division's requirements and formulate the Division's justification
- (ii) approval by chief officers in DoE
- (iii) approval by NCC:

- DoE is Environment committee
- finance staff and general purpose committees
- Full Council

(iv) approval by MOLG

(v) recruitment by Public Service Commission

(e) Indicative timing on implementation of the Preparatory Action

Fully establish the Division by June, 1999 (fiscal year 1998/99). Appointment of key staff for the Division is urgent and should be done as soon as possible.

(f) Which Actors are responsible for implementation

- (i) The Director, Department of the Environment
- (ii) The Town Clerk, Nairobi City Council
- (iii) The Permanent Secretary, Ministry of Local Government
- (iv) The Public Service Commission

(3) Comments

These recommendations are substantially in congruence with the IRP's recommendations.

5.8 Formulation of a Strategy for the Future Role and Status of the DoE

The Workshop participants formulated the future role, status and organisational structure for the Department of Environment in a plenary session on the morning of Day 2.

Outputs were formulated for:

- (a) a Mission Statement;
- (b) Strategic Objectives and Goals;
- (c) main functions and responsibilities. This covered not only operational functions but also considered non operational arrangements for finance, human resources management and MIS; and
- (d) an organisational chart.

In the afternoon of Day 2 the outputs for the proposed strategy were presented to the Permanent Secretary and the Town Clerk during the Closing Session.

Before the results and outputs are presented below the preamble to the Session covering the DoE's current situation and the options for its future role is given.

5.8.1 The Current Role of the DoE

Although the DoE was set up as an environmental department it does not carry out any environmental regulation. Currently it provides SWM and Parks management

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services (provided through its Parks Section) which are very different types of services.

SWM is an environmental and public health service. Parks management provides a recreational and also an aesthetic service to Nairobi's citizens. Parks management therefore fulfills more of a social role. Currently the DoE is therefore carrying out two dissimilar services.

The DoE's future mission remains unclear. Will the DoE develop an environmental regulatory role. If it does what will the scope of DoE's environmental responsibilities be? Currently they remain unclear.

And if it does develop an environmental regulatory role what will the DoE's basic mission be? Is it to be an environmental regulator or a provider of services, or both?

5.8.2 Options for the Future Role and Status of the DoE

There were three basic options for the DoE's future role which the participants considered. Either the DoE becomes an:

- (a) environmental regulator only;
- (b) environmental regulator and a provider of SWM services; or
- (c) environmental regulator, and a provider of SWM and Parks services.

Two of several criteria which the participants used to evaluate the options were:

- (a) environmental regulation and environmental services should be separated;
- (b) DoE's environmental regulatory responsibilities should not overlap with national environmental responsibilities.

Non-operational functions were also considered by the participants in formulating the strategy. This covered the recommendation in the Institutional Restructuring Plan that the DoE establish:

- (a) a New Administration Division to manage the DoE's Human Resources and Finance;
- (b) a Management Team among its existing senior officers; and
- (c) an MIS capability.

5.8.3 Participants' Outputs and Key Recommendations

(1) The DoE's Mission Statement

"The Department of the Environment will be responsible for the local Environmental Planning and Management for Nairobi City and the Department will also provide Solid Waste Management and Parks Management services to the citizens of Nairobi."

(2) The Divisions Mission Statements and Strategic Objectives

(a) Environmental Planning and Management Division

Strategic Objectives: “The primary objective for Environmental Planning and Management is to prevent, minimise and mitigate the effects of environmental pollution and to establish an effective environmental planning and management function within the DoE. The scope covers local environmental needs for solid wastes, air, water and soil.”

(b) SWM Division

The Mission Statement: “The Mission of the SWM Division is to provide solid waste management services to the citizens of Nairobi”

Strategic Objectives: The Department of the Environment’s overriding strategic objectives for SWM are to:

- (i) make Nairobi a clean and tidy city;
- (ii) protect the environment against the effects of pollution from solid wastes; and
- (iii) protect public health from prevent detrimental affects arising from solid wastes.

(c) Parks Division

The Mission Statement: “The Mission of the Parks Division is to maintain and protect parks for aesthetic value, recreational use and conservation for the residents of Nairobi.”

Strategic Objectives: The primary objective for Parks Management is to improve the recreational facilities and scenic value of parks and open spaces in Nairobi.

(5) The DoE’s Main Functions and Responsibilities

(a) Environmental Planning and Management Division’s main functions and responsibilities

The main functions and responsibilities are to:

- (i) formulate environmental management policies;
- (ii) formulate environmental management By-Laws;
- (iii) prepare an environmental management plan;
- (iv) promote public awareness for the protection and conservation of the local environment;
- (v) issue permits to waste operators;
- (vi) control local air polluters through permits;

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- (vii) monitor and enforce permits under environmental management By-Laws and national laws; and
- (viii) control noise polluters.

(b) SWM Division's main functions and responsibilities

The main functions and responsibilities are to provide collection, street cleansing and disposal services.

Through its Community Development Section, the Division will also:

- (i) work with NGOs and CBOs to facilitate the extension of self-help community schemes throughout the informal areas to improve sanitary conditions; and
- (ii) facilitate the formation of local residents' associations through which to establish community-based primary collection schemes to complement minimum level secondary collection services provided by the NCC;
- (iii) work with NGOs, CBOs and others to improve conditions of resource recovery.

(c) Parks Division's main functions and responsibilities

The Division will continue to provide the following services:

- (i) nurseries and landscaping;
- (ii) maintenance of open spaces in the city, i.e., parks, estates, road reserves and cemeteries;
- (iii) offering recreational amenities within the parks, e.g., boating, children's playgrounds;
- (iv) promotion of tree planting and gardening;
- (v) floral decoration for both state and private functions;
- (vi) training of gardeners for both NCC and other institutions; and
- (vii) plant propagation and plant breeding.

(d) Administration Division's main functions and responsibilities

The Division will provide:

- (i) human resource management;
- (ii) financial management;
- (iii) transportation logistics, i.e., essentially maintenance and procurement;
- (iv) an MIS capability.

Sections will be established within the Division for each of these functions.

(4) Proposed Organisational Structure of the DoE

The proposed organisational structure of the DoE is given in **Figure B.5-4** below. It shows that the DoE is composed of four (4) Divisions.

(5) Responsibility for Implementation

- (a) The Director, Department of the Environment
- (b) The Town Clerk, Nairobi City Council
- (c) The Permanent Secretary, Ministry of Local Government
- (d) The Public Service Commission

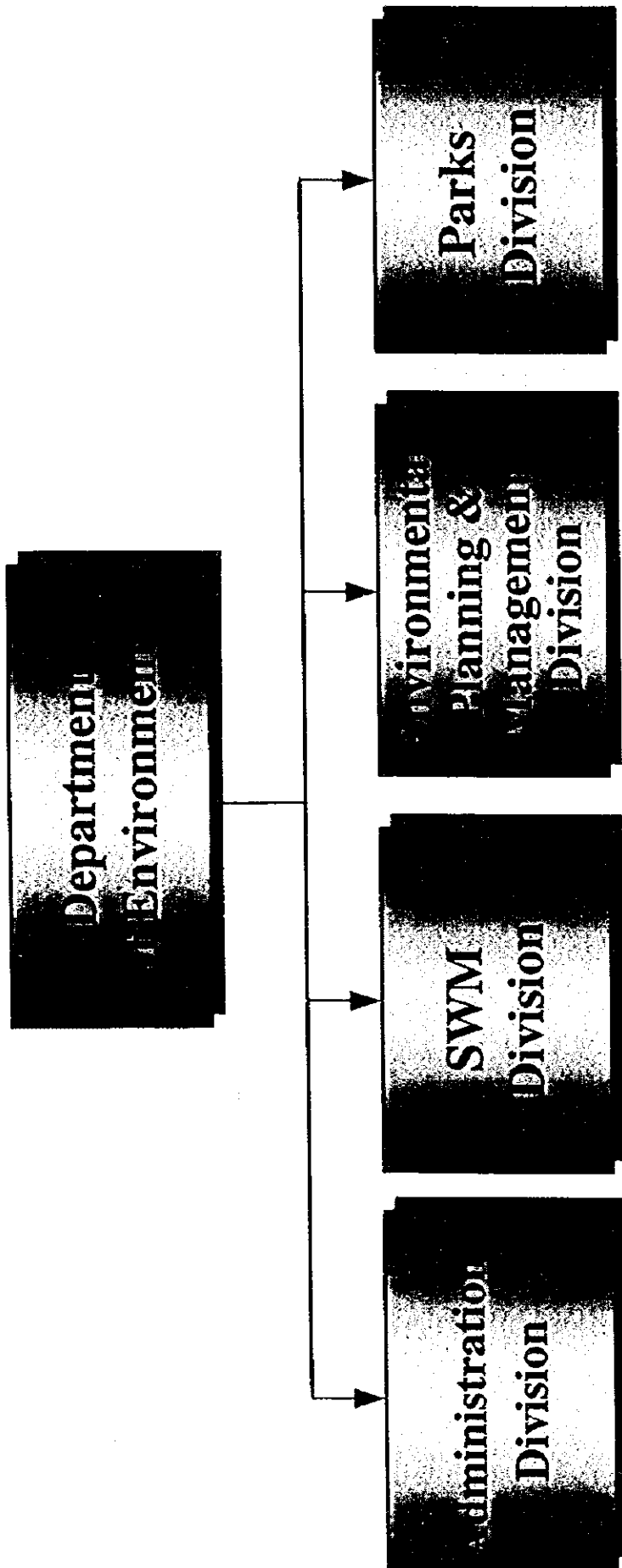


Figure B.5-3 The Proposed Organisational Structure of the Department of Environment

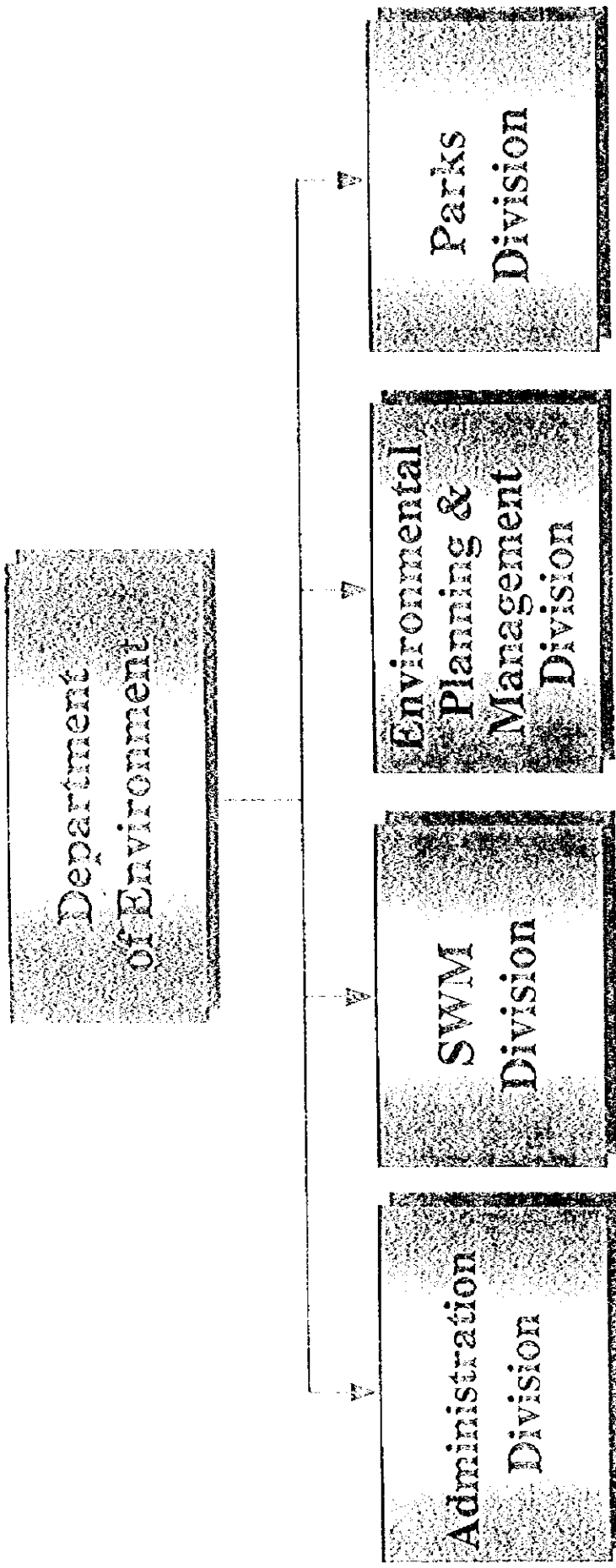


Figure B.5.3 The Proposed Organisational Structure of the Department of Environment

5.9 What is Good Organisation and Management?

5.9.1 Introduction

What is good organisation and management and what are key management capabilities?

This session was intended to inform and refresh participants on fundamental management concepts and principles. This helped to give a more consistent conceptual framework to the Workshop.

5.9.2 Session Structure

The session was carried out in plenary and in three components:

- (a) what is management?
- (b) what is planning?
- (c) identifying key organisation and management principles

A short address on the management and planning components was given by the facilitators. After this the Workshop participants jointly discussed and agreed a number of key principles of organisation and management and discussed their relevance to the DoE. Each component of the session is summarised below.

(1) What is Management?

The practice of management is difficult, demanding, and unique. Managers - the practitioners of management - exert tremendous leverage in helping groups of people - organisations - to become effective and productive.

What is meant by "Management", the "Role of Managers" and the "Management Cycle".

"Management is the process of obtaining, deploying and utilizing a variety of resources to achieve and fulfill an Organisation's mission and goals".

"Managers are the "Practitioners of Management": they plan, direct and control the work of their human resources. They do not perform the actual work themselves but they are responsible for the work of others.

(a) Managers Perform Five Unique Functions for an Organisation

(i) Planning

A manager is responsible for setting overall objectives and goals to unify employees' efforts. After setting goals, managers design and prepare the plans and schedules that will help to move and guide everyone towards fulfilling the organisation's goals.

Senior Managers set broad strategic objectives and goals and prepare strategic plans. Middle-level managers generally prepare

goals and plans for the next month or year. Supervisors generally establish short-term goals and plans for the next week or day.

(ii) Organising

Managers define the organisation's functions and create departments, sections and positions for individual members of staff. Managers then define and assign the responsibilities and tasks to these departments, sections and their staff.

(iii) Staffing

Positions in an organisation chart have little consequence until they have been filled with individuals who are qualified to perform the duties associated with those positions. When managers fill these positions they are performing the staffing function.

