

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

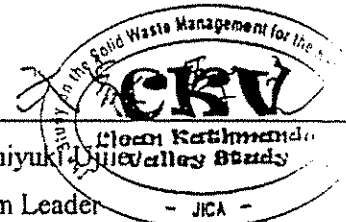


Kathmandu, March 21, 2005

*S. Subedi*  
2047  
**Joint Secretary**

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

*Surya Prasad Silwal*  
Surya Prasad Silwal  
Chief Executive Officer  
Kathmandu Metropolitan City



*Toshiyuki*  
Toshiyuki  
Team Leader  
JICA Study Team

*K. B. Kafle*  
Komal Prasad Kafle  
Chief Executive Officer  
Lalitpur Sub Metropolitan City

Witness

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

Witness

*Shinji Yoshiura*  
Shinji Yoshiura  
Resident Representative  
JICA Nepal Office

## 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 of 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 special meeting for the pilot projects of 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. Study Period

### (1) Study Period Extension

Although extensive and intensive efforts are being made by Both Sides, the work progress for the pilot projects has been delayed slightly behind the originally planned schedule due to some unavoidable reasons. Considering the pilot project schedule, the Nepalese side issued the letter regarding Request for the Extension of Period for CKV Study to Mr. Shinji Yoshiura, Resident Representative of JICA Nepal Office on December 20, 2004. As it was recognized that study schedule should be modified in order to complete the originally planned tasks aiming at capacity development for the counterpart personnel, Both Sides agreed that the study period should be extended at least two (2) months in such a way that Final Report be submitted by the end of August 2005.

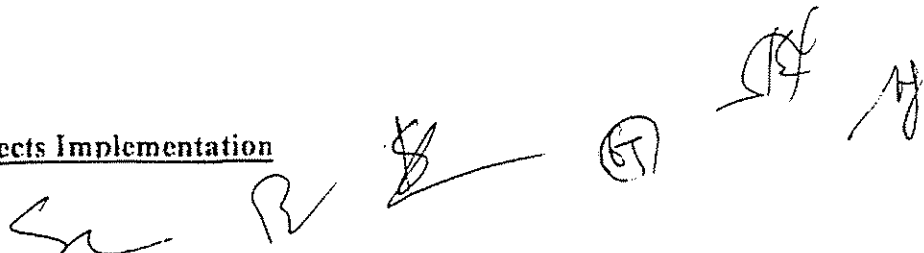
### (2) Official Visa Application

The Nepalese side agreed to take necessary measures for official visa application based on the revised assignment schedule of the Study Team members as mentioned in the above. The detail of the assignment schedule is given in Appendix-2.

### (3) Letter of Credential

The Nepalese side agreed to officially prepare a letter of credential to the Study Team so that the Study Team members can pass the check points on the way to the study areas and related places.

## 3. Pilot Projects Implementation



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### 3.1 Handing Over of the Pilot Project Facilities

Both sides confirmed that the civil works for the improvement of Teku transfer station and Sisdol landfill site (hereinafter referred to as "Both Facilities") which had been implemented as parts of the following two components of the pilot projects (hereinafter referred to as "Both Pilot Projects") of the Study had been completed.

A-3 Training for Planning and Operation and Management of Transfer Station

C-2 Training for Semi-aerobic Sanitary Landfill System

The portions of the civil works of Both Pilot Projects are shown in the respective As Built Drawings which were provided by the Study Team to the Nepalese side on March 17, 2005, while the remaining works of Both Facilities as of March 21, 2005, were confirmed by Both Side as follows;

#### Teku Transfer Station:

The outstanding works remaining by the Study Team are the installation of a weighbridge (electric kits) and construction of the weighbridge approach and exit ramps. The Study Team promised to complete them as soon as Kathmandu Metropolitan City (hereinafter referred to as "KMC") completes the construction of the scale house adjacent to the weighbridge.

On the other hand, KMC promised to improve the drainage system by clearing the drains and providing drain covers as per agreed in Minute of Meeting dated on September 17, 2004 in order to maintain clean conditions at the site and decrease odor problem.

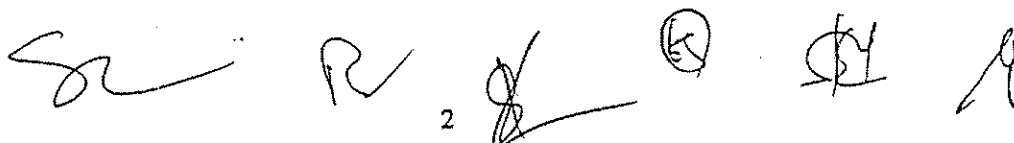
#### Sisdol Landfill Site:

The outstanding works remaining by the Study Team are the installation of a weighbridge and aerator. The Study Team promised to complete them as soon as the transportation situation is improved.

On the other hand, SWMRMC promised to speed up the implementation of the outstanding works such as utility supply, especially electricity supply, and fencing installation as per assigned to the Nepalese side in Minute of Meeting dated on September 17, 2004.

### 3.2 Ownership of Both Facilities

With this Minute of Meeting, it was confirmed by Both Sides that ownerships of civil works of Both Facilities were officially handed over to the Nepalese side, i.e. Teku transfer station to KMC and Sisdol landfill site to SWMRMC. The Nepalese side promised that they would

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maintain and efficiently operate Both Facilities including budget allocation for effective waste transportation and final disposal from the date of signing of this Minute of Meeting.

Both Sides also confirmed that if any comments arise on the construction which may be covered during the defect liability period, they would be confirmed and discussed by Both Sides to find out the remedial measures.

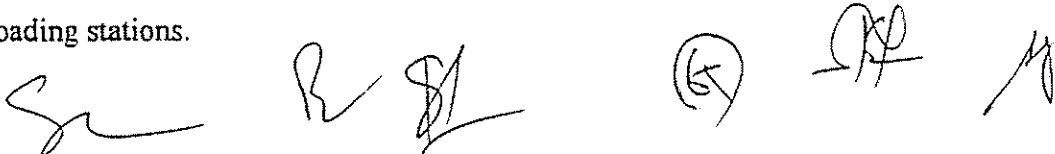
### 3.3 Operation and Management of Both Facilities

The Nepalese side promised that they would take necessary measures such as agreement among the concerned organizations for arrangement of staff, equipment and budget to manage and operate Both Facilities.

Since Both Pilot Projects include training for operation and management of Both Facilities, the Nepalese side also promised to develop the specific operation plans for them, which are vital to the smooth implementation of Both Pilot Projects. The operation plans were confirmed to include at least the following conditions and activities as described hereafter for each facility.

#### 3.3.1 Teku Transfer Station

- (1) KMC will be responsible for operation of Teku transfer station and will designate a transfer station manager.
- (2) KMC will assign sufficient and capable operation staff to operate and gain technical experience from the pilot project.
- (3) Incoming primary collection trucks will be weighed and directed either to the unloading platform or to the tipping area.
- (4) Incoming trucks arrival times and weight of transported waste will be recorded and maintained.
- (5) Safety precautions will be maintained at the site to avoid occurrence of accidents to the workers at the site and the scavengers.
- (6) Unloading operations from the unloading platform during the dark without sufficient lighting will be avoided.
- (7) Collection truck drivers will be trained on backing up to the unloading positions on the unloading platform.
- (8) Transfer truck drivers will be trained to maneuver into the bays designated under the unloading stations.

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- (9) Collection vehicles and transfer trucks will access and exit the transfer station from the designated gates in order to ensure the smooth traffic flow within the site.
- (10) Scavenging activities will be managed in a planned way and confined to the designated area.
- (11) The environmental and social issues will be carefully monitored and any suggestions to improve operations will be discussed among the organizations concerned and the surrounding residents.

### 3.3.2 Sisdol Landfill Site

- (1) KMC and Lalitpur Sub Metropolitan City LSMC (hereinafter referred to as "LSMC") will be the main responsible bodies for the operation of Sisdol landfill and will designate a landfill site manager.
- (2) The division of responsibilities between the main beneficiaries, KMC and LSMC, will be determined prior to operation.
- (3) KMC and LSMC will assign sufficient and capable operation staff to operate and gain technical experience from the pilot project.
- (4) KMC and LSMC, in cooperation with SWMRMC, will provide sufficient heavy equipment for the waste spreading and compaction, and vehicles for cover material and water supply.
- (5) Daily operations will include the inspection, weighing and recording of incoming waste trucks, designation of the disposal areas, waste placing and compaction and application of daily soil cover at the end of each working day.
- (6) One or two active waste disposal cells will be operated simultaneously to ensure proper management of the waste disposal operations.
- (7) The aerator will be operated on an as required basis along with the re-circulation system.
- (8) Development works during operation will include the extending of the vertical gas vents, preparation of temporary rain water cut-off drains, preparation of bunds, and turfing and slope protection along the completed waste slopes.
- (9) Maintenance works during operation will include the clearing of any clogged drains and pipes, turfs, countermeasures against slope failures, internal site road, and for heavy equipment.
- (10) The environmental and social issues will be carefully monitored and any suggestions to improve operations should be discussed among the organizations concerned.

### 3.4 Transportation of Waste from Teku Transfer Station to Sisdol Landfill Site

As the improvement of Both Facilities have been conducted for the technology transfer to the

Nepalese side and also considering the critical situation of the current dumping site at the Bagmati River, the operation of Both Facilities was confirmed to be commenced soon, by the end of March, 2005.

Because the first shipment of the secondary transportation vehicles to be procured by the Nepalese side is expected to arrive later this year, and in the interim and with the objectives to develop the capacity of the Nepalese counterparts to operate and manage Both Facilities, it was confirmed that a number of trucks would be rented to transport a portion of the waste brought to Teku transfer station to Sisdol landfill site in addition to the transportation by using existing vehicles in the months prior to the arrival of the secondary transportation vehicles.

As it is difficult to allocate the budget to rent the trucks in this fiscal year by the Nepalese side, however, the Nepalese side requested to the Japanese side to provide some assistance to rent the trucks. Although the Study Team promised to convey this request to JICA Headquarters, the Nepalese side was requested to allocate sufficient budget to cover rental fee of the trucks in the next fiscal year, i.e. from July 15, 2005.

As a result of discussions, Both Sides agreed to set the target to commence the operation of the interim transfer by the rented trucks from Mid- April 2005. The required activities and responsibility sharing were tentatively confirmed as shown below:

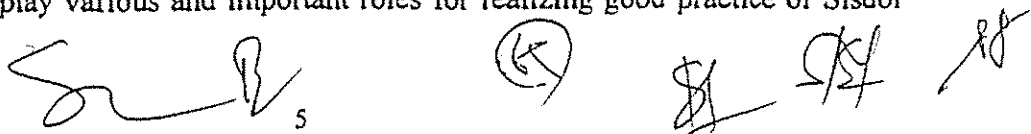
No.	Activities	Responsibilities
1	Rent of some tippers with drivers; x (5 – 6t) capacity (12 – 15m <sup>3</sup> ) for three months	Study Team
2	Provision of fuel	KMC and LSMC (by their respective waste shares)
3	Insurance, lubricants and repairs and maintenance	Study Team (Leasing company)

The Nepalese side promised to consider the appropriate operation hours of interim transfer haul based on the attached interim plan (Appendix-3) under the present nighttime collection system.

In addition, for the operation of Sisdol landfill site, the Nepalese side also promised to arrange necessary heavy equipment even while continuing to operate the Bagmati River dumping site.

