



**MINISTRY OF LOCAL DEVELOPMENT
HIS MAJESTY'S GOVERNMENT OF NEPAL**



**JAPAN INTERNATIONAL
COOPERATION AGENCY**

**THE STUDY
ON
THE SOLID WASTE MANAGEMENT
FOR THE KATHMANDU VALLEY**

**Final Report
Volume IV: Supporting Report II**

September 2005

**NIPPON KOEI CO., LTD.
YACHIYO ENGINEERING CO., LTD.**

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As of August 31, 2005

**- Fiscal Year; July 16 to July 15 (the year of grace)
Shrawan to Ashadha (Nepalese)**

Supporting Report II

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Part I

Records of Meetings, Public Relations/Participation Activities

- 1. Minutes of Meetings
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1. Minutes of Meetings

MINUTES OF MEETING
OF
THE FIRST STEERING COMMITTEE
FOR
THE STUDY
ON
THE SOLID WASTE MANAGEMENT
FOR
THE KATHMANDU VALLEY

AGREED UPON BETWEEN
MINISTRY OF LOCAL DEVELOPMENT
AND

JAPAN INTERNATIONAL COOPERATION AGENCY



Kathmandu, January 28th, 2004

Som Lal Subedi
Joint Secretary, Ministry of Local Development
Government of the Kingdom of Nepal

Keshav Sthapit
Mayor
Kathmandu Metropolitan City

Dinesh Shrestha
Mayor
Bhaktapur Municipality

Madan K. Shrestha
Mayor
Madhyapur Thimi Municipality

Toshiyuki Ujiie
Team Leader
JICA Study Team

Buddhi Raj Bajracharya
Mayor
Lalitpur Sub Metropolitan City

Shishir Prashad Dhital
Mayor
Kirtipur Municipality

1. Introduction

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has organized and dispatched the JICA Study Team (hereinafter referred to as "the Study Team") to Nepal since January 18th 2004, according to the Agreement on the Scope of Work between Ministry of Local Development of the Government of Nepal (hereinafter referred to as "MOLD") and JICA signed on September 12th 2003.

This Minutes of Meeting is a record of the first Steering Committee for discussion on the Draft Inception Report for the Study on the Solid Waste Management for the Kathmandu Valley (hereinafter referred to as "the Study") and other issues related to the Study that have been agreed between the Nepalese side and the Japanese side (hereinafter referred to as "Both Sides"). The list of attendants to the meeting is shown in Appendix 1.

2. Inception Report

The Study Team submitted fifty (50) copies of the Draft Inception Report to MOLD, five major cities (Kathmandu Metropolitan City, Lalitpur Sub-Metropolitan City, Bhaktapur Municipality, Madhyapur Thimi Municipality and Kirtipur Municipality¹) and other relevant organizations respectively from January 19th to 28th 2004 to explain and discuss the contents of the Study. The Draft Inception Report will be finalized and resubmitted by the Study Team after further discussion and agreement between the Nepalese side and the Japanese side, especially including the appropriate organizational arrangement for the Study. The main issues on the discussion regarding the inception report are as follows;

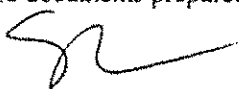
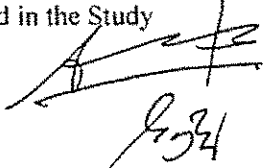
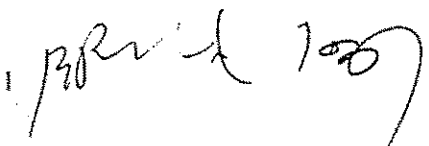

(1) Study Period

The Study Team has explained that the total study period, i.e. from Phase 0 to 3, would be 18 months from January 2004 to June 2005 as described in the Draft Inception Report in accordance with the Scope of Work. Detail but provisional assignment schedule of the experts of the Study Team is attached as Appendix 2. Both Sides have confirmed that any extension into Phase 4 as the follow up phase would be discussed at the end of Phase 2.

(2) Formulation of Steering Committee

Both Sides have agreed that the Steering Committee, in accordance with the minutes of meeting on Scope of Work, would be chaired by the Joint Secretary of Municipal Management Division of MOLD and composed of representatives of the following organizations concerned including Mayors of five cities as members and observers. Both Sides also agreed that Under Secretary of Environmental Management Section would be entitled to work as member secretary of the Steering Committee.

¹ Municipalities are placed in order of each population, and this order will be adopted in a series of reports and documents prepared in the Study

AS/ta    

[Members]

- MOLD
- SWMRMC (Solid Waste Management and Resource Mobilization Center)
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Bhakutapur Municipality
- Kirtipur Municipality
- Madhyapur Thimi Municipality
- MOPE (Ministry of Population and Environment)
- MOPPW (Ministry of Physical Planning and Works)
- MOLD, Environmental Management Section of Municipal Management Division (as member secretary)

[Observers]

- Members of Technical Working Group
- MOES (Ministry of Education and Sports)
- MOI (Ministry of Industry)

(3) Formulation of Technical Working Group and Assignment of Counterparts

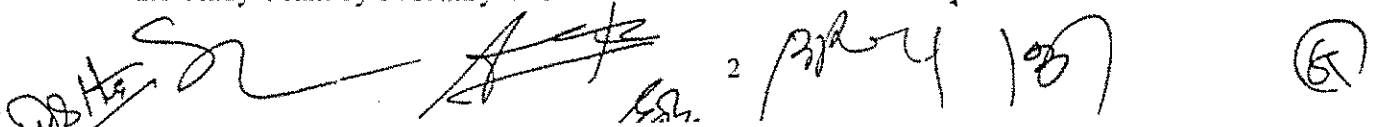
Both Sides have agreed that Technical Working Group (hereinafter referred to as "TWG") would be chaired by General Manager of SWMRMC and composed of counterparts who would be assigned from following organizations;

- MOLD
- SWMRMC
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Bhakutapur Municipality
- Kirtipur Municipality
- Madhyapur Thimi Municipality

Due to the difficulty of the Nepalese side to appoint counterparts full time to the Study, Both Sides have agreed that the Nepalese side would assign at least two counterparts based on the detail working schedule at each city that would be prepared by the Study Team. The list of proposed counterparts of each organization is shown in Appendix 3.

(4) Formulation of Task Force

The Study Team has expounded roles and desirable members of proposed Task Force which would be in charge of the preparation of the Action Plans as an inter-department organization. All cities have agreed to formulate the Task Force respectively and the member of the Task Force would be officially assigned with approval by each Mayor through the discussion with the Study Team by February 2nd.



There was a discussion that the members of the Task Force should include not only the governmental staff but also other social concerned like university professors, NGOs or CBOs. The Study Team has agreed to the idea of the involvement of the said members if the city intended. However, Both Sides have agreed that the human resource development would be focused on the governmental staff because the formulation of the Task Force was mainly aimed at the capacity building of the governmental staff concerned.

(5) Formulation of Human Resource Development Program

The Nepalese side has requested that human resource development program for the policy level should be included in the scope of the Study. Both Sides have agreed that Training Needs Analysis (TNA) would be conducted for the policy level in addition to managerial and field levels and then the human resource development program would be prepared for the policy level if needed. In this connection, Both Sides have also agreed that demarcation between the roles of MOLD, SWMRMC and cities would be clarified, especially in regards to policy matters through the discussion among the organization concerned.

(6) Examination of Final Disposal Site

Both Sides have agreed that the final disposal plan of the Kathmandu Valley would be examined as mentioned in the Draft Inception Report, considering the current physical situation and through the discussions with the relevant organizations.

(7) Technical Support for IEE and EIA preparation

Both Sides have agreed that technical support for IEE and EIA preparation for final waste disposal site would be carried out in the Study if necessary.

(8) Preparation and Ownership of Action Plans

The Study Team has stressed that an ownership of the preparation of Draft Action Plans and its' finalization was laid on each city. Each city has surely agreed to draw up the Action Plans by themselves with support of the Study Team, utilizing the preliminary action plans that were prepared at the Seminar held on 13th of January 2004 led by MOLD.

(9) Implementation of Pilot Projects

The Study Team has explained that various kinds of pilot projects would be conducted during Phase 3 of the Study and the details of pilot projects would be determined in the course of the preparation of Draft Action Plan which would be prepared by the end of Phase 2 of the Study. The Nepalese side has agreed that the pilot projects would be implemented by the ownership of each city with support of the Study Team.

(10) Holding of Seminars and Public Hearings

The Study Team has expressed that seminars would be held to disseminate and share the information of the Study among stakeholders. The Study Team has also mentioned that, as one of the roles of the Task Force, public hearings would be conducted to collect a wide

[Handwritten signatures and initials]

variety of opinions from the representatives of wards, residents, NGOs and CBOs for preparing more public-participated Action Plan. The Nepalese side has agreed that the TWG and the Task Force of each city would hold seminars and public hearings with support of the Study Team.

(11) Conducting of Surveys on Existing Conditions on Solid Waste Management

The Study Team has explained that a series of surveys would be conducted to grasp the existing conditions on solid waste management as described in the Draft Inception Report. Due to the limited study period for the preparation of Draft Action Plan, the Study Team has requested all related organizations to provide the Study Team with the existing necessary information and data in order to avoid overlapped surveys. The Nepalese side has promised to provide those information and documents to the Study Team.

3. Specified Items to be Considered for Each Municipality

The following specific items of each city have been raised to consider in the Study.

(1) Kathmandu Metropolitan City

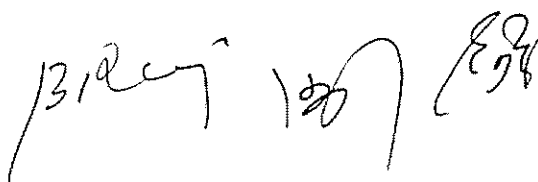
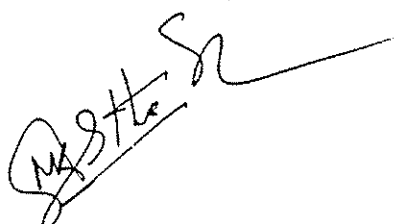
- Consideration of the New Act for the Kathmandu Metropolitan City expected to be enacted in near future
- Consideration of involvement of private sectors for solid waste management
- Utilization of the existing recycling activities with social recognition
- Consideration of composting with analyzing the actual demand for compost among farmers in and around KMC
- Evaluation of the feasibility of waste transportation to Okharpauwa area including upgrading collection and transportation vehicles if the area is suitable
- Consideration of improvement of the existing waste dumping site along the Bagmati River.

(2) Lalitpur Sub-Metropolitan City

- Consideration of the limited condition of the existing equipment regarding the solid waste management
- Consideration of the cooperation with adjacent cities

(3) Bhaktapur Municipality

- Utilization of the existing paper recycling and composting plants
- Examination of a candidate site for future waste final disposal site in Taikabu Tathali VDC



(4) Kirtipur Municipality

- Utilization of the existing door to door collection by CBO and NGO
- Examination of candidate sites for future waste final disposal site in Chobhar and other areas.

(5) Madhyapur Thimi Municipality

- Consideration of community based solid waste management
- Utilization of composting activities in household scale with small earthenware bins and in community scale with waste chambers

3. Others

(1) Provision of Office Space and Equipment

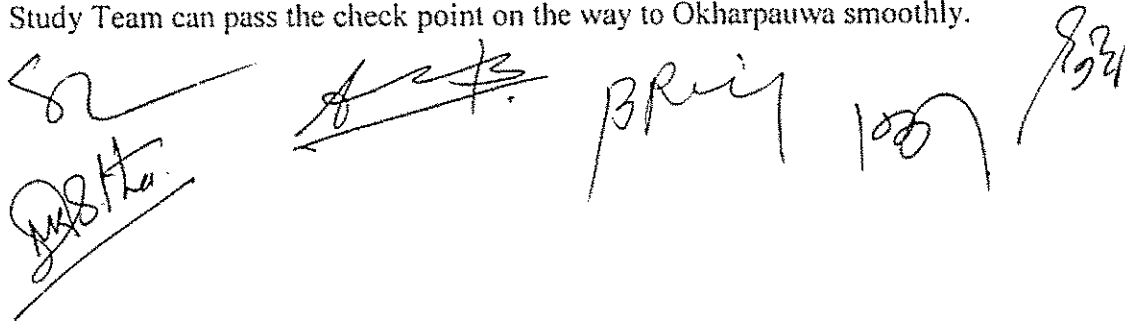
MOLD, SWMRMC and each of five cities have agreed to provide appropriate office spaces and necessary office equipment such as desks, chairs and telephone lines respectively. The Study Team has requested to set a base office during the whole study periods near by MOLD and satellite office at SWMRMC and each city. The base office shall maintain at least nine experts of the Study Team and several local staffs and include a meeting room with tables and chairs, while the satellite office with necessary office equipment for five experts will be used based on the detail working plan that shows an allocation plan of the experts of the Study Team. The Nepalese side has agreed to provide above mentioned offices and equipment by February 2nd.