(iv) Directing

Once the plans are prepared, the organisation created and positions filled, the organisation is ready to be set in motion. It is the manager's responsibility to direct the organisation's activities and to direct, i.e., command or instruct, employees to go carry out their duties.

(v) Controlling

Once an organisation's wheels are in motion, managers must regularly check to see whether out-turn results are going according to plan. If plans are faltering and results are off-target manager must take corrective action to put plans back on track. That is the manager's controlling responsibility.

(b) The "Management Process"

Managers routinely perform the five unique functions just described. In theory, they perform these functions in the sequence discussed above. Conceptually, these five steps, taken in order, have been described as the "management process".

In actual practice any of the functions may be taken independently and in any sequence that circumstances dictate. Because the management process can be, and is, repeated over and over again it is sometimes called the "Management Cycle". This is illustrated in the **Figure B.5-4**.

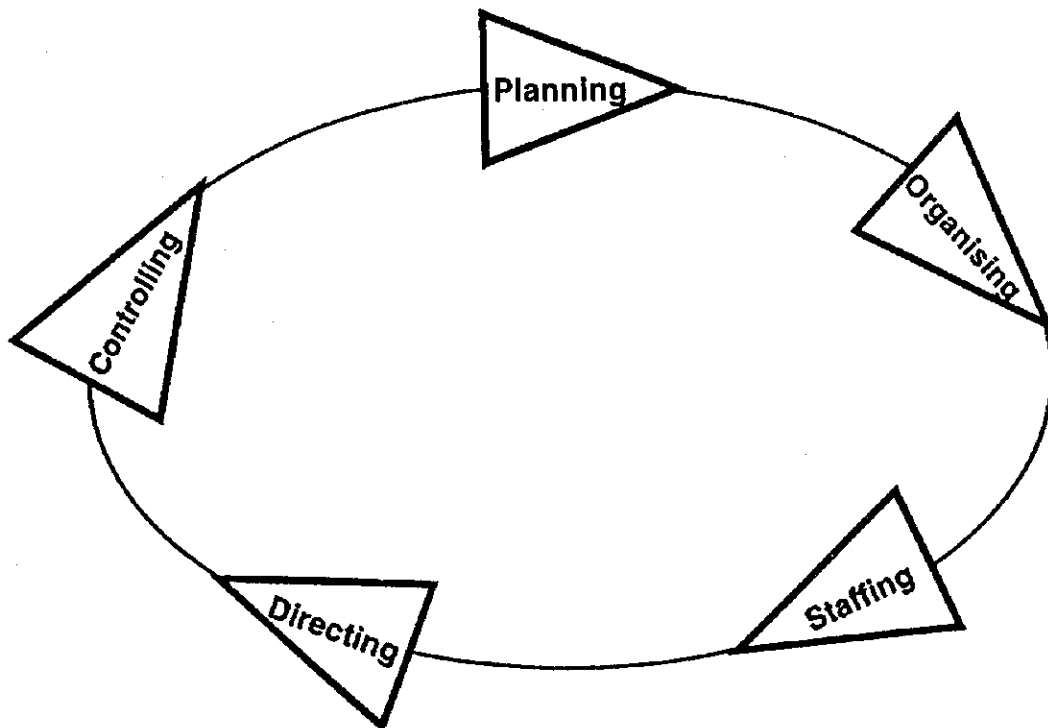


Figure B.5-4 The Management Cycle

(2) What is Planning?

Planning is a comprehensive process in which managers formulate the specific objectives or goals of an organisation and then develop and prepare plans for attaining them.

Objectives and goals specify an organisation's purposes and targets which (a) support that organisation's survival and (b) provide focus for management's actions and employees' efforts.

Plans delineate the paths to be followed to fulfill an organisation's mission and goals.

(a) Effective Planning follows a Systematic Process

An organisation should:

Firstly, set its mission statement, its strategic objectives and strategic goals;

Secondly, prepare a strategic plan which delineates the paths (strategies) to be followed to achieve and fulfill its strategic objectives and goals;

Thirdly, express its strategies in policies and procedures; and

Fourthly, prepare short term operational plans. Operational plans are the cutting edge of the organisation's strategic plans. They are concerned

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with how an organisation's resources are utilised under specific short term plans and schedules to achieve its strategic objectives and goals.

Figure B.5-5 below summarises the main elements of the planning process showing how missions, goals and plans interlock.

The Planning Process

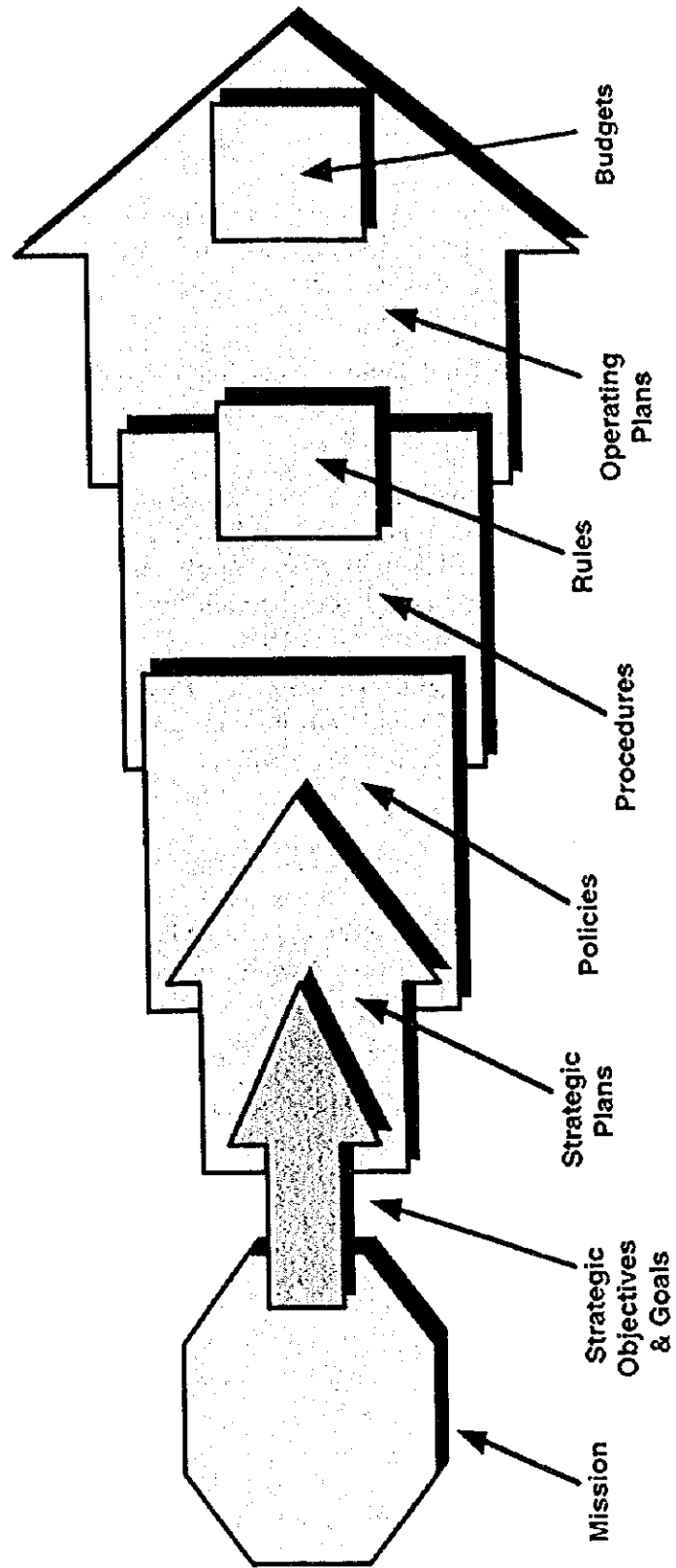


Figure B.S-5 The Planning Process

(b) Key Organisation and Management Principles

The Workshop participants jointly discussed and agreed a number of key principles of organisation and management. These were:

- (i) Effective planning and policy formulation. This includes establishing mission statements, strategic objectives, strategic goals, policies, and preparing strategic and operational plans.
- (ii) An efficient organizational structure with clear reporting lines, rational departmentation, reasonable spans of control and numbers of levels of managers and supervisors, and an appropriate senior management structure.
- (iii) A clear assignment and delegation of responsibilities and adequate authority to managers and supervisors with accountability for individual performance.
- (iv) Procedures to clearly set and monitor objectives from the strategic level down to middle management and supervisors. Managers must have a clear understanding of their objectives and managers performance should be periodically assessed against agreed performance targets and criteria.
- (v) Effective financial management. This should include integration of financial planning into the Planning Cycle, and implementing budgetary planning and control and appropriate accounting systems.
- (vi) Effective decision making by managers.
- (vii) Effective and appropriate systems. These will essentially include management information systems. Managers will need appropriate and regular information to enable them to make effective decisions and to efficiently carry out their responsibilities.
- (viii) Good human resource management.
- (ix) Well trained and committed managers who have good conceptual, interpersonal and technical skills.

5.10 Conclusions

The Workshop was successful in achieving its objectives. A strong consensus was achieved amongst participants in formulating the recommendations to strengthen the DoE. Participants outputs were generally positive, clear and constructive and added constructive ideas to the draft IRP recommendations, in particular for the future role and status of the DoE.

These recommendations now form a comprehensive basis for NCC to initiate actions to implement the Preparatory Actions of establishing new functions and restructuring the DoE.

Lastly the results of the Workshop indicate that the Workshop's outputs substantively concur with the IRP's recommendations concerning the strengthening of the organisation and management of the DoE.

SECTION C
LEGAL STUDY

**THE STUDY ON
SOLID WASTE MANAGEMENT
IN NAIROBI CITY
IN THE REPUBLIC OF KENYA**

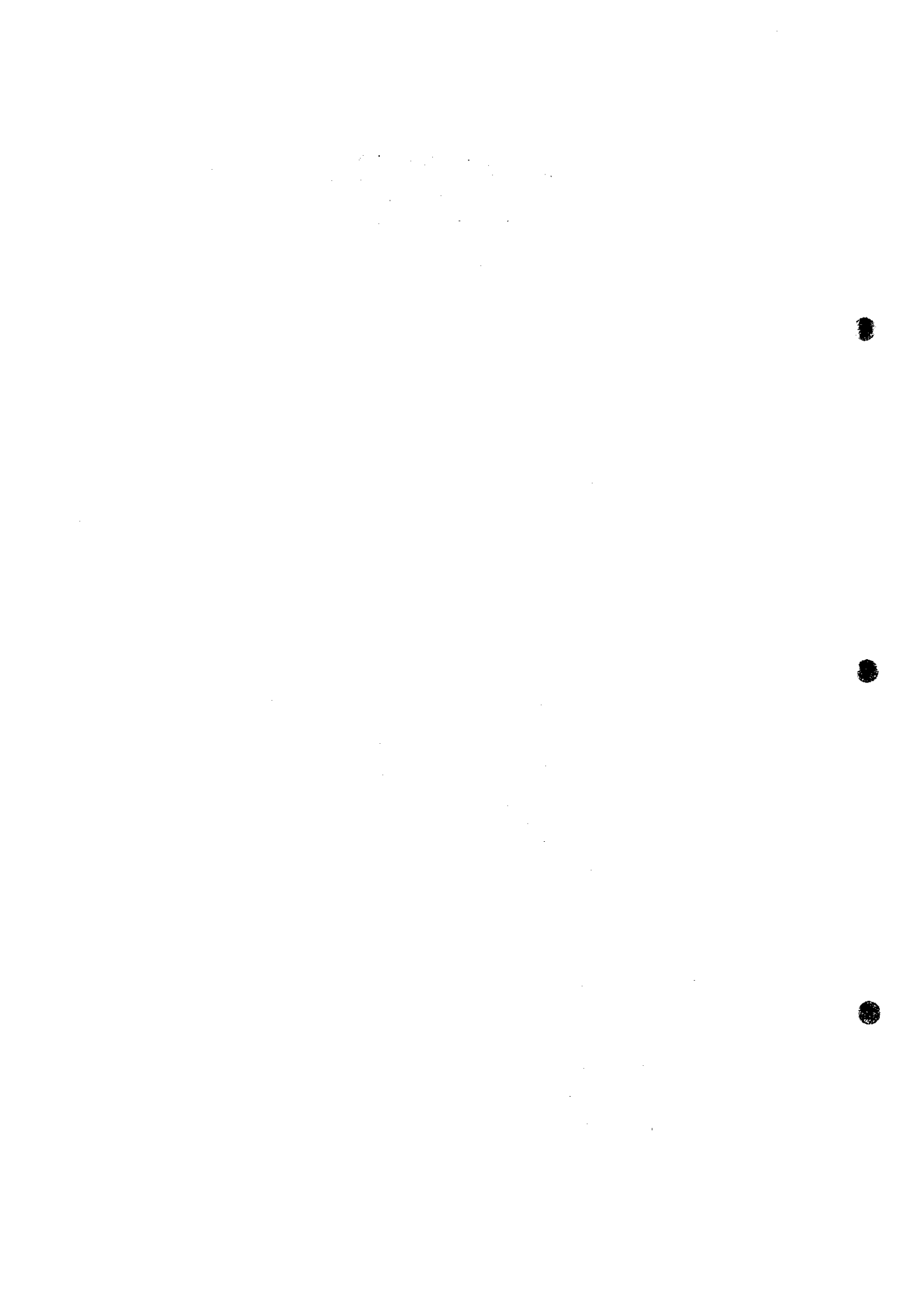
FINAL REPORT

SECTION C

LEGAL STUDY

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SECTION C

LEGAL STUDY

1. OUTLINE OF LAWS AND LEGISLATIONS

1.1 Introduction

This **Supporting Report Section C, Legal Study**, describes and evaluates the legal arrangements for the regulation and management of solid waste at both national and local level from a number of perspectives, namely:

- (a) Legislation at national and local level, **Section 1.2;**
- (b) Evaluation of the existing legislation related to SWM, **Section 1.3;**
- (c) Analysis of the Draft Local Government Act (Cap 265) "Disposal of Refuse By-laws", **Section 1.4;**
- (d) Enforcement mechanisms and procedures, **Section 1.5;**
- (e) Outline description of the municipal legislative process, **Section 1.6;**
- (f) Legal Basis for Private Sector Involvement Study in SWM, **Section 1.7;**
and
- (g) Summary and recommendations to improve SWM laws, **Section 1.8.**

1.2 SWM Legislation at the National and Local Levels

1.2.1 National Overview

Laws concerning solid waste at the national level are very few and are scattered through a number of Acts and NCC's By-laws.

There is no single national comprehensive law on SWM. Nor is there any national legislation on the management and control of hospital, industrial or hazardous wastes. Neither the Ministry of Health nor the Ministry of Industry and Commerce have any legislation which covers these areas.