### 3.5 Environmental Monitoring at Sisdol Landfill Site

The Nepalese side promised to conduct environmental monitoring continuously and regularly under the close coordination with Local Committee and Environmental Coordination Committee which will play various and important roles for realizing good practice of Sisdol



landfill site operation, such as:


- Confirmation and authorization of effectiveness of environmental countermeasures especially on leachate control
- Sharing of good understandings of Sisdol landfill site with sanitary semi-aerobic manner among the stakeholders
- Ensuring accountability for and consultation opportunity with the stakeholders
- Promotion and dissemination of successful practice toward the Kathmandu Valley and other major cities in Nepal regarding sanitary semi-aerobic landfill site operation

### 3.6 Development of Valley 2 of Sisdol Landfill Site

As the Sisdol landfill site is composed of two valleys, the Nepalese side promised to develop the valley 2 as a semi-aerobic sanitary landfill in the same manner as valley 1 in order to mitigate environmental impacts. The Nepalese side also promised to commence the development of the valley 2 without delay in order to avoid any disruption to the disposal activities at the Sisdol landfill site.

### 3.7 Transfer Station of LSMC

LSMC promised to develop their own transfer station in the long run. However, in the meantime, it was confirmed that sharing of the Teku transfer station by KMC and LSMC would be discussed.

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## Appendix-1: List of Attendants

### **Ministry of Local Development**

Mr. Som Lal Subedi, 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. Surya Prasad Silwal, CEO

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

### **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

### **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. Kiyoshi Shimizu, Recycling (2) and Hazardous Waste

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

Handwritten signatures of the JICA Study Team members, including Mr. Toshiyuki Ujiie, Mr. Mahmoud Riad, Mr. Kiyoshi Shimizu, Ms. Sachiko Suwa, and another individual.



**Appendix-2 Assignment Schedule of JICA Study Team Members**

No.	Position	Name	FY2003 (First Annual)												FY2004 (Second Annual)				FY2005 (Third Annual)																			
			12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8															
			Phase 0-1-2												Phase 3				Term 2																			
1	Team Leader/ Solid Waste Management Policy	Tochiyuki UJIE															1/10	2/15	3/13/24	4/9	4/29	8/3	7/14															
2	Facility Plan	Mahmoud RUAD															1/10	1/24	2/17	3/21	4/15	5/9	8/10	6/30														
3	Collection & Transportation / Recycling System (1)	Shueto SOEDA															1/18	2/4		4/9	4/23	5/5	8/23															
4	Recycling System / Hazardous Waste	Kiyoshi SHIMIZU															3/2	3/16		4/17	5/1																	
5	Procurement Plan	Satoshi HIGASHIHAKAGAWA																																				
6	Environment	Norio INOUE																																				
7	Public Participation/Social Consideration (Public Relations (1))	Tohiko SHIMADA															1/22	2/5		4/9	4/23	5/7	8/16															
8	Institutional and Organizational Strengthening/ Human Resources Development	Mitsuko HAKATANI															1/31	2/3	2/15	2/28	4/11	5/1	6/1	8/21														
9	Finance Analysis	Noboru OSKABE																																				
10	Public Participation / Social Consideration (2)/ Coordinator (Public Relations (2))	Sachiko SUWA															1/10		3/24		4/9	5/8	5/24	7/14														
Note:			△ ICR												△ ITR(1)				△ ITR(2)				△ ITR															
Reports			▲												▲				▲				▲															
Steering Committee																																						
Seminar																																						
Public Hearing																																						
Work in Nepal			■												■				■				■															
Work in Japan			□												□				□				□															

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**Appendix-3 Interim Transfer Haul from Teku Transfer Station to Sisdol Landfill Site**

**1. Interim Transfer Haul**

During the Interim Period, from mid April to mid July 2005, the Sisdol Landfill Site (LF) shall not be operated in the night time for the following reasons:

- The Sisdol LF is not equipped for night time operations
- The roads leading to the Sisdol LF are narrow with sharp curves and not lit and are dangerous to negotiate during the night
- The Sisdol LF operation is new for the Sisdol LF Operator (KMC and LSMC) and difficult conditions should not be imposed upon the Operator at the start

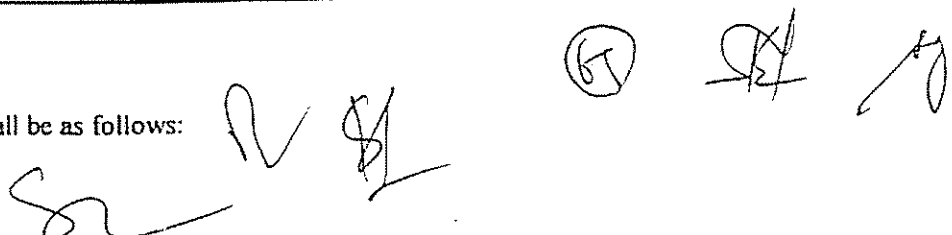
In the recently introduced night time collection system both KMC and LSMC reportedly operate two collection sifts, from 19:00 to around mid-night and from 5:00 to 7:00 daily. In this connection, the Interim Transfer Haul shall target waste collected and brought to Teku transfer station (T/S) during the second shift of 05:00 to 07:00 daily.

It is estimated that three hours are required for the transfer truck to make a round-trip from Teku T/S to Sisdol LF and back. Further each transfer truck shall make two trips. Therefore the approximate time frame for the operation of the interim transfer trucks is from 05:30 to 11:00 as shown below:

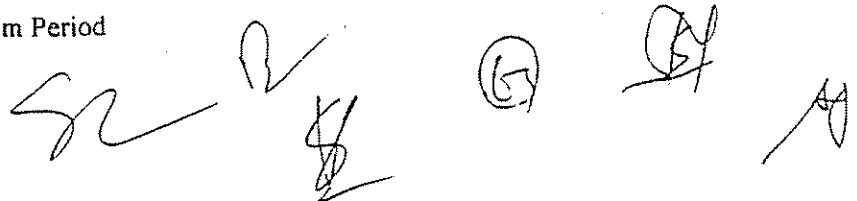
Interim transfer truck trip schedule	0530	0600	0630	0700	0730	0800	0830	0900	0930	1000
	-	-	-	-	-	-	-	-	-	-
	0600	0630	0700	0730	0800	0830	0900	0930	1000	1030
<b>TRIP 1</b>										
Depart Teku T/S	█									
Sisdol un-loading				█						
Return Teku T/S							█			
<b>TRIP 2</b>										
Depart Teku T/S*							█			
Sisdol un-loading										█
Park at Teku T/S	In principle, transfer trucks park at Teku T/S. After the 2 <sup>nd</sup> trip leaves Sisdol LF, and a possible stop for fueling or small maintenance, the transfer trucks are expected to return to Teku T/S at around 12:00 to 13:00 for parking.									
Note *	The departure time from Teku T/S for second trip may differ depending on the traffic conditions.									

**2. Operation Plan**

(1) Operation hours shall be as follows:



- a Collection trucks operate from 5:00 to 7:00 daily
  - b Transfer trucks operate from 05:30 to 13:00 daily
  - c Un-loading-loading practices are conducted at the Teku T/S un-loading platform for two periods; 05:30 to 06:00 (for first trip of each transfer truck) and 08:30 to 09:00 for second trip (depending on the traffic conditions).
  - d The Sisdol LF is operated from 06:30 to 12:00 daily
- (2) KMC and LSMC shall maximize the use of tippers during the morning shift and direct them go to the Teku T/S
  - (3) Un-loading-platform at the Teku T/S is used by the tippers for unloading into the transfer trucks. In case of the second trip, if there is a delay in the return of the transfer trucks to the Teku T/S for loading, then KMC may load the transfer trucks using the wheel loaders.
  - (4) In addition to the interim transfer trucks (rented trucks), KMC makes efforts to send multi-packer trucks to the Sisdol LF from time to time
  - (5) Incoming tippers are weighed before ascending the un-loading platform
  - (6) Outgoing transfer trucks may be weighed either at the Teku T/S or at the Sisdol LF
  - (7) KMC allocates at least one staff to be stationed at the Teku T/S during the operating hours
  - (8) The Study Team and KMC monitor, modify as necessary and evaluate the operation of the Teku T/S pilot project during this Interim Period

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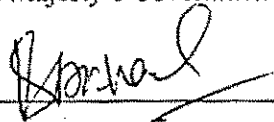
MINUTES OF MEETING  
OF  
THE FOURTH STEERING COMMITTEE  
FOR  
THE STUDY  
ON  
THE SOLID WASTE MANAGEMENT  
FOR  
THE KATHMANDU VALLEY

AGREED UPON AMONG  
MINISTRY OF LOCAL DEVELOPMENT  
AND  
FIVE MUNICIPALITIES OF THE KATHMANDU VALLEY  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

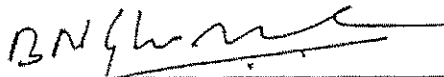
Kathmandu, June 29, 2005



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



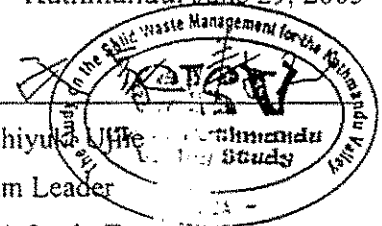
Hem Sharma Pokharel  
Chief Executive Officer  
Kathmandu Metropolitan City



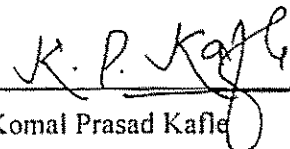
Badri Nath Ghimire  
Chief Executive Officer  
Bhaktapur Municipality



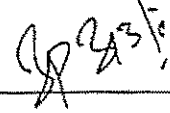
Naresh Kumar Regmi  
Chief Executive Officer  
Kirtipur Municipality



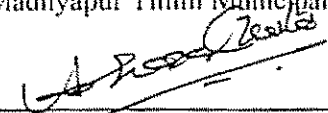
Toshiyuki Ueda  
Team Leader  
JICA Study Team



Komal Prasad Kafle  
Chief Executive Officer  
Lalitpur Sub Metropolitan City



Bhuwan Prakash Bista  
Chief Executive Officer  
Madhyapur Thimi Municipality



Ashok Shahi  
For General Manager  
Solid Waste Management and  
Resource Mobilization Center

## 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 fourth Steering Committee (hereinafter referred to as "ST/C") held on June 29, 2005 for discussion on Draft Final Report (hereinafter referred to as "DF/R") 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 upon 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.

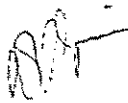
## 2. Draft Final Report

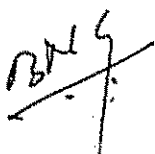
The Study Team submitted a set of the DF/R to MOLD on June 29, 2005 and explained and discussed the results of the Study. MOLD will distribute the DF/R to the five municipalities, i.e. Kathmandu Metropolitan City (hereinafter referred to as "KMC"), Lalitpur Sub-Metropolitan City (hereinafter referred 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")<sup>1</sup>, Solid Waste Management and Resource Mobilization Center (hereinafter referred to as "SWMRMC") and other relevant organizations.

At this ST/C, Both Sides made further clarifications about the DF/R. Some of the main issues of the discussions are as follows:

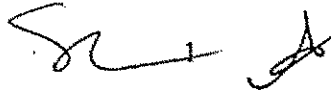
### 2.1 Activities of the Study and Its Evaluation

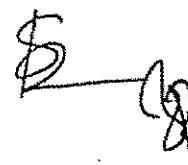
The Nepalese side expressed their gratitude to the Study Team. The Study Team also expressed gratefulness to the Nepalese side especially MOLD, SWMRMC, five municipalities, Technical Working Group (hereinafter referred to as "TWG") and Task Force (hereinafter referred to as "TF") members including focal points of the pilot projects for their active involvement in the activities of the Study.

  
<sup>1</sup> 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











The Study Team explained their final evaluation of the activities of the Study and recommendations for further activities as mentioned in the DF/R.

## 2.2 Pilot Projects of the Study

### (I) Continuation of Pilot Project Activities

Both Sides confirmed achievement level of the following five broad pilot projects based on Project Design Matrixes as per attached in the DF/R.