(2) Visa Application

The Nepalese side shall take necessary measures for Visa application regarding the assignment schedule of the experts of the Study Team. The detail of the assignment schedule is given in Appendix 2.

(3) Letter of Credential

The Nepalese side shall officially prepare a letter of credential to the Study Team so that the Study Team can pass the check point on the way to Okharpauwa smoothly.

A series of handwritten signatures and initials in black ink. From left to right: a large stylized signature, a signature that appears to be 'S. H.', a signature that appears to be 'B. R.', a signature that appears to be '100', and a signature that appears to be 'R. S. H.'.

List of attendants for the First Steering Committee for the Study on the Solid Waste Management for the Kathmandu Valley

Ministry of Local Development

- Mr. Som Lal Subedi , Joint Secretary
- Mr. Surya Pd. Silwal, Under Secretary
- Mr. Prem Raj Giri, Section Officer, Environment Section

Solid Waste Management Resource Mobilization Center

- Mr. Surya Man Shakya, General Manager
- Mr. Ram Sharan Maharjan, Engineer
- Mr. Ashok Shahi, Engineer
- Mr. Nirmal Darshan Acharya, Engineer

Kathmandu Metropolitan City

- Mr. Keshav Sthapit, Mayor
- Mr. Rajesh Manandhar, Chief, SWM Division
- Mr. Shantha Ram Pokhrel, Chief, Environment Dept.
- Mr. Kiran Ulak, Engineer
- Mr. Bal Krishna Maharjan, Engineer

Lalitpur Sub-Metropolitan City

- Mr. Buddhi Raj Bajracharya, Mayor
- Mr. Rudra Pd. Gautam, Chief, Planning Section
- Mr. Pradeep Amatya, Environmental Engineer

Bhaktapur Municipality

- Mr. Dinesh Shrestha, Mayor
- Mr. Laxman Kisiju, Chief, Planning and Technical Section

Kiritipur Municipality

- Mr. Shishir Prashad Dhital, Mayor
- Mr. Gyan Bazra Maharjan, Assistant Staff

Madhyapur Thimi Municipality

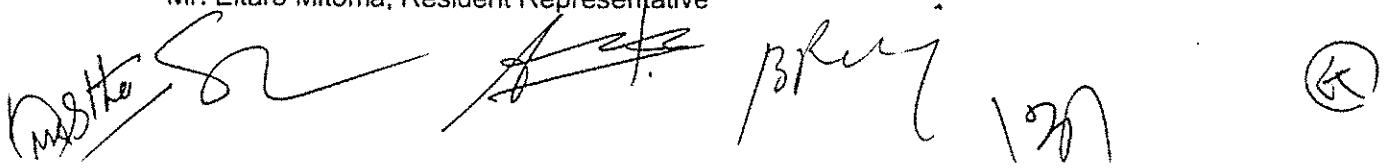
- Mr. Madan K. Shrestha, Mayor
- Ms. Krishna Shrestha, Solid Waste Management Technician

JICA Advisory Committee

- Mr. Yasuhiro Mitsui, Secretary, Environmental Development Section, Matsumoto City, Nagano-Prefecture
- Mr. Takuya Murata, JICA Tokyo Office

Japan International Cooperation Agency (JICA) Nepal Office

- Mr. Eitaro Mitoma, Resident Representative



Ms. Haruko Kamei, Assistant Resident Representative

Mr. Sourab Rana, Program Officer

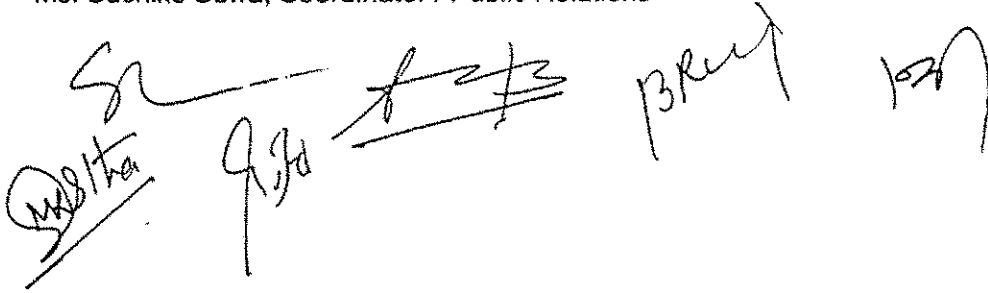
JICA Study Team

Mr. Toshiyuki Ujiie, Team Leader / Solid Waste Management Policy

Mr. Shungo Soeda, Waste Collection & Transportation / Recycling System

Ms. Minako Nakatani, Organization and Institution / Human Resource Development

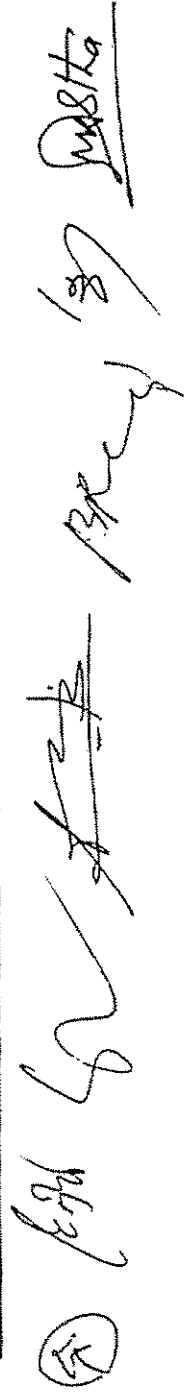
Ms. Sachiko Suwa, Coordinator / Public Relations



Handwritten signatures of the JICA Study Team members, including names like 'Suwa', 'Ujiie', 'Soeda', 'Nakatani', and 'Kamei'.

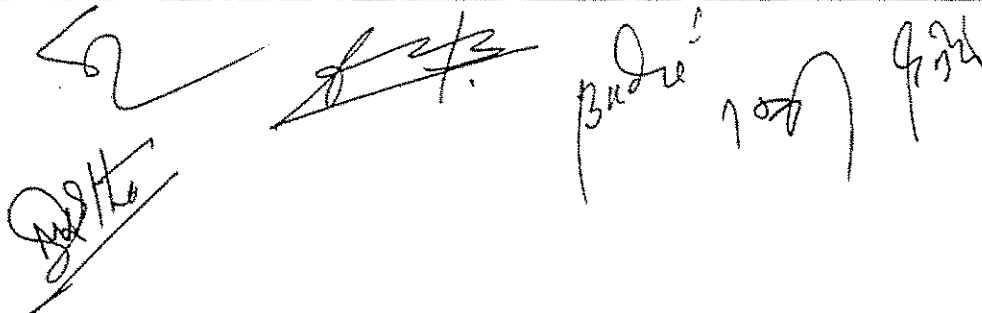
No.	Position	Name	2004												2005					2006										
			Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	
			Phase 0 1-2												Phase 3					Phase 4										
1	Team Leader/ Solid Waste Management Policy	Toshiyuki UJIE	1/17, 31 7/9 16	2/24	5/14	6/19	10/9	10/23	11/28																					
2	Facility Plan Specialist	Mahmoud RIAD	2/2 1/9 16	5/7	6/19	8/2	10/30	11/28																						
3	Collection & Transport Specialist / Recycling System Specialist (1)	Shungo SOEDA	1/17 2/3 1/9 16	2/24	5/14	6/19	8/2	9/4	9/18	10/30	11/28																			
4	Recycling System Specialist (2) / Hazardous Waste Specialist	Kiyoshi SHIMIZU	2/2	4/10			10/30	11/28																						
5	Environmental Specialist	Norihiko INOUE	1/28	3/6	4/12	5/14	6/19	7/18																						
6	Public Participation / Social Consideration /Public Relations (1)	Toshiko SHIMADA	1/28	4/7 19 5/7	6/19	8/2	9/4	9/18	10/30	11/28																				
7	Organizational/Institutional Specialist/ Human Resources Development Expert	Mimako MAKATANI	1/17	5/9	5/17 25	5/19	8/2	9/4	9/18	10/30	11/28																			
8	Finance Analysis Specialist	Noboru OSAKABE		3/30	5/7																									
9	Coordinator / Public Relations (2)	Sachiko SUWA	1/17		5/14	6/19	9/30	10/23	11/28																					

Note: : Work in Nepal
 : Work in Japan



The list of Proposed Counterparts from Each Organization

	C/P (TWG)
SWMRMC	Mr. Ram Maharaja, Engineer (main)
	Mr. Ashok Shahi, Engineer
KMC	Mr. Rajesh Manandhar, Chief, Solid Waste Management Section
	Mr. Kiran Ulak, Engineer, Environment Department
	Mr. Purusotam Shakya, Mechanical Engineer
LSMC	Mr. Rudra Pd. Gautam, Chief, Planning Section
	Mr. Pradeep Amatya, Environmental Engineer, Head, Environment Section
Kirtipur	Mr. Bai Krishna Maharajan, Civil Engineer.
	Mr. Gyan Bazra Maharjan, Assistant, Solid Waste Management/Accounting
Bhaktapur	Mr. Laxman Kisiju, Chief, Planning and Technical Section
	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section
Thimi	Mr. Satya Narayan Shah, Planning and Technical Section Chief
	Ms. Krishna Shrestha, Assistant Solid Waste Management Technician



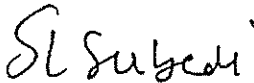
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MINUTES OF MEETING
OF
THE SECOND STEERING COMMITTEE
FOR
THE STUDY
ON
THE SOLID WASTE MANAGEMENT
FOR
THE KATHMANDU VALLEY

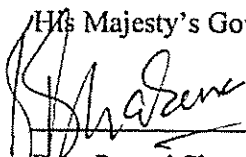


AGREED UPON BETWEEN
MINISTRY OF LOCAL DEVELOPMENT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

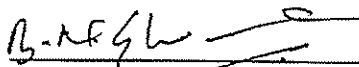
Kathmandu, June 30, 2004



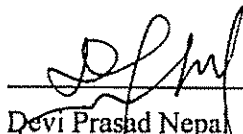
Som Lal Subedi
Joint Secretary, Ministry of Local Development
His Majesty's Government of Nepal



Ram Prasad Sharma
Chief Executive Officer
Kathmandu Metropolitan City

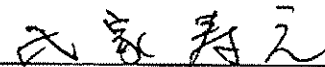


Badri Nath Ghimire
Chief Executive Officer
Bhaktapur Municipality

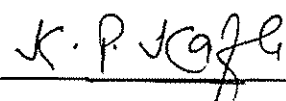


Devi Prasad Nepal
Chief Executive Officer
Kirtipur Municipality

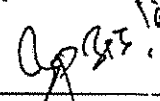




Toshiyuki Ujiie
Team Leader
JICA Study Team



Komal Prasad Kafle
Chief Executive Officer
Lalitpur Sub Metropolitan City



Bhuwan P. Bista
Chief Executive Officer
Madhyapur Thimi Municipality

1. Introduction

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has organized and dispatched the JICA Study Team (hereinafter referred to as "the Study Team") to the Kingdom Nepal since January 18, 2004, according to the Scope of Work between Ministry of Local Development of the His Majesty's Government of Nepal (hereinafter referred to as "MOLD") and JICA signed on September 12, 2003.

