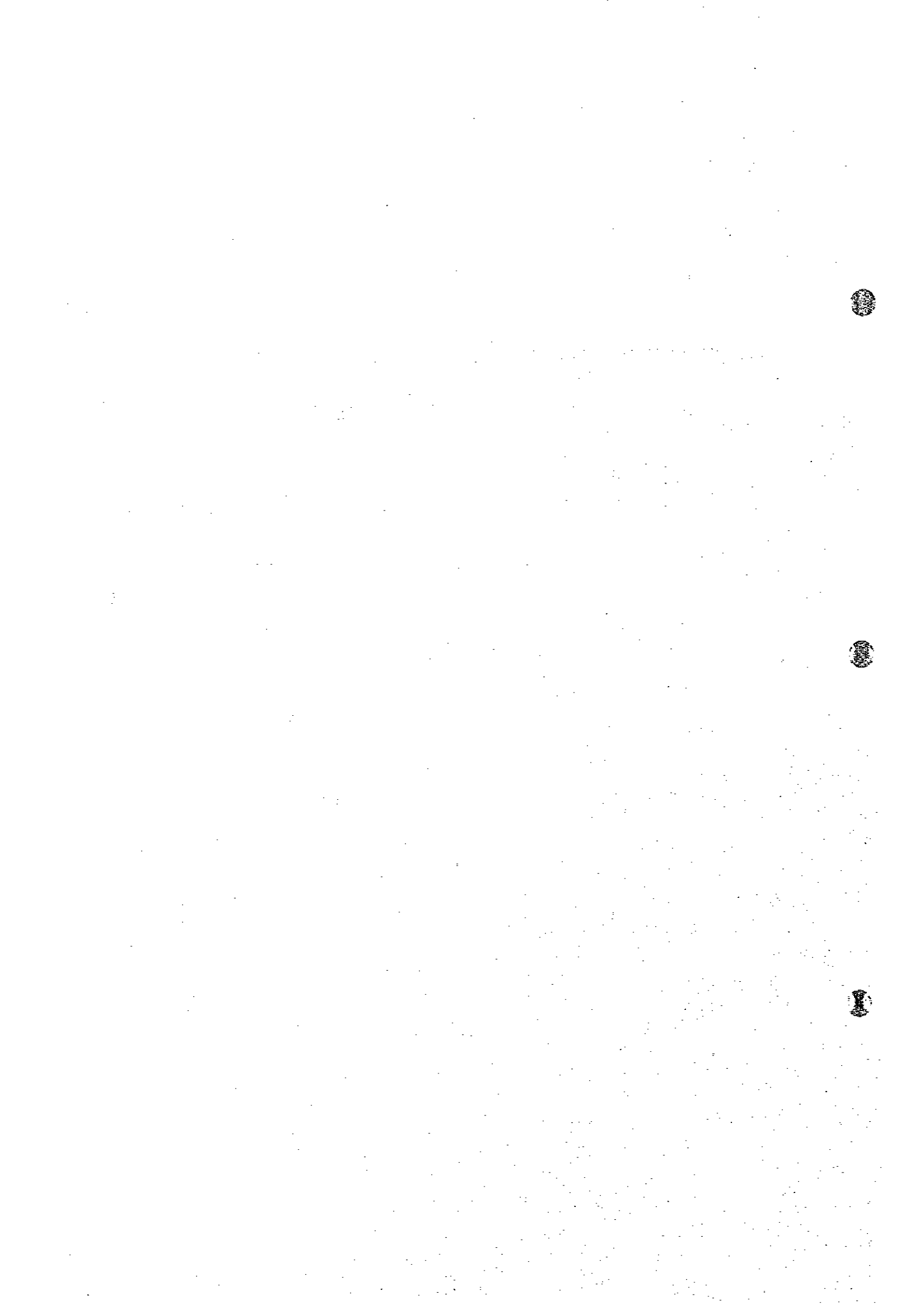


# Annex 18

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## *Minutes of Meetings*




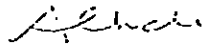
# 18 Minutes of Meetings

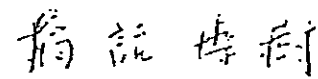
## 18.1 Scope of Work, October 13, 1995

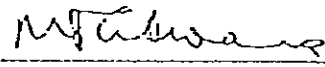
SCOPE OF WORK  
FOR  
THE STUDY  
ON  
THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA  
AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COUNCIL  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Dar es Salaam, October 13, 1995

  
\_\_\_\_\_  
Brigadier General H. A. H. NGWILIZI  
City Director  
The Dar es Salaam City Council

  
\_\_\_\_\_  
Mr. ALFRED E. CHALE  
Acting Principal Secretary  
Office of the Prime Minister and First Vice President

  
\_\_\_\_\_  
Mr. HIROKI HASHIZUME  
Leader, Preparatory Study Team,  
Japan International Cooperation  
Agency

  
\_\_\_\_\_  
Mr. M. T. KIBWANA  
Commissioner for External Finance  
and Technical Cooperation  
Ministry of Finance

## I. INTRODUCTION

In response to the request of the Government of The United Republic of Tanzania (hereinafter referred to as "Tanzania"), the Government of Japan has decided to conduct a Study on the Solid Waste Management for Dar es Salaam City in Tanzania (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with authorities concerned of the Government of Tanzania.

The present document sets forth the Scope of Work with regard to the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. to formulate a master plan for the improvement of the solid waste management (hereinafter referred to as "SWM") of Dar es Salaam City,
2. to conduct a feasibility study on priority project(s) to be selected from the master plan, and
3. to transfer technologies for solid waste management to counterpart personnel in the course of the study.

## III. STUDY AREA

The study shall cover the area under the authority of the local council of Dar es Salaam City.

## IV. SCOPE OF THE STUDY

In order to achieve the above mentioned objectives, the Study shall cover the following:

Phase I: Basic Study

1. Collection and review of existing data, information and relevant studies

(1) data and information on physical conditions such as climatic, topographic, meteorological, hydrological, soil and geological, geographical conditions

(2) social and economic conditions and relevant statistics

(3) present environmental conditions such as water pollution, solid wastes, noise, vibration, subsidence, air pollution, and so on,

(4) city planning, urban development plans and land use plan related to the Study

(5) legislation and regulations concerned with environmental protection and sanitation

(6) financial conditions of the Dar es Salaam City and the Government of Tanzania

(7) national and municipal policies and development plans related to SWM

(8) others

2. Measurement of environmental quality (rainy season and dry season)

(1) natural conditions such as topographic, surface water, groundwater, fauna, flora, landscape, and so on

(2) environmental pollution such as water pollution, soil pollution, offensive odor, air pollution, and so on

3. Evaluation of present environmental condition

Phase II: Master Plan

1. Collection and review of existing data and information of the institutions of Dar es Salaam City on:

(1) legislation on SWM

(2) institutional and managerial aspects on SWM

(3) present condition of SWM

(4) on-going projects related to SWM

(5) conditions and environmental aspects of SWM

- (6) Others
2. Field survey
  - (1) present condition of SWM system
  - (2) amount of solid waste and its composition
  - (3) geology, water quality, land use on existing dumping area and future landfill sites
  - (4) public awareness on SWM
  - (5) environmental survey
3. Analysis of collected data and information; identification and evaluation of issues on SWM
4. Forecast of socio-economic changes and future demand for SWM
5. Formulation of a master plan of SWM
  - (1) Identification and Confirmation of planning framework
    - a) Target year
    - b) Planning area
    - c) Amount and composition of solid waste
    - d) System components
  - (2) Setting goals and strategies for the improvement of SWM toward the target year
  - (3) Comparison of alternatives for system components
  - (4) Selection of the best alternative
  - (5) Planning for technical aspects
  - (6) Planning for operation and maintenance
  - (7) Planning for institutional, organizational and managerial aspects
  - (8) Cost estimation

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(9) Financial plan

(10) Evaluation of the master plan

a) financial aspects

b) socio-economic aspects

c) environmental aspects including initial environmental examination

(11) Implementation plan

(12) Selection of priority project(s)

### Phase III: Feasibility Study

1. Feasibility study on the priority project

(1) Confirmation of planning framework

a) target year

b) planning area

c) service level

d) components of Environmental Impact Assessment

(2) Supplemental study

a) field survey for further planning

(3) Public relations for SWM

(4) Preliminary design of facilities and equipment

(5) Operation and maintenance plan

(6) Planning for institutional and organizational development

(7) Planning for public education program

(8) Cost estimation

(9) Financial plan

(10) Project evaluation

a) financial evaluation

b) socio-economic evaluation

c) environmental impact assessment

(11) Implementation plan

## V. STUDY SCHEDULE

The Study will be carried out in accordance with the tentative schedule attached in Annex 1.