A: Improvement of Collection and Transportation

B: Promotion of Waste Minimization

C: Improvement of Final Disposal Planning and Operation

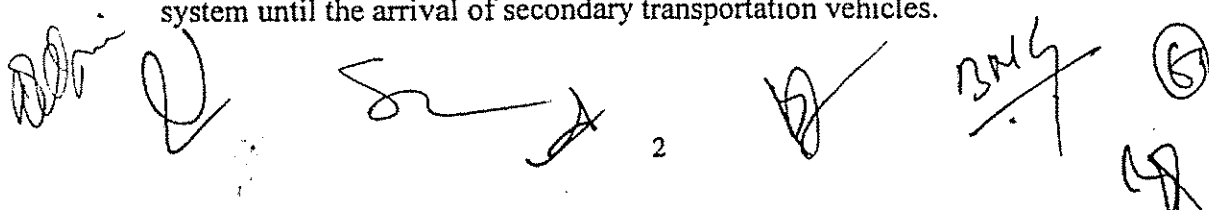
D: Public Awareness and Behavior Change Communication/Education

E: Improvement of Solid Waste Management Capacity

Nepalese side promised to continue the activities of each of the five broad pilot projects through respective municipalities and SWMRMC by arranging necessary budget and staff. Particularly, various activities which have been conducted as Practices of Collection and Transportation (A-1), Local Level Waste Minimization (B-2), Mass Communication and Education (D-2), Interpersonal Communication and Education (D-3) and Solid Waste Data Management (E-2) were promised to be continued by the Nepalese side.

For the continuation of the pilot projects activities relating to Training for Planning and Operation and Management of Transfer Station (A-3) and Training for Semi-aerobic Sanitary Landfill System (C-2), the major points to be considered by the Nepalese side were confirmed by Both Sides as follows:

- Continuous transportation of the solid waste from Teku transfer station to Sisdol landfill site by as per agreed in Minutes of Meeting dated on March 24, 2005.
- Development of the valley 2 of Sisdol landfill site as per agreed in Minutes of Meeting dated on March 24, 2005.
- Appropriate operation and management of Sisdol landfill site based on the operation manual prepared by the Study Team, which was promised to be translated into Nepal by SWMRMC.
- Continuous and periodical holding of Sisdol landfill site operation review committee meetings.
- Holding of Environmental Coordination Committee meetings to assess the results of environmental monitoring which would be conducted by SWMRMC.
- Consideration of appropriate timeframe of waste transferring at Teku transfer station and landfilling at Sisdol landfill site by reviewing the current nighttime collection system until the arrival of secondary transportation vehicles.

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As for the waste acceptance at Teku transfer station from KRM and MTM which had been conducted under the pilot projects, it was accepted and confirmed that KMC, MTM and KRM would discuss the details of this matter.

**(2) Outstanding Works at Teku Transfer Station and Sisdol Landfill Site**

Both Sides have implemented the pilot projects, Training for Planning and Operation and Management of Transfer Station (A-3) and Training for Semi-aerobic Sanitary Landfill System (C-2) as outlined in the Minutes of Meeting signed between Both Sides on September 17, 2004. Although both pilot projects commenced operation on June 5<sup>th</sup>, 2005, some important works remain to be completed by the Nepalese side as described in the same minutes of meeting, and which may have a bearing on the success of these pilot projects. These are as follows:

A-3 Training for Planning and Operation and Management of Transfer Station

- Provision of covers for drains
- Development of water supply at the transfer station

C-2 Training for Semi-aerobic Sanitary Landfill System

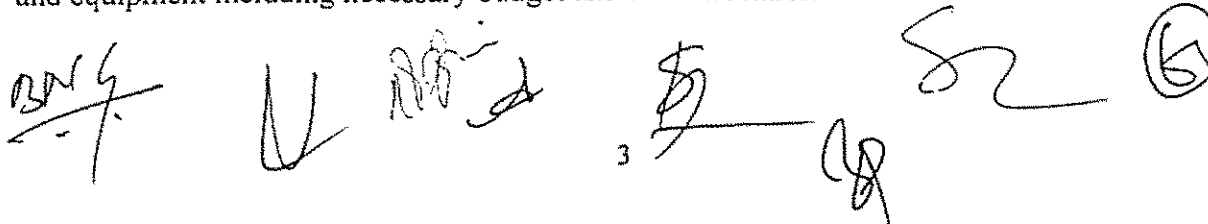
- Provision of electricity supply, water tanks and telephone line
- Installation of fence and gates
- Completion of construction works at the administration area including windows installation, toilets, etc.

The Nepalese side promised to complete these outstanding works as soon as possible.

**(3) Handing Over of Pilot Project Facilities and Equipment**

With Minute of Meeting dated on March 24, 2005, the ownership of civil work portions of Teku transfer station and Sisdol landfill site, which were improved under the pilot projects, was officially handed over to the Nepalese side, i.e. Teku transfer station to KMC and Sisdol landfill site to SWMRMC. With this Minute of Meeting, it was confirmed by Both Sides that the weighbridges and associated accessories (electric kits, computer, etc.) installed at Teku transfer station and Sisdol landfill site, the aeration system and generator installed at Sisdol landfill site were also handed over to the Nepalese side, i.e. the weighbridge at Teku transfer station to KMC and the others to SWMRMC.

The Nepalese side assured to operate efficiently, maintain and safeguard the above facilities and equipment including necessary budget and staff allocation.



In addition to the above facilities and equipment, it was also confirmed by Both Sides that ownership of the following facilities and equipment was officially handed over to the Nepalese side.

B-2: Practice of Local Level Waste Minimization Activities

- Vermi-composting shed and related equipment: to KMC
- Storehouse for collected plastics: to KRM

E-2: Practice of Solid Waste Data Management

- Six sets of a computer and printer including software installed in the computers: to Each of the five municipalities and SWMRMC

**(4) Procurement of Collection Vehicle for Thimi**

The official procedures for submitting a request of procurement of a collection vehicle to JICA have been delayed mainly due to incomplete application by the Nepalese side. However, since MTM has a strong interest to continue the collection and transportation activities which have been conducted as part of the pilot project, A-1.2: Practice of Collection and Transportation, the Nepalese side expressed that they would request again the Japanese side to procure the collection vehicle for JICA's consideration.

**2.3 Targets of Action Plan**

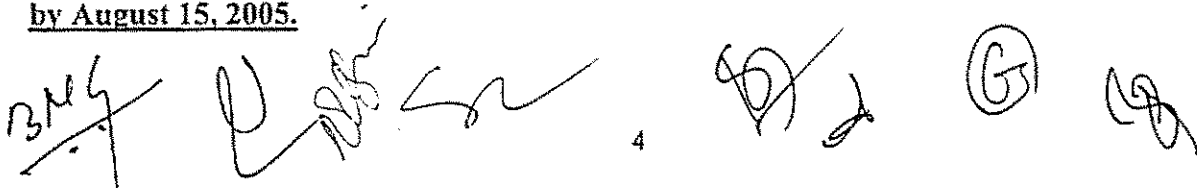
Both sides confirmed that management ratio (amount) would be applied instead of collection ratio (amount) as targets of the Action Plans as per discussed in the DF/R.

**2.4 Commitment of Implementation of Activities of Action Plan**

The Nepalese side committed to implement the activities of the Action Plans which had been developed by each of the five municipalities and SWMRMC. The Study Team recommended that the Annual Work Plans of 2005/2006 (2062/2063 of Nepalese calendar) as well as the Action Plan should be shared with the concerned staff of each of the five municipalities and SWMRMC and should monitor and evaluate the progress of the activities. In reply this, the Nepalese side promised to approve each of the Action Plans by respective Municipality Boards as soon as possible.

**2.5 Comments on DF/R**

The Nepalese side promised to hold a series of TWG meetings by themselves to examine and discuss the DF/R carefully and provide the Study Team with their comments in writing form by August 15, 2005.

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It was confirmed that SWMRMC to have the responsibility to organize TWG meetings and collect the comments from concerned organizations.

The Study Team requested the Nepalese side to involve focal points and concerned NGO/CBOs and private sectors other than TWG and TF members in the discussion and the Nepalese side agreed.

### **3. Phase 4 of the Study**

#### **3.1 Implementation of Phase 4 of the Study**

As discussed at the 3<sup>rd</sup> Steering Committee, Both Sides confirmed that Phase 4 of the Study, Monitoring and Follow-up of the Action Plans, would be implemented as per agreed in the Scope of Work for the Study dated on September 12, 2003 (hereinafter referred to as "Scope of Work"). However, the Japanese side expressed their concern about the outstanding works at Teku transfer station and Sisdol landfill site as discussed above. In reply this, the Nepalese side promised to complete the said outstanding works latest by the start of the Phase 4 Study.

#### **3.2 Contents of Phase 4 of the Study**

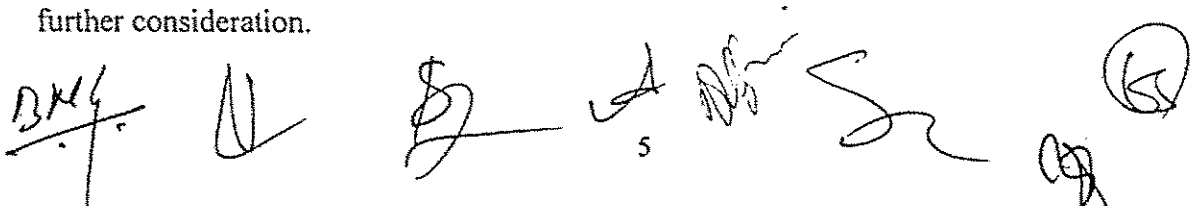
The contents of Phase 4 Study were discussed as follows:

##### **(1) Monitoring and Follow-up of Activities of 2005/2006 Annual Work Plan**

As the Phase 4 Study is the monitoring and follow up of the Action Plans, the Japanese side proposed that monitoring of the activities, which would be described in each of the Annual Work Plan of 2005/2006 (2062/2063 of Nepalese calendar), by using a certain form and technical instructions for the activities as the follow up would be conducted. The Nepalese side agreed that main components of the follow-up were source separated collection, waste minimization activities and solid waste data management.

##### **(2) Technical Support for Operation of Teku Transfer Station and Sisdol Landfill Site**

As the secondary transportation vehicles are planned to arrive in Nepal by the end of September, 2005, the Nepalese side requested the Japanese side to provide necessary technical supports for operation of Teku transfer station and Sisdol landfill site and maintenance of the secondary transportation vehicles including workshop improvement. In addition, the Nepalese side, KMC, expressed that they would like to review and improve the primary collection system on the occasion of the arrival of the secondary transportation vehicle. As the Study Team has been recognizing the necessity of technical supports for the above ideas, the Study Team promised to convey the ideas to the JICA Headquarters for further consideration.



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**(3) Social and Environmental Considerations for Development of Facilities**

The Nepalese side also requested the Japanese side to provide technical supports for development of urgently necessary facilities on solid waste management, such as a long-term landfill site, a waste processing plant and transfer station of LSMC as the follow-up of the Action Plans. The Study Team replied that environmental studies including social considerations were essential to develop the said facilities. With this reason, the Nepalese side requested the Japanese side to provide technical supports for better IEE/EIA on targeting the said facilities including some field surveys based on the Environmental Protection Act and Rules, the proposed the National Environmental Impact Assessment Guideline on Solid Waste Management and JICA EIA Guideline.

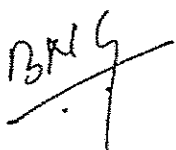
The Study Team has recognized that a long-term landfill site next to Sisdol landfill site was required to be developed within the lifetime of Sisdol landfill site (around three years including valley 2 of the site). However, although the location of a long-term landfill site was decided at Banchare Danda by HMG/N (MOLD) and confirmed by the Executive Board of SWMRMC, the Study Team recommended that HMG/N (MOLD) should sincerely discuss with the beneficiaries of the site, namely KMC and LSMC, on how to bridge the relatively high haulage costs that were expected from using the site.