This Minutes of Meeting is a record of the second Steering Committee (hereinafter referred to as "ST/C") for discussion on the Interim Report (1) for the Study on the Solid Waste Management for the Kathmandu Valley (hereinafter referred to as "the Study") and other issues related to the Study that have been agreed between the Nepalese side and the Japanese side (hereinafter referred to as "Both Sides"). The list of attendants to the meeting is shown in Appendix-1.

2. Interim Report (1)

The Study Team submitted seventy (70) copies of the Interim Report (1) to MOLD, five target municipalities, i.e. Kathmandu Metropolitan City (hereinafter referred to as "KMC"), Lalitpur Sub-Metropolitan City (hereinafter referred to as "LSMC"), Bhaktapur Municipality (hereinafter referred to as "BKM"), Madhyapur Thimi Municipality (hereinafter referred to as "MTM") and Kirtipur Municipality (hereinafter referred to as "KRM")¹, and other relevant organizations from June 21 to 28, 2004 and explained and discussed the progress and interim results of the Study. At the second ST/C meeting held on June 29, 2004, the Study Team made further clarifications about the Interim Report (1). The some of the main issues of the discussions are as follows:

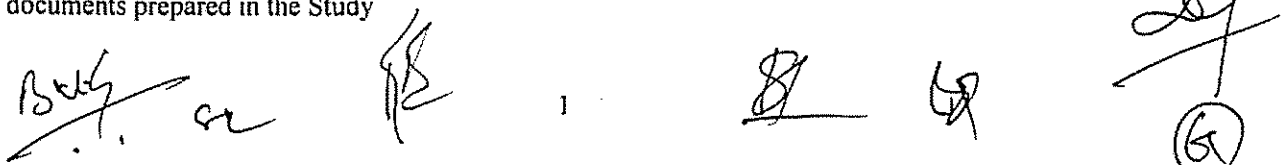
2.1 Activities of the Study up to Phase 2

The Nepalese side reviewed the activities of the Study up to Phase 2 and expressed their gratitude to the Study Team and to the Technical Working Group (hereinafter referred to as "TWG") members. The Japanese side also expressed gratefulness to the Nepalese side especially TWG and Task Force (hereinafter referred to as "TF") members for their active involvements in the Study. The Japanese side also appreciated that the five municipalities had formulated respective Draft Action Plans on Solid Waste Management.

2.2 Implementation Organization of the Study

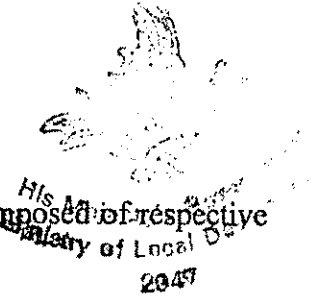
1) Steering Committee

¹ Municipalities are placed in order of each population, and this order will be adopted in a series of reports and documents prepared in the Study



Handwritten signatures of the Steering Committee members, including a circled 'G' at the bottom right.

Both sides confirmed that the Steering Committee of the Study was composed of respective representatives of the following organizations concerned.



[Members]

- Ministry of Local Development (MOLD)
- Solid Waste Management and Resource Mobilization Center (SWMRMC)
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Bhakutapur Municipality
- Madhyapur Thimi Municipality
- Kirtipur Municipality
- Ministry of Population and Environment (MOPE)
- Ministry of Physical Planning and Works (MOPPW)
- Ministry of Industry and Commercial Supplies (MOICS)
- Ministry of Education and Sports (MOES)
- Ministry of Health (MOH)
- Ministry of Agriculture (MOA)
- MOLD, Environmental Management Section of Municipal Management Division (as member secretary)

[Observers]

- Members of TWG

Concerning the members, the Study Team requested the Nepalese side to nominate a person as representatives of MOH and MOA. The Nepalese side agreed.

2.3 Making Decision of Municipality

In absence of elected mayors, concerned authorities will exercise the decision making process regarding the Study without any hindrance to the Study.

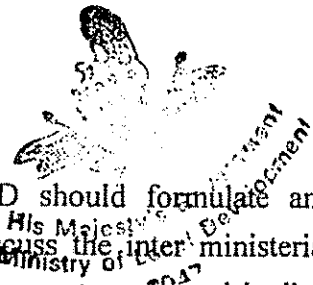
2.4 Members of TWG and TF

Both sides confirmed that members of TWG and TF were almost the same as that of Phases 1 and 2 except for minor changes in BKM and KRM. The Nepalese side promised to continue the existing implementation organization of the Study throughout the study period.

2.5 Contents of the Interim Report (1)

2.5.1 Roles of MOLD

The Nepalese side provided some comments on the IT/R, mainly calling attention to the fact that not enough consideration was given to the analysis of existing issues regarding solid waste management encountered by MOLD, its' current role and responsibilities for IEE and



EIA procedures and to the policies and directives that MOLD should formulate and implement. The Nepalese side also asked the Study Team to discuss the inter-ministerial coordination as well as the coordination between the central governments and local bodies. The Study Team replied that the above comments would be reflected in the Final Report including other necessary revisions in the Interim Report (1).

2.5.2 Human Resource Development Plan

The human resource development (hereinafter referred to as "HRD") plan mentioned in the IT/R (1) is approved with minor changes to be included in the Final Report.

3. Pilot Projects

Both sides agreed to implement the following five broad pilot projects based on PDMs as per attached in the Interim Report (1).

- A: Improvement of Collection and Transportation
- B: Promotion of Waste Minimization
- C: Improvement of Final Disposal Planning and Operation
- D: Public Awareness and Behavior Change Communication/Education
- E: Improvement of Solid Waste Management Capacity

The results of the pilot projects will be evaluated jointly by both sides and lessons and learns from the pilot projects implementation will be reflected to the respective Action Plans on solid waste management to be finalized at the end of Phase 3.

In order to ensure effective and smooth conduct of the pilot projects, both sides agreed to the following issues:

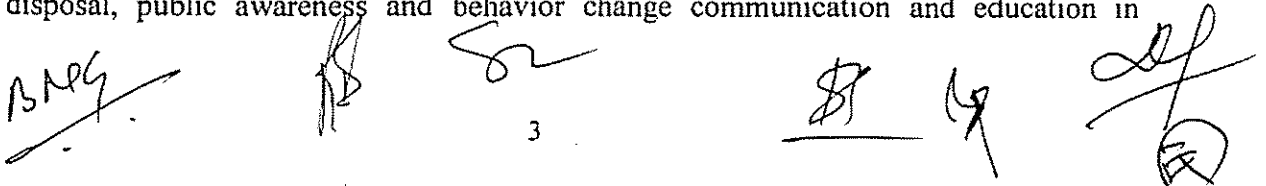
3.1 Implementation Framework of Pilot Projects

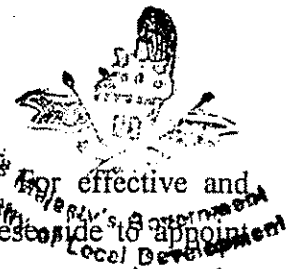
The Study Team explained that there were broadly two types of implementation framework of the pilot projects as discussed in the Interim Report (1). In either case, the Nepalese side agreed that the pilot projects would be implemented under the ownership of each municipality and SWMRMC with support of the Study Team although necessary arrangement of local consultants, NGOs and local resource persons would be done by the Study Team in close consultation with MOLD, SWMRMC and concerned municipalities.

3.2 Assignment of Staffs to Pilot Project

3.2.1 Responsible Person of Each Component

The Study Team explained that the pilot projects had been designed with respect to each component of solid waste management, i.e. collection of transportation, waste minimization, final disposal, public awareness and behavior change communication and education in





addition to overall improvement of solid waste management capacity for effective and sustainable capacity development, the Study Team requested the Nepalese side to appoint responsible person (s) for each component who will work for that component continuously. The Nepalese side promised to provide the names to the Study Team by July 2, 2004.

3.2.2 Involvement of Field Level Staffs

The Nepalese side agreed to involve not only the members of TWG and TF but also working level (field level) staffs in the pilot projects so that various levels of staffs could have opportunities of training. The detail assignment of the staffs will be discussed during the kick-off workshops for Action Plan Operational Management Training to be conducted at each municipality in July 2004.

3.3 Pilot Projects on Teku Transfer Station and Semi-aerobic Sanitary Lanfilling

The Study Team explained that as parts of the pilot projects of Training for Planning and O&M of Transfer Station and Semi-aerobic Sanitary Lanfilling, detail designs for the improvement of Teku transfer station and for the development of a semi-aerobic system at Sisdol landfill site would be carried out first. Both sides confirmed that the commitment of the Nepalese side regarding transportation of waste to the Sisdol landfill site, the arrangement of necessary transportation vehicles, and the continuous O&M of both facilities including allocation of O&M cost, staff and equipment were prerequisite for the commencement of the construction of both facilities.

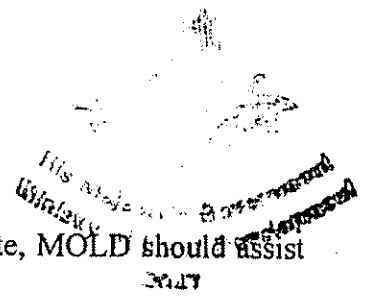
3.4 Improvement Types of Teku Transfer Station

There are two alternatives for the improvement of Teku transfer station, one of which had the transportation route outside the site and the other which could be completed inside the site. Both sides agreed that the latter option would be appropriate because this type does not affect on the traffic on the outside road and the environment protection measures can be taken. Consequently, the detail design of the inside type would be implemented as part of pilot project. The Nepalese side promised to take care of scavengers there during and after the construction works.

3.5 EIA Approval of Sisdol Landfill Site

The Nepalese side explained that Ministry of Population and Environment had given a conditional approval for the operation of the Sisdol sanitary landfill site with some comments and the following conditions:

- EIA should be conducted for the Banchare Danda landfill site as the Sisdol site is only short-term landfill site.
- The study on the establishment and operation of a compost plant at Chobar should be



explored with the support of the Study/JICA.

- Regarding the equipment arrangement for transportation of waste, MOLD should assist KMC and LSMC for institutional development.
- The maintenance of the access road to the Sisdol landfill site and the security arrangement should be managed by His Majesty's Government of Nepal.

The Nepalese side promised to take necessary actions to fulfill the comments and conditions soon and to report the actions taken to the Study Team.

3.6 Procurement of a Collection Vehicle for Pilot Project in Thimi

The Study Team explained that a collection vehicle, which would be used for the pilot project, Establishment of Collection and Transportation System, was planned to be procured through the JICA Nepal Office. Both sides confirmed that MTM would arrange the following:

- Registration of the collection vehicle
- Appointment of a driver
- Parking lot
- Insurance, if any
- Operation and maintenance cost
- Designated area for final disposal of the collected solid waste

As for the customs duty tariff, MTM explained that the procurement of the collection vehicle could be exempt from taxes if the Ministry of Finance approved. MTM promised to take necessary procedures for the tax exemption.

3.7 Pilot Project by Kirtipur Municipality

Kirtipur Municipality has expressed that they would like to include composting activities into B-2.2: Practice of Plastic Separation. The Japanese side agreed to the idea of Kirtipur and to provide necessary support for them.

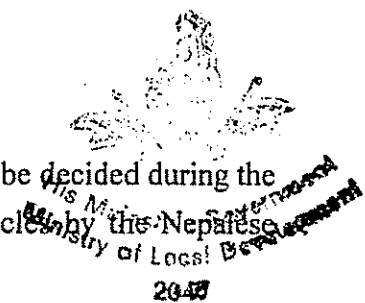
3.8 Holding of Public Hearings

The Study Team pointed out that KRM had not held the second public hearing yet due to some political reasons. As a result of the discussion, KRM agreed to hold public hearings with the support of the Study Team as per agreed at the 1st Steering Committee as soon as possible:

As for the third public hearings, the Study Team suggested that it would be effective to hold that when each municipality launched the pilot project activities targeting the specific communities or areas in July and August.

4. Phase 4 of the Study

Both side agreed that the implementation of Phase 4 of the Study would be decided during the Phase 3 considering the arrangement of secondary transportation vehicles by the Nepalese side and the results of the pilot projects.