Finally, there is no national law on the environment. The Ministry of Environment and Natural Resources (MENR) is, however, currently drafting a new Environmental Bill (see **Subsection 1.2.4**).

1.2.2 Existing Legislations Directly Related to SWM

At the moment the Public Health Act and the Local Government Act are the only laws in Kenya which expressly cover the responsibilities of local authorities towards solid waste. NCC provides and regulates its SWM services under these laws.

The Public Health Act places a duty on all local authorities to provide SWM services. The Local Government Act gives power to local authorities to establish and maintain SWM services. NCC has also enacted several By-laws under the provisions of the Act concerning SWM, covering the prohibition of illegally depositing waste, general duties of the generators of waste on the storage and collection of waste and NCC's right to impose charges on citizens.

There is no categorisation of waste in this legislation which was principally enacted to cover municipal waste only, without categorically stipulating so. NCC and MOLG have, however, assumed that this legislation implies that NCC is also responsible for the collection and disposal of hospital, industrial and hazardous wastes, in the absence of any law expressly assigning responsibility for these waste types.

In addition to these laws, a Draft "Disposal of Refuse By-laws" was jointly prepared in November 1993 by the Ministry of Local Government (MOLG) and GTZ under the Urban Water and Sanitation Management (UWASM) program. This is not a law but a draft document which Kenyan local authorities can use as a basis to enact a local SWM By-law. A large number of local authorities including Eldoret, Kiricho and Thika have already adopted it. See Section 1.5.

(1) The Public Health Act, Cap 242

Section 116 is the most important provision. It imposes a duty on every local authority to "take all lawful, necessary and reasonably practicable measures for maintaining its district at all times in a clean and sanitary condition, and for preventing the occurrence therein of, or for remedying or causing to be remedied, any nuisance or condition liable to be injurious or dangerous to health, and to take proceedings at law against any person causing or responsible for the continuance of any such nuisance or condition."

The Act also contains wide ranging provisions which indirectly deal with solid waste management. The Act can be used for SWM where solid wastes pose a threat to the public health. Further relevant Sections are as follows:

Section 13 which imposes a duty on local authorities: "To take all lawful, necessary and, under its special circumstances, reasonably practicable measures for preventing the occurrence of or dealing with any outbreak or prevalence of any infections, communicable or preventable disease, to safeguard and promote the public health and to exercise the powers and perform the duties in respect of the public health conferred or imposed on it by the Act or any other law."

Under **Section 15** nuisances are prohibited. The section provides that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."

Section 118 defines what constitutes a nuisance (to health) liable to be dealt with under the Act and covers solid wastes.

In addition to these powers, **Section 126** of the Act gives the Minister power to make rules on a diverse range of responsibilities of local authorities, including inspection of all types of buildings, the removal and disposal of solid wastes and prohibition of industrial and commercial activities which pose a threat to the public health.

Details of the provisions of Sections 116 and 126 are given in **Section 3.1 of Data Book (I)**.

(2) The Local Government Act, Cap 265

The **Local Government Act, Cap 265, of the Laws of Kenya** is the most important Act relating to SWM in terms of conferring powers, and its scope and relevance.

Section 5 of the Act gives power to establish local authorities, of which Nairobi City Council (NCC) is the biggest in Kenya. The Act stipulates the powers and duties of the local authorities so established and Solid Waste Management (SWM) is one such function.

Section 160(a) of the Act gives local authorities power to “establish and maintain sanitary services for the removal and destruction of, or otherwise dealing with, all kinds of refuse and effluent and, where any such service is established, to compel the use of such service by persons to whom the service is available.”

Additionally, under **Section 162(a)**, there is power “to compel occupiers or, in the case of vacant premises, owners, to keep their premises free from offensive or unwholesome matter.”

In addition, **Section 201** of the Act gives local authorities power “to make By-laws in respect of all such matters as are necessary or desirable for the maintenance of the health, safety and well-being of the inhabitants of its area or any part thereof and for the good rule and government of such area or any part thereof and for the prevention and suppression of nuisances therein.”

(3) By-laws Enacted by NCC under the Local Government Act

Three (3) sets of By-laws which have direct relevance to SWM were enacted by the Nairobi City Council under the provisions of the **Local Government Act**. These are:

- (a) **The Local Government (Adoptive By-laws) (Building) Order 1968**, or simply, the Building Code, L.N. No. 15 of 1968;
- (b) **The City of Nairobi (General Nuisance) By-laws 1961**, L.N. No. 275/1961; and
- (c) **The City of Nairobi (Conservancy) By-laws 1961**, k L.N. No. 659/1961.

The **Building Code, Section 239**, deals with the removal of building debris. It provides that "any person who, except with the prior consent of the Council deposits or causes or permits to be deposited any builders' materials, builders' plant or builders' debris upon any street, shall be guilty of an offence."

The **General Nuisance By-laws** prohibit depositing of debris. **Section 7** states that "any person who shall without lawful authority deposited any solid, vegetation, refuse or debris on any land in the city shall be guilty of an offence." **Section 19** also makes provision for controlling nuisances as follows. It makes it an offence for any person in any street:

- (a) to place or deposit and leave any glass, china, earthenware, tin, carton, paper, sawdust or other rubbish so as to create or tend to create litter; or
- (b) to throw down or leave any orange peel, banana skin or other substance likely to cause a person to fall down; or
- (c) while being in charge of any dog, to allow such dog to foul any footpath.

The **Conservancy By-laws** give general provisions for generators concerning the storage and collection of their solid wastes. They provide that if in the opinion of NCC's Medical Officer of Health (MoH), any premises have an insufficient number of receptacles for the amount of refuse derived therefrom, he may serve a notice in writing to that effect on one or more occupiers thereof and may arrange for such number of receptacles as he deems requisite to be left at the premises.

The **Conservancy By-laws** also require that all refuse for disposal be placed in a receptacle for collection by the Council's refuse collection service.

Regulation 6 of the Conservancy NCC's By-laws also imposes a charge for the hire of the receptacles and for the service of emptying the receptacle. **Regulation 14 of the Conservancy By-laws** provides that the charge is imposed on the occupier of premises who is defined as the person who enters into an agreement to pay for a water supply to the premises from the council.

1.2.3 Other Existing Legislations Indirectly Related to SWM

There are also a number of other national laws which have indirect and often tenuous links to SWM. These are:

- (a) The Water Act, Cap 472
- (b) The Land Planning Act, Cap 303
- (c) The Physical Planning Act, 1996
- (d) The Government Lands Act, Cap 280
- (e) The Medical Practitioners and Dentists Act, Cap 253
- (f) The Scrap Metal Act, Cap 503
- (g) The Use of Poisonous Substances Act, Cap 247
- (h) The Food, Drugs and Chemical Substances Act, Cap 254
- (i) The Penal Code, Cap 63

- (j) The Factories Act, Cap 514
- (k) The Radiation Protection Act, Cap243

These laws are briefly described and evaluated in Section 3.3 of Data Book (1).

1.2.4 The Environmental Management and Coordination Bill

The MENR has formulated the **Environmental Management and Coordination Bill** which will provide a framework for the coordinated management of the environment. It is now being formally drafted by the Attorney General's Office. No decision has been made on when it will be presented to the Parliament but it is hoped it will be enacted in 1998.

The Bill deals with waste management including standard setting, disposal site licensing, the control of hazardous, industrial and hospital waste and environmental impact assessments.

Responsibility for the storage, treatment and collection of hospital, industrial and hazardous wastes will be the generators. However, final disposal for all types of waste still remains as the responsibility of local authorities.

1.3 Evaluation of the Existing Legislations Related to SWM

It is necessary to travel through the entire set of the Laws of Kenya in an effort to identify any relevant statutory provision for SWM. The legislation is scattered across the Public Health Act, the Local Government Act and NCC's By-laws, as well as at least a further dozen Acts of Parliament which have some provisions of indirect relevance to SWM. The existing legislation suffers from a number of weaknesses, as discussed in the following sections.

1.3.1 Institutional Fragmentation of SWM Responsibilities

Institutional responsibilities for SWM are fragmented. The major responsibilities for SWM lie with local authorities. Other incidental responsibilities for SWM are scattered across other institutions.

There is an absence of setting clear responsibilities, e.g., setting policy and standards, regulation of SWM including monitoring and enforcement for compliance with legal requirements.

1.3.2 Legislation is not Comprehensive

There is no law in Kenya which deals comprehensively with waste management as a single body of law. Furthermore, the existing body of law is very incomplete, lacking a number of crucial aspects.

The **Public Health Act, Section 116**, places a duty on all local authorities to provide SWM services. The aim of the duty however is to "safeguard and promote public health."

Section C

The SWM objectives of ensuring cleanliness or of the protection of the environmental fall outside the scope of the Act, which only bites when public health is threatened. For example, the nuisance control provisions in the Act come into play only when there is demonstrable danger to health.

Similarly, the **Local Government Act** is generally concerned with the establishment and management of local authorities. SWM is simply one of the areas it gives power to local authorities to manage, among other functions.

Further, the Act does not make SWM a statutory duty of local authorities. It simply gives them "power" to deal with it under Section 160(a). This is discretionary, making enforcement, through, for instance, judicial review, difficult.

Generally, the legislation is seriously deficient in setting and defining standards and conditions covering a number of aspects of SWM, particularly concerning operational aspects. For example, there is no NCC By-law or central government regulation defining standards for collecting, treating and transporting solid waste or for the proper management of sanitary landfills. Likewise, there is no legislation on waste reduction or recycling.

Local authorities completely lack guidance and direction on their SWM activities. This state of affairs compromises solid waste management. Likewise the standards set for generators in handling their wastes are very general and not useful, e.g., **Section 162(a)**.

1.3.3 Solid Wastes are not Classified

There is no classification of waste in the Public Health Act, the Local Government Act, or NCC's By-laws. This by-law was principally enacted to cover municipal waste only without categorically stipulating so. All wastes are simply grouped together.

The **Local Government Act, Section 160(a)** gives power to deal with "all kinds of refuse" and no provision is made for differentiation of wastes.

The **Public Health Act under Sections 15 and 118** deals with "nuisances". The definition of nuisances is comprehensive enough to cover all wastes, regardless of category. However, no special provision is made for the management of wastes requiring special handling and management.

As a result NCC and MOIG have assumed that the legislation implies that NCC is responsible for the collection and disposal of hospital, industrial and hazardous wastes as well as municipal waste, even though NCC is not equipped and resourced to deal with these types of waste.

1.3.4 NCC's By-laws

At the local level the NCC By-laws exhibit many of the same limitations found in the laws at national level. Although they all give power to the NCC itself, they deal with SWM in an uncoordinated manner and deal with limited and minor aspects of SWM,

focusing mainly on prohibition of generators to illegally dispose of waste and on general provisions for generators to store and prepare their wastes for collection. The By-laws each suffer from limited focus.

The **Building Code, Section 239**, deals with the removal of building debris and not with any other category of waste. Its scope is also restricted to the removal of debris deposited on a street. Debris deposited elsewhere does not come within its purview.

The **General Nuisance By-laws, Section 7**, deal with mainly prohibition of illegally depositing waste and with debris and other nuisances. It makes no specific provision for the management of hazardous, industrial or hospital wastes.

The **Conservancy By-laws** are only concerned with the storage and collection of what is presumed to be domestic "refuse". It does not make any specific provision for other wastes.

1.4 Analysis of the Local Government Act (Cap 265) Draft "Disposal of Refuse By-laws"

The "Draft Disposal of Refuse By-laws" was jointly prepared in November 1993 by the Ministry of Local Government (MOLG) and GTZ under the UWASM program and was made available to Kenyan local authorities as a basis to enact a local SWM By-law. A large number of local authorities including Eldoret, Kiricho and Thika have already adopted it.

The following is an analysis of the suitability of the Draft By-laws for Nairobi City.

1.4.1 Scope of the Draft By-law

The title "the Disposal of Refuse By-laws", suggests that the By-laws deal with "disposal" (i.e., final disposal in a landfill site). In fact the By-laws deal only with arrangements for collection of refuse. The By-law's title should accurately reflect its subject. An appropriate title would be "By-laws for the Collection and Transportation of Waste".

The scope of the By-laws is not comprehensive and needs to cover the entire waste management cycle, from generation through collection, treatment (including separation), to transport and final disposal. All of these aspects are important and need attention.

1.4.2 Classification of Refuse

The classification of waste in the By-laws is not comprehensive. The definition of "refuse" does not include industrial, hospital and clinical wastes which NCC has certain responsibilities for. These should be included and provision also made in the By-laws for their management and handling.

Furthermore, the By-law's definition of commercial waste only includes waste from offices and shops but does not include hotels or other catering establishments (e.g., restaurants, lodges). These generate large amounts of waste and should be expressly included in the By-laws.

1.4.3 Separation of Waste

The By-laws do not make any provision for separation of wastes. Presumably, therefore, a hazardous waste generator would not be required to separate hazardous waste from non-hazardous waste. This can have serious implications, for example, in relation to the separation of hospital and pathogenic wastes from hospitals.

The By-laws need to provide for the categorisation of waste into different hazard categories and the appropriate separation of such waste. This requires that different storage methods be used for hazardous and non-hazardous wastes.

1.4.4 Obligations on Industrial Waste Generators

No specific provision or condition is made for factory owners to dispose of their waste except that they may request the local authority to collect the refuse and pay a fee. An obligation needs to be imposed on factory owners to dispose of refuse either by themselves or by making appropriate arrangements.

1.4.5 Storage

Regulation 4(b) of the By-laws prohibits the use of unapproved receptacles for storing waste. This rule might be restrictive and, in any case is likely to prove unworkable in practice where poor households can only store waste in whatever suitable container they can provide.

1.4.6 Littering

In the case of littering there is no provision in the By-laws for council inspection officers to impose a small on-the-spot fine for those caught red handed in the process of littering. The By-laws should create this provision which would greatly improve public behaviour and attitudes.

1.4.7 Charging

The By-laws make provision for charging for collection of refuse but only in respect of collection from factories, gardens or stables or in relation to carcasses. No mention is made of charging in the other cases. This seems to imply that domestic, commercial and other institutional charges are not to be levied. These charges should be included in the By-laws.

1.4.8 Scavenging

Regulation 11 prohibits sorting of waste and is directed at scavenging activities. Whereas scavenging of waste stored to await collection is likely to be a nuisance and must be prohibited, scavenging of waste at a transfer station/landfill site is an acceptable means of recycling and is socially and economically necessary. Provision should be made to facilitate this latter kind of scavenging. **Regulation 11(b)** should therefore be amended to allow "controlled" scavenging.