## VI. REPORTS

JICA will prepare and submit the following reports in English to the Government of Tanzania.

1. Inception Report:

Twenty (20) copies at the commencement of the first work in Tanzania.

2. Progress Report (1):

Twenty (20) copies at the end of the first work in Tanzania.

3. Progress Report (2):

Twenty (20) copies at the end of the second work in Tanzania.

4. Interim Report:

Twenty (20) copies at the beginning of the third work in Tanzania.

5. Progress Report (3):

Twenty (20) copies at the end of the third work in Tanzania.

6. Draft Final Report:

Twenty (20) copies at the beginning of the fourth work in Tanzania. The Government of Tanzania will submit its comments to JICA within thirty (30) days after receipt of the Draft Final Report.

7. Final Report

Forty (40) copies within thirty (30) days after JICA received of comments on the Draft Final Report.

## VII. UNDERTAKINGS OF THE GOVERNMENT OF TANZANIA

1. To facilitate smooth conduct of the Study, the Government of Tanzania shall take necessary measures as follows:

(1) to secure safety of the Japanese Study Team (hereinafter referred to as "the



Team")

- (2) to permit the members of the Team to enter, leave and sojourn in Tanzania for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees.
- (3) to exempt the members of the Team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into and out of Tanzania for the conduct of the Study.
- (4) to exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study.
- (5) to provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Tanzania from Japan in connection with the implementation of the Study.
- (6) to secure permission for entry into private properties or restricted areas for the implementation of the Study.
- (7) to secure permission for the Team to take all data and documents ( including photographs and maps ) related to the Study out of Tanzania to Japan, and
- (8) to provide medical services as needed. Its expenses will be chargeable on members of the Team.

2. The Government of Tanzania shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Team.

3. Dar es Salaam City shall act as the counterpart agencies to the Team and also as coordinating bodies in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. Dar es Salaam City shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:

- (1) available data and information related to the Study,

- (2) counterpart personnel,
- (3) suitable office space with necessary equipment in Dar es Salaam City,
- (4) drivers for the vehicles.
- (5) credentials or identification cards.

### VIII. UNDERTAKINGS OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. to dispatch, as its own expense, the Study Team to Tanzania, and
2. to pursue technology transfer to the Tanzanian counterpart personnel in the course of the Study.

### IX. CONSULTATION

JICA and Dar es Salaam City shall consult with each other in respect of any matter that may arise from or in connection with the Study.

DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WORK IN TANZANIA	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
WORK IN JAPAN	■																							
REPORT PRESENTATION	▲			▲			▲			▲			▲			▲			▲			▲		
PHASE	PHASE I			PHASE II						PHASE III														
	IC/R	P/R(1)	P/R(1)	P/R(1)	P/R(1)	P/R(1)	P/R(2)	P/R(2)	IT/R	IT/R	P/R(3)	P/R(3)	P/R(3)	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R	DF/R
	1st work in Tanzania	2nd work in Tanzania	2nd work in Tanzania	2nd work in Tanzania	2nd work in Tanzania	2nd work in Tanzania	1st work in Tanzania	1st work in Tanzania	1st work in Japan	3rd work in Tanzania	3rd work in Tanzania	3rd work in Tanzania	3rd work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania	4th work in Tanzania

NOTE  
 IC/R : Inception Report  
 P/R : Progress Report  
 IT/R : Interim Report  
 DF/R : Draft final Report  
 F/R : Final Report

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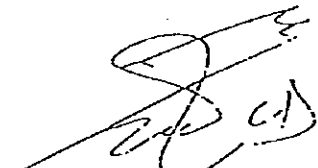
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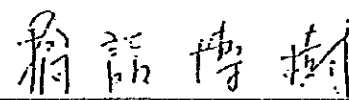
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18.2 Minutes of Meeting, October 13, 1995

MINUTES OF MEETING  
FOR  
THE STUDY  
ON  
THE SOLID WASTE MANAGEMENT  
FOR  
DARES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA  
AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COUNCIL  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Dar es Salaam, October 13, 1995

  
\_\_\_\_\_  
Brigadier General H. A. H. NGWILIZI  
City Director  
The Dar es Salaam City Council

  
\_\_\_\_\_  
Mr. HIROKI HASHIZUME  
Leader, Preparatory Study Team,  
Japan International Cooperation  
Agency

Based on the formal request of the Government of the United Republic of Tanzania, the Government of Japan, through the Japan International Cooperation Agency (JICA), has agreed to conduct a Study on the Solid Waste Management for Dar es Salaam City in the United Republic of Tanzania (hereinafter referred to as "the Study").

The JICA Preparatory Study Team (hereinafter referred to as "the Team"), headed by Mr. Hiroki Hashizume, visited Tanzania from 5th to 13th of October, 1995, where they held a series of meetings with the Prime Minister's Office, Ministry of Finance, Dar es Salaam City Council and other authorities concerned of the Government of the United Republic of Tanzania. The list of participants is shown in the Appendix I.

During the visit, both sides agreed to the Scope of Work to be undertaken by the Prime Minister's Office, Ministry of Finance, Dar es Salaam City Council and JICA for successful execution of the Study. In addition to the Scope of Work, the Team and the Tanzanian representatives confirmed the following:

- 1) The title of the Study will be "The Study on the Solid Waste Management for Dar es Salaam City in the United Republic of Tanzania".
- 2) The target year of the Study will be 2005.
- 3) The area of the Study will be thirty-nine (39) wards under the jurisdiction of the Dar es Salaam City Council as shown in the Appendix II.
- 4) Types of solid waste to be studied will be limited to municipal solid waste: household waste, market waste, office waste, institutional waste and street sweeping waste. As far as industrial waste and hospital waste are concerned, Tanzanian side requested that these be included in the Study and that this request be forwarded to JICA headquarters. The Team stated that policy suggestion regarding industrial waste management should be included in the Master Plan study to meet this Tanzanian side's request.
- 5) The Tanzanian side will provide suitable office space with air-conditioners, furniture, electricity, light, telephone and access to a facsimile machine for the team of the Study. International telecommunication fees in the office, however, will be paid by the team of the Study. The Tanzanian side requested that the team of the Study bring a photocopy machine, a facsimile machine and a portable generator. The Team will convey the request to the JICA headquarters.
- 6) The Tanzanian side requested that JICA supply a truck scale for the conduct of the Study. The Team will convey the request to the JICA headquarters. The Tanzanian side will be responsible for installing and operating the truck scale.