As for the waste processing plant, it was confirmed by Both Sides that a large-scale waste processing plant was to be developed urgently nearby the city area and the HMG/N (MOLD), SWMRMC, should take an initiative to develop the plant together with KMC and LSMC. However, as no concrete location for the plant has been confirmed yet, the Nepalese side was requested to take necessary actions to secure land for the plant as soon as possible.

As for the transfer station of LSMC, the Nepalese side explained that they would secure the land and budget for the development.

For social and environmental consideration of the above facilities, the Study Team explained that they would convey the request of the Nepalese side to the JICA Headquarters for further consideration if the Nepalese side decided the concrete locations of the both facilities.

In addition, the Nepalese side requested the Japanese side to further technical support to develop Taikabu landfill site. Although the necessity of the site has been discussed during the Study, the Study Team explained that consensus among local people about development of the site was an essential issue to be solved. The Nepalese side, BKM, expressed that they would try to obtain consensus of the local people as soon as possible with necessary supports of HMG/N (MOLD) and SWMRMC.



#### (4) Others

Because medical waste, especially infectious waste, from hospitals and clinics could not be accepted at Sisdol landfill site, KMC expressed their concern about its treatment. In this connection, the Nepalese side again requested the Japanese side to implement some activities regarding the medical waste management as part of the Phase 4 Study. The Study Team explained again that as the Study had not targeted the medical waste so far because there was unclear responsible demarcation of the medical waste management in Nepal. After the discussions, it was confirmed that if HMG/N (MOLD) expressed a clear policy and commitment to solve the medical waste problems, JICA would consider possible support toward the issue such as environmental education to the hospital workers by Japanese Overseas Cooperation Volunteers who were working at various hospitals in Nepal.

#### 3.3 Steering Committee

Both sides confirmed that ST/C of the Study would be continued during the Phase 4 Study. The members of ST/C were confirmed to be the same as the present.

#### 3.4 Undertakings of the Nepalese Side

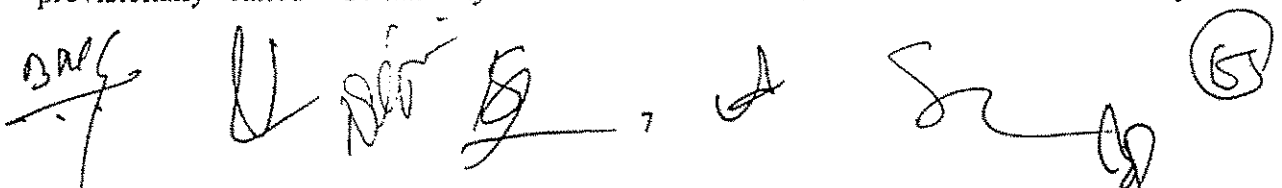
For the smooth conduct of the Phase 4 Study, the Nepalese side promised to continue the undertakings, which were the same as agreed in Scope of Work, during the Phase 4 period. In particular, the Nepalese side promised to secure the office room for the Study Team at Local Develop Training Academy so that the Study Team could keep their documents and equipment relating to the Study there.

### 4. Important Issues relating to the Study

#### 4.1 Cooperation of Five Municipalities and SWMRMC

Both Sides confirmed that cooperation and interaction of the five municipalities and SWMRMC had been remarkably promoted during the Study period such as through a series of discussions at TWG and T/F meetings, pilot projects implementation and participation to the JICA Country Focused Training in Japan. The Japanese side expressed their concern about continuous cooperation of the five municipalities and SWMRMC after the Study period. The Nepalese side promised to continue and expand this relation in the future by holding periodic TWG meetings, etc. under the initiative of SWMRMC. The JICA Nepal office expressed that they were willing to participate to the said TWG meetings and the Nepalese side welcomed it.

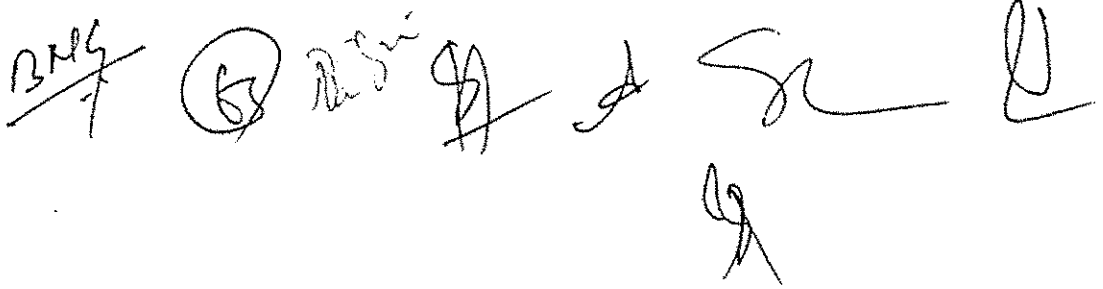
As part of the above idea, it was proposed that a network for community mobilization, provisionally called "*Community Mobilization Network*," would be established by the

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Nepalese concerned parties to sustain the effects of the pilot projects and strengthen further intra-municipal cooperation and coordination.

#### 4.2 Holding of Public Hearings

The Study Team requested the Nepalese side to hold 5th public hearings for explanation of the results of the pilot projects and finalized Action Plans within the remaining study period. The Nepalese side promised to hold the public hearings by July 10, 2005.

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## Appendix-1: List of Attendants

### **Ministry of Local Development**

Mr. Som Lal Subedi, Joint Secretary

Mr. Babu Ram Gautam, Under Secretary, Chief, Environmental Management Section

### **Solid Waste Management Resource Mobilization Center**

Mr. Surya Man Shakya, Ex-General Manager

Mr. Ashok Shahi, Engineer

Mr. Ram Sharan Maharjan, Engineer

Mr. Nirml Darshan Acharya, Engineer

### **Kathmandu Metropolitan City**

Mr. Hem Sharma Pokharel, CEO

Mr. Gopal Prasad Parajuli, Assistant Executive Officer

Mr. Indra Man Suwal, Head, Environmental Department

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

Mr. Purusotam Shakya, Mechanical Engineer/Mechanical Section

### **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

### **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. Satya Narayan Shah, Chief, Planning and Technical Section

### **Kirtipur Municipality**

Mr. Naresh Kumar Regmi, CEO

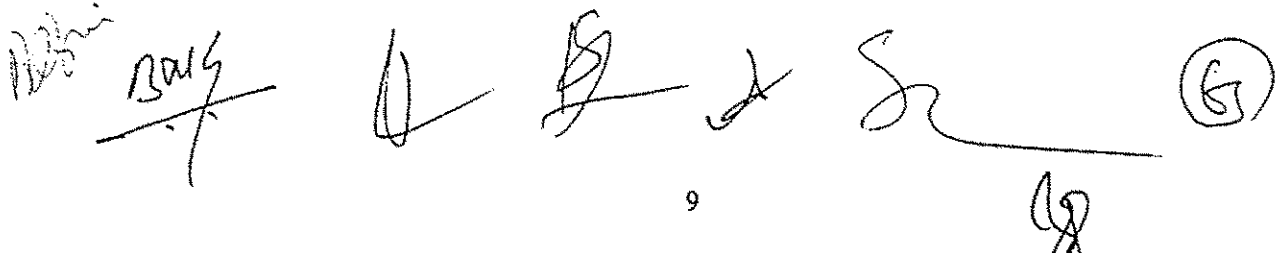
Mr. Bal Krishna Maharajan, Civil Engineer

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

Mr. Anuj Pradhan, Assistant

### **Ministry of Physical Planning and Works**

Mr. Krishna Prasad Dhungana, Under Secretary



**Ministry of Agriculture and Cooperative**

Ms. Bidya Pandey, Horticulture Development Officer

**Japan International Cooperation Agency (JICA) Nepal Office**

Mr. Yoshinobu Kinoshita, Assistant Resident Representative of JICA Nepal Office

Mr. Sourab Rana, Program Officer of JICA Nepal Office

**JICA Study Team**

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

Mr. Mahmoud Riad, Facility Plan

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

Mr. Norihiko Inoue, Environment

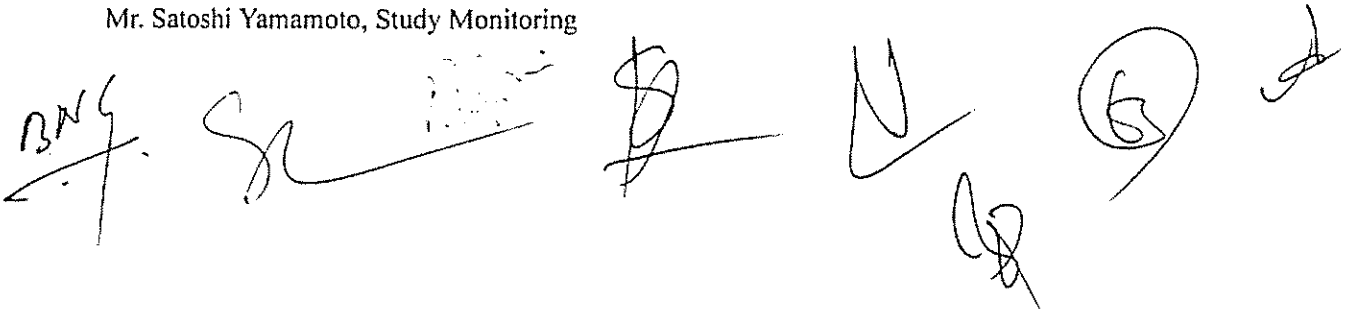
Ms. Sachiko Suwa, Public Participation(2)/Social Consideration(2)/Public Relations(2)/ Coordinator

**JICA Advisory Committee**

Prof. Isamu Yokota, Leader

Prof. Ayako Tanaka, Solid Waste Management

Mr. Satoshi Yamamoto, Study Monitoring

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## ***2. Record of Technical Working Group Meeting***

## 2. Record of Technical Working Group Meeting

<b>Subject:</b>	TWG Meeting (1st)	
<b>Date:</b>	February 9, 2004	
<b>Time:</b>	10:00 - 13:30	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager Mr. Ram Maharaja, Engineer Mr. Ashok Shahi, Engineer Mr. Nirmal Darshan Charya, Engineer
	KMC	Mr. Ram Prasad Sharma, Executive Officer Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, Dept. of Environment Mr. Purusotam Shakya, Mechanical Engineer
	LSMC	Mr. Pradeep Amahya, Environmental Engineer Mr. Rudra Pd. Gautan, Senior Engineer
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer
	MTM	Mr. Satya Narayan Shah, Planning and Technical Section Chief Ms. Krishna Shrestha, Assistant Solid Waste Management Technician
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting, Mr. Anuj Pradhan, Planning (Environment)
	JICA Study Team	Mr. Norihiko Inoue Mr. Mahmoud Riad Mr. Kiyoshi Shimizu Ms. Toshiko Shimada Ms. Minako Nakatani Ms. Sachiko Suwa (note taker)

- 1 The role of Technical Working Group (TWG) and the Schedule of the Study (Mr. Inoue)
  - The JICA Study Team explained the role of TWG and the schedule of the Study.
2. Explanation of the Umbrella Concept (Mr. Riad)
  - The JICA Study Team explained the necessity of the umbrella concept as the overall direction of solid waste management (SWM) of the Kathmandu Valley, which is included in Action Plan (A/P) of each municipality. TWG will discuss this matter at coming series of TWG meeting.
  - The main objective of the umbrella concept is that the five municipalities whenever possible share the limited resources in order to secure the technically, environmentally, and financially acceptable SWM facilities.



3. Technical Explanation of Composting, Recycling and Medical Waste (Mr. Shimizu)

- The concept and process of composting were explained from technical view point. The contents of coming surveys about recycling, composting activities, medical solid waste and industrial solid waste were also explained and the JICA Study Team informed to distribute the questionnaires to collect the necessary data.