1.4.9 Penalties

The By-laws impose a fine of 1,000/=. This seems unduly low and should be revised to a higher figure, e.g., 10,000/=. The figure should be revised to keep it in line with changes to the value of money.

1.4.10 Key Areas Omitted in the By-laws

The Draft By-laws omit a number of significant areas and fundamental principles. It may require revision to include provisions as follows:

- (a) The By-laws should clearly stipulate the policies and objectives to be achieved by SWM and state that NCC has the primary Duty of Care for SWM in Nairobi City;
- (b) The By-laws should impose on the NCC a statutory requirement for solid waste management planning;
- (c) The By-laws should impose a Duty of Care on all waste operators, whether in the public sector (like the NCC) or private sector to handle all wastes in their charge in an environmentally sound manner and to dispose of them only at a licensed landfill facility;
- (d) The By-laws should impose a requirement for private sector SWM operators and landfill operators to be licensed by the NCC, even where the operator is the NCC itself;
- (e) The By-laws should set standards for collecting, treating and transporting solid waste and for the proper management of sanitary landfills;
- (f) The By-laws should specify the technical and financial qualifications to be met by waste operators;
- (g) The By-laws should impose a requirement for Environmental Impact Assessment to be carried out and approved by the NCC before the licensing of any landfill site; and
- (h) The By-laws should provide for "restraint notices" to be served in cases where there is a threatened mismanagement of solid waste with consequent threat to the environment or to public health.

1.5 Enforcement Mechanisms and Procedures

Enforcement mechanisms and procedures are dealt with in each of the statutes and By-laws as presented below.

1.5.1 Powers of Enforcement under the Local Government Act

Part XX of the Local Government Act deals with legal proceedings. **Section 257** provides that every person who is guilty of an offence under the Act, shall, for every such offence, be liable to a penalty expressly prescribed by or under the Act, or if no

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such penalty be prescribed, to a fine not exceeding 2000/= or to imprisonment for a period not exceeding two months or both.

Section 259 gives "any police officer" power to arrest, without a warrant, any person whom he suspects upon reasonable grounds of having committed any offence under the Act or any By-laws made under the Act or any other written laws.

The section also gives powers of arrest to any officer of a local authority who at the time is in uniform or is wearing a visible badge of office and authorised thereto in writing by the local authority. The powers of arrest may be exercised only where the offence is committed in the presence of the officer. The officer may detain such person until he can be delivered into the custody of a police officer to be dealt with according to law.

Section 260 deals with the conduct of prosecutions. It authorises the clerk or any other person authorised in writing by a local authority to prosecute in subordinate courts for all offenses under the Act or any other By-law made by such local authority, and shall for that purpose, have all the powers conferred on a public prosecutor by the **Criminal Procedure Code**. **Section 263(1)** states that where a local authority deems it expedient for the promotion or protection of the interests of the inhabitants of its area, it may prosecute or defend any legal proceedings.

Section 264 deals with the recovery of charges for sanitary and refuse removal. It provides that all charges due for sewerage, sanitary and refuse removal shall be recoverable jointly and severally from the owner and occupier of the premises in respect of which the services were rendered.

Section 265 gives power of entry to the daily authorised officers of a local authority while **Section 266** imposes penalties for obstruction of such officer.

1.5.2 Powers of Enforcement under NCC's By-laws

The City of Nairobi (Conservancy) By-laws 1961, L.N. 659/61 imposes a fine not exceeding 500/= and in default of payment of fine, to imprisonment for a term not exceeding one month.

The By-laws impose a general penalty of a fine not exceeding 1,000/= or imprisonment for a term not exceeding one month or both.

The Local Government (Adoptive By-laws) Building Order 1968 impose a penalty of a fine not exceeding 2,000/= or imprisonment for a term not exceeding six months or to both, and if the offence is of a continuing nature, to a further fine not exceeding 20/= for every day or part thereof during which such offence shall continue but in any event the aggregate of any such fine imposed shall not, in the case of any one continuing breach of the By-law exceed 2000/= (**Article 257**).

Article 258 provides that if a person shall fail to comply with any or all of the requirements of a notice served under these By-laws the Council may:

- (a) do or cause the work or thing required by such notice to be done and may recover the cost incurred from the person involved as a civil debt; or
- (b) cause a complaint relating to such failure to be made before a magistrate and such magistrate may thereupon issue a summons requiring the person upon whom the notice was served to appear before the court which if satisfied that a contravention exists, may make an order requiring the person to comply within a specified time.

1.5.3 Powers of Enforcement under the Public Health Act

The **Public Health Act** also contains wide powers of enforcement. **Part IX** deals with nuisances and provides the procedure for dealing with nuisances in **Sections 119-124**.

In practice the **Local Government Act** and **NCC's By-laws** are used for enforcement. Details of the enforcement powers of the **Public Health Act** are given in **Section 3.1 of the Data Book 3**.

1.5.4 Evaluation of SWM Enforcement Powers and Procedures

Enforcement occurs through prosecution in court for the various offenses specified in the statutes and By-laws. For offenses related to the breach of licence conditions there is the option of cancellation of the licence or the non-renewal of a licence.

The enforcement procedure suffers from a number of weaknesses. It is dependent on an efficient system for monitoring and gathering evidence against offenders and also on the court process working effectively and quickly. Often this is not the case. The monitoring and collection of evidence is only occasionally dependable, and the court process is unpredictable at best.

The second limitation in the enforcement process is the nuisance abatement procedure outlined in **Part IX of the Public Health Act Section 119 to 124**. The procedure involves a removal notice being served on the person responsible, making a complaint before a magistrate for the issuance of a summons before proceeding to trial. If the court's order is not complied with another complaint has to be made before a magistrate for another summons.

This procedure is laborious and, in practice, a bar to frequent resort to enforcement. Although the Act empowers the local authority to itself remove the nuisance and claim its costs, in practice, a shortage of resources will often hinder the local authority from resorting to this option.

Thirdly, the penalties imposed under **Section 257, Part XX of the LGA, the Conservancy By-laws L.N.695/61 and the Local Government Building Order 1968** are puny and would serve no deterrent function. The legislation imposes the same penalty irrespective of the kind of waste involved or the extent of hazard caused. There is also no provision for the court to take these factors into account in sentencing.

Fourthly, the enforcement process does not provide for preventive steps to be taken. These could include the service of "stop orders" where there is a threatened mismanagement of waste, particularly of the hazardous category. This means that enforcement action can only be taken after the damage has occurred. Remedial measures may be expensive or even impossible.

Fifthly, as the law does not define the standards of solid waste management to be complied with, enforcement is most practicable only in cases of gross breaches of the law. Less serious cases will often be overlooked, as prosecuting them successfully will be difficult and resource consuming in gathering the evidence needed to obtain a conviction.

Finally, the court system and the generators of waste (including the public) do not view solid waste mismanagement as a serious offence. Strong enforcement action by NCC is therefore unlikely to draw widespread support.

1.6 Outline Description of the Municipal Legislative Process

Part XIV of the Local Government Act deals with the local authorities power to make By-laws.

Section 201 gives the local authority power to make By-laws in respect of such matters as are necessary or desirable. Section 204 stipulates that after any By-law has been made by a local authority, it shall be submitted to the Minister of Local Government for approval.

The Minister may approve, with or without alteration, or reject any such By-law. The By-law shall not have the force of law until it has been approved by the Minister, whether with or without alteration, and published or notice thereof published. After publication in the manner specified, the By-law shall have the full force of law in the jurisdiction of the local authority.

1.7 Legal Basis for Private Sector Involvement Study in SWM

1.7.1 Legal Basis for Private Sector Involvement

The Legal base for private sector involvement for Local authorities, are established and governed by the powers contained in the Local Government Act, Cap 265 of the Laws of Kenya.

Section 160 of the Act gives local authorities, NCC included, power to provide SWM services. Section 143 states that "a local authority may enter into contracts necessary for the discharge of any of its functions." This indicates that NCC is free to contract out SWM services to private sector companies. Local authorities are not proscribed from legally doing so.

Section 148 empowers the local authority to impose fees or charges for any service or facility provided or goods supplied by it in pursuance of or in connection with the discharge of any duty or power of the local authority. Further, all fees or charges imposed by the local authority shall be regulated by By-law, or if not regulated by By-

law, may be imposed by resolution of the local authority with the consent of the Minister.

Currently SWM charges are regulated by the **City of Nairobi (Conservancy) By-laws 1961 L.N. No. 659 of 1961.**

The implications of this provision are that the NCC is at liberty to impose charges for SWM services, and it already does so. The Conservancy By-laws stipulate that the fees may be recovered by the NCC from the occupier of premises concerned. For this purpose the person who has entered into an agreement to pay for a water supply to premises from NCC shall be deemed to be the occupier of premises. The fees are therefore recovered through the water bill.

The second implication is that NCC would need approval of the Minister to increase the fees charged for SWM. This is because either it must amend the Conservancy By-laws or pass a Council Resolution, in either case needing the Minister's approval.

Thirdly, **Section 148(1)(a)** empowers a local authority to charge fees for any licence or permit issued under the Local Government Act or any other written law or in respect of any person or matter, premises or trade, whom or which the local authority is empowered to control or licence. Under this provision the local authority may licence and charge fees on private sector operators.

1.7.2 The Sufficiency of the Law of Contracts

Any contract entered into between private sector waste management companies and NCC would be governed by the **Law of Contracts**. This is based primarily on the common law of England. It would be enforced by the civil courts.

There is no marked deficiency in the Law of Contracts which would undermine the enforceability of PSI in SWM.

1.8 Summary and Recommendations

Currently the laws provide a workable but very limited basis for SWM. This is not an acceptable situation. In addition, the "Draft Disposal of Refuse By-laws" is not suitable for Nairobi. In the absence of comprehensive national or local legislation, NCC should move quickly to enact a new SWM By-law. This By-law should address and be based on the following fundamental principles:

First, the By-law should clearly stipulate the policies and objectives to be achieved by SWM and state that NCC has the primary Duty of Care for SWM in Nairobi City.

Second, the By-law should categorize solid wastes according to the hazard and characteristics presented by each category of waste.

Third, the By-law should impose on the NCC a statutory requirement for solid waste management planning.

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Fourth, the By-law should impose a Duty of Care on the generators of waste to handle the waste in an environmentally sound manner and to dispose of with an authorised collector of waste.

Fifth, the By-law should impose a Duty of Care on all waste operators, whether in the public sector (like the NCC) or private sector to handle all wastes in their charge in an environmentally sound manner and to dispose of them only at a licensed landfill facility.

Sixth, the By-law should set standards for each type of waste for collecting, treating and transporting solid waste and for the proper management of sanitary landfills.

Seventh, the By-law should impose a requirement for private sector SWM operators and landfill operators to be licensed by the NCC, even where the operator is the NCC itself.

Eighth, the By-law should specify the technical and financial qualifications to be met by waste managers and landfill operators.

Ninth, the By-law should impose a requirement for Environmental Impact Assessment to be carried out and approved by the NCC before the licensing of a landfill site.

Tenth, the By-law should provide for “restraint notices” to be served in cases where there is a threatened mismanagement of solid waste with consequent threat to the environment or to public health.

The Legal Restructuring Plan in **Chapter 4.7** (see **Section 2** below) makes recommendations for the enactment of a new SWM By-law.

2. LEGAL FRAMEWORK FOR TENDERING ARRANGEMENTS IN NCC

2.1 Introduction

The Nairobi City Council is a local authority established under, and governed by, the **Local Government Act, Chapter 265 of the Laws of Kenya**. This Act stipulates the powers and functions of all local authorities, including the Nairobi City Council.

2.2 Legal Framework for Contract Management in NCC

The statutory regulations governing contract management arrangements in NCC are set out in the following documents:

- (a) **The Local Government Act, Cap 265, and in particular Section 143;**
- (b) **The Standing Orders made under Section 85 of the Local Government Act, and set out in the Second Schedule to the Act, in particular, Standing Orders Number 31 to 38; and**

- (c) The **Financial Regulations for Local Authorities** made by the Ministry of Local Government on the 10th of November 1986, in particular, **Part F** on the Procurement of Goods and Services.

2.3 The Local Government Act, Section 143

Section 143(1) gives power to local authorities to enter into contracts. It provides that a local authority may enter into contracts necessary for the discharge of any of its functions.

Where the contract involves expenditure of Kshs. 10,000 or more, the local authority must follow the conditions outlined in **Section 143(4)** to tender contracts. These require that:

- (a) the local authority give at least 14 days public notice of the proposed contract, its purpose and other relevant information in one or more newspapers or journals;
- (b) the public notice shall invite persons willing to undertake the contract to submit a tender to the local authority on a stated date;
- (c) the local authority shall not consider any tender or enter into any contract until the expiration of the 14 days; and
- (d) at the expiration of the 14 days the local authority shall consider all tenders which have been submitted to it.

Section 143(6) also states that, in cases of emergency, or where the delay involved in inviting tenders would cause a loss to the local authority, the Finance Committee of the local authority may authorise the making of contracts without waiting for 14 days.

The Act does not indicate what would constitute an emergency or the extent of potential loss that would justify dispensing with the public notice requirement. These matters are left to each local authority to determine for itself. This opens up the possibility of widely differing practices between local authorities across the country, which may not be desirable.

It would be useful for the Ministry of Local Government to give guidance to local authorities on the factors to take into account in determining that an emergency exists or that a significant enough loss might be incurred to justify dispensing with the notice requirement.

Whether or not there are Ministry guidelines on these issues, NCC needs to set out criteria on these issues to guide its own staff. At the moment NCC deals with each situation as it arises. This can lead to inconsistency and *ad hoc* decision-making.

Section 143(6) states that in all cases where the 14 days notice period is dispensed with the Finance Committee shall:

- (a) specify the method of inviting tenders and the period within which tenders shall be submitted; and

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- (b) submit to the local authority at its next succeeding ordinary meeting a report as to the reasons for dispensing with notice and giving particulars of all tenders received.

Section 143(5) sets out the criterion for evaluating tenders. It provides that a local authority may accept any tender which, having regard to all the circumstances, appears to it to be "the most advantageous." Nothing further is said to give more concrete meaning to this criterion. It therefore appears that each tender is determined on a case by case basis. Where the tender is not the lowest price the local authority needs to obtain the consent of the Minister before proceeding with the award.

The need for the Minister's consent ensures that the local authority has acted in its best interests. No indication is given of the factors the Minister should take into account in coming to a decision. His discretion appears to be unfettered. This may not provide adequate safeguards against disadvantageous contracts being entered into. The Minister's decision is binding on the local authority.