- 7) The Tanzanian side requested that JICA provide equipment, such as a photocopy machine and a truck scale, which are used for the Study for the Tanzanian side after completion of the Study. The Team will convey the request to the JICA headquarters.
- 8) The Tanzanian side requested that costs for land survey, topographic survey and solid waste quantity/quality survey be borne by JICA. The Team will convey the request to the JICA headquarters.
- 9) The Tanzanian side will organize a "Steering Committee" for the Study, comprising representatives from the Prime Minister's Office, Ministry of Finance, Ministry of Lands, Housing and Urban Development, Ministry of Tourism, Natural Resources and Environment, Dar es Salaam City Council, National Environmental Management Council and other relevant organizations.
- 10) Dar es Salaam City Council will organize a "Counterpart Team" which will cooperate with the team of the Study. The Counterpart Team will consist of the City Council's professional staff who are in charge of various aspects of solid waste management, such as planning, collection, transportation, landfilling, financing, contracting and environmental management in the city. Consequently, each member of the team of the Study will work together with a respective counterpart to transfer technologies from the Japanese side to the Tanzanian side and achieve objectives of the Study effectively.
- 11) The Tanzanian side requested that pollution abatement and environmental conservation should be considered in the Study.
- 12) When landfilling is to be studied in the Feasibility Study, the landfill site shall be selected in the course of the Master Plan study in close discussion between the team of the Study and Dar es Salaam City Council among the places proposed by the City Council.
- 13) Without prior acquisition of the landfill site or necessary procedures for the right of way by the Dar es Salaam City Council, such projects as landfilling and landfilling related projects will not be priority projects to be studied in the Feasibility Study.
- 14) In order to smoothly implement the Study, the Dar es Salaam City Council will explain what is included in this Minutes of Meeting to the Prime Minister's Office, and if necessary, other related organizations.

Appendix I

LIST OF ATTENDANTS

Office of the Prime Minister and First Vice President

Mr. Alfred. E. Chale	Acting Principal Secretary
Mr. P. Baruti	Acting Commissioner of Local Government

Ministry of Finance

Mr. M. T. Kibwana	Commissioner for External Finance and Technical Cooperation
Mr. Paul A. Mwafongo	Finance Officer, External Finance and Technical Cooperation

Dar es Salaam City Council

Brigadier General H. A. H. Ngwilizi	City Director
Dr. Samuel M. Biseko	City Medical Officer
Mr. Daudi I. Daudi	City Planner
Mr. A. R. M. Gamba	City Engineer
Mr. L. A. Lwabutaza	Acting City Health Officer
Mr. N. C. X. Mwihava	Acting Coordinator of Solid Waste Management
Ms. Anna A. Mwavahehe	Manpower Management Officer
Mr. Thomas A. Lyimo	Sanitary Landfill Manager
Mr. K. Nkwabi	Officer, Health Department
Mrs. P. Lerise	SDP, Member of Solid Waste Management
Mr. Masanori Takeishi	JICA Expert

JICA Preparatory Study Team

Mr. Hiroki Hashizume	Director, Japan Waste Research Foundation
Mr. Satoshi Kimura	Staff, Second Development Study Division, Social Development Study Department, JICA
Mr. Tetsuro Fujituka	Deputy Director, Strategic Environmental Division, Environment Agency, Prime Minister's Office
Mr. Shigeaki Katsuhata	Ostrand Corporation
Mr. Masakazu Maeda	CTI Engineering Co., Ltd.





SUSTAINABLE DAR-ES-SALAAM

PROJECT (SOP)

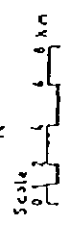
FIGURE No 2

LEGEND

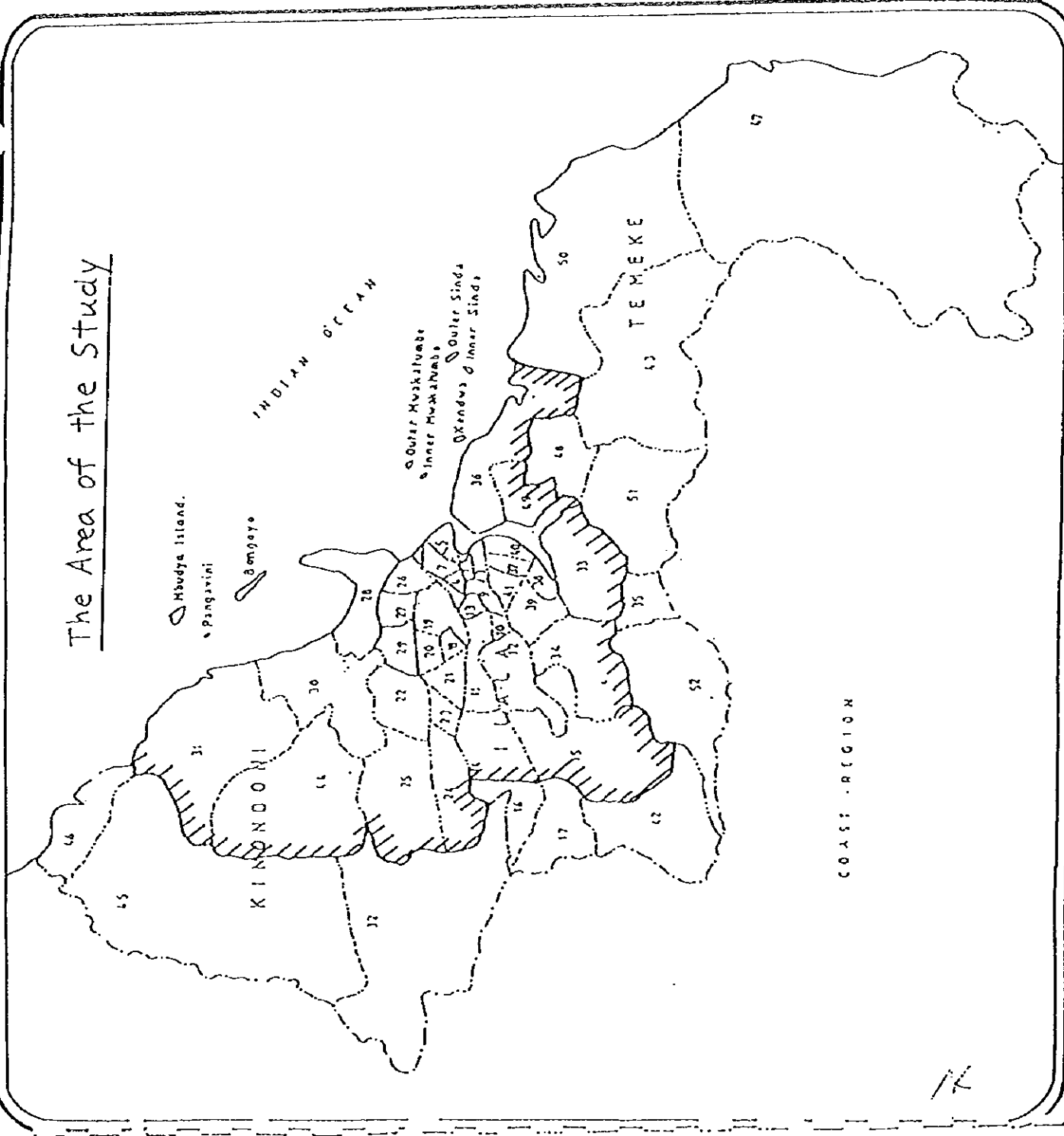
- REGIONAL BOUNDARY
- - - DISTRICT BOUNDARY
- WARD BOUNDARY