4. Explanation of Public Relations Activities and Public Hearing (Ms. Shimada)

- The JICA Study Team explained that this Study has one of the strategies to implement the effective public relations activities in order to give information about the Study and the progress as well as to encourage public participation on SWM.
- The JICA Study Team explained the contents of 1st Public Hearing (P/H) and asked TWG to prepare for 1st P/H including to decide the date, expected participants, agenda with Task Force (T/F) members.
- TWG discussed the acronym and slogan of the Study to list their ideas. They will decide those matters at next TWG meeting.

5. Explanation of Training Needs Analysis (TNA) (Ms. Nakatani)

- The JICA Study Team explained the concept of TNA, which will implemented for the T/F members in turn.

6. Outline of the Draft Action Plan (Mr. Inoue)

- The JICA Study Team explained the outline of the Action Plan which is to be formulated by T/F members of each municipality and the schedule to formulate the Draft Action Plan (DfA/P).
- As the first step to formulate the DfA/P, TWG was requested to discuss current situation of each municipality among T/F.

7. Others (Mr. Shakya)

- The 1st seminar will be planned to hold after a series of 1st P/H of each municipality is hold, because it is effective to report comments or opinions as the results of the P/H.

End

<b>Subject:</b>	TWG Meeting (2nd)	
<b>Date:</b>	February 24, 2004	
<b>Time:</b>	10:00 - 15:30	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager Mr. Ram Maharaja, Engineer Mr. Ashok Shahi, Engineer Mr. Nirmal Darshan Charya, Engineer
	KMC	Mr. Ram Prasad Sharma, Executive Officer Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, Dept. of Environment Mr. Purusotam Shakya, Mechanical Engineer
	LSMC	Mr. Pradeep Amahya, Environmental Engineer
	BKM	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer
	MTM	Mr. Satya Narayan Shah, Planning and Technical Section Chief
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting, Mr. Anuj Pradhan, Planning (Environment)
	JICA Study Team	Mr. Norihiko Inoue Mr. Mahmoud Riad Mr. Kiyoshi Shimizu Ms. Toshiko Shimada Ms. Minako Nakatani Ms. Sachiko Suwa (note taker)

1. Presentation about Municipality Profile including SWM Condition from TWG of Each Municipality

1) LSMC (Mr. Pradeep Amatya)

- Social situation of LSMC : City area (16.4 km<sup>2</sup>), Population (200,000), Households (45,000),
- SWM situation: Waste generation (200-250 m<sup>3</sup>/day), Organic rate (60% or more), Total staff involved in SWM (202), SWM vehicles (11 tippers, 2 dumpers, 2 tractors)
- LSMC pointed out some problems on SWM such as, i) the SWM system, which was being well managed under Germany support, was collapsed when the project ended in 1993, and ii) there was a little coordination between SWMRMC and municipalities.

2) KMC (Mr. Rajesh Manandhar)

- Social situation of KMC: population (750,000), population growth (6%), Area (51 km<sup>2</sup>, 35 wards), and major industries (no major industries, few garment industries) and financial structure of KMC.
- Income from SWM was US\$72,000 and expenditure for SWM was US\$2,000,000 in 2001.
- Waste generation is 1.0 L/person/day, which total 975 m<sup>3</sup>/day. Within these waste, collected waste is 900 m<sup>3</sup>/day including collected waste by public sectors, which is about 250 m<sup>3</sup>/day.

- There are 1,050 sweepers for manpower, which account 60% of total SWM expenditures (US\$1,252,444).
  - Other expenditures are collection (24%), transfer station (2%), transportation (7%), and landfill (7%).
  - The organic waste accounts 70% of total waste.
  - There are 7 major problems in KMC, which are i) inefficient collection system, ii) no proper planning, iii) attitude way we see waste is “throw & forget”, iv) no landfill site in operation, v) only on Teku T/S in operation, vi) inflexible system, vii) proper utilization of available resources.
- 3) KRM (Mr. Anuj Pradhan)
- Population of the municipality is about 48,000. 2 groups of private sector are engaged in SWM activities especially for collection. The municipality intends to introduce private sector oriented SWM in the DfA/P.
- 4) MTM (Mr. Satya Narayan Shah)
- MTM mentioned that T/F hadn't discussed or prepared for the DfA/P and there are few data for available including their own budget.
- 5) BKM (Mr. Dinesh Rajbhandari)
- Social situation of Bhaktapur: Area (688.4ha, 75% is agricultural land, 17 wards), population (62,191), population growth rate (1.68%), etc.
  - Waste generation is 22t/day, collection rate is 90%, intermediate treatment is 1.9t/day (including 0.96% of composting), final disposal waste is 14 t/day.
  - Waste composition: 75% is organic matters and 3.4% is plastic and polymers.
  - Budget of SWM is Rs 15 million, which accounts 9.8% of total budget.
  - 91% of SWM budget is used for collection and transportation, 1.4% for maintenance.
  - BKM had tried separated collection, which was failed.
  - EIA of Taikabu landfill is now on going.
2. Explanation about History and Process of Sisdol Short-term Landfill Site (S/T-LFS) from Counter part of SWMRMC (Mr. Ashok Shahi)
- SWMRMC explained about history and process of Sisdol S/T-LFS.
  - Before the closure of the Gokarna Landfill site (LFS), SWMRMC had started to study for development of Sanitary landfill site within the Kathmandu Valley. Because of the strong public resistance and technical reasons, IEE study for short-term LFS located outside the Valley was implemented, which report had recommended developing long-term LFS in 1995.
  - After the closure of Gokarna LFS in 2000, KMC and LSMC have started to dump solid waste along the bank of Bagmati River for temporary solution. Due to the strong public pressure against dumping, HMG/N has decided to develop short-term LFS in Okharpauwa and EIA

study was implemented and submitted to the Ministry of Population and Environment (MOPE).

- After approval EIA report from the MOPE, SWMRMC has started necessary infrastructure development works regarding to short-term LFS, which is expected to be completed by the end of September, 2004.
- Access road from Balaju to Tinpile for operation of short-term LFS is existing Trisuli highway due to limited budget.

### 3. Progress for the Preparation of Public Hearing (Mr. Shakya)

- TWG of each municipality reported the progress of the preparation of the 1st P/H as below.
- The JICA Study Team advised that TWG should be careful about the information to the public because some future plan which hasn't been decided as A/P would only make the public confused. The JICA Study Team also advised that in the 1st P/H they should focus on disseminating information about the current situation regarding SWM in each municipality and collecting a variety of views and perspectives from the public through the participatory discussions or dialogues.

Municipality	Date	Venue	Participant	Agenda
KMC	March 1-5, 2004	To be discussed		
LSMC	March 10, 2004		50 Ward chief (50), NGO (2), Municipality Staff (10), Others (16)	
BKM	March 7, 2004 13:00-17:00	City Hall or Meeting hall	60-100 Board members (19), NGO/CBO (15), Woman Group (10), Journalist, Political parties, Economist, School masters (10)	- Current Situation of SWM (Presentation made by T/F) - Comments, recommendations from the public - Conclusion
MTM	March 1-5, 2004	3 options (School, TB hospital)	100 Ward Chairman, NGO/ CBOs Engineer Association, Women groups, Social workers, Political parties, Teachers	- Current situation on SWM including JICA cooperation - Roles of Public/Voluntary Cost sharing
KRM	March 5, 2004 7:00 or 8:00-11:00	Community Office, Monastery	30-35 Board members (18), Political parties, representatives, Intellectuals, CBOs, NGO	- Current Situation on SWM - Idea Sharing: Group discussions views - JICA's involvement

### 4. Examination of Suitability of Sisdol S/T-LFS (Mr. Inoue)

- The JICA Study Team explained that the stand points of examination of suitability of Sisdol S/T-LFS, including access road, transportation of solid waste, environmental issues, and technical issues.
- KMC requested to involve in the discussion about technical issues of LFS with SWMRMC because operation of LFS was their own tasks, and mentioned that transparency was important. SWMRMC accepted their request.

- KMC and LSMC also requested to get the “Equipment Needs Assessment”, in which the cost estimation of the equipment for transportation to Okharpauwa for KMC and LSMC was assessed, published by SWMRMC and SWMRMC accepted.
  - KMC asked about social issues or problems to be considered when Okharpauwa would be operated. The JICA Study Team replied that in EIA process, there were some interview surveys for and public consultation to the residents, in order to identify and assess the social issues. And the JICA Study Team also expressed that review of concerns raised from stakeholders in the course of EIA study and the interview to local VDC chief would be done.
5. Bhaktapur LFS (Mr. Inoue)
- The JICA Study Team asked Bhaktapur to let them know about the time schedule for site preparation and use of short-term LFS, and also requested to implement EIA. They promised to give this information of schedule near future.
6. Technical Comments on Composting and Recycling (Mr. Shimizu)
- The JICA Study Team explained composting and recycling from technical side such as composting process, current situation of BKM, MTM and KMC, and concluded that compost plant should be planned considering to i) compost demand, i) operation cost including source separation cost, and iii) operation skill.
  - The JICA Team also informed that if they would like to consider these activities in DfA/P, the JICA Study Team would help from technical side.
7. Determination of Acronym and Slogan of the Study (Mr. Shakya)
- TWG determined the Acronym and Slogan of the Study after discussing.
  - Acronym is “CKV” (Clean Kathmandu Valley)
  - Slogan is “Sapha Sahar Hamro Rahar” in Nepalese, which means “Clean city is our desire”.
8. Information about Field Survey to be Conducted by the JICA Study Team (Mr. Inoue)
- The JICA Study Team informed about the field survey, which is i) Waste quantity and quality survey, ii) Time and motion survey, iii) Behavior and Attitude survey on households and establishments, and iv) Marketing survey on recycling materials, to be sub-conducted to local survey companies.
  - The JICA Study Team also informed that the results of these surveys and analysis would be received by each city in order to reflect the formulation of each DfA/P.
9. Schedule of the 1st Seminar (Mr. Shakya)
- TWG tentatively fixed the schedule of the 1st Seminar on March 15, 2004.

End

**Subject:** TWG Meeting (3rd)  
**Date:** March 23, 2004  
**Time:** 14:00 - 16:30  
**Venue:** Local Development Training Academy Meeting Room  
**Participants:** SWMRMC Mr. Surya Man Shakya, General Manager  
KMC Mr. Kiran Ulak, Engineer, Dept. of Environment  
LSMC Mr. Rudra Pd. Gautan, Senior Engineer  
Mr. Pradeep Amahya, Environmental Engineer  
BKM Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical  
Section  
MTM Mr. Satya Narayan Shah, Planning and Technical Section Chief  
Ms. Krishna Shrestha, Assistant Solid Waste Management Technician  
JICA Study Team Mr. Toshiyuki Ujiie  
Mr. Mahmoud Riad  
Mr. Shungo Soeda  
Mr. Kiyoshi Shimizu  
Ms. Toshiko Shimada  
Ms. Minako Nakatani  
Ms. Sachiko Suwa (note taker)  
Mr. Takuro Nukazawa

1. Preparation of the Draft Action Plan (Mr. Ujiie)

- The JICA Study Team explained about the coming schedule in Phase 2 to formulate the DfA/P. TWG meetings will be held every week to prepare the DfA/P step by step with the JICA Study Team.
- The JICA Study Team also explained about the structure of the DfA/P consisting of Current Situation as Part I, Future Framework as Part II, Vision, Target and Strategies as Part III, A/P as Part IV. CKV Study Team showed the process and steps to formulate the DfA/P briefly.
- The JICA Study Team asked TWG to draft the brief report about the current situation including issues and constraints by April 5, 2004, and also asked that each TWG member should consider future framework such as population and land use (urbanization) at the target year by the next TWG meeting (March 31, 2004).
- TWG members worried about the work volume within the short time period. The JICA Study Team stressed that it was important for TWG/ T/F members to have an opportunity to think about their own plan by themselves as part of capacity building. The JICA Study Team also said that the JICA Study Team members would visit each municipality to support the works of TWG/ T/F if necessary.
- TWG members mentioned that they have other works in their municipality and they have difficulties to work full time for this study. TWG from LSMC requested the JICA Study Team to send a letter to Mayor of LSMC so that they will be able to share their time for this study as much as possible. As a result of discussion, SWMRMC will prepare and send the letter to Mayor regarding this matter.