It is recommended that the following two additional safeguards be implemented:

- (a) the local authority and the Minister should both give reasons justifying the choice of tenderer; and
- (b) the reasons together with details of the evaluation of all tenders submitted, should be made available to all the tenderers.

2.4 Requirements of Standing Orders

The Standing Orders supplement the provisions in the body of the Act.

Standing Order Number 32 states that before entering into a contract for the execution of any work the Council shall obtain from the appropriate officer or other person an estimate in writing of the probable expense of executing the work and of the annual expense of maintaining it.

Standing Order Number 33 stipulates the procedure for submitting tenders:

- (a) No tender will be received except in a plain sealed envelope which may bear the word "Tender" followed by the subject to which it relates, but shall not bear any name or mark indicating the sender;
- (b) Such envelopes shall remain in the custody of the Clerk until the time appointed for their opening;
- (c) Tenders shall be opened at one time and only in the presence of:
 - (i) Council members designated for that purpose or the Tender Committee;
 - (ii) the Clerk or an official of the Council designated by him; and
 - (iii) representatives (if any) of the persons tendering, if they have made a prior request to attend to the Clerk.

Standing Order Number 34 deals with the acceptance of tenders which is not the lowest price. Such a tender shall not be accepted until the Council has considered a written report from the appropriate officer and has obtained the written consent of the Minister.

Standing Order Number 37 provides for the inclusion of an obligatory cancellation clause in every contract empowering the Council to cancel the contract and recover the amount of loss resulting from such cancellation if the contractor attempted corruptly to influence the tendering process.

2.5 Pecuniary Interest

Further provision to prevent impartiality and bias is found in **Section 89 and 137** of the **Local Government Act**, and in **Standing Order Number 40**.

Section 89 states that if a member of a local authority has any pecuniary interest in any contract or proposed contract and is present at a meeting of the local authority at which the contract is the subject of consideration, he shall disclose the fact and shall not take part in consideration or discussion of or vote on any question with respect to the contract.

Section 137(1) requires disclosure by officers of interest in contracts. If it comes to the knowledge of an officer employed by a local authority that a bargain, contract or arrangement in which he has a pecuniary interest has been or is proposed to be made, or entered into by the local authority or any of its committees, he shall as soon as practicable give notice in writing to the local authority of his interest.

Section 137(2) states that an officer of a local authority shall not use his office or employment to obtain or accept any fee or reward whatsoever other than his proper remuneration.

Standing Order Number 40 states that a member who has disclosed a pecuniary interest shall be excluded from the meetings at which the contract is considered.

2.6 Financial Regulation for Local Authorities

Part F of the Financial Regulations for Local Authorities, 1986 deals with procurement of goods and services. It supplements and complements the provisions of the **Local Government Act** and of the **Standing Orders**.

Article F3 states that for works and services in excess of K500 (i.e., KShs. 10,000) a notice calling for tenders shall be published and tenderers instructed to submit their quotations by registered post in plain sealed envelopes. The envelopes shall be date stamped immediately on receipt and shall be initialed by the Clerk or Treasurer or another authorised person.

All tenders shall be opened at one time at a meeting of the Finance Committee at which they are to be considered, or at a meeting of a sub-committee that may be appointed by the Finance Committee for that purpose.

Article F2 requires that competitive quotations from the last three suppliers be obtained wherever appropriate and in any case before placing orders of a value in excess of K500 (i.e., KShs. 10,000).

3. LEGAL RESTRUCTURING PLAN

3.1 Introduction

The **Legal Restructuring Plan (LRP)** proposes the most suitable legal arrangements for solid waste management in Nairobi City and defines the actions required to implement them.

The focus of the LRP is on the enabling legislation NCC should enact to ensure that it has the legal authority to effectively regulate SWM activities in Nairobi City.

Since a detailed study of the national level is beyond the scope of this present Study, only outline recommendations are given for the national level and their implementation is not defined.

The LRP is structured as follows:

- (a) Outline recommendations for legal reforms at the national level, **Section 3.2;**
- (b) Recommendations for legal reforms for Nairobi City, **Section 3.3;** and
- (c) Implementation of the LRP and capacity building assistance, **Section 3.4.**

The Legal Restructuring Plan's recommendations are based on the findings of the Legal Study (see **Volume 2, Section 2.4 of the Main Report - Master Plan Study**).

3.2 Recommendations for the National Level

Currently there is no single national law on SWM. Nor is there any national legislation on the management and control of hospital, industrial or hazardous wastes.

The Ministry of Environment and Natural Resources (MENR) has formulated the Environmental Management and Coordination Bill which has general provisions covering waste management and standard setting, disposal site licensing, the control of hazardous, industrial and hospital waste and environmental impact assessments. However the provisions are general and this is not enough. A more comprehensive national law is required.

It is herein recommended that the Government of Kenya (GOK) through the MENR enact a comprehensive SWM law either as a National Act or National Regulation. This should cover all types of solid waste and set responsibilities and conditions for their management and control.

Implementation of a national SWM Law would give NCC the proper legal authority to regulate SWM activities in the city more effectively.

3.3 Recommendations for Nairobi City

The existing laws provide a very limited basis for SWM and this is not an acceptable situation. It is herein recommended that in the absence of comprehensive national legislation on SWM, NCC should move quickly to enact a new SWM By-law.

This By-law should address and be based on the following fundamental principles:

First, the By-law should clearly stipulate the policies and objectives to be achieved by SWM and state that NCC has the primary Duty of Care for SWM in Nairobi City;

Second, the By-law should categorize solid wastes according to the characteristics presented by each category of waste;

Third, the By-law should impose a statutory requirement for solid waste management planning on NCC;

Fourth, 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;

Fifth, 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;

Sixth, the By-law should set standards for collecting, treating and transporting solid waste and for the proper management of sanitary landfills.

Seventh, the By-law should impose a requirement for private sector SWM operators and landfill operators to be licensed by the NCC;

Eighth, the By-law should specify the technical and financial qualifications to be met by waste operators including landfill operators;

Ninth, 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; and

Lastly, 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.

The By-law also shall have to make general provisions for the handling of industrial, hazardous and clinical wastes since the DoE will have to collect and accept these wastes at its Dandora dumpsite site. It is hoped that NCC will cease to be responsible for collecting and transporting these wastes when the new Environmental Bill is enacted under which generators are responsible for their wastes. NCC will still have disposal responsibilities for these wastes.

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After enactment of the By-law, the **Environmental Planning and Management Division (EPM)** will be responsible to enforce the By-law as well as all provisions of the new Environmental Act. The EPM should also review the working of the By-law and recommend amendments as appropriate.

3.4 Implementation of the SWM By-law

The EPM Division should cooperate and coordinate with the Town Clerks Department for formulating the new SWM By-law. It is proposed that NCC should enact the By-law by the year 1999. It is also recommended that the By-law should become a legislation model for other local authorities in Kenya.

NCC should require assistance from a Legal Consultant to formulate and draft the By-law. The Consultant should formulate the By-law with consideration to other international SWM legislations to ensure that Kenya complies with the international standards.

The Legal Consultant should have experience in solid waste legislation. He will be required for 1.5 months and his assistance would be provided in 1999. The assistance would be conditional upon the creation and appropriate staffing of the EPM. A summary of the capacity building assistance is given in Section 3.5 below.

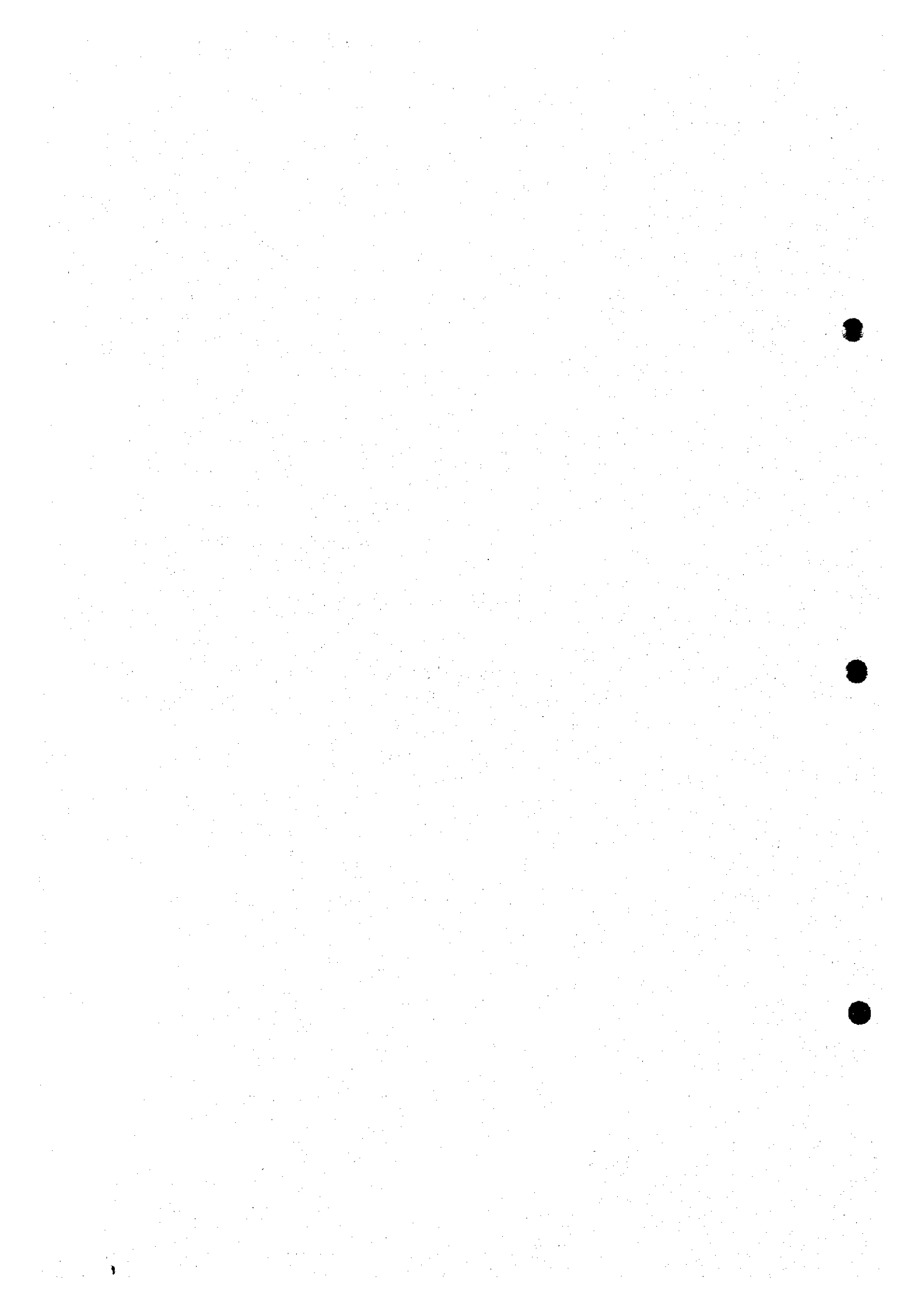
3.5 Capacity Building Assistance for the Legal Restructuring Plan

It is recommended that a capacity building assistance (CBA) should be provided to assist the NCC in the formulation of the draft of a new SWM By-law under the CBAP as mentioned in **Supporting Report Section B, Institutional and Organisational Study**. This assistance should be provided as soon as possible. The earliest it can be provided is from April 1999.

The CBA should also include a seminar(s) on the best practice in international environmental legislation for solid wastes for the DoE's senior managers, its environmental regulatory staff and relevant officers from NCC's Town Clerks Department.

SECTION D

*PRIVATE SECTOR INVOLVEMENT
IN SOLID WASTE MANAGEMENT*



**THE STUDY ON
SOLID WASTE MANAGEMENT
IN NAIROBI CITY
IN THE REPUBLIC OF KENYA**

FINAL REPORT

SECTION D

**PRIVATE SECTOR INVOLVEMENT
IN SOLID WASTE MANAGEMENT**

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SECTION D

PRIVATE SECTOR INVOLVEMENT IN SOLID WASTE MANAGEMENT

1. ANALYSIS OF THE PRIVATE SECTOR INVOLVEMENT (PSI) CONTRACT IN THE CENTRAL BUSINESS DISTRICT

1.1 The Current Situation

The Nairobi City Council (NCC) had contracted out waste collection and street cleansing services in the Central Business District (CBD) of Nairobi to the private sector. This is the only involvement that NCC has in contracting out solid waste management (SWM) services.

The legal authority for NCC to make a contract with the private sector is established and governed by the powers contained in the **Local Government Act, Cap 265. Section 143** states that "a local authority may enter into contracts necessary for the discharge of any of its functions."

In addition to the private sector involvement (PSI) in the CBD, a significant amount of collection services are delivered to predominantly commercial establishments and offices in the centre of Nairobi. These services are not regulated by NCC in any way.

1.1.1 Contracting Collection and Street Cleansing in Nairobi's Central Business District

The current government initiative to encourage privatisation of SWM came in the form of a public announcement from President Moi himself on 22 January 1997, directing NCC to privatise SWM services for all of Nairobi.

As a result of the President's announcement the Council voted on 4 February 1997 to contract out collection and street cleansing in the Central Business District (CBD) as a zonal monopoly under Council Resolution Serial No. 205, Ref. 2.

Street cleansing includes street sweeping, gully cleaning and collection of waste from public litter bins as well as transfer to final disposal site. The collection service in the CBD covers commercial customers, i.e., offices, shops, hotels, restaurants and kiosks as well as public institutions.

The contract was tendered twice. There was no prequalification. The Council invited bids for the first tender in February 1997. The first tender failed because some of the tender conditions were deficient and in March 1997 the Council withdrew and rewrote the tender documents.

The Council then invited bids for a second tender at the end of March. Bids were received from 8 companies on 14 April 1997 and opened on 21 April 1997 and the contract was awarded to Kenya Refuse Handlers Ltd. on 14 May 1997. The services commenced in September 1997 and the contract will run for 1 year.

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The contract is financed from NCC's "general taxation" revenue since the current waste charges are insufficient to finance it. NCC proposes to levy new waste charges on CBD businesses and households to finance the contract.

NCC plans to present the new waste charges and discuss the new contracting arrangements with the CBD business community with the objective of getting their support to the new regime and agreement to pay the new waste charges. Once CBD customers are satisfied and confident that NCC can provide a good service through the contract the new charges will be introduced. NCC will monitor the CBD community to see when it is appropriate to introduce them.

1.1.2 Performance of the CBD Contract

The contractor Kenya Refuse Handlers Ltd. initially performed very well and there was a very substantial and very noticeable improvement in collection and cleansing services in the CBD.