- 1 XARIAKOC
- 2 MCHIA FUKOGC
- 3 GEREZANI
- 4 XISUTU
- 5 XIVUYOHI
- 6 JANGWANI
- 7 UPANGA EAST
- 8 UPANGA WEST
- 9 ILALA
- 10 BUGURUMI
- 11 VINGUNGUTI
- 12 KIPAWA
- 13 MCHIKICHINI
- 14 TABATA
- 15 UKONGA
- 16 KRIYERCI
- 17 PUCU
- 18 HZIRUNI
- 19 MAGOHANI
- 20 MDUGUMBI
- 21 MAKURUMULA
- 22 MANZICC
- 23 KIGOGO
- 24 MABIBO
- 25 UBUNGO
- 26 KINONDOHI
- 27 MWANANYA MALA
- 28 MSA SANI
- 29 TANDALE
- 30 KAWC
- 31 XURDUCI
- 32 KIBAHUJA
- 33 MLAGALA
- 34 YOMOO VITUKA
- 35 CHAGARDE
- 36 XIGAHORI
- 37 MIBDALI
- 38 MTOJI
- 39 TCHUKI IL
- 40 KURA SINI
- 41 KEKO
- 42 M'SONGOLA
- 43 KISARAVE II
- 44 GOMA
- 45 BUNJI
- 46 BUKENI
- 47 XIKOJI
- 48 XIGADJA
- 49 VUJIBWONI
- 50 SOMANGOLA
- 51 TOANGOMA
- 52 CHAHAZI

ADMINISTRATIVE BOUNDARIES



The Area of the Study






18.3 Minuts of Meeting for IC/R, March 13,1996

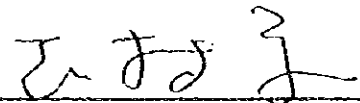
MINUTES OF MEETING  
FOR  
THE INCEPTION REPORT  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COUNCIL  
AND  
JICA STUDY TEAM

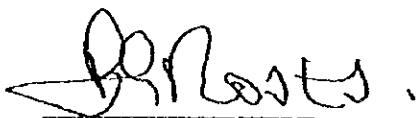
Dar es Salaam, 13 March, 1996



Brigadier General H. A. H.  
NGWILIZI  
City Director  
The Dar es Salaam City Council



Mr. Susumu Shimura  
Leader of JICA Study Team



Mr. Ben Moses  
Principal Secretary  
Office of the Prime Minister



Mr. M. T. Kibwana  
Commissioner for External Finance  
and Technical Cooperation  
Ministry of Finance

**MINUTES OF MEETING FOR THE INCEPTION REPORT OF THE STUDY ON  
THE SOLID WASTE MANAGEMENT FOR DAR ES SALAAM CITY  
IN THE UNITED REPUBLIC OF TANZANIA**

**I. INTRODUCTION**

1.1 The Study Team has submitted twenty (20) copies of the Inception Report to the Government of the United Republic of Tanzania. Consequently a series of meetings were held from March 8th to 12th in Tanzania to discuss the report submitted. A list of officials attending in the above meetings is given in the Appendix I.

**2. ISSUES AND DECISIONS**

2.1 Various issues were discussed and clarifications on the Inception Report were made. Subsequently appropriate consensus was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.

2.2 The Study Team clarified that solid waste to be studied is municipal waste, i.e. household waste, market waste, commercial waste, institutional waste and street sweeping waste, and that regarding industrial and hospital wastes a rapid diagnosis will be carried out based on existing information and data, and the general recommendations for the improvement in the management of such wastes will be proposed in the Master Plan.

The Tanzanian side agreed the clarification.

2.3 The Tanzanian side informed that a Steering Committee is established and the members of the committee are given below.

- i. Chairman of the Committee, City Director, Dar es Salaam City Council
- ii. Secretary of the Committee, City Medical Officer of Health, Dar es Salaam City Council
- iii. Representative of Vice President's Office
- iv. Representative of Prime Minister's Office



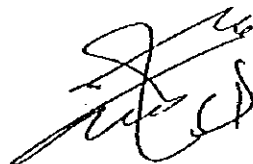
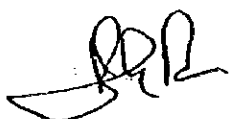
- v. Representative of Ministry of Works
- vi. Representative of Ministry of Land, Housing and Urban Development
- vii. Representative of Ministry of Finance
- viii. Representative of National Urban Water Authority
- ix. Representative of Ministry of Trade and Industries
- x. Representative of Ministry of Health
- xi. Representative of Planning Commission

2.4 The Tanzanian side informed that a Counterpart Team is organised and the members of the team are given below.

- i. Full Time Counterpart  
Mr. Kizito Nkwabi, Officer, Health Department  
Mr. F. C. Fwalakisi, Officer, Health Department
- ii. Part Time Counterpart  
Mr. A. R. M. Gamba, City Engineer  
Mr. F. T. Ernest, Acting City Planner  
Mr. M. C. X. Mwihava, Acting Coordinator of Solid Waste management  
Mr. P. Boma, City Mechanical Engineer  
Mrs. Paulina Lerise, SDP, Member of Solid Waste management  
Mr. L. C. Ndunguru, Health Officer (Cleansing)

2.5 The Study Team informed that JICA will supply a truck scale (weighbridge) and requested the Tanzanian side to execute the following aspects regarding the weighbridge:

- i. construction of an inspection building (area is more than 20 m<sup>2</sup>), an approach road, foundation and fence of the scale;
- ii. installation of electricity to the building and the scale; and
- iii. allocation of necessary number of operators and guards for the scale and the building.



The Tanzanian side replied that they shall bear item iii., i.e. allocation of necessary number of operators and guards for the scale and the building, however, due to lack of available budget for year 1995/1996, it will be difficult to allocate a budget for the item i. and ii., i.e. construction of an inspection building, an approach road, foundation and fence of the scale, and installation of electricity to the building and the scale.

The Tanzanian side requested JICA to bear the cost of them.

The Team replied that they will convey their request to JICA headquarters.

The Study Team requested the Tanzanian side to decide a site for the weighbridge and support the installation of the weighbridge including application of electricity supply, etc..

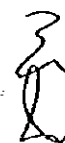
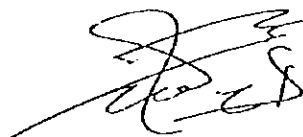
The Tanzanian side replied that the site for the weighbridge is Vingunguti Depot and regarding the installation they will give the Team their support and cooperation.

- 2.6 The Study Team requested the Tanzanian side to supply the latest aerial photographs of the study area especially Vingunguti disposal site in order to study land use of the surrounding area.

The Tanzanian side replied that they will make them available.

### 3. CONCLUSION

- 3.1 With the above clarifications and modifications, the Inception Report was approved by the Tanzanian side.



APPENDIX I

LIST OF ATTENDANTS

<Tanzanian Side>

Office of Vice President

Mr. C. M. Nyirabu Principal Secretary

Mr. K. Mugurusi Director of Environment

Office of the Prime Minister

Mr. C. D. Maganga Assistant Commissioner of Local Government  
(Finance)

Mr. B. Claudio Assistant Commissioner of Local Government  
(District)

Ministry of Finance

Mr. A. I. Muneni Assistant Commissioner, Bilateral Cooperation

Mr. Paul A. Mwafongo Senior Finance Officer, Desk Officer for Japan

National Environment Management Council

Mr. G. L. Kamukala Director General

Mr. Frederick M. T. Mpendazoe Director, Pollution Prevention and Control

Dar es Salaam City Council

Brigadier General H. A. H. Ngwilizi City Director

Mr. A. R. M. Gamba City Engineer

Mr. F. T. Ernest Acting City Planner

Mr. Kizito Nkwabi Officer, Health Department

Mr. L. C. Ndunguru Health Officer (Cleansing)

Mr. F. C. Fwalakisi Health Officer (Occupational Health)