2. Waste Collection and Transportation Flow (Mr. Soeda)

- To grasp and analyze the current waste flow, the JICA Study Team has prepared a sample figure of waste flow from generation sources to final disposal site and asked TWG members to collect relevant data by using this flow.
- For this work, visiting schedule by Mr. Soeda to each municipality was decided as follow,
  - March 28, 10:00- : BKM
  - March 29, 9:00- : KMC
  - March 31, 9:00- : MTM
  - April 1, 9:30- : LSMC
  - April 1, 14:30- : KRM

3. Waste Amount and Flow (Present Data and Future Prospect) (Mr. Shimizu)

- To project the future amount of the waste generation and to establish the waste flow including collection coverage ration, recycling ratio or amount of waste to be compared, which can be one of the targets of the DfA/P, the JICA Study Team has prepared a format in which the data of these amounts are input. By using this format, TWG members are expected to prepare DfA/P regarding the waste flow.

4. Others (Mr. Shakya)

- The JICA Study Team informed about the participatory workshop for public involvement on March 26, 2004. In this participatory workshop, which will be facilitated by Ms. Shimada, participants will analyze various problems on SWM caused by the public including “the lack of people’s awareness” in order to explore the feasible and realistic solutions. Expected participants are not only TWG members but also other relevant municipality staffs who are in charge of community development and mobilization.
- The JICA Study Team requested TWG members to distribute the CKV Newsletter in English for relevant organizations including NGOs, CBOs and wards, and also asked them to record the organizations they distributed.

End

**Subject:** TWG Meeting (4th)  
**Date:** March 31, 2004  
**Time:** 14:00 - 16:30  
**Venue:** Local Development Training Academy Meeting Room  
**Participants:** KMC Mr. Rajesh Manandhar, Chief, Solid Waste Management Section  
Mr. Kiran Ulak, Engineer, Dept. of Environment  
LSMC Mr. Rudra Pd. Gautan, Senior Engineer  
Mr. Pradeep Amatya, Environmental Engineer  
MTM Mr. Satya Narayan Shah, Planning and Technical Section Chief  
KRM Mr. Anuj Pradhan, Assistant  
JICA Study Team Mr. Toshiyuki Ujiie  
Mr. Mahmoud Riad  
Mr. Shungo Soeda  
Mr. Kiyoshi Shimizu  
Ms. Toshiko Shimada  
Ms. Minako Nakatani  
Mr. Noboru Osakabe  
Ms. Sachiko Suwa (note taker)  
Mr. Takuro Nukazawa

1. Definition of “Solid Waste” (Mr. Ujiie)

- The JICA Study Team introduced the definition of “solid waste” quoted from the Study of the solid hazardous waste management, OPE and SWMRMC. The JICA Study Team asked SWMRMC to check the definition.

2. Progress of Drafting Current Situations (Mr. Ujiie)

- KMC, LSMC have prepared the draft report regarding the current situations on SWM, which the JICA Study Team requested at the last meeting. The JICA Study Team requested other cities, that is, BKM, MTM and KRM, to prepare the report by the next TWG meeting.

3. Setting Socio-economic Framework (Mr. Ujiie)

- The JICA Study Team asked the availability of the existing data regarding ward-wise past and current population and number of households in order to project future socio-economic framework. TWG members answered that there were some data from population census (1991, 2001) in each municipality but there are few ward-wise data.
- As for future population, the JICA Study Team introduced that there were some projected data such as data in City Development Strategy (World Bank) and the Study on Earthquake Disaster Mitigation (JICA). TWG members said that there were some methods to project socio-economic frameworks like adoption of actual past trend or using a formula. But TWG members said that there were no urban development plan in each municipality except for MTM. The JICA Study Team asked each TWG member to discuss which socio-economic framework would be adopted among Task Force members.



- TWG members wondered how to deal with the flowing people especially for KMC where there are many visitors from outside. The JICA Study Team advised to clarify the definition of “flowing people” and check these data.
- The CKV Study Team discussed units of the waste generation pre capita which is needed to estimate total generation amount of waste at present and in the future up to 2015. The JICA Study Team advised that unit of waste generation should increase in the future and introduced that past trend of the unit in Japan. KMC said that they would show the past trend not only generation unit but also quality of waste.
- As conclusion of the discussion, TWG members will collect the population data (ward-wise, past and estimated), unit generation ratio (past and estimated) and determine how to set future composition and generation to each Municipality.

#### 4. Vision and Target (Mr. Ujiie)

- The JICA Study Team explained the necessity of vision and target to formulate action plan and asked TWG members to bring their idea at the next TWG meeting. The JICA study team also stressed that that vision and target should be set by discussed not only among T/F members but also with Mayor and CEO. Target was requested to be set as a realistic quantitative figure such as collection ratio or reduction amount at generation source.
- Approaches and Strategies were agreed to be discussed at the next TWG meeting.

#### 5. Others (Mr. Shakya)

- TWG members requested to invite local consultants, SILT and MULTI, at the next TWG meeting in order to discuss the field survey with each other. The JICA Study Team agreed that.
- As for short-term LFS, KMC asked the detail information like transportation cost. KMC also wondered if Sisdol short-term LFS would be used by KMC and LSMC, long-term would be determined at Okharpauwa inevitably. TWG requested to have a meeting to discuss Okharpauwa with not only TWG members but also Mayor and CEO as soon as possible and they agreed.
- The JICA Study Team explained about the results of “Participatory Workshop” held on March 23, 2004. The JICA Study Team mentioned that both KMC and LSMC have had many experiences regarding community participation activities and it was necessary and effective to cooperate with a community development section, especially for LSMC.

End

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<b>Subject:</b>	TWG Meeting (5th)	
<b>Date:</b>	April 9, 2004	
<b>Time:</b>	14:00 - 17:00	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager Mr. Ram Maharaja, Engineer
	KMC	Mr. Rajesh Manandhar, Chief, Solid Waste Management Section Mr. Sanchaya Parajuli
	LSMC	Mr. Pradeep Amatya, Environmental Engineer
	MTM	Mr. Satya Narayan Shah, Planning and Technical Section Chief
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. Anuj Pradhan, Assistant
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Shungo Soeda Mr. Norihiko Inoue Ms. Minako Nakatani Mr. Noboru Osakabe Ms. Sachiko Suwa (note taker) Mr. Takuro Nukazawa
	MULTI	Mr. Santosh Kumar Gupta, Solid Waste Engineer
	SILT	Mr. Keshav Kunwar, Managing Director Mr. Deepak Bdr. Singh, Director Mr. Dinesh Nath Chalise, Director

1. Drafting Current Situation (Mr. Ujiie)

- KRM have prepared the draft report regarding the current situations on SWM, which the JICA Study Team requested at the 3rd meeting.

2. Setting Socio-economic Framework (Mr. Ujiie)

- The JICA Study Team introduced the projection of future ward-wise population of KMC and MTM, where the both data were collected, up to the target year (2015) by using the census data of 1991 and 2001. The JICA Study team asked other municipalities, that are LSMC, BKM and KRM, to collect 1991 ward-wise census data.
- The JICA Study Team pointed out that there were some wards where population increase was remarkable between 1991 and 2001 and these areas were located mainly on the edges of municipality boundary. So, the JICA Study Team also pointed out that special attention should be paid on these areas for the improvement of collection efficiency.
- About the future waste quantity, KMC was requested to show the past trend of changes of waste quantity at the next meeting.

3. Development of Vision and Target (Mr. Ujiie)

- The JICA Study Team asked to discuss the vision and target to formulate A/P not only among

T/F members but also with decision maker like Mayor, Deputy Mayor and CEO. Target was requested to be set as a realistic quantitative figure by considering human resources, financial resources and equipment and facility resources.

4. Approaches, Strategies and Necessary Activities (Mr. Ujiie)

- As the next step after setting the vision and target, approaches, strategies and necessary activities was requested to be clarified including required resources, costs, responsible organizations, time frame and evaluation. The JICA Study Team suggested that these might be comprised by A) Improvement of Collection and Transportation System, B) Promotion of Waste Minimization (Composting and Recycling), C) Improvement of Final Disposal Manner, D) Raising of Public Awareness/Community Mobilization, E) Organizational and Institutional Arrangement, and F) Others.
- The JICA Study Team also suggested that when considering necessary activities for each approach and strategy, promotion, improvement and investment should be taken into consideration. In addition, the three time periods, that is short (2005-2007), mid (2008-2010) and long terms (2011-2015), were recommended to formulate action plans.

5. Collection and Transportation (Mr. Soeda, Mr. Rajesh)

- The JICA Study Team and KMC explained the results of the case studies of the cost estimation of transportation to Sisdol S/T- LFS, which includes 1) to use Teku T/S or, 2) to use both Balaju and Teku transportations by considering the combination of several types of vehicle.
- As the conclusions, the total operation cost for KMC was estimated at about 3-8 times more than now. Also, LSMC is expected to pay almost 75% of the current annual expenditure for SWM. Two cities were requested to be considered how to bear these operational costs for waste transportation in to use Sisdol as final disposal site. The JICA Study Team suggested some considerable alternatives including to ask subsidies to the central government or to construct waste processing facility near the city area.
- KMC mentioned that if there would be a waste processing facility near the city area when using the Sisdol, it can be acceptable idea.

6. Landfill Plan (Mr. Ujiie)

- The JICA Study Team suggested again the necessity of the closure of Bagmati River dumping site as soon as possible and decision for short-term LFS. The JICA Study Team explained that SWMRMC had sent a letter about the use of Sisdol S/T-LFS, and LSMC had replayed that but KMC had not yet.
- KMC requested to hold the meeting among SWMRMC, both Mayors of KMC and LSMC, and the JICA Study Team to discuss short-term LFS as well as the waste processing facility.
- The JICA Study team also suggested that long-term strategy could be considered during the preparation and operation of short-term LFS.

7. Human Resource Development (Mr. Ujiie)

- The JICA Study Team explained that the training program for human resource development on SWM during the Study period would consist of four components, that is A) Action Plan Formulation during the Study, B) Training course as a Pilot Project, c) JICA Country Focused Training on SWM, and D) Study Tours by Political Appointments, which is expected to be coordinated by SWMRMC.

8. Preparation of 2nd Public Hearing (Mr. Ujiie)

- The JICA Study Team asked to start the preparation for the 2nd P/H, which will be held at the end of April (April 25-30), 2004. TWG members were requested to confirm the date, venue, agenda, invitation of participants and methodology. The contents of the preliminary DfA/P will be main discussion items at the P/Hs.

9. Others (Mr. Shakya)

- The JICA Study Team requested each municipality to have a meeting among the T/F members inviting decision-maker like Mayor or CEO to discuss the DfA/P.
- The JICA Study Team informed that JICA Study Team member will visit Pohkara and Hetauda as one of the Study. In Pohkara, there is a sanitary landfill site which has been supported by ADB. On the other hand in Hetauda, there are succeeded project to introduce community participatory management of solid waste, which was supported by UDLE/GTZ.
- The JICA Study Team introduced the SILT and MULTI as local consultants for the field surveys. The JICA Study Team asked each municipality to necessary arrangements to the local consultants if needed.

End

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<b>Subject:</b>	TWG Meeting (6th)	
<b>Date:</b>	April 16, 2004	
<b>Time:</b>	14:00 - 17:00	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager Mr. Ram Maharaja, Engineer
	KMC	Mr. Rajesh Manandhar, Chief, Solid Waste Management Section Mr. Purusotam Shakya, Mechanical Engineer Mr. Sanchaya Parajuli
	LSMC	Mr. Rudra Pd. Gautan, Senior Engineer Mr. Pradeep Amatya, Environmental Engineer
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. Anuj Pradhan, Assistant
	BKM	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Shungo Soeda Mr. Norihiko Inoue Ms. Minako Nakatani Mr. Noboru Osakabe Ms. Sachiko Suwa (note taker) Mr. Takuro Nukazawa

1. Action Plan of SWMRMC (Mr. Shakya)

- Mr. Shakya introduced the DfA/P of SWMRMC, which was prepared by the JICA Study Team, by explaining the expected future functions of the SWMRMC.