However, NCC has been unable to finance the contract and to make payments to the contractor. As a result, the Kenya Refuse Handlers Ltd. has to reduce the level of its services. NCC's current financial situation makes the future viability of the contract very uncertain.

A detailed description and an evaluation of the CBD Tender Documentation and Contract Documentation is given in the following **Section 1.2**.

A detailed description and an evaluation of NCC's arrangements for monitoring the CBD contract is also given in **Section 1.3**.

1.1.3 Private Collection Services Delivered under Open Competition

Currently, there is a significant amount of private sector provision of collection services to households and businesses in Nairobi. However, there is no private sector provision of either street cleansing apart from CBD or disposal services both of which are exclusively provided by NCC.

Private collection services are delivered under open and completely unregulated competition, i.e., private companies are free to provide services to whom and where they like and collect tariffs directly from customers. NCC has no contractual involvement with the private sector and does not regulate it.

NCC estimates that there are about 60 private collection companies operating in Nairobi. The profile of these private companies is summarised in **Section 4.2 of the Data Book (1)**.

1.2 Description and Evaluation of the Central Business District Contract

1.2.1 The Tender Documents

The tender documents comprised the following:

- (1) Instructions to Bidders;
- (2) General Conditions of Contract;
- (3) Conditions of Particular Application;
- (4) Standard Specifications;
- (5) Special Specifications;
- (6) Form of Bid and Appendix to Form of Bid;
- (7) Proforma Schedules of Supplementary Information (vehicles, equipment, personnel, etc);
- (8) Form of Contract Agreement;
- (9) Acceptable Forms of Performance Security;
- (10) Bill of Quantities; and
- (11) Drawing (map) of the CBD.

The Tender documents were drafted by the Department of Environment (DoE) with the assistance of the Engineering Department and the Conveyancing Section.

Firstly, the Contract terms and conditions are based on the "Conditions of Contract (International) Works of Civil Engineering Construction, 1997", as approved by the Federation Internationale Des Ingeneurs Counsels (FIDIC).

These were adapted for use in the tender documentation. In addition to these a small number of specific conditions called "Conditions of Particular Application" were also added to the Contract's conditions.

Secondly, NCC's "Standard Specification for Civil Works Contracts" was used, unmodified, as a basis for the Specification. This was supplemented by "Special Specifications" relating specifically to waste collection.

1.2.2 The Contract

The Contract comprises the "Form of Contract Agreement" and various supporting documents most of which are referred to in the "Form of Contract Agreement". These other documents include:

- (a) The Bid Document (i.e., the bidders offer);
- (b) The Conditions of Contract - both General and Specific;
- (c) The Standard and Special Specifications;
- (d) The Priced Bill of Quantities;
- (e) The Letter of Acceptance;

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- (f) The Performance Security (or Performance Bond);
- (g) The Bidders Programme of Works;
- (h) Proforma Schedules of supplementary information required to be submitted as part of the bid (e.g., vehicles, equipment, personnel, etc); and
- (i) Tender Notices issued by NCC answering bidders questions during the period of the bid.

The "Form of Contract Agreement" fails to require that the Performance Security or Bond is part of the Contract.

The CBD contract could be improved in a number of areas.

1.2.3 Conditions of Contract

The "General Conditions of Contract" and the "Conditions of Particular Application" were unmodified from the tender documentation and form the "Conditions of Contract".

These conditions are not comprehensive because firstly they are in two parts and secondly they are mostly based on the FIDIC conditions which have been designed for civil engineering works. Some terms and conditions in the contract are therefore inappropriate to waste collection and cannot be applied.

1.2.4 The Specification

The "Standard Specification for Civil Works Contracts" and the Special Specification were unmodified from the tender documentation and form the "Contract Specification".

The Specification is not comprehensive, firstly because it is in two parts and secondly because it is largely based on the "Standard Specification for Civil Engineering Works Contracts" which is inappropriate for a waste collection contract. There are also a number of other specific deficiencies the Specification. These are:

(1) Basic Service Requirements are not Properly Defined

The Specification of the required work and of the standards to be met are too generally defined. There are no requirements on the frequency of either the street cleansing or the waste collection service. Furthermore the contract simply states that services should be done to the "highest cleanliness standards". The Specification also states that monitoring will depend on the impressions of the inspector who has to certify that the cleanliness is "satisfactory."

The Specification is therefore not detailed enough to clearly specify to the Contractor's the level and quality of services required and to enable the Contractor's work to be properly monitored by the DoE.

The Specification should define the frequency and periods of collection, street by street. Each street or zone should be assigned a standard of cleanliness which should be maintained at all times and to which the street should be returned within a stipulated remedial time, should the street fall below this standard.

(2) Unrealistic Requirements

There are two requirements in the Specification which could not be complied by the Contractor because of constraints beyond his control. Since these constraints were known at the time of drafting the contract, the Specification should have been more realistically prepared to avoid putting the Contractor at the risk of non-compliance. The two requirements are:

Firstly, the requirements on transportation and disposal. The Specification requires that the Council will make available a waste disposal site throughout the contract period to which the Contractor must take all the waste he collects. However, it has proved almost impossible for the Contractor to comply with this condition because the Dandora dumpsite is almost completely inaccessible, has no security and is not properly managed. The Contractor is therefore faced with having to breach the contract and dump waste illegally in quarries which he has hired at his own cost.

Secondly, the requirements on monitoring tipping at Dandora are likewise unimplementable. The Contractor is required to report each vehicle that arrives at Dandora but in the rare event that the Contractor visits Dandora, the DoE does not log vehicles. NCC should log and monitor all vehicles to confirm that the expected number is reaching Dandora.

(3) Categorisation and Handling of Different Types of Wastes

In the CBD there are different categories of waste generated; some domestic, some commercial, some bulk, some clinical (from the clinics in the CBD), and some hazardous.

The Special Specification categorises the waste to be collected but does not indicate what special arrangements the Contractor should make for the various kinds of waste and does not identify the places from which the collections of special wastes are to be made.

For example, the Specification simply prohibits delivering hospital and industrial wastes to Dandora but does not say what should be done with them. Presumably, the Contractor would be entitled to dispose of these types of waste at any dumpsite, and this might lead to dangers to both human health and the environment.

(4) Mixing Terms and Conditions with Specifications

Many sections of the Specification contain contract terms and conditions. These include conditions on termination, duration of contract, variation,

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agency and so on. These should not be in the Specification but in the Contract Conditions.

1.2.5 Duration of the Contract

The contract duration is one (1) year. This is too short to enable the Contractor to recover the capital costs of trucks and other equipment. The Contractor has therefore had to rely on hiring vehicles on a short term basis to meet his needs. Even so the Contractor has still been unable to resource his operational needs properly.

This has caused considerable operational inefficiency, as well as expense, e.g., by not having the flexibility to respond to situations which require prompt actions.

Ideally the contract should be for a minimum of three to five years to enable the Contractor to recover his capital costs, resource his service properly and remain financially viable.

1.3 Description and Evaluation of Arrangements for Monitoring the Central Business District Contract

1.3.1 Introduction

The CBD contract provides for contract monitoring by the Department of Environment (DoE).

The DoE's has implemented arrangements for continuous monitoring as opposed to random monitoring. The DoE also relies to a limited extent on customer complaints.

The Contract also requires self-monitoring by the Contractor. The Contract's Programme of Works states that the Contractor will prepare monthly reports of the work carried out and will discuss the report with the DoE at monthly meetings. No detail of the type of monitoring or the performance data to be reported is given. However, so far, the Contractor has not implemented any arrangements.

There are regular monthly meetings between the DoE and the Contractor and the minutes of these meetings have taken the place of the Contractor's self-monitoring reports.

The monitoring of the contract is under the responsibility of a Contract Manager in the DoE who is assisted by the Deputy Contract Manager. These officers have their counterparts within the Contractor's organisation with whom they communicate directly, as part of the monitoring arrangements.

1.3.2 Continuous Monitoring of the CBD Contract

For monitoring purposes the CBD is divided into four (4) geographical zones, and, additionally, two (2) functional zones - a night shift zone covering the whole of the CBD and a tipping site zone, i.e., the Dandora dumping site.

Each geographical zone is split into two or three areas and is overseen by a Senior Headman (SHM). Under each SHM there are two Headmen (HM). Altogether,

twenty people work directly on monitoring the CBD contract. The HM work in shifts, a morning shift and an afternoon shift and walk around their zone inspecting all of it.

The HM on the night shift cover the whole of the CBD, and only focus on the areas in which monitoring cannot be done during the day because of logistical or other problems (e.g., Wakulima Market). Of necessity the night shift HM join the Contractor's workers for security.

Both the day and night HM are required to check that the streets are swept, gullies and dustbins are emptied, litter is collected, waste is removed and grass is cut.

The SHM of each zone writes a daily performance report on the Contractor which is sent to the Contract Manager. Each SHM also writes a separate report on a white form (called a "Work Diary") which is sent daily to the Contractor.

The Work Diary comments on the performance of the Contractor and recommends action which needs to be taken to remedy defects identified. The next day the HM visits the sites again to confirm that remedial action has been taken. If this has not been done the SHM sends a report to the Contract Manager who will contact the Contractor's Operations Manager to seek action.

The default clause in the contract enables the Council to carry out works if the Contractor defaults. So far the Contractor's performance has been acceptable.

1.3.3 Evaluation of the Continuous Monitoring of the CBD Contract

Generally the DoE's continuous monitoring is reasonably effective. However a number of constraints, mostly of resources, have limited the DoE's effectiveness to monitor the contract.

Firstly, the DoE's monitoring staff have no transportation resources. The HM's is carried out on foot since there are no vehicles. This makes monitoring time consuming and less efficient.

Secondly, lack of communication resources among the DoE's monitoring staff is a major constraint. Staff do not have adequate telephone facilities or mobile communication, e.g., radios. This slows down reporting time between the field and the office and makes it difficult for urgent action to be taken, e.g., to request the Contractor to carry out remedial measures. Communication needs to be improved by providing telephone facilities and mobile phones/radios.

Thirdly, the DoE has no computing resources or information systems (IS). All field reports and the daily performance reports are manually prepared. The large number of field reports submitted each day makes analysis and management of data time consuming. Taking urgent action on reports is therefore frustrated.

The DoE needs to implement good IS to support its monitoring activities. These systems should be implemented as part of the Management Information Systems recommended for the DoE in the Institutional Restructuring Plan.

Fourthly, it appears that there are no formalised mechanisms to manage default should the Contractor fail to perform and also fail to remedy.

1.3.4 Monitoring the Contract at the Dandora Site

The HM at the Dandora site office are supposed to record details of the Contractor's vehicles (i.e., type, registration number and trips) from the Contractor's drivers who are required to report to the site office each time they visit. The vehicles are required to have a distinctive mark to make them easily identifiable.

However, in practice there is no monitoring at the site since the Contractor very rarely tips waste there. The Contractor does not use Dandora because of security arrangements, e.g., the lack of a perimeter fence and inadequate site management are most unsatisfactory. Lack of security has exposed the Contractor's workers to serious harassment and hostility from scavengers and others.

In the rare event that the Contractor does visit Dandora, NCC does not log its vehicles. The DoE should log and monitor all vehicles at the site to confirm that the expected number do reach Dandora. No alternative arrangements for monitoring the Contractor's tipping activities, e.g., at the quarries which the Contractor hires, have been made by the DoE.

Physical monitoring of the quantity of waste tipped at Dandora is not possible since there is no weigh bridge at the site.

1.3.5 Self-Monitoring

In the Contract documentation a "Notice to Bidders" sets out the DoE's data collection requirements and lists 11 performance indicators which the Contractor must periodically supply to the DoE. It also states that the DoE will establish an IS capability to process these data. Outputs are not defined.

In addition, the Contract's Programme of Works requires the Contractor to self-monitor by preparing monthly performance reports of the work carried out. The Contractor is obliged to discuss the report with the DoE at monthly meetings.

No detail of the type of monitoring or the performance data to be reported is given. Presumably these reports will present the 11 performance indicators but this is not indicated in the Contract.

However, none of these Contract conditions has so far been implemented. The DoE has not implemented any IS yet and the Contractor is not supplying self-monitoring reports or data to the DoE.

Currently, self-reporting is limited to the monthly meetings held between the Contractor and the DoE. Performance is discussed during those meetings and some data, if any, are supplied.

Self-reporting is an important part of monitoring waste collection contracts and should be carried out. It would assist the DoE to compare its performance data with the Contractor's performance data.

1.4 Evaluation of NCC's Capacity to Regulate the Private Sector

Pre-contract award arrangements, i.e., from the initial identification of the contract requirement to the award of the contract, need to be strengthened, e.g., by improving contract strategy, contract documentation and contract management.

Likewise, NCC's capacity to monitor and enforce contracts after they have been awarded need improvement. The physical monitoring arrangements which have been implemented for the CBD contract are sufficient but need development as described and evaluated in the previous sections.

As it is the Council's policy to contract out collection services means that a contract management capability needs to be developed in advance of any contracting. At the appropriate time the DoE needs to establish a separate contract management unit headed by a contract manager who has contracting expertise. The contract manager should have strong coordination with the Town Clerks Department.

NCC will probably need technical assistance to develop effective contract management arrangements (see **Volume 2, Main Report - Master Plan Study, Subection 4.6.4 for recommendations on contract management**). In **Supporting Report Section C, Chapter 2** gives a detailed description of the legal framework for the NCC's tendering arrangements.

1.5 Discussion Topics for Future Private Sector Involvement (PSI)

1.5.1 National Arrangements for the Regulation of Private Sector Involvement in SWM

There is no formal policy for private sector involvement (PSI) in SWM at either central government level. There are no national laws which cover private sector involvement in SWM. Nor is there any responsibility assigned at central government to give guidance to local governments on how to regulate the private sector.

The Ministry of Local Government (MOLG) as the Ministry responsible for local government services should take the lead to formulate policy and to issue guidelines to local government on how to regulate and manage PSI in their services.

In addition, the MOLG should act as a national watchdog and monitor local government's involvement of the private sector, e.g., to ensure that it complies with and meets certain standards of tendering, awarding and monitoring contracts.

Policy should be coordinated with the Ministry of Environment and Natural Resources (MENR). It should be noted that the MENR endorses PSI in SWM.

1.5.2 Most Suitable Method of PSI for Collection and Transportation Services and the Best Form of Regulation

Once private sector involvement is decided, the appropriate type of PSI and contracting arrangements have to be selected. There are a number of different contracting methods but essentially there are three types of PSI in collection services.

These are (1) Open Competition, (2) Operating Contract sometimes called "contracting", and (3) Franchise.