Mr. P. Boma City Mechanical Engineer

Mr. <sup>N</sup>M. C. X. Mwhava Acting Coordinator of Solid Waste management

Mrs. Paulina Lerise SDP, Member of Solid Waste management

Mr. Katsuya SUZUKI JICA Expert

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JICA Study Team

Mr. Susumu SHIMURA

Leader of JICA Study Team

Mr. Akira DOI

Member of JICA Study Team

Mrs. Tomomi ABE

Administrative Coordinator of JICA Study Team

Advisory Committee for the Study

Dr. Isamu YOKOTA

Professor, Laboratory of Environmental Management, Graduate School of Nutritional and Environmental Sciences, University of Shizuoka

Mr. Tetsuro FUJITSUKA

Vice director, Strategic Environmental Planning Division, Environmental Agency

JICA Headquarters

Mr. Satoshi KIMURA

Staff, Second Development Study Division, Social Development Study Department, JICA

JICA Tanzania Office

Mr. Erito UCHIYAMA

Assistant Resident Representative, JICA Tanzania Office

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18.4 Minutes of Meeting for P/R 1, June 13, 1996

MINUTES OF MEETING  
FOR  
THE PROGRESS REPORT (1)  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COUNCIL  
AND  
JICA STUDY TEAM

Dar es Salaam, 13th June, 1996



† Brigadier General H. A. H.  
NGWILIZI  
City Director  
The Dar es Salaam City Council



Mr. Akira Doi  
for Mr. Susumu Shimura  
Leader of JICA Study Team

**Minutes of Meeting for Progress Report (1)  
of the Study on the Solid Waste Management for Dar es Salaam City  
in the United Republic of Tanzania**

1. Introduction
- 1.1 The Study Team submitted twenty (20) copies of Progress Report (1) to the Government of the United Republic of Tanzania and explained its contents to the Tanzanian representatives. In addition, the procedure of the study between June and August was discussed and clarified at the meetings which were held from 6th June to 12th June. A list of officials attending the above meetings is given in Appendix 1.
2. Issues and Decisions
- 2.1 Issues were discussed and clarifications on Progress Report (1) were made. Subsequently, consensus on certain issues was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.
- 2.2 The Study Team and the Tanzanian side agreed to conduct the study on the following candidate sites for the waste disposal sites.
  - A. North of Dar es Salaam
    - A-1: Kinzudi "B"
    - A-2: Kunduchi Mtogani Quarries
  - B. South of Dar es Salaam
    - B-1: Mbagala behind St. Anthony (Mbagala) Sec. School
    - B-2: Mbagala Kilungule
    - D-1: Mbagala Zakhem Sand Quarry
  - C. West of Dar es Salaam
    - C-1: Pugu Kajiungeni at the old ADUCO quarry
- 2.3 In regard to clause 2.2, the Study Team made the following requests to the Tanzanian side.
  - i. To indicate the locations of candidate sites more specifically.
  - ii. To investigate the availability and the present status of the candidate sites.
- 2.4 The Study Team informed the Tanzanian representatives on the progress of construction of the weighbridge being executed by JICA which will be completed by the end of July. In regard to this, the Study Team requested the Tanzanian side:
  - i. to make arrangement for the appropriate number of desks, chairs, etc. to be placed at the control building for the weighbridge by the 20th July 1996.
  - ii. to allocate the appropriate number of operators and guards for the scale and the building from the 20th July 1996.

iii. to arrange for the provision of electricity to the control building and the weighbridge to get electricity by the 20th July 1996.

3. CONCLUSION

3.1 With the above clarifications and modifications, the Progress Report (1) was approved by the Tanzanian side.

APPENDIX I

LIST OF ATTENDANTS

<Tanzanian Side>

Dar es Salaam City Council

Mr. E. H. Berege	Deputy City Director
Mr. C. A. Kuhenga	City Health Officer
Mr. A. R. M. Gamba	City Engineer
Mr. Kizito Nkwabi	Officer, Health Department
Mr. I. Kagonji	City Cleansing Superintendent
Mr. F. C. Fwalakisi	Health Officer (Occupational Health)
Mr. P. Boma	City Mechanical Engineer
Mr. M. C. X. Mwihava	Acting Coordinator of Solid Waste Management
Mr. Katsuya SUZUKI	JICA Expert

<Japanese Side>

JICA Study Team

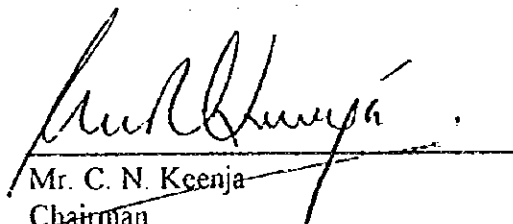
Mr. Takeshi TOMIYASU	Member of JICA Study Team
Mr. Akira DOI	Member of JICA Study Team
Mr. Sean FINNIGAN	Member of JICA Study Team
Mr. Precha Chuntakorn	Member of JICA Study Team

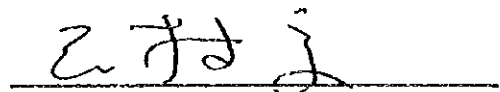
18.5 Minutes of Meeting for P/R 2, August 28, 1996

MINUTES OF MEETING  
FOR  
PROGRESS REPORT (2)  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COMMISSION  
AND  
JICA STUDY TEAM

Dar es Salaam, 28th August, 1996

  
Mr. C. N. Kcenja  
Chairman  
Dar es Salaam City Commission

  
Mr. Susumu Shimura  
Leader of JICA Study Team

CHAIRMAN, CITY COMMISSION DSM.

**Minutes of Meeting for Progress Report (2)**  
**of the Study on the Solid Waste Management for Dar es Salaam City**  
**in the United Republic of Tanzania**

1. Introduction

1.1 The Study Team submitted twenty (20) copies of Progress Report (2) to the Government of the United Republic of Tanzania and explained its contents to the Tanzanian representatives. In addition, the procedure of the study between September and mid-December was discussed and clarified at the meetings which were held from 26th August to 28th August. A list of officials attending the above meetings is given in Appendix 1.

2. Issues and Decisions

2.1 Issues were discussed and clarifications on Progress Report (2) were made. Subsequently, consensus on certain issues was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.

2.2 **Continuity of the Study**

First of all, the Tanzanian side informed the Study Team that following the dissolution of the Dar es Salaam (DSM) City Council (old DCC) and establishment of DSM City Commission (new DCC) they have replaced the chairman of the steering committee with Mr. C. N. Keenja, DSM City Commission Chairman. Their cooperation and assistance in the Study shall be maintained and they will endeavour to ensure no loss in continuity occurs.

The Study Team appreciated this statement.

2.3 **Necessary Procedures for the F/S of the Proposed New MECCO Site**

As recommended in the P/R (2), the Study Team requested the Tanzanian side to take the following actions by December 1996 so that the Team will be able to conduct a feasibility study (F/S) on the proposed disposal site successfully.

1. to clarify its availability and to take the necessary procedures for the right of way; and
2. to secure the right for the Study Team to enter the site and to conduct the necessary surveys at the site in the phase three study period between December 1996 and March 1997.

The Tanzanian side replied that they will take necessary actions for the request.

2.4 **Pilot Project(s)**

Although the implementation of the pilot projects is subject to the approval of JICA headquarters, the Study Team requested the Tanzanian side to actively cooperate and

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participate in the pilot projects if JICA allocates a budget for the implementation of the projects.

The Tanzanian side replied that they sincerely wish to implement the proposed projects for the reinforcement of the current weak solid waste management in DSM and they will actively cooperate in these projects.

#### 2.5 Comments on the P/R (2)

The SWM master plan will be formulated during the 1st study work in Japan, from beginning of September to mid-December. In order to reach a certain consensus between Tanzanian side and the Study Team, the Team submitted the P/R (2) which presents a draft outline of the Master Plan. The Team requested the Tanzanian side to give their comments on the P/R (2), especially regarding the planning frameworks for the M/P to the Team by mid-September.