2. Setting Socio-economic Framework (Mr. Ujiie)

- KRM has collected the population data of 1991 and all data which the JICA Study Team requested was already collected to project the future population.
- About the future waste quantity, KMC was requested to show the past trend of changes of waste quantity at the next meeting.

3. Establishment of Vision and Target (Mr. Ujiie)

(Mr. Dinesh from BKM, Mr. Gautan from LSMC, Mr. Rajesh from KMC)

- BKM explained the vision and target as a result of the T/F Meeting. The JICA Study Team advised the difference between vision, target and approach. Target was explained to be set as a realistic quantitative figure by considering human resources, financial resources and equipment and facility resources.
- LSMC explained the vision and target as well as approaches and strategies. In the target, collection ratio was planned to cover 60% by separation. LSMC also planned to build composting facility operated by private sectors as well as transfer station. As short-term LFS,

LSMC has agreed to use Sisdol. LSMC also planned to introduce awareness program and monitoring systems.

- KMC explained the vision and target as well as approaches and strategies. KMC planned the improvement of Teku T/S as well as set up of Balaju T/S. KMC also planned to distribute home composting for 30% and to establish central level composting facility as well.
- KMC mentioned that sanitary LFS was needed to establish by coordination with SWMRMC. KMC requested to organize a working group for the study of Sisdol S/T-LFS with LSMC and SWMRMC.

#### 4. Landfill Site (Mr. Inoue, Mr. Riad)

- The JICA Study Team explained about the situation of Bagmati River dumping site and necessity of immediate closure, and alternative analysis of short-term LFS between Sisdol, Chobar quarry and Gokarna re-opening by evaluating from three viewpoints, which were technical aspects, environmental and social aspects, and development process. The JICA Study Team suggested that Sisdol was the most recommendable for KMC and LSMC as an optimum short-term LFS.
- The JICA Study Team also explained about the long-term LFS as the next consideration as well. The JICA Study Team showed the comparison of several alternatives as the combination of transfer station, intermediate treatment facilities and sanitary landfill site by using the indicator of ton.km.
- The JICA Study Team reported on site visit to Pokhara to inspect the sanitary landfill site which was built by ADB loan although they hadn't operated because the operational machinery was not arranged yet.

#### 5. Others (Mr. Shakya)

- KRM asked Mr. Shakya to attend T/F meeting, which would be held on April 22, 2004.
- The JICA Study Team was asked to prepare a letter about holding a meeting to organize a working group by inviting Mayors, Deputy Mayors and CEOs of KMC and LSMC.
- BKM were requested to prepare the draft report regarding the current situations on SWM again, which the CKV Study Team requested at the 3rd TWG meeting.
- The JICA Study Team requested the data about the waste picker for the survey which would be implemented from April 24, 2004.
- The CKV Study Team decided that the TWG member of KMC would introduce by oneself on the second Newsletter as the next turn.
- The CKV Study Team decided the design of the T-shirts of the CKV Study as one of the public relation activities.

End

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<b>Subject:</b>	TWG Meeting (7th)	
<b>Date:</b>	May 5, 2004	
<b>Time:</b>	10:00 - 13:30	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager
	MOLD	Mr. Prem Rai Giri, Section Officer, Environment Management Section
	KMC	Mr. Kiran Ulak, Engineer, Dept. of Environment
		Mr. Purusotam Shakya, Mechanical Engineer
	LSMC	Mr. Rudra Pd. Gautan, Senior Engineer
		Mr. Pradeep Amatya, Environmental Engineer
	Bhaktapur	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section
	Thimi	Ms. Krishna Shrestha, Assistant Solid Waste Management Technician
	Study Team	Mr. Toshiyuki Ujiie
		Mr. Mahmoud Riad
		Mr. Shungo Soeda
		Mr. Norihiko Inoue
		Ms. Toshiko Shimada
		Ms. Minako Nakatani
		Mr. Noboru Osakabe
		Ms. Sachiko Suwa (note taker)

## 1. Summary of Results of Works in Nepal by the JICA Study Team

### 1.1 Long-term Facility Plan (Mr. Riad)

- The JICA Study Team explained the suggested overall facility plan with the alternative analysis. The JICA Study Team showed the result of comparison of total nine alternatives, which were the combinations of transfer station(s), intermediate treatment facility(s) and sanitary landfill site(s), by using several indicators such as technical aspect, environmental or social consideration and 'ton.km'.

### 1.2 Organizational and Institutional Plan, HRD (Ms. Nakatani)

- The JICA Study Team reported the fact findings and preliminary suggestion regarding i) future organization and institutional plan including organizational structure plan of each municipality, and ii) human resource development plan.
- KMC suggested that Jet and Fuel unit could be divided two units, one of which would be under the SWM section to be in charge of fuel operation, the other would be under mechanical section to be in charge of operation of jet machines.

### 1.3 Community Mobilization (Ms. Shimada)

- The JICA Study Team reported the fact findings about public awareness and community-based SWM activities and suggested to formulate strategies focusing on not only raising the level of knowledge and awareness but also stimulating the attitudinal and behavioral changes.

- The JICA Study Team also recommended two approaches for effective behavior change, i.e. mass communication and education program, and interpersonal communication.

#### 1.4 Financial Condition (Mr. Osakabe)

- The JICA Study Team reported the fact findings including actual revenue and expenditure of FY2002/03, SWM expenditure of each municipality.
- The JICA Study Team also explained the relationship between the affiliation of WTO and the Local Development Fee. Since local development fee is expected to decrease gradually, local bodies need to seek other earning sources such as Property tax.

#### 2. Progress of Preparation of Draft Action Plan (Mr. Ujiie)

- DfA/P prepared by BKM was introduced to other cities as an example. BKM has three alternatives of vision and one will be selected by T/F considering the opinions raised at the 2nd Public Hearing. In the DfA/P, targets of each period (short, mid and long-terms) have been set.
- The progress of DfA/P of other municipalities was also discussed and each municipality was requested to speed up preparation.

#### 3. Others (Mr. Shakya)

- Basic ideas of the Pilot Projects, which include i) Human resource development, ii) Improvement of collection and transportation, iii) Promotion of waste minimization, iv) Improvement of final disposal, and v) Promotion of public awareness, were discussed. The JICA Study Team explained that ideas had been send to JICA Tokyo for consideration.
- The 2nd P/H was requested to be held up to May 14, 2004 excluding BKM.
- The JICA Study Team reported the result of the site visit to Hetauda Municipality, where the community based solid waste management activities are implemented successfully.
- The JICA Study Team distributed the Newsletters of both No.1 in Nepalese and No.2 in English for T/F members as well as other relevant organizations and requested to distribute these Newsletters at 2nd P/Hs.
- The JICA Study Team also informed that website of the Study had already set up under the that of MOLD.

End



**Subject:** TWG Meeting (8th)  
**Date:** May 10, 2004  
**Time:** 14:00 - 16:30  
**Venue:** Local Development Training Academy Meeting Room  
**Participants:** SWMRMC Mr. Surya Man Shakya, General Manager  
KMC Mr. Rajesh Manandhar, Chief, SWM Section  
Mr. Purusotam Shakya, Mechanical Engineer  
LSMC Mr. Rudra Pd. Gautan, Senior Engineer  
Kirtipur Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting,  
Mr. Anuj Pradhan, Assistant  
Thimi Mr. Satya Narayan Shah, Planning and Technical Section Chief  
Study Team Mr. Toshiyuki Ujiie  
Mr. Shungo Soeda  
Mr. Norihiko Inoue  
Ms. Sachiko Suwa (note taker)

1. Waste Quantity (Mr. Soeda)

- The JICA Study Team explained the results of the field survey on solid waste quantity. The survey results revealed that unit generation ratio of solid waste per household was estimated at 225 g/day in KMC and LSMC and 166.5 g/day in other three municipalities. Bulk density was suggested to be 225.0 kg/L for all cities.
- The portion of other wastes such as commercial waste, construction waste or waste from VDC areas was estimated at about 85% of total generated household waste in case of KMC. This estimation was requested to be reconsidered carefully because the increase of the waste from VDCs or commercial waste cannot be neglected. The comparison of this portion with other countries such as India was also requested as reference.
- The definition of “street waste” was confirmed as the waste generated by the activities on the streets, which was collected by sweepers, excluding waste thrown away from households.
- The projected growth rate of population was discussed again. TWG members agreed to quote the growth rate from the World Bank report except MTM. This was because there was the large difference between the projection in the World Bank report and actual census data of 1991-2001. Since MTM has relatively large room for receiving incoming population within the boundary, 4.09% which is same as the actual growth rate between 91-01 was agreed to be adopted up to the target year in the Study.

2. Preparation of Draft Action Plan (Mr. Ujiie)

- DfA/Ps prepared by KMC, LSMC and KRM were introduced.
- LSMC was requested to consider the Human Resource Development (HRD) plan which was one of the most important aspects.
- All municipalities were requested to prepare the outline of the DfA/P in the provided common form by May 14, 2004. Due to the time constraint, the JICA Study team will develop tentative

implementation plans of short-term activities as plans of operation (PO) instead of T/F of each municipality which will be involved in Interim Report (IT/R) (1).

3. Draft Idea of Pilot Projects (Mr. Ujiie)

- Draft idea of Pilot Projects was discussed. Activities regarding information/ experiences exchange among five municipalities were proposed from a TWG member. The JICA Study Team agreed this idea and also explained that since all Pilot Projects (activities) were not only for the target municipality(s) but also for the other than target municipalities, any cities wanted could be participated in any activities.
- The JICA Study Team explained that ideas had been send to JICA Tokyo for consideration.

4. 2nd Public Hearing (Mr. Ujiie)

- The 2nd P/Hs of KMC and LSMC were confirmed to be held on May 14, 2004, but MTM was requested to change the schedule to May 13, 2004.
- Although Mayor expressed understanding of the P/Hs, KRM has abandoned to hold the 2nd P/H within this week due to the unstable political situation. TWG members of KRM promised to hold a series of P/Hs after the political situation was stabilized.

5. Others (Mr. Shakya)

- The JICA Study Team informed about their leaving for Japan on May 18. After working in Japan for preparation of IT/R (1), The JICA Study Team will come back to Nepal on June 20, 2004.

End

**Subject:** TWG Meeting (9th)  
**Date:** May 17, 2004  
**Time:** 14:00 - 16:30  
**Venue:** Local Development Training Academy Meeting Room  
**Participants:** SWMRMC Mr. Surya Man Shakya, General Manager  
LSMC Mr. Rudra Pd. Gautan, Senior Engineer  
BKM Mr. Laxman Kisiju, Chief, Planning and Technical Section  
Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section  
MTM Ms. Krishna Shrestha, Assistant Solid Waste Management Technician  
KRM Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting,  
Mr. Anuj Pradhan, Assistant  
JICA Study Team Mr. Toshiyuki Ujiie  
Mr. Shungo Soeda  
Mr. Norihiko Inoue (note taker)  
Ms. Sachiko Suwa

1. Draft Action Plans (Mr. Ujiie)

- Each municipality was requested to integrate the opinions and suggestions raised in P/H into the DfA/P, and to send the revised DfA/P to the JICA Study Team.
- The JICA Study Team explained that some necessary activities in short term to be implemented as pilot activities would be added if needed.
- The JICA Study Team also explained that the implementation schedule would be presented in the IT/R (1) regarding the short-term activities of DfA/P of each municipality.