5. Important Issues relating to the Study

5.1 Continuation of Working Group Activities

Both sides confirmed that a working group (hereinafter referred to as "WG"), which was organized on April 29, 2004 to discuss and coordinate various issues raised for the utilization of Sisdol short-term landfill site, establishment of a waste processing plant near the city area, selection of long-term sanitary landfill sites and closer care of the Bagmati River dumping, would continue their works.

Both sides also confirmed that WG would be composed of the following organizations and chaired by under secretary of Environmental Management Section of Municipal Management Division, MOLD and organized by the ownership of the Nepalese side.

- MOLD (chairperson)
- SWMRMC (member and secretariat)
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Kirtipur Municipality
- JICA Study Team (as technical supporter)
- Other Cities (as observers)

5.2 Compost Plant Plan by Luna

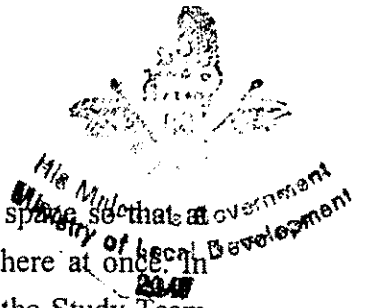
The Nepalese side explained that any action had not been taken by Luna Chemical & Fertilizers Ltd. for the compost plant plan though SWMRMC had sent a letter to confirm their intention. As the Nepalese side also explained that SWMRMC might cancel a contract with Luna, both sides confirmed that the Luna's plan would not be taken into consideration in the Study.

5.3 Local Development Fee

The Japanese side asked about measures to be taken by the Nepalese side to secure the revenue from tax at local bodies against the expected decrease of the local development fee by decrease of customs duty tariff as a result of the affiliation to WTO. The Nepalese side promised that they would provide the Study Team with the detail information by the end of July, 2004.

6. Provision of Enough Office Space and Reliable Telephone Line

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The Study Team requested the Nepalese side to make the base office more spacious so that at least nine experts of the Study Team with several local staffs could work there at once. In addition, the Study Team asked to make the telephone line available so that the Study Team could make internet accesses throughout the study period. MOLD promised to provide more office space and available telephone line by July 9, 2004.

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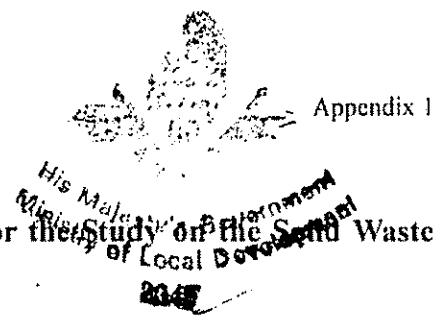
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List of Attendants of the Second Steering Committee for the Study on the Solid Waste Management for the Kathmandu Valley



Ministry of Local Development

- Mr. Som Lal Subedi, Joint Secretary
- Mr. Surya Pd. Silwal, Under Secretary
- Mr. Prem Raj Giri, Section Officer, Environment Section

Solid Waste Management Resource Mobilization Center

- Mr. Surya Man Shakya, General Manager
- Mr. Ashok Shahi, Engineer
- Mr. Ram Sharan Maharjan, Engineer
- Mr. Nirmal Darshan Acharya, Engineer

Kathmandu Metropolitan City

- Mr. Ram Prasad Sharma, CEO
- Mr. Rajesh Manandhar, Solid Waste Management Section Chief / Environment Department
- Mr. Kiran Ulak, Engineer
- Mr. Purusotam Shakya, Mechanical Engineer
- Mr. Sanchaya Parajuli, Solid Waste Management Section
- Ms. Shriju Pradhan Tuladhar, Co-ordinator, Community Mobilization Unit
- Ms. Snu Maya Maharjan, Community Mobilization Unit

Lalitpur Sub-Metropolitan City

- Mr. Mr. Komal Prasad Kafle, CEO
- Mr. Rudra Pd. Gautam, Chief, Planning Section
- Mr. Pradeep Amatya, Environmental Engineer
- Ms. Sabina Maharjan, Community Development Section
- Ms. Sarita Awale, Community Development Section

Bhaktapur Municipality

- Mr. Ragemdra P. Lakha, Acting Mayor
- Mr. Badri Nath Ghimire, CEO
- Mr. Gyanendra Dhar Pradhananga, Advisor
- Mr. Laxman Kisiju, Chief, Planning and Technical Section
- Mr. Dinesh Rajbhandari, Sanitation Engineer / Planning and Technical Section
- Mr. Moti Bhakta Shrestha, Social Welfare Officer
- Mr. Dilip Kumar Suwal, Assistant

Madhyapur Thimi Municipality

- Mr. Bhuwan P. Bista, CEO
- Mr. Satya Narayan Shah, Chief, Planning and Technical Section
- Ms. Krishna Kumari Shrestha, Assistant, Solid Waste Management Section
- Mr. Tulsi Bhakta Tako, Community Development Section
- Mr. Shiva Man Shrestha, Lawyer

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Kirtipur Municipality

- Mr. Pannu Rudra, Deputy Mayor
- Mr. Devi Prasad Nepal, CEO
- Mr. Bal Krishna Maharajan, Civil Engineer
- Mr. Gyan Bazra Maharjan, Assistant, Solid Waste Management/Accounting
- Mr. Anuj Pradhan, Assistant
- Mr. Sanu Babu Pariyar, Account Officer

Ministry of Physical Planning and Works

- Mr. Hari Ram Koirala, Joint Secretary
- Mr. Heihachi Ishihara, JICA expert on Water Supply Management

Ministry of Industry, Commerce and Supplies

- Mr. Baikuntha Bd. Adhikari, Director, Department of Industry

JICA Advisory Committee

- Mr. Akio Kubota, Secretary, Environmental Development Section, Matsumoto City, Nagano-Prefecture
- Mr. Takuya Murata, JICA Tokyo Office

Japan International Cooperation Agency (JICA) Nepal Office

- Ms. Haruko Kamei, Assistant Resident Representative

JICA Study Team

- Mr. Toshiyuki Ujiie, Team Leader / Solid Waste Management Policy
- Mr. Mahmoud Riad, Facility Plan
- Mr. Shungo Soeda, Waste Collection & Transportation / Recycling System
- Mr. Satoshi Higashinakagawa, Procurement Plan
- Ms. Toshiko Shimada, Public Participation/ Social Consideration/ Public Relations (1)
- Ms. Minako Nakatani, Organization and Institution / Human Resource Development
- Ms. Sachiko Suwa, Coordinator/ Public Participation/ Social Consideration (2)/ Public Relations (2)

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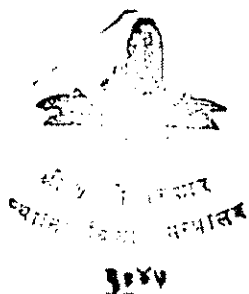
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Handwritten signature of Toshiyuki Ujiie, the Team Leader of the JICA Study Team.

MINUTES OF MEETING
FOR
THE STUDY
ON
THE SOLID WASTE MANAGEMENT
FOR
THE KATHMANDU VALLEY

AGREED UPON BETWEEN
MINISTRY OF LOCAL DEVELOPMENT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY



Som Lal Subedi

Som Lal Subedi सह सचिव
Joint Secretary, Ministry of Local Development
His Majesty's Government of Nepal

Krishna Prasad Devkota

Krishna Prasad Devkota
Act. Chief Executive Officer
Kathmandu Metropolitan City

Witness

Surya Man Shakya

Surya Man Shakya
General Manager
Solid Waste Management and Resource Mobilization Center



Toshiyuki Ujiie
Team Leader
JICA Study Team

Komal Prasad Kafle

Komal Prasad Kafle
Chief Executive Officer
Lalitpur Sub Metropolitan City

Witness

Shinji Yoshiura

Shinji Yoshiura
Resident Representative
JICA Nepal Office

This Minutes of Meeting is a record of the special meeting for the Study on the Solid Waste Management of the Kathmandu Valley that have been confirmed and agreed between the Nepalese side and the Japanese side (hereinafter referred to as "Both Sides"). The list of attendants to the meeting is shown in Appendix-I.

1. Background

As outlined in Interim Report (1) prepared in June 2004 and the related minutes of meeting dated on June 30, 2004, Both Sides have agreed to implement a series of pilot projects, results of which will be reflected in the final action plans for solid waste management under preparation for each of the five municipalities and the Solid Waste Management and Resource Mobilization Center (hereinafter referred to as "SWMRMC").

This Minutes of Meeting covers the following two pilot projects (hereinafter referred to as "Both Pilot Projects") which are mainly relating to Kathmandu Metropolitan City (hereinafter referred to as "KMC"), Lalitpur Sub-Metropolitan City (hereinafter referred to as "LSMC") and SWMRMC.

A-3 Training for Planning and O&M of Transfer Station (hereinafter referred to as "Teku TS PP")

C-2 Training for Semi-aerobic Sanitary Landfilling System (hereinafter referred to as "Sisdol LF PP")

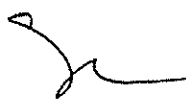
Under the Both Pilot Projects, facilities necessary for the effective technology transfer will be installed at Teku transfer station in KMC and Sisdol landfill site in Okharpauwa VDC, Nuwakot District. For the installation of the facilities, construction and relating activities (hereinafter referred to as "Components") will be jointly implemented by Both Sides. In order to implement the components smoothly under Both Pilot Projects, the following items have been agreed and confirmed by Both Sides.

2. Objectives

2.1 Teku TS PP

The objective of installation of the related facilities under Teku TS PP is to achieve effective technology transfer regarding solid waste transfer system to the Nepalese side through the following activities:

- (1) Improvement of the transfer efficiency to speed up the transfer process from the primary collection trucks to the secondary transfer trucks in order to handle larger waste amounts



- (2) Improvement of the efficiency of the primary collection through speedy un-loading of the collection trucks and thereby increasing potential trip numbers per vehicle shift
- (3) Improvement of the working conditions of the working staff and scavengers through allocation of truckloads to scavenging activities and securing of safe area for their work activities including introduction of registration system
- (4) Improvement of the relationship between KMC and the surrounding community through increasing waste loading and unloading efficiency to mitigate odor and pests generation

2.2 Sisdol LF PP

The objective of installation of the related facilities under Sisdol LF PP is to achieve effective technology transfer to the Nepalese side regarding sanitary landfill with semi-aerobic system through the following activities:

- (1) Acceleration of the degradation of the solid waste which leads to early stabilization
- (2) Improvement of the quality of the generated leachate at the site
- (3) Introduction of a cost effective and environmentally friendly system within the Nepalese context
- (4) Promotion of the understanding on sanitary landfill among the public

3. Components

3.1 Teku TS

The components to be implemented under Teku TS PP are described as follows and layout of the facilities is shown in Figure 1:

- (1) Construction of a reinforced concrete unloading platform at a height of 3.2m above ground with two unloading stations and each station having three bays for collection trucks to occupy for unloading purpose
- (2) Construction of approach and exit ramps to the unloading platform made of masonry walls and fill, with a width to accommodate one directional collection truck traffic flow
- (3) Install a weighbridge to weigh incoming primary collection vehicles and an adjacent scale house
- (4) Road widening at certain sections of the station to facilitate smooth traffic flow conditions

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- (5) Construction of new drainage system at the locations of the unloading platform and ramps and improvement of drainage system in other parts of the station
- (6) Demolition works of some masonry to clear areas for scavenger activity and vehicles parking
- (7) Road marking for traffic circulation and parking areas
- (8) Other works as main gate construction, provision of traffic signs and notice boards, fencing, and installation of an overhead reservoir.
- (9) Development of an area for waste picking activity and regulate the scavengers' activity through introducing registration system and amenities to improve working conditions such as storage areas for scavenged materials, space for placing of small weighing scales, and use of installed weighbridge for weighing of recyclable materials.