(1) Open Competition

At the moment there is "open" and completely unregulated competition of private collection services in Nairobi. Companies are free to provide collection services to whom and where they like and collect tariffs directly from customers. Generally, open competition is not the best arrangement for PSI even if it is regulated. However, where the level of public collection is low, it may be, as it is in Nairobi, a vital necessity.

(2) Operating Contract

The most usual contracting method is a simple operating contract under which a finite term contract is awarded, usually for a fixed price as a zonal monopoly, i.e., the contractor has the exclusive right to provide services in a designated area. Typically, it is re-tendered every 3 to 5 years.

(3) Franchise

Under a franchise the local authority gives a contractor the sole right to provide services in a designated area, i.e., a zonal monopoly. In return the contractor pays the local authority a fee for the right to operate in that area and also levies charges on customers and collects revenues from them. The local authority regulates the contractor's tariffs, as well as service performance, through the franchise agreement.

The disadvantages of a franchise are:

- (a) Contractors bear the cost billing and collection from customers which adds considerable cost;
- (b) Economic regulation adds cost; and
- (c) Contractors can only work where everyone in the franchised zone can afford to pay the contractor's tariffs; this implies that all the households, as well as business establishments, will be able to afford the tariffs and will cooperate with the franchiser. If there are substantial income differentials, this method may be unworkable.

Operating contracts are therefore generally preferable to franchises.

However, at the moment NCC cannot afford to contract out SWM services because of its weak financial situation. This is currently the overriding constraint to PSI in Nairobi.

1.5.3 Competition

Healthy competition is essential to ensure that involving the private sector reduces the cost of services.

Achieving optimal competition requires the local authority to manage competition. Optimising competition means intelligently zoning the city and tendering zonal contracts among private contractors. Contractors should be screened and prequalified before tenders are invited.

The local authority must also formulate a policy on the future role of its own in-house service. Competition can foster efficiencies from its own in-house service where it has to compete with the private sector for contracts.

1.5.4 Operating Contracts vs. Open Competition

Operating contracts are preferable to "open" competition for the following reasons:

- (1) Operating contracts give stronger regulation of operators. The local authority has economic sanction over the contractor - if he does not perform to the contract specifications or defaults on his terms and conditions the authority does not pay;
- (2) Operating contracts are generally much more economical because they give "economies of contiguity" for the contractor. "Open" competition is more costly because operations are scattered - collection distances are longer for the number of households and businesses served. Many companies may serve the same area or street. Zonal monopolies therefore give operators the opportunity to realise efficiencies, gains and reduce costs;
- (3) Managing and regulating competition is less complex and cheaper. Areas can be properly zoned and prequalification effectively used to screen out unwanted operators. Fewer operators and more emphasis on self regulation means that monitoring is also easier and less costly;
- (4) Economic regulation is easier and cheaper under operating contracts. "Open" competition implies that operators' tariffs and tariff changes will need closer and more periodic monitoring. This could be costly and time consuming. Operating contracts are fixed price and are typically set for a number of years with price option of adjustment mechanisms built in;
- (5) Operators under open competition have to bear the cost of billing and collection from customers which can add considerable cost (in the USA it is estimated that billing is approximately 15% of total service costs). Under operating contracts, however, the local authority has either no billing costs because SWM is financed from general taxation, or if waste charges levied costs are much lower because charges are typically collected through other utility billing and collection systems, e.g., water or electricity;
- (6) The opportunities for price collusion are high under open competition; and
- (7) Operating contracts are established worldwide practice.

1.5.5 PSI in Disposal Services

Collection and haulage and street cleansing are usually the first to be considered, rather than disposal including operation of a transfer station. This is because the former are much less risky to privatise than disposal.

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Typically, disposal is risky because of public health and environmental concerns. **Firstly**, the private sector is largely motivated by market forces to make profit, rather than to comply with public health or environmental standards. Compliance adds cost. PSI should only be considered if government can effectively regulate private operators to ensure that public health and environmental standards are complied with.

Secondly, the private sector may lack technical as well as administrative experience of waste disposal including operation of a transfer station. Local governments need to carefully screen and assess the private sector's technical and management capabilities before involving them.

Thirdly, often local governments have insufficient experience in the management of disposal services including operation of a transfer station. Since it has a primary duty of care for SWM services it should not divest disposal until it has demonstrated competent management and technical capabilities in delivering disposal services.

1.6 Considerations for Formulation of PSI Plan

1.6.1 Considerations for Principles and Objectives of PSI

The overriding reason for NCC to involve the private sector in SWM is that private sector involvement (PSI) improves the delivery of solid waste management (SWM) services which are currently either too costly and/or are of poor quality. Worldwide experience strongly demonstrates this. Private sector involvement should therefore only be selected by the Nairobi City Council as an alternative to its own in-house services if PSI is: (1) more economical and enhances efficiency; and (2) improves or delivers at least the same quality of service.

PSI must meet these two basic criteria. In addition to these criteria, two additional criteria concerning NCC's capacity must be also satisfied. These are as follows:

Firstly, NCC must be able to afford PSI services. If NCC cannot financially sustain contracts it puts both the operator as well as the continuity of the service at risk. At the moment NCC cannot afford to contract out SWM services because of its weak financial situation. This is currently the overriding constraint to PSI and this should be clearly recognised. However, as NCC's financial situation improves NCC will have the choice to procure PSI services.

Secondly, NCC must have an effective contract management capability. NCC must ensure that its primary duty of care for SWM services which are delivered through the private sector is properly discharged. To ensure this NCC must have a contract management capability which effectively:

- (a) manages the contract award process, i.e., contract design, setting performance measures, prequalification, tendering and bid evaluation, and contract award and negotiation;
- (b) monitors contract performance; and
- (c) enforces contract terms and conditions.

In practice collection and haulage and street cleansing are easier to contract out than disposal. Currently there is no formal policy for private sector involvement in SWM at central government level.

1.6.2 NCC's Outline Strategy for Future PSI in SWM

NCC intends to wait and see how PSI in the CBD works before it extends the private sector provision of collection and haulage and street sweeping services to other parts of the city. If it is successful NCC intends to:

- (a) extend PSI to other business areas, e.g., markets, shopping centres and public institutions;
- (b) continue to let the private sector freely provide collection services in high, middle income or other residential areas and to commercial customers;
- (c) monitor and regulate private sector operators, i.e., by licensing all of them, monitoring their disposal activities and requiring them to provide collection activity and other data. NCC is not planning at this stage to make contracts with these PSI operators; and
- (d) implement a new SWM By-Law.

NCC's strategy should be to gradually move from "open" competition to managed competition under contracts.

In the short term "open" competition will need to prevail as a vital necessity. However, it is crucial that NCC imposes some form of regulation on the private sector. Private operators should be licensed under a licensing agreement and charged license fees. The licensing agreement would include provisions on collection transportation and disposal. NCC needs to monitor these agreements.

NCC should also prepare for contracts by managing competition. Essentially this is rationalising competition, e.g., screening out unacceptable operators and establishing contracting zones.

In the medium term NCC may be able to incrementally contract out zones. It is recommended that a pilot residential zone is initially contracted. The overriding constraint to this process is financial. Only when NCC's and the DoE's financial situation improves can operating contracts be financed. A franchise might therefore be the preferred option for the pilot zone but the disadvantages of franchises must be carefully considered before this option is chosen.

Technical assistance for contract management will be required.

2. CURRENT TENDERING ARRANGEMENTS IN THE NAIROBI CITY COUNCIL (NCC)

2.1 Introduction

NCC's tendering arrangements are in practice largely in conformity with the statutory requirements of the Local Government Act.

The first step in the contracting process is for the originating Department (e.g., the DoE) to define its requirements. The Department then makes a recommendation to its parent Committee for the contract to be put out to tender. If its recommendation is accepted, it prepares the tender documents, including specification.

In the preparation of documents the originating Department may liaise with the Legal Section of the Town Clerk's Department, which has overall charge of the tendering process, as appropriate. In particular, the originating Department may seek the assistance of the Conveyance Unit of the Legal Section in drafting the tender documents.

2.2 Tender Evaluation Criteria

The originating Department has the role of formulating the tender evaluation criteria. In practice the criteria are general and simply state that the evaluation will be based on originating, financial, contractual and administrative factors. The criteria appear as part of the tender documentation. The tender documentation includes:

- (a) Instructions to Bidders
- (b) General Conditions of Contract
- (c) Conditions of Particular Application
- (d) Standard Specification
- (e) Special Specifications
- (f) Form of Bid
- (g) Form of Contract Agreement
- (h) Acceptable Forms of Performance Security
- (i) Bills of Quantities
- (j) Map of the Contract Area

2.3 Invitation to Tender

The notice inviting tenders is prepared and published by the Town Clerk's Department. The notice gives details relating to the processing of the tenders, e.g., tender opening date.

2.4 Prequalification

Ordinarily tenders are open for bidding by any interested party, and the law does not have a specific procedure for pre-qualification of contractors who may bid. NCC can resort to pre-qualification only by waiving the ordinary tender procedure outlined in the Local Government Act.

To be allowed to pre-qualify bidders, the Department concerned makes a recommendation to its parent Committee to pre-qualify. The recommendation also outlines the procedure to be used to solicit tenders. If approval is given the pre-qualification is carried out and the short listed companies are invited to bid.

2.5 Opening of Tenders

On the tender opening date, the tenders are opened by the Tender Committee comprising Councillors, in the presence of representatives from the Town Clerk's Department, Internal Audit Section of the City Treasurer's Department, the originating Department and the Conveyance Section.

The Tender Committee is a Standing Committee of the Council which ordinarily is constituted at the first meeting of the Council. Representatives of the bidders are also allowed to attend the tender opening, as are members of the public.

The Committee goes through the tender documents, checks that they are in order and numbers them. The Chairman of the Tender Committee, the representative of the relevant Department and a lawyer from the Conveyancing Section all sign the tender documents. The bidders' representatives witness the opening but do not sign the documents. Any tender documents which are missing are noted by the Tender Committee.

2.6 Tender Evaluation

Following the tender opening, tenders are passed to the Audit Section which checks them for numerical errors. The tenders are then passed to the originating Department for evaluation. The Department may seek the assistance of any other Department of the Council in evaluating the bids.

The tenders are evaluated and ranked according to criteria which have been developed by the Department in conjunction with the Audit Section. These criteria are stipulated in the tender documents.

There is no formal evaluation process in NCC. Specifically, NCC does not employ a marking (or "points") system. The Technical proposals of tenders are not separately evaluated from the financial bids. This differs from Central Government practice where technical and financial proposals are evaluated independently.

The evaluation process in Nairobi City Council simply takes an overall view of the suitability of the tenderer, including experience, past performance and capability as well as the financial bid.

The lack of a points system or formal evaluation guidelines and procedures poses the danger that financial considerations will predominate. Indeed, it appears that the lowest tender typically tends to win even where there is not enough justification that the tenderer has the requisite capability for the job.

Additionally, the fact that there are no standard evaluation criteria and that each contract is treated individually exposes the evaluation process to the risk of

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subjectivity. The initiative in the evaluation process is left to Department concerned which is at liberty, but is not required, to consult other relevant Departments. The possibility of bias in the evaluation exercise can be greatly reduced if the evaluation reports are made available to the public generally and to the other (losing) bidders.

Following the evaluation by the originating Department the tenders are passed to the Conveyance Section which evaluates them for compliance with the terms and conditions of the tender documents. The Conveyance Section passes the tenders back to the originating Department which then prepares a report recommending the preferred bid for the Tender Committee.

The Tender Committee considers the report and selects the preferred bid and then recommends the selected bidder to the Finance Committee. If the Finance Committee has "plenary powers" it may award the tender directly. If on the other hand it does not have "plenary powers" it has to pass the recommendation for the award to the full Council which will award the tender. "Plenary powers" are powers to make a decision which does not require ratification by the full Council.

The decision of whether to give plenary powers and which Committees are assigned them is decided by the full Council, normally at the beginning of its term.

2.7 Award of Contract

As required by the Local Government Act (Section 143(5)(a)), NCC is supposed to award tenders to the Contractor whose offer is, taking all the circumstances into account, the "most advantageous" to the Council. No guidelines have been developed on what this means.

If the tender is awarded to Contractor whose tender is not the lowest price then the Department must prepare a report for the Minister of the Ministry of Local Government (MOLG) for his consideration. The particular office within MOLG which handles these references is the office of the Chief Finance Officer.

The recommendation to award a tender which is not the lowest price can come from the Department concerned or the Finance Committee (if contrary to the advice of the Department). In the latter case the Head of Department may ask that his opinion on the matter be recorded.

This is in keeping with Standing Order Number 28 which provides that the Head of Department or his representative has the right to require that his opinion be recorded in the minutes if the Financial Committee arrive a decision, which, in his opinion, is contrary to his advice. The record forms part of the documents presented to the Minister for his consideration.

The Minister's decision is binding and the tender is normally awarded directly after the Minister has given his decision without presentment to the Council for a second time. It is however not clear what factors, apart from the originating report presented to him, the Minister considers in coming to a decision. The opinion of the Head of Department, however, is supposed to carry considerable weight.

Although there are statutory requirements that Council members and officers who have an interest in a contract under consideration must disclose this and not participate in the consideration of the contract, these are hardly, if ever, complied with. Possible methods of improving the effectiveness of these provisions are to:

- (a) introduce a term in the tender and contract documents that the subsequent discovery of failure to disclose an interest will lead automatically to blacklisting for future contracts;
- (b) make independent inquiries about the bidding companies at the Companies Registry and other appropriate sources; and
- (c) enforce the requirements of the Tender Certificate or Confidentiality Agreement need.

2.8 Post-Contract Award

The contract documents for the award of the tender are prepared by the Conveyancing Section. It is not the practice to negotiate a tender after the award, and the award is normally made on the basis of the bid.

Following the award the Department concerned has to monitor the performance of the contract. This is on the basis of criteria for monitoring which it is required to design as part of the tender specification. There are no legal stipulations governing contract monitoring. Requirements for monitoring arrangements are normally contained in the tender documentation.

The Council does not routinely make a "value for money" assessment of the contracts it enters into. Any assessments made are by the Audit Section, and these concentrate on financial issues. Originating audits are rarely, if ever, carried out.

2.9 Recommendations

It is recommended that the Council take the following steps. The Council should:

- (a) prepare guidelines on what evaluation criteria to use and how to use them in the evaluation of tenders;
- (b) evaluate tenders technically before evaluating them financially; and
- (c) introduce a marking system to facilitate the evaluation.