The Tanzanian side approved the request.

#### 2.6 Weighbridge

The Study Team requested the Tanzanian side to take the following actions when the installation of the weighbridge will be completed:

- i. to make arrangement for the appropriate number of desks, chairs, etc. to be placed at the control building for the weighbridge;
- ii. to allocate the appropriate number of operators and guards for the scale and the building; and
- iii. to arrange for the provision of electricity to the control building and the weighbridge.

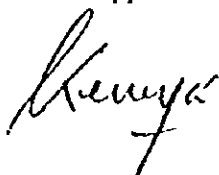
#### 2.7 Domestic Waste Water Management Study

The Tanzanian side requested the Study Team to include a study on domestic waste water management, because following a recommendation made in P/R (2) they intend to establish a SWM organisation which shall have a responsibility for the management of all solid waste including human waste.

The Team replied that they will convey this request to JICA headquarters.

### 3. CONCLUSION

- 3.1 With the above clarifications and modifications, the Progress Report (2) was approved by the Tanzanian side.



APPENDIX 1

LIST OF ATTENDANTS

<Tanzanian Side>

Dar es Salaam City Commission

Mr. C. N. Keenja	City Commission Chairman
Eng. Chacha Mwita	Commissioner for Works
Mr. R. Ndunguru	Commissioner for City Planning
Mr. P. Boma	City Mechanical Engineer
Mr. Kizito Nkwabi	Health Officer/Counter part to the JICA Study Team
Mr. Katsuya SUZUKI	JICA Expert
Mr. M. Liute	Personal Secretary to City Commission Chairman

<Japanese Side>

JICA Study Team

Mr. Susumu SHIMURA	Leader of JICA Study Team
Mr. Akira DOI	Member of JICA Study Team
Mr. Sean FINNIGAN	Member of JICA Study Team

JICA Tanzania Office

Mr. Hiroyuki MORONAGA	Assistant Resident Representative, JICA Tanzania Office
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*Keenja*

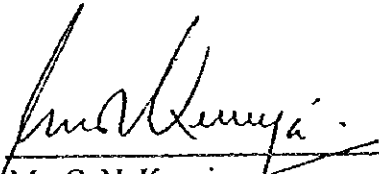


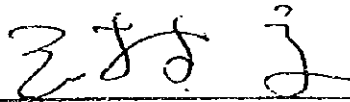
**18.6 Minutes of Meeting for IT/R, December 20, 1996**

MINUTES OF MEETING  
FOR  
INTERIM REPORT  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COMMISSION  
AND  
JICA STUDY TEAM

Dar es Salaam, 20th December, 1996

  
\_\_\_\_\_  
Mr. C. N. Keenja  
Dar es Salaam City Commission  
Chairman

  
\_\_\_\_\_  
Mr. Susumu Shimura  
Leader of JICA Study Team

**Minutes of Meeting for Interim Report  
of the Study on the Solid Waste Management for Dar es Salaam City  
in the United Republic of Tanzania**

1. Introduction

- 1.1 The Study Team submitted twenty (20) copies of Interim Report to the Government of the United Republic of Tanzania and explained its contents to the Tanzanian representatives. In addition, the procedure of the study between mid-December and end of March was discussed and clarified at the meetings which were held from 16th to 20th December. A list of officials attending the above meetings is given in Appendix 1.

2. Issues and Decisions

- 2.1 Issues were discussed and clarifications on Interim Report were made. Subsequently, consensus on certain issues was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.

2.2 **Necessary Procedures for the F/S of the Proposed New MECCO Site**

The Study Team confirmed the Tanzanian side whether they have taken the following actions to conduct a feasibility study (F/S) on the proposed disposal site successfully.

1. to clarify its availability and to take the necessary procedures for the right of way; and
2. to secure the right for the Study Team to enter the site and to conduct the necessary surveys at the site in the Phase 3 study period between December 1996 and March 1997.

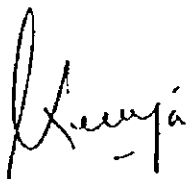
The Tanzanian side replied that they will complete the works by January 2nd, 1997.

2.3 **Pilot Projects**

Since JICA approved the implementation of the following pilot projects and allocated a budget for it, the Study Team requested the Tanzanian side to actively co-operate and participate in the projects:

1. Clean Kariakoo Project;
2. Clean Buguruni Project;
3. Vingunguti Sanitary Landfill Project; and
4. Clean Dar es Salaam Project.

The Tanzanian side replied that they will actively co-operate in these projects and assign the Health Commissioner of DCC as a chief counterpart of the projects with sufficient staffs for each project. They also informed that they will eliminate a



wooden hut located at the proposed access road for the Clean Buguruni project by the end of December, 1996.

#### 2.4 Nightsoil (Human Excreta) Management Study

The Study Team informed the Tanzanian side JICA approved to include a brief study on nightsoil management, and requested the Tanzanian side to co-operate for the study.

The Tanzanian side replied that they will collaborate with the Team.

#### 2.5 Counterpart Training in Japan

The Tanzanian side requested the Team to give a counterpart training in Japan for the next fiscal year of Japan.

The Team replied they will convey the request to JICA headquarters.

### 3. CONCLUSION

- 3.1 With the above clarifications and modifications, the Interim Report was approved by the Tanzanian side.

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APPENDIX 1

LIST OF ATTENDANTS

<Tanzanian Side>

Prime Minister's Office

Dr. Ben G. Moses

Principal Secretary

Dar es Salaam City Commission

Mr. C. N. Keenja

City Commission Chairman

Mr. Balthazar Mwenda

Commissioner for Finance

Dr. Matiku Nyakarungu

Commissioner for Health

Mr. Kizito Nkwabi

Officer, Health Department

Mr. Katsuya SUZUKI

JICA Expert

<Japanese Side>

JICA Study Team

Mr. Susumu SHIMURA

Leader of JICA Study Team

Mr. Akira DOI

Member of JICA Study Team

Advisory Committee for the Study

Prof. Isamu YOKOTA

Professor, Laboratory of Environmental Management,  
Graduate School of Nutritional and Environmental  
Sciences, University of Shizuoka

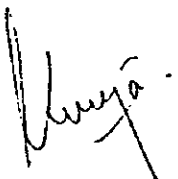
Mr. Tetsuro FUJITSUKA

Vice Director, Strategic Environmental Planning  
Division, Environmental Agency, Prime Minister's  
Office

JICA Headquarters

Mr. Tadanobu ONO

Staff, Information and Systems Management Division,  
General Affairs Department, JICA

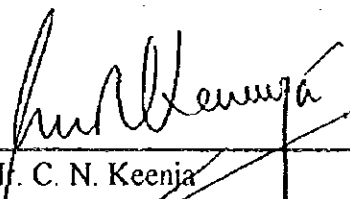


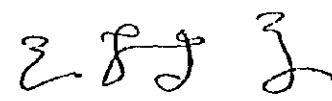
**18.7 Minutes of Meeting for P/R 3, March 17, 1997**

MINUTES OF MEETING  
FOR  
PROGRESS REPORT (3)  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COMMISSION  
AND  
JICA STUDY TEAM

Dar es Salaam, 17th March, 1997

  
\_\_\_\_\_  
Mr. C. N. Keenja  
Chairman  
Dar es Salaam City Commission

  
\_\_\_\_\_  
Mr. Susumu Shimura  
Leader of JICA Study Team

**Minutes of Meeting for Progress Report (3)  
of the Study on the Solid Waste Management for Dar es Salaam City  
in the United Republic of Tanzania**

1. Introduction

1.1 The Study Team submitted twenty (20) copies of Progress Report (3) to the Government of the United Republic of Tanzania and explained its contents to the Tanzanian representatives. In addition, the procedure of the study between April and mid-July was discussed and clarified at the meetings which were held from 13th to 17th March. A list of officials attending the above meetings is given in Appendix 1.