3.2 Sisidol LF

The components to be implemented under Sisidol LF PP are described as follows and layout of the facilities is shown in Figure 2:

- (1) Construction of an access road with a length of about 200m and width 5m, to lead into the active waste disposal area and for locating the weighbridge
- (2) Development of the landfill area in the western north-south valley where the solid waste will be disposed through excavation to secure waste disposal capacity, preparation of liner basement, procurement and installation of clay liner and improvement of the waste storage dam
- (3) Installation of leachate collection pipe network comprising perforated RC pipes as main line and branch lines including construction of manholes and laying of HDPE sheet underneath the main line to collect the leachate and drain to the leachate pond and introduce air into the land filled waste
- (4) Installation of perforated PVC vents as landfill gas vents to passively collect and release the generated landfill gas
- (5) Construction of leachate retention pond to accommodate approximately one week capacity of leachate by excavation, laying of HDPE sheet as liner, and improvement of existing adjacent manhole
- (6) Installation leachate re-circulation system to re-circulate the collected leachate from the pond back into the waste disposal area composed of hose pipes, procurement and installation of re-circulation pump and sprinkler system
- (7) Procurement and installation of aerator system in the leachate retention pond
- (8) Procurement and installation of weighbridge along the newly constructed access road, including foundation construction



- (9) Improvement of control room adjacent to the retention pond to install the aerator and pump switch boards
- (10) Completion of outstanding works for the sanitary landfill as the administrative and storage buildings, perimeter cut-off drain, utilities supply (electricity, telephone, water), fencing installation and approach road preparation and repairs
- (11) Development of a system for controlled waste picking related to the operations of the sanitary landfill either at a designated area within the site or outside the site but within its vicinity

4. Implementation Schedule

The implementation schedule for each components is shown in Table 1 for Teku TS PP and Table 2 for Sisdol LF PP respectively. The works are to be done in two terms as follows:

Term 1: Beginning of October to Beginning of December 2004

Term 2: Beginning of January to middle of February 2005

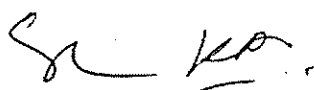
5. Responsibilities

The Nepalese side, KMC, LSMC and SWMRMC, has an overall responsibility of the implementation of Both Pilot Projects including operation and maintenance of the installed facilities. In particular, KMC and SWMRMC will be respectively responsible for implementing the components designated to the Nepalese side for Teku TS PP and Sisdol LF PP as shown in Tables 1 and 2 within the above mentioned implementation schedule.

On the other hand, costs of construction works for the components designated to JICA will be borne by the JICA Study Team through appointment of contractors. The technical advice will be provided by the JICA Study Team during the pilot projects period.

For smooth and steady implementation of Both Pilot Projects, the Nepalese side (KMC for Teku TS PP and SWMRMC for Sisdol LF PP) will be responsible for the following:

- construction supervision activities by nominated responsible staff
- timely implementation of the designated Nepalese side activities in accordance with the overall implementation schedule to be prepared by the JICA Study Team and appointed contractor in order to avoid any delays
- acquiring of any official authorizations to implement the pilot projects
- explanation to local communities on the pilot projects when it is necessary



- access to the JICA Study Team appointed contractor and other personnel related to the pilot project implementation to the construction sites and arrangement of necessary documents for security, and
- organizing of weekly meeting with the JICA Study Team and appointed contractor(s) to review the work progress and resolve any outstanding issues

6. Operation and Management

Operation and Various issues relating to operation and management (hereinafter referred to as "O&M") of the facilities to be installed under the Both Pilot Projects will be discussed intensively from now on by the Working Group (hereinafter referred to as "WG"), which was organized on April 29, 2004 and confirmed at the 2nd Steering Committee. The essential issues such as O&M organization including the establishment of an environmental monitoring committee, O&M plan and method of the facilities including environmental monitoring, and a system for controlling waste picking will be decided by the end of November 2004 and be confirmed at the 3rd Steering Committee.

7. Others

Any issues, if arisen with regard to the components' implementation, such as public complaints, environmental pollution and accidents within the sites, will be discussed and settled by a sub-WG which will be organized under the WG. The members of the sub-WG are as follows:

- Ministry of Local Development (Joint Secretary)
- Ministry of Local Development (Section chief of Environmental Management Section)
- SWMRMC (General Manager)
- KMC (Mayor/CEO)
- LSMC (Mayor/CEO)
- JICA Study Team (Team Leader)



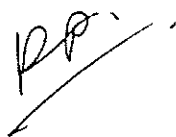





Table 1 Demarcation of Responsibilities for Teku TS PP

No.	Components	Term 1	Term 2
1	Unloading Platform		
	a) Foundation	JICA	
	b) Superstructure	JICA	
	c) Roof stand	JICA	
	d) Provision of truss	JICA	
	e) Placing of truss and roofing		JICA
	f) Installation of rain water drainage pipe		JICA
2	Approach and Exit Ramps of unloading station		
	a) Foundation	JICA	
	b) Masonry wall	JICA	
	c) Granular material filling between wall		JICA
	d) Placing geo-textile on expansion joints on walls		JICA
	e) Tie beam, slab and guard wall		JICA
	f) Placing of joint filler on expansion joints on slab		JICA
3	Weighbridge and Scale house		
	a) Weighbridge foundation	JICA	
	b) Weighbridge provision and installation	JICA	
	c) Scale house construction	KMC	
	d) Electric supply	KMC	
	e) Ramps on either side of weighbridge		JICA
4	Road Widening		
	a) Clearing and grubbing		KMC
	b) Approach to weighbridge		JICA
	c) Widening beside the existing tire house		JICA
5	Drainage Works		
	a) Clearing of existing drains		KMC
	b) Construction of new drains in unloading platform and ramps areas		JICA
	c) Concrete pre-cast drain covers		JICA
	d) Placing of capping layer on existing drains		JICA
	e) Procurement of rain water steel gratings	KMC	
	f) Placing of rain water steel gratings		KMC
	g) Leveling concrete to flush existing drains to adjacent floor level		JICA
6	Demolition works		
	a) Unnecessary masonry structures	KMC	
	b) Existing barbed wire fence and net fencing at some locations		JICA
7	Traffic circulation and parking area marking		
	a) Washing of concrete surface		KMC
	b) Road marking and extension		JICA
	c) Extension of parking area beside medical waste incinerator		JICA
8	Other works		

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No.	Components	Term 1	Term 2
	a) Construction of main gate		KMC
	b) Providing traffic sign		KMC
	c) Providing notice board		KMC
	d) Fencing works	KMC	
	e) Overhead reservoir, and pumping and vehicle washing facilities		KMC
9	Regulation of Waste picking activity		
	a) Planning of waste picking system	KMC	
	b) Installation of registration system		KMC
	c) Education of waste pickers		KMC
Note: Component 8 e) will be constructed after confirmation of water demand requirements and availability of water supply			

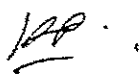







Table 2 Demarcation of Responsibilities for Sisdol LF PP

No.	Components	Term 1	Term 2
1	Access Road		
	1.1 Earthwork in excavation	JICA	
	1.2 Filling of the excavated soil	JICA	
	1.3 Sub-grade preparation	JICA	
	1.4 Laying of 15cm thick sub-base	JICA	
2	Landfill Area Development		
	2.1 Earthwork in excavation	JICA	
	2.2 Filling of the excavated soil	JICA	
	2.3 Preparation of liner basement	JICA	
	2.4 Procurement and laying of clay liner	JICA	
	2.5 Laying of filter layer	JICA	
	2.6 Laying of jute mat above clay liner and below filter layer	JICA	
	2.7 Improvement of waste storage dam	SWMRMC	
3	Leachate Collection Pipe Network		
	3.1 Procurement and laying of 450mm perforated RC pipe	JICA	
	3.2 Procurement and laying of 200mm perforated RC pipe	JICA	
	3.3 Packing of specified river bed shingles	JICA	
	3.4 Construction of manholes	JICA	
	3.5 Connection of main leachate pipe	JICA	
	3.6 Laying of HDPE sheet underneath the main leachate pipe	JICA	
4	Landfill Gas Vent Pipe		
	4.1 Installation of 160mm perforated PVC gas vent pipe	JICA	
	4.2 Assembling of gabions of GI mesh wire	JICA	
	4.3 Installation of used oil drums as manholes	JICA	
5	Leachate Retention Pond		
	5.1 Earthwork in excavation	JICA	
	5.2 Filling of the excavated soil	JICA	
	5.3 Sand cushioning	JICA	
	5.4 Laying and joining of HDPE sheet	JICA	
	5.5 Laying of 250mm dia. NP3 hume pipe	JICA	
	5.6 Improvement of existing manhole	JICA	
	5.7 Bordering of leachate retention pond	JICA	
	5.8 Pointing in stone masonry	JICA	
6	Leachate Recirculation System		
	6.1 Portable flexible hose pipe	JICA	
	6.2 Fitting of recirculation pump	JICA	
	6.3 Sprinkler of perforated pipe	JICA	
7	Aeration System		
	7.1 Procurement and installation of aerator		JICA
8	Weighbridge		

No.	Components	Term 1	Term 2
	8.1 Procurement and installation of weighbridge		JICA
	8.2 Earthwork in excavation		JICA
	8.3 Stone soling		JICA
	8.4 PCC (1:3:6) for foundation		JICA
	8.5 PCC (1:1.5:3) for foundation		JICA
	8.6 Reinforcement bars		JICA
	8.7 Formwork		JICA
	8.8 1:4 stone masonry		JICA
	8.9 Compacted rubber soling		JICA
9	Improvement of Control Room		
	9.1 Earthwork in excavation	JICA	
	9.2 Stone soling	JICA	
	9.3 1:4 stone masonry	JICA	
	9.4 1:4 plasterwork	JICA	
	9.5 3mm thick punning	JICA	
	9.6 M15 PCC	JICA	
	9.7 Pointing in stone masonry	JICA	
	9.8 Fixing of sheet roofing	JICA	
	9.9 Fixing of ridge	JICA	
	9.10 Fixing of wooden frame	JICA	
	9.11 Fixing of wooden shutter	JICA	
10	Outstanding Works		
	10.1 Administrative building	SWMRMC	
	10.2 Storage building	SWMRMC	
	10.3 Perimeter cut-off drain	SWMRMC	
	10.4 Utilities supply		SWMRMC
	10.5 Fencing installation		SWMRMC
	10.6 Access road preparation and repairs	SWMRMC	SWMRMC
11	Controlled Waste Picking Activity		
	11.1 Planning	SWMRMC	
	11.2 Preparation of picking area		SWMRMC