3. PRIVATE SECTOR INVOLVEMENT (PSI) PLAN

3.1 Efficiency Context of PSI

As stated previously, private sector involvement (PSI) should be promoted by the Nairobi City Council (NCC) if PSI is: (1) more economical and enhance efficiency; and (2) will improve or deliver at least the same quality of service. These are examined in the following subsections.

3.1.1 Background of PSI from the Worldwide Experience

According to a World Bank Report, *Private Sector Participation in Municipal Solid Waste Services in Developing Countries, 1994*, local governments in developing countries spend 20-50% of total expenditure for solid waste services. Even at such a high level of expenditure, the level of solid waste service is low, and only 50-70% of the solid waste is collected (Nairobi: 10% for expenditure and 5% in collection). This leads an argument that the private sector involvement shall be encouraged since it is efficient than that by the public operation. Private sector efficiency is expected to be derived from (1) management flexibility, (2) freedom of action, (3) greater financial discipline, and (4) accountability to market forces.

However, it should be noted that private companies will operate efficiently to make a profit and maintain their position in the market when a competitive environment is secured in the market. Optimum efficiency will not be realised if opposing competitive forces are not expected. Thus, contracting process including selection of the company is carefully designed.

3.1.2 Present Situations of Private Collection Companies

NCC estimates that about 60 private collection companies are operating [see Section 4.2, Data Book (1)]. Since insufficient solid waste management services by NCC, private sector contribution has been getting more and more important recently. A questionnaire survey was conducted as a part of the Study operating [see Section 4.1, Data Book (1)]. Major results are shown in Table D.3-1 and summarised as follows:

- (1) Numbers of employees varies from one digit to sixty-five. Two companies have more than sixty.
- (2) Shares of administrative employees are 20% - 30%.
- (3) Only two largest companies hold more than ten collection vehicles. Several smaller companies operate only one vehicles.
- (4) Trip number of collection vehicles varies from 1 to 3.
- (5) Number of workers per vehicle is 3 to 4 excluding a driver.
- (6) Collection frequency is once or twice per week for households.
- (7) Largest contract number is about 5,000 of households.

Table D.3-1 Major Results of Questionnaire Survey

Company Name	Number of Employees			Collection Vehicles	Trip per Vehicle	Workers per Vehicle	Frequency of Collection per Week					
	Total	Admin.	Drivers				Workers	Household	Commercial	Office	Industry	Hospital
Bins (NAIROBI) Services Ltd.	62	18	11	33	11	1.5	3	1	1 or 2	1 or 2	1 or 2	1
Domestic Refuse Disposal (K) Ltd.	20	4	5	11	5	1	1	1	2	1	2	
Urban Waste Management Services	6	4	2	12	3	3	1	1	2	1	1	1
City Hygiene Services Ltd	14	4	2	8	2	1	4	1	7	3	2	3
Chokora Multipurpose Co-operative Society					3	3			3	2		
City Bins Limited	65	15	15	30	15	1		2				
Enviroclean Services	8	3		5	1	1	3	1				
Tucentac Enterprises	8	2	1	5	1		4	2				
Usafi Garbage Collector	7	2	1	3	1	2		1	1			

Company Name	Household				Commercial				Office				Industry				Hospital			
	Total	Household	Chrg (Ksh)	Workers	Total	Household	Chrg (Ksh)	Workers	Total	Household	Chrg (Ksh)	Workers	Total	Household	Chrg (Ksh)	Workers	Total	Household	Chrg (Ksh)	Workers
Bins (NAIROBI) Services Ltd.	4,351	4,000	500/month	351	351	1500/ton	1500/ton	1500/ton	5	1,500/ton	20	1,500/ton								
Domestic Refuse Disposal (K) Ltd.	1,155	1,100	500/month	30	30	1,500/month	1,500/month	3	1,500/month	2	1,000/month	1	500/month							
Urban Waste Management Services	60	40	250/month	14	14	1,500/month	1,500/month	28	750/month											
City Hygiene Services Ltd	365	300	325/month	37	37	1,500/month	1,500/month	10												
Chokora Multipurpose Co-operative Society																				
City Bins Limited	5,034	5,000	400/month	10	10															
Enviroclean Services																				
Tucentac Enterprises	1,500	200																		
Usafi Garbage Collector	150	120	150/month	30	30	600/month	600/month													

Source : JICA Study Team

In addition, the result of the waste amount survey and time and motion study conducted in the Study also clearly shows that the number of crew of private companies is nearly one person less than that of NCC (see **Supporting Report Section E, Chapter 3**). Since the amount of collected waste per trip, in other words, per crew, is almost the same between the private and NCC, it can be said that the efficiency of carrying the waste by the privates is much better than that of NCC. Also, working hours of the privates are longer than those of NCC, and total collection amounts by the privates accordingly exceed the NCC's. This results in better quality of service by privates rather than NCC.

3.1.3 Financial Model Analysis

(1) Collection Services

Based on the surveys on private collection companies and other studies, prepared was a financial model of a hypothetical company on several assumptions. The purpose of the estimation was only to investigate whether or not and on what conditions private collection business can be viable. Since their sizes and other conditions vary widely and important financial data are kept confidential by private companies, it is very difficult to estimate financial situations accurately. Care should be taken so as not to generalise this information and not to apply this model to a specified company.

Following assumptions were made based on the study results:

- (a) Waste collection: 3.19 kg per day per household;
- (b) Collection frequency: once a week;
- (c) Trip number of collection vehicles: 1.5 times a day;
- (d) Employees: 1 driver and 3 loaders for one collection vehicle; office workers are 20% of the sum of drivers and loaders; and
- (e) Contracts: 2,000 households.

The hypothetical profit and loss statement was based on the financial model with a number of assumptions. When charge is set to Kshs 250 per month, the net income before tax is Kshs 1,554,000 as shown in **Table D.3-2**. The break-even point concerning collection charge in this case is Kshs 185.25.

In this case, collection cost is estimated at Kshs 1,909 or US\$ 32.47 per ton of waste.

(2) Collection and Cleansing Services

Since the PSI contract with NCC was planned for not only collection services but cleansing services of roads and markets, the financial model was revised with the following additional assumptions.

- (a) Waste collection: 3.84 kg per day per household (road and market waste 0.65 kg is included);

- (b) Four (4) sweepers are employed for each vehicle; and
- (c) Office workers are not increased because their job is assumed be the same as before.

The cost estimation was based on the revised financial model. Results are shown in **Table D.3-3**.

**Table D.3-2 Hypothetical Profit and Loss
Statement of a Private Company for
Collection (Charge: Kshs 250/mo.)**

Unit: Kshs 1,000

Item	Amount
Gross Revenue (1)	
Households	6,000
Operating Cost	
Fuel/Oil	919
Maintenance	120
Waste Bags	600
Wages	692
Overhead	1,211
Depreciation	500
Total (2)	4,042
Financial Cost (3)	404
Net Income Before Tax (4) = (1)-(2)-(3)	1,554

Source: JICA Study Team

**Table D.3-3 Cost Estimation on a Private
Company for Collection and Cleansing**

Unit: Kshs 1,000

Item	Amount
Operating Cost	
Fuel/Oil	1,107
Maintenance	120
Waste Bags	600
Wages	1,360
Overhead	1,811
Depreciation	500
Total (1)	5,498
Financial Cost (2)	550
Cost Total (3) = (1)+(2)	6,048

Source: JICA Study Team

In this case, collection cost is estimated at Kshs 2,155 or US\$ 36.66 per ton of waste. For the case of the new collection system of NCC (Container System with Side Loader, Tippers and Wheel Loaders), unit cost is estimated at Kshs 2,291 or US\$38.96. As a result of this analysis, the unit cost for collection services by privates are approximately 94% of NCC's. This also indicates that the privates are more efficient than NCC. See **Section 4.5 of Main Report - Master Plan Study**, for details of the new system of NCC.

3.2 Promotion of PSI in the Master Plan

3.2.1 Role of PSI in the Master Plan

In the Master Plan, service coverage includes private sector involvement (PSI) and existing PSI program by NCC in a cooperative way. This collaboration is expected to result in visible improvement of environmental condition in the city compared with the existing 25% of collection service coverage. In addition, new waste charges are set to finance the contract basically from new waste charges.

On the other hand, waste collection services by private companies are not controlled or monitored by NCC at present. It is required to regulate private companies by NCC with the least level of service standard in order to promote PSI through improving reliability of PSI services by the people. It might be essential for those private companies to expand their business continuously to upgrade SWM services in the city up to the target year of 2008.

3.2.2 Target Rate of PSI

Presently, private collection companies are collecting approximately 20% of waste production. In the project years, such private companies are expected to keep playing an important role in the entire SWM services in Nairobi.

As for private companies, there are several advantages for contracting with NCC as follows:

- (1) SWM business is solely admitted for the company in a designated area. Thus, stable operation of the company is expected in a certain contract period.
- (2) Contracting companies are deemed as prestigious or reliable. This is a huge intangible asset for the company.
- (3) The company can extend extra SWM business to comparatively high income residents in the area. This will also give the company a new business opportunity.

Waste amount collected by PSI are estimated at 285 ton/day in 1997. In 2008, if 20% are collected by PSI, the amount would be 546 ton/day, which is about 1.9 times. See **Table D.3-4**. Collection amount is expected to increase at 6.08% p.a. in the years. It means that the market of the industry are expected to increase at 6.08%. Meanwhile, a sector of business services in Kenya had a 6.8% growth rate from 1992 to 1996 (*Economic Survey 1997*). With considering recent GDP growth rates, 3.0% in 1994, 4.8% in 1995 and 4.6% in 1996, it is attractive for private companies looking for a business opportunity and reasonably understood that the same level of growth for this new service can be expected in the next ten (10) years.

Table D.3-4 PSI Collection and Its Growth

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total Waste	1,426	1,509	1,595	1,684	1,785	1,893	2,009	2,141	2,269	2,413	2,566	2,730
PSI Ratio	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
PSI Amount	285	302	319	337	357	379	402	428	454	483	513	546
Growth Rate	-	5.8%	5.8%	5.7%	5.8%	5.8%	5.9%	6.0%	6.0%	6.0%	6.1%	6.1%

Source: JICA Study Team

3.2.3 Collection Service Area by Private Sector

(i) Demarcation of the Service Area

The collection service area in the Master Plan is determined based on the present location boundaries. Nairobi City is administratively divided into eight (8) divisions, i.e., Dagoretti, Kibera, Central, Parklands/Westlands, Pumwani, Makadara, Embakasi and Kasarani. These divisions are also composed of several locations and the total number of locations are 29. Based on the population projection in each location, solid waste generation can also be estimated on an area-wise basis.

In addition, daily collection and transportation work as well as street cleansing work is now carried out based on district-wise operations by NCC; in other words, NCC's SWM service area is divided into six districts and each district has its own assigned staff, equipment and a office and depot. Boundaries of these districts are mostly traced on part of the location boundaries. Therefore, it seems to make the daily operation and management of collection work much easier and smoother if the boundary of service area is almost equal to the location boundary. The relationship between the locations and districts is shown in Table D.3-5.

Table D.3-5 Relationship between the Locations and Districts

No.	Location	District	Remarks
1.	Makadara	Eastern	
2.	Kaloleni/Makongeni		
3.	Maringo/Mibotela		
4.	Bahati		
5.	Pumwani		
6.	Eastleigh		
7.	Kamukunji*		
8.	Ngara*	Central	* Some portions are in Northern
9.	Starehe*		* Some portions are in Eastern and Northern
10.	Viwanda*	Southern	* Some portions are in Central
11.	Muguniaini*		* Some portions are in Western

Table D.3-5 Relationship between the Locations and Districts (Cont'd.)

No.	Location	District	Remarks
12.	Embakasi*	Embakasi	* Some portions are in Southern
13.	Nijiru*		* Some portions are in Southern
14.	Kasarani*		* Some portions are in Northern
15.	Dandora		
16.	Kariobangi*		* Some portions are in Northern
17.	Kibera/Woodley	Western	
18.	Waithaka		
19.	Kangemi		
20.	Riruta		
21.	Kawangware		
22.	Mutuini		
23.	Kenya/Golf Course		
24.	Karen/Langata		
25.	Kilimani		
26.	Mathare		Northern
27.	Kahara		
28.	Roysambu		
29.	Parklands		

Source: JICA Study Team

(2) Selection of the Possible Contract-out Area

The collection service area by PSI is selected by the following criteria:

- (a) High density and near the city centre area will be higher priority because of their higher demand for improvement and efficiency of the services.
- (b) High, middle income or other residential area will be required because people who lives in these areas has already had a chance to be provided private collection services and, therefore the collection service by the same sector will be easily acceptable.

NCC has started contract-out for the Central Business District (CBD) whose portion mostly overlap with Starehe. Ngara is located next to Starehe and is also business and commercial areas.

According to a study, "A Strategic Health Plan for the Nairobi Area", (Development Solutions for Africa, Ltd., 1992), high income area includes the following five locations: Karen/Langata, Kenya/Golf Course, Parklands, Kilimani and Roysambu.

Considering the above, the area to be contract-out will be selected among Ngara, Karen/Langata, Kenya/Golf Course, Parklands, Kilimani and Roysambu.

(3) Order of the Contract-out

As a result of discussions with the Kenyan counterparts and the following considerations, the schedule of contract-out is drafted.

- (a) Similar conditions to the present CBD contract-out area
- (b) Closeness to the city center
- (c) Equalisation of waste collection in an area
- (d) Enough intervals for the preparation of the next area

Table D.3-6 shows the contract-out schedule of planned areas. Shaded numbers are waste amounts which are planned to be collected by private companies. The contract-out area is also shown in Figure D.3-1.

This schedule will be reviewed after evaluating performance in the next contract-out at Ngara by a new Contract Management Section (CMS) under the SWM Division. Detailed responsibilities and roles of the CMS are described later in Section 3.4.

Table D.3-6 Schedule of Contract-out Area in the Master Plan

	(Unit: ton/day)										
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total Waste Generation	1,509	1,595	1,684	1,785	1,893	2,009	2,141	2,269	2,413	2,566	2,730
Location											
Starehe	129	134	138	145	152	159	167	174	183	192	202
Ngara	39	40	41	43	46	49	52	55	58	62	66
Kenyatta/Golf Course	13	13	14	15	16	17	18	19	20	21	22
Parklands (excl. Muthaiga)	126	133	139	148	158	168	180	192	205	219	234
Kilimani	35	35	36	39	41	44	47	50	53	57	61
Total PSI	129	134	138	188	198	208	237	248	466	494	585
PSI ratio by Contract-out (%)	8	8	8	10	10	10	11	11	19	19	21
Designed Total PSI ratio (%)	20	20	20	20	20	20	20	20	20	20	20

Note: Highlighted areas above indicate target waste amount by contracted private collector.