2. Issues and Decisions

2.1 Issues were discussed and clarifications on the Progress Report (3) were made. Subsequently, consensus on certain issues was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.

2.2 **Modification of Planning Frameworks of the Master Plan proposed in the IT/R**

Due to the significant changes on SWM in DSM city as well as important issues found in the Phase 3 study work in Tanzania, the Study Team requested the Tanzanian side to approve the modification shown in the table below regarding the planning frameworks of the Master Plan (M/P) proposed in the Interim Report (IT/R).

**Table : Modification of Planning Frameworks**

Report	IT/R	DF/R
1. Contract Method	Concession	Contract out by DCC through competitive bidding for each ward
2. RCC and Financial Sources	RCC collected by concessionaires and DCC budget	<b>Alternative 1:</b> RCC of joint billing with DAWASA and special fund from general revenues of DCC <b>Alternative 2:</b> RCC collected by DCC and special fund from general revenues of DCC
3. Organization	Solid Waste Management Organisation	Waste Management Authority having administrative/accounting independence including cesspit emptying services
4. Operation of Cleansing Services	Majority by private: Area A by private Area B by DCC and NGO/CBO	Majority by DCC: Area A (UA) by private, Area A (SUPA) by private/DCC and Area B by DCC
5. Collection System	Area A: Tipper Area B: Skip	Area A (UA): Tipper Area A (SUPA): Skip Area B: Skip
6. Sanitary Landfill Level	Level 3: Landfill with bottom liner and facilities for collection and evaporation of leachate	Level 2: Landfill without bottom liner and with percolation of leachate

The Tanzanian side approved the request.

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### 2.3 EIA Report

The Tanzanian side requested the Study Team to provide 10 copies of the EIA reports for submission to NEMC (National Environment Management Council).

The Team replied that they will convey the request to the JICA headquarters.

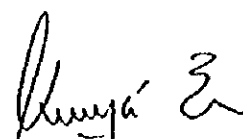
### 2.4 Comments on the P/R (3)

The Feasibility Study (F/S) for the first priority projects will be conducted during April to mid-July 1997 in Japan based on the findings presented in the P/R (3). The Study Team requested the Tanzanian side to send their comments on the report to the Team by the end of April 1997.

The Tanzanian side approved the request.

## 3. CONCLUSION

- 3.1 With the above clarifications and modifications, the Progress Report (3) was approved by the Tanzanian side.



APPENDIX I

LIST OF ATTENDANTS

<Tanzanian Side>

Dar es Salaam City Commission

Mr. C. N. Keenja	City Commission Chairman
Mr. A. Fuko	City Commission Secretary
Mr. Abubakar Rajabu	Commissioner for Education
Dr. Matiku Nyakarungu	Commissioner for Health
Dr. D. M. Mtasiwa	City Medical Officer of Health
Mr. Charles Kuhenga	City Health Officer
Mr. Kizito Nkwabi	Officer, Health Department

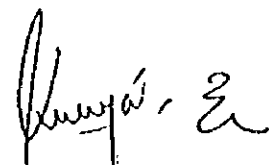
<Japanese Side>

JICA Study Team

Mr. Susumu SHIMURA	Leader of JICA Study Team
Mr. Akira DOI	Member of JICA Study Team
Dr. Sean M. Finnigan	Member of JICA Study Team

JICA Tanzania Office

Mr. Tadanobu ONO	Assistant Resident Representative
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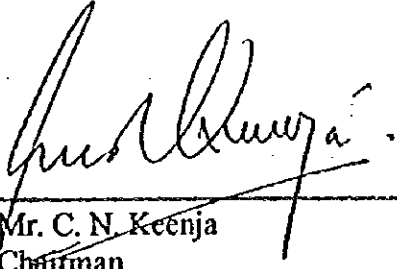



18.8 Minutes of Meeting for DF/R, July 25, 1997

MINUTES OF MEETING  
FOR  
DRAFT FINAL REPORT  
OF  
THE STUDY ON THE SOLID WASTE MANAGEMENT  
FOR  
DAR ES SALAAM CITY  
IN  
THE UNITED REPUBLIC OF TANZANIA

AGREED UPON BETWEEN  
THE DAR ES SALAAM CITY COMMISSION  
AND  
JICA STUDY TEAM

Dar es Salaam, 25th July, 1997

  
\_\_\_\_\_  
Mr. C. N. Keenja  
Chairman  
Dar es Salaam City Commission

  
\_\_\_\_\_  
Mr. Susumu Shimura  
Leader of JICA Study Team

**Minutes of Meeting for Draft Final Report  
of the Study on the Solid Waste Management for Dar es Salaam City  
in the United Republic of Tanzania**

1. Introduction

1.1 The Study Team submitted the following number of copies of Draft Final Report to the Government of the United Republic of Tanzania:

- Executive Summary: 20 copies
- Main Report for Master Plan: 20 copies
- Main Report for Feasibility Study: 20 copies
- Annex: 5 copies
- Data Book: 3 copies
- Environmental Impact Assessment (EIA)  
for the New Kunduchi Disposal Site: 10 copies

Consequently, a series of meetings were held from July 17th to 25th in Dar es Salaam to discuss the report submitted. A list of officials attending the above meetings is given in Appendix 1.

2. Issues and Decisions

2.1 Issues were discussed and clarifications on the Draft Final Report were made. Subsequently, consensus on certain issues was reached during the meetings. These issues, clarifications and consensus are outlined in the following paragraphs.

2.2 **Gratitude to the Japanese Cooperation to the DCC**

The chairman of the Dar es Salaam City Commission (DCC) expressed his great gratitude to the Japanese People and their Government for the consistent cooperation to strengthen the DCC from 1980s till now and that the cooperation has been highly contributing to the sound and sustainable development of the City of Dar es Salaam.

2.3 **Establishment of a Proper Institutional System**

As stressed in the report the establishment of a proper institutional system is the most important task to realise the SWM (solid waste management) Master Plan and to make the proposed technical system sustainable. The Study Team, therefore, recommended the Tanzanian side to promptly commence the improvement of 8 institutional issues shown in the table below for the implementation of the first priority projects which is the first step of the Master Plan.

The Tanzanian side replied that they have prepared its implementation schedule and already commenced some of the improvement issues as described in the table below.