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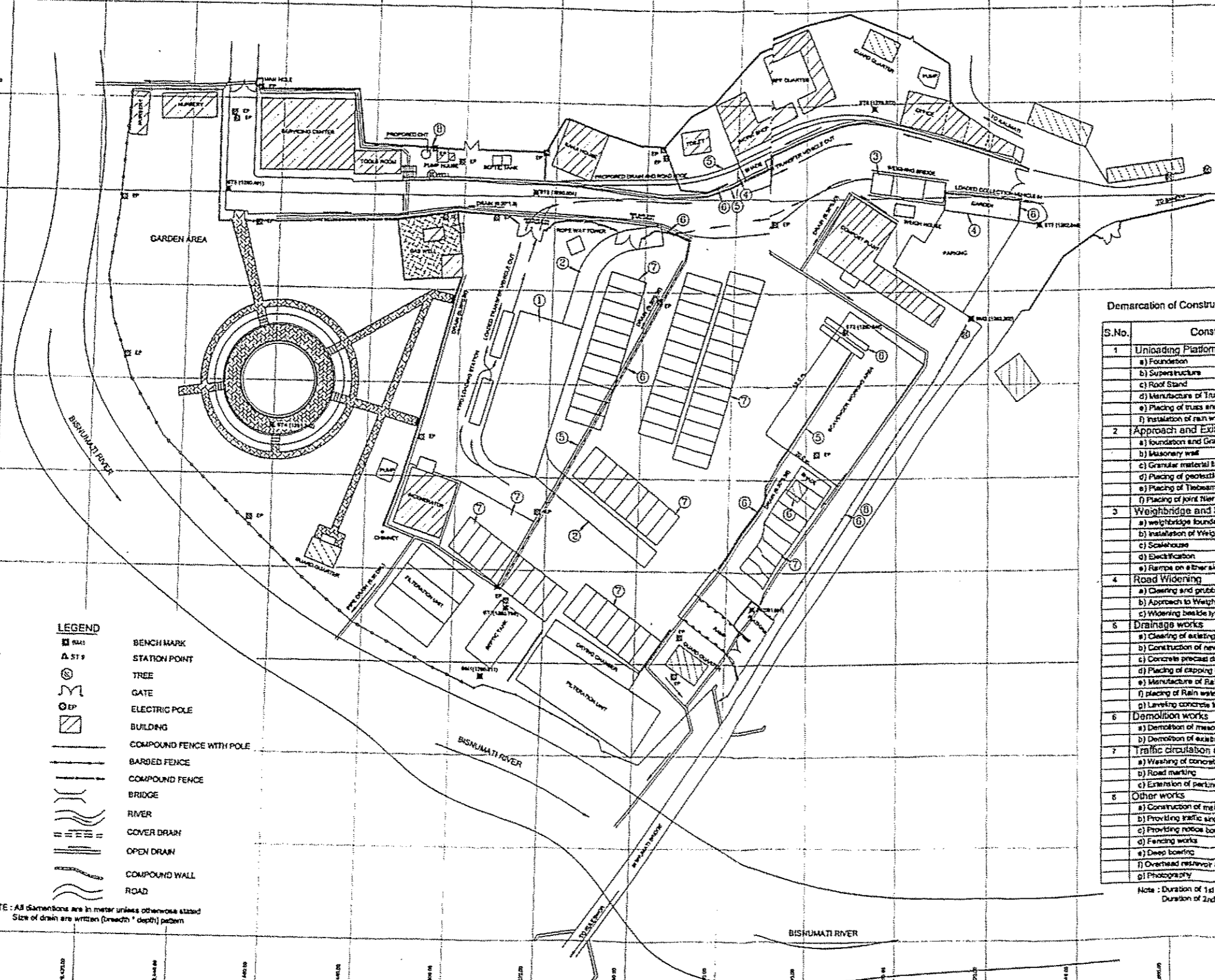
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- LEGEND**
- B.M. BENCH MARK
 - △ S.P. STATION POINT
 - TREE
 - ⊕ GATE
 - ⊕ EP ELECTRIC POLE
 - ▭ BUILDING
 - ▭ COMPOUND FENCE WITH POLE
 - ▭ BARBED FENCE
 - ▭ COMPOUND FENCE
 - ▭ BRIDGE
 - ▭ RIVER
 - ▭ COVER DRAIN
 - ▭ OPEN DRAIN
 - ▭ COMPOUND WALL
 - ▭ ROAD

NOTE: All dimensions are in meter unless otherwise stated
Size of drain are written (breadth * depth) pattern

Demarcation of Construction Components for Term-1 and Term-2 between JICA and KCM
Teku Transfer Station Improvement Pilot Project

S.No.	Construction Component	Term1		Term2	
		JICA	KCM	JICA	KCM
1	Unloading Platform				
	a) Foundation	Yes			
	b) Superstructure	Yes			
	c) Roof Stand	Yes			
	d) Manufacture of Truss	Yes			
	e) Placing of truss and Roofing			Yes	
	f) Installation of rain water drainage pipe			Yes	
2	Approach and Exit Ramps of unloading platform				
	a) foundation and Gravel Filling and Binding Concrete	Yes			
	b) Masonry wall	Yes			
	c) Granular material filling between wall			Yes	
	d) Placing of geotextile on expansion joints on walls			Yes	
	e) Placing of Tiebeam/slab and Guard wall on Ramps			Yes	
	f) Placing of joint Nier on the expansion joints on slab			Yes	
3	Weightbridge and Scalehouse				
	a) weightbridge foundation	Yes			
	b) Installation of Weightbridge	Yes			
	c) Scalehouse			Yes	
	d) Electric/Carbon			Yes	
	e) Ramps on either side			Yes	
4	Road Widening				
	a) Clearing and grubbing				Yes
	b) Approach to Weightbridge			Yes	
	c) Widening of scale house			Yes	
5	Drainage works				
	a) Clearing of existing drain, cleaning and grubbing				Yes
	b) Construction of new drain			Yes	
	c) Concrete precast drain cover			Yes	
	d) Placing of coping layer on the existing drains			Yes	
	e) Manufacture of Rain water steel grating			Yes	
	f) placing of Rain water steel grating				Yes
	g) Laying concrete to flush existing drain to adjacent floor level			Yes	
6	Demolition works				
	a) Demolition of masonry structures				Yes
	b) Demolition of existing barbed wire fence and net fencing				Yes
7	Traffic circulation and parking area marking				
	a) Washing of concrete surface				Yes
	b) Road marking				Yes
	c) Extension of parking area besides incinerator				Yes
8	Other works				
	a) Construction of Inlet Gate				Yes
	b) Providing traffic sign				Yes
	c) Providing notice board		Yes		
	d) Fencing works				Yes
	e) Deep boring		Yes		
	f) Overhead railway and pumping and vehicle washing facilities				Yes
	g) Photography	Yes		Yes	

Note: Duration of 1st Term - From October 1, 2004 to December 31, 2004
Duration of 2nd Term - From January 1, 2005 to January 31, 2005

HIS MAJESTY'S GOVERNMENT OF NEPAL
MINISTRY OF LOCAL DEVELOPEMNT
KATHMANDU METROPOLITAN CITY
ENVIRONMENT DEPARTMENT (SOLID WASTE MANAGEMENT SECTION)
TEKU TRANSFER STATION IMPROVEMENT PILOT PROJECT



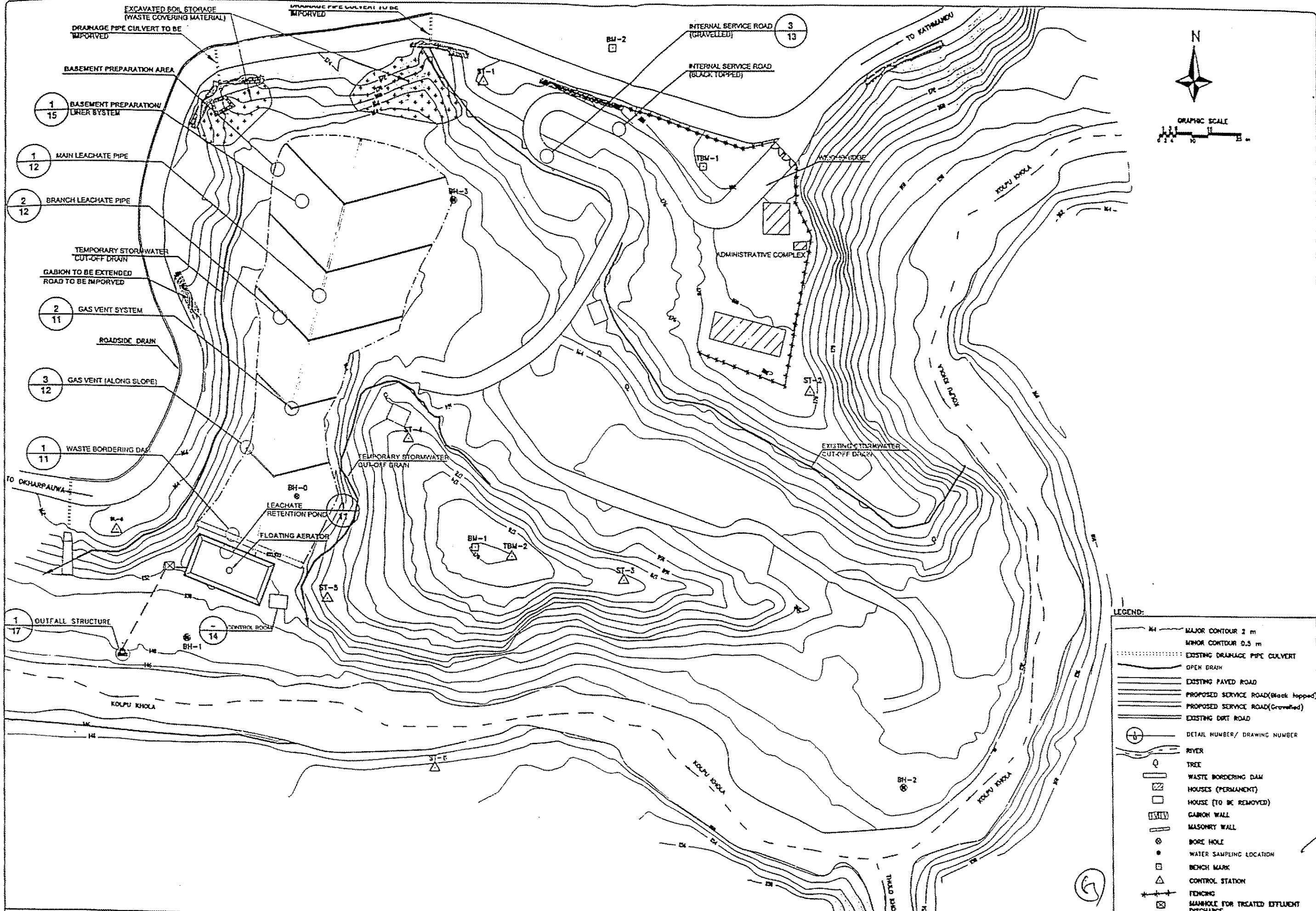
DESIGNED _____ DATE _____
CHECKED _____
APPROVED _____

CLEAN KATHMANDU VALLEY PROJECT
JICA STUDY TEAM



DEMARCATION OF CONSTRUCTION COMPONENTS
Figure 1
Layout of Facility at Teku Transfer Station

PROJECT No. _____
CONTRACT No. _____
DRAWING No. _____



LEGEND:

	MAJOR CONTOUR 2 m
	MINOR CONTOUR 0.5 m
	EXISTING DRAINAGE PIPE CULVERT
	OPEN DRAIN
	EXISTING PAVED ROAD
	PROPOSED SERVICE ROAD (Black topped)
	PROPOSED SERVICE ROAD (Gravelled)
	EXISTING DIRT ROAD
	DETAIL NUMBER/ DRAWING NUMBER
	RIVER
	TREE
	WASTE BORDERING DAM
	HOUSES (PERMANENT)
	HOUSE (TO BE REMOVED)
	GABION WALL
	MASONRY WALL
	BORE HOLE
	WATER SAMPLING LOCATION
	BENCH MARK
	CONTROL STATION
	FENCING
	MANHOLE FOR TREATED EFFLUENT DISCHARGE

PROJECT CONSULTANT: EastConsult P. Ltd P.O. Box 1192, Lazimpat, Kathmandu, Nepal Phone: 4412062, 4413267, 4423205 Facsimile: 977-1-4417895 e-mail: eastco@wlink.com.np	DESIGNED BY: A.R. TULADHAR DRAWN BY: S.R. GURUNG CHECKED BY: S. SHRESTHA DATE: September 8, 2004	PROJECT TITLE/ LOCATION: SISDOL LANDFILL PILOT PROJECT (PHASE 1) SISDOL, OKHARPAUWA	CLIENT: JICA JICA STUDY TEAM Local Development Training Center, Eksantakuna, Jawalakhel, Lalitpur, Nepal.	SHEET CONTENTS: Figure 2 Layout of Facility of Sisdol Landfill Site	DRAWING NO.
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PLOT STYLE FILE: RWL.DWG
CAD FILE: RWL.DWG

List of Attendants of the Special Meeting for the Study on the Solid Waste Management for the Kathmandu Valley

Ministry of Local Development

Mr. Som Lal Subedi, Joint Secretary

Mr. Surya Pd. Silwal, Joint Secretary

Solid Waste Management Resource Mobilization Center

Mr. Surya Man Shakya, General Manager

Mr. Ashok Shahi, Engineer

Mr. Ram Sharan Maharjan, Engineer

Mr. Nirmal Darshan Acharya, Engineer

Kathmandu Metropolitan City

Mr. Krishna Pd. Devkota, Acting CEO

Mr. Rajesh Manandhar, Solid Waste Management Section Chief / Environment Department

Mr. Kiran Ulak, Engineer

Lalitpur Sub-Metropolitan City

Mr. Mr. Komal Prasad Kafle, CEO

Mr. Rudra Pd. Gautam, Chief, Planning Section

Mr. Pradeep Amatya, Environmental Engineer

Japan International Cooperation Agency (JICA) Nepal Office

Mr. Shinji Yoshiura, Resident Representative

Mr. Yoshinobu Kinoshita, Assistant Resident Representative

Mr. Sorab Rana, Program officer

JICA Study Team

Mr. Toshiyuki Ujiie, Team Leader / Solid Waste Management Policy

Mr. Mahmoud Riad, Facility Plan

Mr. Shungo Soeda, Waste Collection & Transportation / Recycling System (1)

Mr. Kiyoshi Shimizu, Recycling System (2)/Hazardous Waste

Ms. Toshiko Shimada, Public Participation/ Social Consideration/ Public Relations (1)

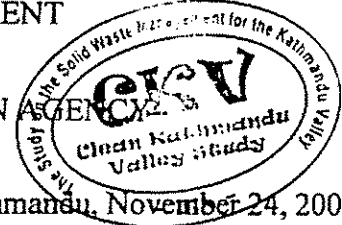
Ms. Minako Nakatani, Organization and Institution / Human Resource Development

Ms. Sachiko Suwa, Coordinator/ Public Participation/ Social Consideration (2)/ Public Relations (2)



MINUTES OF MEETING
OF
THE THIRD STEERING COMMITTEE
FOR
THE STUDY
ON
THE SOLID WASTE MANAGEMENT
FOR
THE KATHMANDU VALLEY

AGREED UPON BETWEEN
MINISTRY OF LOCAL DEVELOPMENT
AND
JAPAN INTERNATIONAL COOPERATION AGENCY



Kathmandu, November 24, 2004

Som Lal Subedi
Joint Secretary, Ministry of Local Development
His Majesty's Government of Nepal

Toshiyuki Ujiie
Team Leader
JICA Study Team

for. Krishna Prasad Devkota
Act. Chief Executive Officer
Kathmandu Metropolitan City

Komal Prasad Kalle
Chief Executive Officer
Lalitpur Sub Metropolitan City

Badri Nath Ghimire
Chief Executive Officer
Bhaktapur Municipality

Bhuwan Prakash Bista
Chief Executive Officer
Madhyapur Thimi Municipality

Devi Prasad Nepal
Chief Executive Officer
Kirtipur Municipality

1. Introduction

The Japan International Cooperation Agency (hereinafter referred to as "JICA") has organized and dispatched the JICA Study Team (hereinafter referred to as "the Study Team") to the Kingdom Nepal since January 18, 2004, according to the Scope of Work between Ministry of Local Development of the His Majesty's Government of Nepal (hereinafter referred to as "MOLD") and JICA signed on September 12, 2003.

This Minutes of Meeting is a record of the third Steering Committee (hereinafter referred to as "ST/C") for discussion on the Interim Report (2) (hereinafter referred to as "IT/R(2)") for the Study on the Solid Waste Management for the Kathmandu Valley (hereinafter referred to as "the Study") and other issues related to the Study that have been agreed between the Nepalese side and the Japanese side (hereinafter referred to as "Both Sides"). The list of attendants to the meeting is shown in Appendix-1.

2. Interim Report (2)

The Study Team submitted seventy (70) copies of IT/R (2) to MOLD on November 23, 2004 and explained and discussed the progress and interim results of the Study. MOLD will distribute IT/R(2) to the five municipalities, i.e. Kathmandu Metropolitan City (hereinafter referred to as "KMC"), Lalitpur Sub-Metropolitan City (hereinafter referred to as "LSMC"), Bhaktapur Municipality (hereinafter referred to as "BKM"), Madhyapur Thimi Municipality (hereinafter referred to as "MTM"), Kirtipur Municipality (hereinafter referred to as "KRM")¹, Solid Waste Management and Resource Mobilization Center (hereinafter referred to as "SWMRMC") and other relevant organizations.

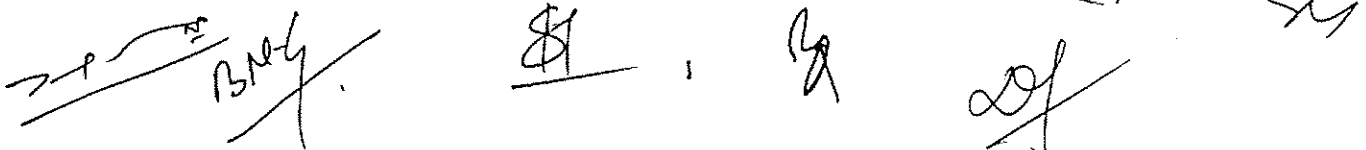
At the third ST/C meeting held on November 23, 2004, the Both Sides made further clarifications about IT/R(2). The some of the main issues of the discussions are as follows:

2.1 Activities of the Study of Phase 3 (Term 1) and Its Evaluation

The Nepalese side reviewed the activities of the Study of Phase 3 up to the middle of November 2004 and expressed their gratitude to the Study Team. The Study Team also expressed gratefulness to the Nepalese side especially Task Force (hereinafter referred to as "TF") members including focal points of the pilot project for their active involvement in the pilot projects of the Study.

The Study Team explained their mid-term evaluation of the pilot project activities in Term 1

¹ Municipalities are placed in order of each population, and this order will be adopted in a series of reports and documents prepared in the Study

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of Phase 3 and suggestions for further activities in Term 2 as mentioned in IT/R(2) and also asked CEOs' more understandings of the efforts made by the T/F members.

2.3 Pilot Projects

(1) Pilot Project Components

The Both Sides confirmed the revised Project Design Matrix (PDM), namely PDM₁, as par attached in IT/R (2) and agreed to implement the following five broad pilot projects continuously in Term 2.

A: Improvement of Collection and Transportation

B: Promotion of Waste Minimization

C: Improvement of Final Disposal Planning and Operation

D: Public Awareness and Behavior Change Communication/Education

E: Improvement of Solid Waste Management Capacity

However, because the management of medical waste, especially infectious waste, from hospitals and clinics is one of crucial problems that they have been facing in Nepal, the Nepalese side requested the Japanese side to implement some activities regarding the medical waste as part of the pilot projects. The Nepalese side also explained the they did not have enough experiences of actual practice of the management even there were various guideline available. The Study Team replied that as the Study had not targeted the medical waste so far and pointed out that there was unclear responsible demarcation of the medical waste management in Nepal. However, as the Study Team has been recognizing the necessity of improvement of the medical waste management, the Nepalese side was requested to provide detail information and concrete idea for further consideration.

The Both Sides confirmed that the results of the pilot projects would be evaluated based on PDM₁ jointly by both sides and lessons leaned from the pilot projects would be reflected to the respective Action Plans on solid waste management to be finalized at the end of Phase 3.

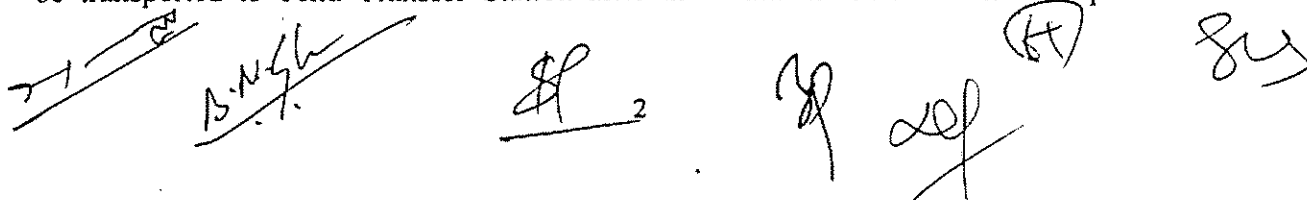
(2) Pilot Projects Contents

The some of the main issues of the discussions for each pilot project are as follows

A: Improvement of Collection and Transportation

A-1.2: Practice of collection and transportation in MTM

The Study Team confirmed that MTM had designated a driver and allocated budget for the operation and maintenance of the vehicle to be procured by JICA. The Both Sides confirmed that if MTM could not secure the designated area for final disposal, the collected waste would be transported to Teku Transfer Station after the commencement of the transportation to

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Sisdol Landfill Site.

A-3: Training for Planning and O&M of Transfer Station

The improvement works of Teku Transfer Station in Term 1 is expected to be completed on schedule by early December 2004. Taking into consideration the works assigned to the Nepalese side (KMC) as agreed in the Minutes of Meeting signed between the Both Sides on September 17, 2004, the Nepalese side was requested to speed up the implementation of all activities which has committed to within Term 1. In particular, as the weighbridge will be installed within Term 1 according to the schedule, the Nepalese side promised to commence construction of the scale house adjacent to the weighbridge urgently.

B: Promotion of Waste Minimization

B-1: Training for Waste Minimization

The Nepalese side explained the situations of the contract with Luna Chemical & Fertilizer Ltd. and the arrangement of land for a waste processing plant near the city area as follows:


- As no action has been taken by Luna Chemical & Fertilizer Ltd., the contract is to be discussed in the Board of SWMRMC and should be terminated legally if such decision is taken by the Board.
- Although municipalities should take the initiative in finding the land, no possible land has been identified.

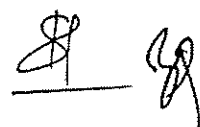
Considering these situations, the Both Sides agreed that the planned Pilot Project B-1.2: Practice of Pilot Facility Operation would not be conducted under the pilot project. However, for future development of the large-scale waste processing plant, a series of trainings was confirmed to be continued such as pre-feasibility examination of the plant as part of the pilot project B-1. Concerning this, the Study Team requested the Nepalese side to take necessary actions to secure the land for the plan soon.

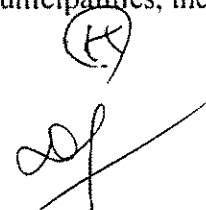
In addition, the Nepalese side requested the Japanese side to consider the necessary measures for improvement of a compost facility in BKM. The Study Team replied that necessary measures would be considered based on the as to be collected at the compost plan and the considered measures should be included in the Action Plan.

B-2: Practice of Local Level Waste Minimization Activities

The Both Sides confirmed that KMC, LSMC and KRM would try to distribute home compost bins (CKV Compost Bins) with a series of trainings, monitoring and follow-up as part of the Pilot Project B-2. For distribution of the compost bins, the Both Sides also confirmed that the production costs of the bins would be shared by three parties. i.e. municipalities, the Study

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Team and users (local people).

C: Improvement of Final Disposal Planning and Operation

C-1.1: Training for Final Disposal Planning

The Both Sides confirmed that there still remains the need of actual practices of the preparation of a short list of candidate sites for long-term landfill including the environmental studies, although all the activities (trainings) were completed in Term 1 of Phase 3. In addition, the Nepalese side explained their efforts such as National Environmental Impact Assessment Guideline drafted by SWMRMC and stressed that landfill site(s) including other solid waste management relating facilities would be required to follow this guideline in the future. With this reason, the Nepalese side requested the Japanese side to conduct further activities (practices) of environmental studies such as practices of IEE/EIA with some geological surveys based on their guidelines targeting the long-term candidate site(s) including Taikapu candidate site as part of the pilot project. The Study Team understood the effectiveness of this activity and promised to convey this request to JICA Headquarters.

C-1.2: Training for Final Disposal Site

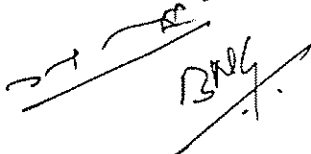
The Nepalese side explained that the strengthening of the waste dam was to commence in mid-December, i.e. after completion of the improvement works in Term 1 by the Study Team. Accordingly the Nepalese side was requested to take measures to ensure that during construction works for the waste dam, no damage shall be made to the works already completed by the Study Team. Furthermore the Study Team requested the Nepalese side to complete the installation of the main leachate pipe through the dam body, which was planned to be installed by the Study Team in Term 1, as shown in the detail design. The Nepalese side agreed.