*Kuya*

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**Table : Institutional Improvement Issues and Status/Schedule of Implementation**

Institutional Improvement Issues	Current Status and Implementation Schedule
1. Establishment of an independent Waste Management Authority (WMA)	The premise of the headquarters of the WMA has been identified (i.e. in the Nyerere Workshop). DCC is discussing the establishment of the WMA with the Central Government. DCC intends to establish the WMA by December 1997.
2. Establishment of a Supervision and Monitoring Committee (SMC)	DCC is working the establishment of the SMC with the Ministry responsible for Local Governments because it has to be provided for in the law. DCC expects the SMC to be established in January 1998.
3. Allocation of a special fund from city tax revenue for the SWM	DCC intends to establish a special fund for the SWM from some of city tax revenues such as property tax, city service levy, market due, etc. The fund will be established during the new fiscal year, January, 1998. In case of the market due it has been already established that every stalls should pay 300 Tsh./day and out of this 100 Tsh. go to the refuse collection fund.
4. RCC system be continued by means of either joint billing with DAWASA or direct charge to large producers and for special refuse collection services	DCC has commenced the pre-negotiation with the DAWASA for the possibility of joint billing with water charge. It will take a certain time for the settlement of the agreement. At the same time although it requires allocation of more special fund than joint billing system DCC examines RCC for direct charge to large producers and for special refuse collection services providing for the failure of the negotiation with DAWASA. DCC expects to establish a new RCC system within the next fiscal year, i.e. by December 1998.
5. The contract system should be shifted from Concession system to Contract out system	DCC understands contract system shall be changed when DCC will establish its financial sources for the SWM, i.e. by December 1998. By the time DCC will prepare the contract out system based on the proposed framework presented in the JICA SWM study report.
6. Formulation of a Sanitary Code	The formulation of the Sanitary Code will be included in a new law of Dar es Salaam which also takes the restructuring process of DCC into account. It will be completed by early 1999. DANIDA has set aside some funds to help in making of the new law.
7. Implementation of public enlightenment campaign and educational programmes	<ul style="list-style-type: none"> <li>- DCC has already set up a study team to create an awareness of the people on SWM in the mass media: newspapers, the radio and TVs.</li> <li>- DCC is reviving its administrative system at the lower level to be used to educate the people.</li> <li>- DCC is preparing a programme for adult as well as children using educational tools prepared by the JICA study team.</li> <li>- DCC is reinforcing its health officers to perform their work properly. Ward Health Officers have been given loud speakers, bicycles and stationary to enable them to work properly.</li> </ul>
8. Provide training to the people engaged in SWM and formulate human resource development plan	Currently the Department of Personnel and Training of DCC is carrying out training needs assessment so that some will be trained on the job and others will be accommodated in health training institutions. The department will prepare human resource development plan based on the framework prepared by the JICA study team by December 1998.

#### 2.4 EIA Report

The Study Team requested the Tanzanian side to promptly submit the EIA reports to NEMC (National Environment Management Council) and take a necessary action for the establishment of the new Kunduchi disposal site.

The Tanzanian side approved the request.

#### 2.5 Comments on the DF/R

The Study Team requested the Tanzanian side that all comments by the Tanzanian

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side to the Draft Final Report should be submitted to the JICA office in Dar es Salaam by August 25th, 1997 if they are to be considered by the Team for the preparation of the Final Report.

The Tanzanian side approved the request.

**2.6 Publication of the Final Report**

Both side agreed that the final report should be made accessible to the public.

**3. CONCLUSION**

**3.1** With the above clarifications and modifications, the Draft Final Report was approved by the Tanzanian side.

3

*Kuuya*

APPENDIX I

LIST OF ATTENDANTS

<Tanzanian Side>

Prime Minister's Office

Dr. Ben G. Moses

Principal Secretary

Dar es Salaam City Commission

Mr. C. N. Keenja

City Commission Chairman

Mr. Alfred Fuko

City Commission Secretary

Mr. Paulo Baruti

Deputy Commission Secretary

Mr. Balthazar Mwenda

Commissioner for Finance

Mrs. Addy Lyamuya

Commissioner for Legal Affairs

Mr. Abubakar Rajabu

Commissioner for Education

Dr. Matiku Nyakarungu

Commissioner for Health

Dr. D. M. Mtasiwa

City Medical Officer of Health

Mr. Charles Kuhenga

City Health Officer

Mr. Kizito Nkwabi

Officer, Health Department

<Japanese Side>

JICA Study Team

Mr. Susumu SHIMURA

Leader of JICA Study Team

Mr. Akira DOI

Member of JICA Study Team

Advisory Committee for the Study

Prof. Isamu YOKOTA

Professor, Laboratory of Environmental Management,  
Graduate School of Nutritional and Environmental  
Sciences, University of Shizuoka

Mr. Tetsuro FUJITSUKA

Vice Director, Strategic Environmental Planning  
Division, Environmental Agency, Prime Minister's  
Office

JICA Headquarters

Mr. Masahiro CHIBA

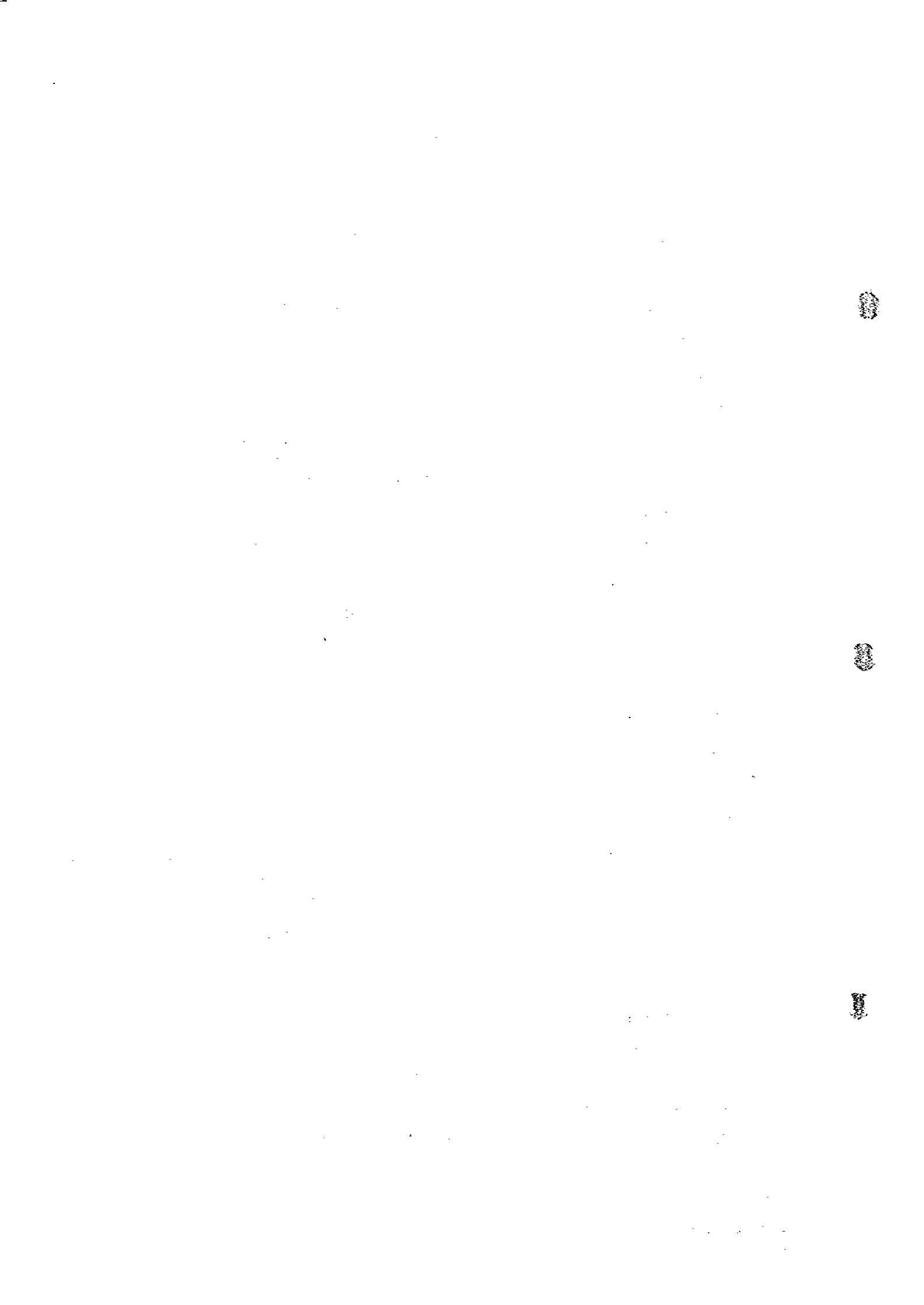
Staff, Second Development Study Division, Social  
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