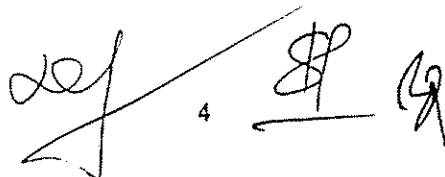
In order to secure accountability of environmental issues of Sisidol Landfill Site, the Environmental Coordination Committee was promised to be established by the Nepalese side by the end of January 2005.

D: Public Awareness and Behavior Change Communication and Education

D-2: Practice of Interpersonal Communication and Education

The Study Team pointed out that although the majority of community people including the members of a core group, which was formed in each tole of the selected wards in BKM, were ready to help the Nature Clubs' activities and to promote interpersonal communication and education on solid waste management voluntarily, they were very concerned about the accountability of the process of budget allocation by BKM.. In this regard, BKM promised to





(K)



make efforts to establish the rapport with them by holding orientation meetings and to ensure the transparency.

E: Training for Action Plan Operational Management

E-2: Practice of Solid Waste Data Management

The Both Sides confirmed that the developed database on solid waste management in the activities of the Pilot Projects E-2 was being installed into a computer set up at each municipality. The Study Team requested the Nepalese side to install all the related basic data such as list of equipment with conditions and name of person in charge of sweeping, collection and transportation, landfilling, by the end of December 2004 so that the database could be utilized from the beginning of the January 2005. The Nepalese side agreed.

(3) Operation of Teku Transfer Station and Sisdol Landfill Site

The Both Sides confirmed first shipment of the secondary transportation vehicles to be procured by the Nepalese side was expected earliest in June 2005 although Teku Transfer Station and Sisdol Landfill Site could commence the operation in February 2005. Considering the urgency of using the two facilities, the Nepalese side was requested to consider the necessary measure for the operation of the two facilities in the months prior to the arrival of the transportation vehicles. In addition, the Study Team stressed that as the improvement works were being conducted for the technology transfer to the Nepalese side of its operation, the operation of both facilities was essential. In this connection, the alternatives for the operation during that period were proposed and discussed as follows:

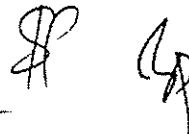
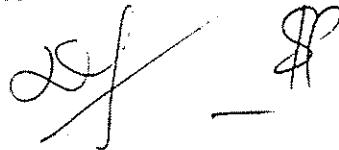
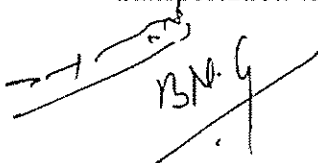
Alternative 1 : Transport all KMC and LSMC municipal solid waste to Sisdol using rented trucks and existing equipment

Alternative 2 : Transport a portion of KMC and LSMC municipal solid waste to Sisdol using rented trucks and existing equipment

Alternative 3 : Transport a portion of KMC and LSMC municipal solid waste to Sisdol using existing equipment

As a result of discussion, the Nepalese side promised to make efforts to operate Teku Transfer Station and Sisdol Landfill Site from February 2005 based on Alternative 2 by making the following arrangements:

1. Direct hiring of some dump trucks of capacity 5-6t to transport solid waste from Teku Transfer Station to Sisdol Landfill Site, or sub-contract of a part of the waste transportation to haulers



2. Modification of the collection system in KMC and LSMC to increase the amount of solid waste that can be transported directly to Sisdol Landfill Site
3. Procurement of a bulldozer for operation at the Sisdol Landfill Site while continuing to operate existing heavy equipment at the Bagmati River dump site
4. Allocation of budget and staff for operation of both landfills
5. Consideration of the distribution of responsibilities by KMC and LSMC to share the three facilities of Teku Transfer Station, Sisdol Landfill Site and Bagmati river dump site

The Nepalese side promised to develop detail operation plan of the both facilities amongst them and to inform the Study Team by December 15, 2004.

4. Implementation of Phase 4 of the Study

The Nepalese side explained their efforts made for the improvement of solid waste management other than the Study as mentioned in the IT/R (2) and requested the Japanese side to conduct Phase 4 of the Study. As the ownership of the Nepalese side such as allocation of the budget by municipalities, restructuring of organizational structure and preparation of National EIA Guideline for Solid Waste Management has been recognized, the Study Team promised to convey the request of the Nepalese side to the JICA Headquarters for the final decision.

5. Important Issues relating to the Study

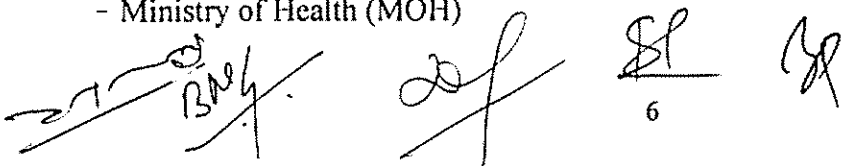
5.1 Implementation Organization of the Study

(1) Steering Committee Members

Both sides re-confirmed that the composition of Steering Committee of the Study as follows:

[Members]

- Ministry of Local Development (MOLD)
- Solid Waste Management and Resource Mobilization Center (SWMRMC)
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Bhaktapur Municipality
- Madhyapur Thimi Municipality
- Kirtipur Municipality
- Ministry of Population and Environment (MOPE)
- Ministry of Physical Planning and Works (MOPPW)
- Ministry of Industry and Commercial Supplies (MOICS)
- Ministry of Education and Sports (MOES)
- Ministry of Health (MOH)



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- Ministry of Agriculture and Cooperative (MOAC)
- MOLD, Environmental Management Section of Municipal Management Division (as member secretary)

[Observers]

- Members of TWG

(2) Assignment of Focal Points as TF Members

The Both Sides confirmed that the focal points, other than the T/F members, appointed to the pilot projects would be involved in the TWG or T/F members officially. The Nepalese Side also promised that all focal points would continue the works in each appointed field even after the Study period.

5.2 Vitalization of Working Group Activities

The Study Team requested the Nepalese side to hold a working group (hereinafter referred to as "WG") actively, which was organized on April 29, 2004 and confirmed at the 2nd ST/C on June 30 1004, for forthcoming operation of the improved Teku Transfer Station and Sisdol Landfill Site. The Nepalese side promised to call a WG meeting soon with the following organizations and chaired by under secretary of Environmental Management Section of Municipal Management Division, MOLD.

- MOLD (chairperson)
- SWMRMC (member and secretariat)
- Kathmandu Metropolitan City
- Lalitpur Sub-Metropolitan City
- Kirtipur Municipality
- JICA Study Team (as technical supporter)
- Other Municipalities (as observers)

5.3 Roles of MOLD and Other Ministries on Solid Waste Management

As discussed at the 2nd ST/C, the Both Sides confirmed that basic roles of the Environmental Management Section of Municipal Management Division, MOLD, on solid waste management are internal procedures of IEE/EIA and development of the policies and directives that MOLD should formulate and implement. Since the Both Sides confirmed the necessity to clarify the demarcation of responsibilities on solid waste management, between not only ministries but also ministry and local bodies, a meeting was proposed to discuss the inter ministerial coordination as well as the coordination between the central governments and local bodies. The Nepalese side promised to organize the meeting during Term 2 of Phase 3.

5.4 Holding of Public Hearings

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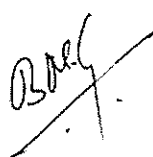
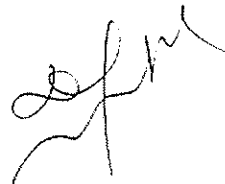
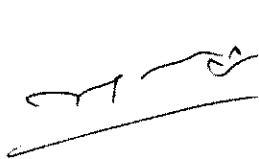
The Both Sides confirmed that public hearings would be held two times in Term 2 of Phase 3 for explanation of the progress of the pilot projects and of finalized action plan, respectively.

5.5 Comments on IT/R(2)

The Nepalese side promised to hold a TWG meeting by themselves to examine and discuss IT/R(2) carefully in December 2004 and provide the Study Team with the comments as soon as the Study Team arrive in Nepal in the beginning of January 2005. The Study Team requested the Nepalese side to involve focal points other than TWG members in that meeting and the Nepalese side agreed.

5.6 Draft Final Report/Final Report

The Nepalese side requested the Japanese side to increase in the number of reports, Draft Final Report/Final Report, to be submitted to the Nepalese side for effective information dissemination to the concerned people. In addition, the Nepalese side requested the Japanese side to bind the reports on the A/P separately so that they could use them easily. The Study Team understood the ideas and promised to convey the request of the Nepalese side to the JICA Headquarters for the final decision.



List of Attendants of the Third Steering Committee for the Study on the Solid Waste Management for the Kathmandu Valley

Ministry of Local Development

Mr. Som Lal Subedi, Joint Secretary
Mr. Surya Prasad Silwal, Joint Secretary
Mr. Babu Ram Gautam, Under Secretary, Chief, Environmental Management Section

Solid Waste Management Resource Mobilization Center

Mr. Surya Man Shakya, General Manager
Mr. Ashok Shahi, Engineer
Mr. Ram Sharan Maharjan, Engineer
Mr. Nirmal Darshan Acharya, Engineer

Kathmandu Metropolitan City

Mr. Gopal Prasad Parajuli, Assistant EO
Mr. Indra Man Suwal, Head, Environmental Department
Mr. Rajesh Manandhar, Chief, Solid Waste Management Section/ Environment Department
Mr. Kiran Ulak, Engineer, Solid Waste Management Section/ Environment Department
Mr. Purusotam Shakya, Mechanical Engineer/Mechanical Section
Ms. Shriju Pradhan Tuladhar, Community Mobilization Unit, Solid Waste Management Section/ Environment Department
Ms. Sanu Maya Maharjan, Community Mobilization Unit, Solid Waste Management Section/ Environment Department

Lalitpur Sub-Metropolitan City

Mr. Komal Prasad Kafle, CEO
Mr. Rudra Pd. Gautam, Head, Public Works Division
Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
Ms. Sabina Maharjan, Community Development Section

Bhaktapur Municipality

Mr. Badri Nath Ghimire, CEO
Mr. Laxman Kisiju, Chief, Planning and Technical Section
Mr. Dinesh Rajbhandari, Sanitation Engineer / Planning and Technical Section
Mr. Moti Bhakta Shrestha, Social Welfare Officer

Madhyapur Thimi Municipality

Mr. Bhuwan Prakash Bista, CEO
Mr. Tulsi Bhakta Tako, Community Development Section

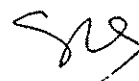
Kirtipur Municipality

Mr. Devi Prasad Nepal, CEO
Mr. Bal Krishna Maharajan, Civil Engineer

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Mr. Gyan Bazra Maharjan, Assistant, Solid Waste Management/Accounting
Mr. Anuj Pradhan, Assistant

Ministry of Population and Environment

Mr. Suman Sharma, Chemist

Ministry of Physical Planning and Works

Mr. Krishna Prasad Dhungana, Under Secretary

Ministry of Industry and Commercial Supplies

Ms. Romi Manandhar, Under Secretary

Ministry of Agriculture and Cooperative

Ms. Bidya Pandey, Horticulture Development Officer

Ministry of Education and Sports

Mr. Narayan Pd. Kafle, Under Secretary

Japan International Cooperation Agency (JICA) Nepal Office

Mr. Yoshinobu Kinoshita, Assistant Resident Representative

JICA Study Team

Mr. Toshiyuki Ujiie, Team Leader / Solid Waste Management Policy

Mr. Mahmoud Riad, Facility Plan

Mr. Shungo Soeda, Waste Collection and Transportation / Recycling System (1)

Ms. Toshiko Shimada, Public Participation/ Social Consideration/ Public Relations (1)

Ms. Minako Nakatani, Organization and Institution / Human Resource Development

Ms. Sachiko Suwa, Public Participation(2) / Social Consideration(2)/ Public Relations(2)/ Coordinator

The image shows five handwritten signatures in black ink. The first signature on the left is written in a cursive style and includes the initials 'B.A.M.' above it. The second signature is also cursive and appears to be 'Anuj Pradhan'. The third signature is a stylized 'G' inside a circle. The fourth signature is a cursive signature that appears to be 'Toshiyuki Ujiie'. The fifth signature on the right is a cursive signature that appears to be 'Sachiko Suwa'.