2. Draft Idea of Pilot Projects (Mr. Ujiie)

- The JICA Study Team explained tentative scheduling of Pilot Projects for the Phase 3 Study, which were under consideration of JICA Tokyo.
- The JICA Study Team also explained two types of implementation framework for Pilot Projects; namely i) direct implementation by the target group with support from the JICA Study Team including necessary local resource inputs, and ii) provision of a series of training to the target group from the JICA Study Team including necessary local resource inputs.
- LSMC raised the necessity of designating persons on full time base in each municipality who would be in charge of implementing the Pilot Projects, since the persons should be free of administrative works in order to share their job time and concentrate to Pilot Projects' implementation. TWG members and the JICA Study Team recognized necessity of the further discussion on it mutually.

3. Others (Mr. Shakya)

- The JICA Study Team requested TWG members to follow the issues on i) EIA process on Sisdol S/T-LFS, ii) IEE process (scoping and TOR preparation process) on Taikabu LFS, and

- iii) Working Group discussion and practices, when the JICA Study Team is absent from Nepal.
- SWMRMC suggested having a TWG meeting if necessary, during the absence of the JICA Study Team to discuss the Nepalese-side preparation for the Pilot Projects, etc. The CKV Study Team members understood its effectiveness mutually.
  - The JICA Study Team explained the overall work schedule for Phase 3 study, including the confirmation of the 2nd Steering Committee (ST/C), the 2nd Seminar, the 3rd P/H, etc., which are to be called/organized at the beginning of Phase 3.

End

<b>Subject:</b>	TWG Meeting (10th)	
<b>Date:</b>	June 22, 2004	
<b>Time:</b>	11:00 - 13:00	
<b>Venue:</b>	Local Development Training Academy Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ram Maharjan, Civil Engineer Mr. Ashok Shahi, Civil Engineer Mr. Nirmal Darshan Charya, Civil Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section
	LSMC	Mr. Rudra Pd. Gautam, Chief, Planning Section Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
	BKM	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. Anuj Pradhan, Assistant, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Shungo Soeda Mr. Satoshi Higashinakagawa Mr. Toshiko Shimada Ms. Minako Nakatani Ms. Sachiko Suwa (note taker)

1. Open Remarks (Mr. Shakya)

- Chairperson greeted for the CKV Study Team and encouraged the TWG members for coming Pilot Project activities.
- Chairperson informed that the Supreme Court ordered to stop dumping waste along the Bagmati River, which means that we need to shift the dumping site to Sisdol as early as possible.

2. IT/R (1) and Implementation Organization of the CKV Study (Mr. Ujiie)

- JICA Study Team submitted the IT/R (1) to the TWG members and explained the contents of each chapter.
- The member lists of both TWG and T/F of each municipality were confirmed to be discussed at the ST/C. Basically there was no drastic change of these members except a ward chairperson of BKM who already resigned from his position and NGO member of KRM who stopped the activities within KRM.

3. Pilot Project (Mr. Ujiie, other JICA Study Team members)

- The contents of five Pilot Projects and detail schedule of June and July for each municipality were confirmed. The JICA Study Team also explained two kinds of implementation frameworks of Pilot Projects. One is that the activities would be implemented by target group directory with necessary support from the JICA Study Team as well as the instruction or management of the local resources. Other is that a series of training will be provided by the JICA Study Team or through the local resources.
- Two upgrading alternatives of concept designs of Teku T/S were discussed, one of which had the transportation route outside the site and the other had the road inside the site. The JICA Study Team recommended the latter designs and KMC agreed.
- The JICA Study Team informed that a collection vehicle, which was planned to be used for the Pilot Project in MTM, was planned to be procured by the JICA Nepal office. The JICA Study Team requested MTM to allocate the budget for its O&M and customs duty tariff, which would be responsible for MTM.
- The JICA Study Team informed about the site visits, i.e., Phokara (July 24-25, 2004), Malaysia (September 27 - October 2, 2004), India (End of September, 2004) and Hetauda (Beginning of September, 2004) and requested to determine the right person to participate in these site visits as well as to arrange the passports, if necessary.
- The JICA Study Team requested to determine the person(s) who would be in charge of each Pilot Project (each SWM component). The JICA Study Team also requested each municipality to let the relevant person attend the Action Plan Operational Management Training which would be planned for 2 days within July, 2004.
- Project Design Matrixes (PDMs) of the Pilot Projects, which contained objectively verifiable indicators and important assumption, were discussed.

4. 3rd Public Hearing (Mr. Shimada)

- The JICA Study Team suggested that it is effective to hold the 3rd P/Hs when they launch the Pilot Project activities targeting the specific communities or areas in July and August, 2004.
- Tentative schedules of Public Hearing are;
  - ♦ KMC : End of July or middle of August  
Target: Improvement of Teku T/S, Improvement of Final Disposal, Mass communication, Community composting
  - ♦ LSMC : August  
Target: Improvement of Teku T/S, Improvement of Final Disposal, Mass communication, Community composting
  - ♦ BKM : 4th week of July  
Target: Source separation, Mass/Interpersonal communication/education
  - ♦ MTM : August  
Target: Integrated collection & transportation, Mass communication
  - ♦ KRM : August  
Target: Plastic separation, Mass/Interpersonal communication/education

5. 2nd ST/C (Mr. Ujiie)

- The JICA Study Team explained the schedule and agenda of 2nd ST/C, which will be held on June 29, 2004 at MOLD. The JICA Study Team requested the TWG members to attend the committee as observers.

6. 2nd Seminar (Mr. Ujiie)

- The JICA Study Team explained that the 2nd Seminar would be held on July 2, 2004.
- The presentation of Draft Action Plan from each municipality was requested to each TWG member same as the 1st Seminar. The JICA Study Team would support for the preparation of the presentation, if needed.

7. Equipment Procurement Plan (Mr. Higashinakagawa, Mr. Soeda)

- The JICA Study Team explained a basic concept of equipment procurement plan for transportation to Sisdol S/T-LFS including target equipment and the process to examine the transportation requirements.
- The JICA Study Team explained the planning procedure of procurement and tentative schedule and mentioned that in order to operate Sisdol on next January, plan of procurement of secondary transportation vehicle as well as landfill equipment should be finalized until the middle of July.

8. Working Group (Mr. Ujiie)

- The JICA Study Team requested to have a meeting of Working Group to discuss the equipment procurement plan as well as landfill plan on June 28, 2004 and they agreed.

9. Others (Mr. Ujiie)

- The JICA Study Team asked about the progress of EIA of Sisdol, IEE of Taikabu and about Luna. The EIA of Sisdol has been approved by MOPE with some conditions. BKM mentioned that IEE of Taikabu are still on going. SWMRMC explained that there was no information about Luna.
- JICA Advisory Committee, Mr Murata from JICA Tokyo and Mr Kubota from Matsumoto city, will visit here from June 28 to July 3, 2004.
- The JICA Study Team will visit each municipality to discuss the implementation organization for the respective Pilot Projects including Focal Points as following schedule;  
KMC; June 24, 14:00-, KRM; June 25, 10:00-, MTM; June 25, 14:00-  
BKM; June 27, 10:00-, LSMC; June 28, 14:00-

End

<b>Subject:</b>	TWG Meeting (11th)	
<b>Date:</b>	July 30, 2004	
<b>Time:</b>	15:00 - 18:00	
<b>Venue:</b>	Ministry of Local Development, Meeting Room	
<b>Participants:</b>	MOLD	Mr. Surya Pd. Silwal, Under Secretary (Observer) Mr. Prem Raj Giri, Section Officer, Environmental Section
	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ram Maharjan, Civil Engineer Mr. Ashok Shahi, Civil Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section
	LSMC	Mr. Rudra Pd. Gautam, Chief, Planning Section Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section
	KRM	Mr. Bal Krishna Maharajan, Chief, Planning and Technical Section Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting, Mr. Anuj Pradhan, Assistant, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Toshiko Shimada Ms. Minako Nakatani Ms. Sachiko Suwa (note taker)

## 1. Pilot Projects (Mr. Ujiie, The JICA Study Team members)

### 1.1 Implementation Organization of Pilot Projects

- Focal Points for the respective components of the Pilot Projects were discussed as follows:
  - ♦ KMC proposed that Focal Points of E (Operational Management) should be two members, i.e. Mr. Rajesh and Mr. Shakya.
  - ♦ Ms. Laxmi who was Focal Points of B and D of LSMC will not be available because she will be out of the country for coming two months. LSMC appointed Ms. Sabina instead.
  - ♦ Focal Point of E of MTM was changed from Mr. Satya to Mr. Tulisi.
- Focal Points of each municipality were finally confirmed as follows:



Focal Points	A. Collection and Transportation (Data Management)	B. Waste Minimization (Composting, Recycling)	C. Landfilling	D. Public Awareness and Behavior Change	E. Operational Management
SWMRMC	Mr. Nirmal(Data) /Mr. Ram(T/S)	Mr. Ashok	Mr. Ram	Mr. Nirmal	Mr. Ashok
KMC	Mr. Rajesh	Mr. Rajesh/ Ms. Shriju*	Mr. Kiran	Ms. Shriju*/ Ms. Sanu*	Mr. Rajesh/ Mr. Shakya
LSMC	Mr. Pradeep	Mr. Pradeep/ Ms. Sabina*	Mr. Rudra	Ms. Sabina*	Mr. Rudra
BKM	Mr. Dinesh	Mr. Moti	Mr. Laxman	Mr. Dilip Mr. Krishna	Mr. Laxman
MTM	Mr. Satya	Mr. Surendra/ Ms. Krishna	Mr. Satya/ Mr. Keshav	Mr. Tulsi/ Ms. Krishna	Mr. Tulsi
KRM	Mr. British*	Mr. Gyan	Mr. Bal	Mr. Anuj	Mr. Bal

Note: \* not TF member

- The JICA Study Team requested that Focal Points who were not Task Force (T/F) members should be involves into the T/F members.
- The JICA Study Team introduced local consultants and NGOs who have been contracted by the JICA Study Team.
- The JICA Study Team requested to each municipality to submit a plan for the employment of the local resource persons and/or assistants for the activities of Pilot Projects if needed, who could be hired by the JICA Study Team.

## 1.2 Review of Pilot Projects Activities in July (Mr. Ujiie)

- The JICA Study Team reviewed the activities of the Pilot Projects in July and its' future schedule. Main issues confirmed among the TWG members were as follows:
  - ♦ **【A】** As part of the improvement of Teku T/S, topographic survey was completed. In August, soil investigation and detailed design will be finalized. While, training on planning and designing of a transfer station was held on July 12, 2004 and the future workshop program is planned in September, 2004.
  - ♦ **【B-2.2】** KRM has developed a work plan of "Community-based Plastic Separation and Home Composting". They will form women's clubs with corroboration of local youth clubs at proposed three target areas and then introduce the system of plastic separation and home composting.
  - ♦ **【C】** Training for landfill site was held on July 23, 2004 in order to introduce semi-aerobic system, landfill site selection and environmental considerations including EIA application. Following that, site visit to Pokhara was carried out in order to inspect an actual sanitary landfill site. In Sisdol, the topography survey was completed and now soil investigation is being carried out.
  - ♦ **【D-1】** At the kick off meeting on July 5, 2004, municipal staffs reviewed household behavior and attitude study on SWM and carried out group works. Outline of the Pilot Project activities was also explained. As next step, "Behavior Change Communication (BCC) & Interpersonal Training" on July 21-23, 2004 was held in which 26 members from

municipalities and youth volunteer participated. The training covered the concept, roles of interpersonal communication, planning of BCC strategy and development of messages for effective SWM. As parallel, a series of meetings is implemented in order to share the experience and knowledge between five municipalities. 1st sharing meeting was held in KMC to share activities of “City Volunteer”.

- ♦ **[D-2]** A CKV mascot was selected at selection committee on July 22, 2004 after deciding two each candidate mascots from each municipality. Launch event will be held on August 1, 2004 at the Maitighar Traffic Island.
- ♦ **[D-3]** Through the discussion among BKM, ECCA and JICA Study Team, three target areas have been decided, in which total 278 households exist. In these areas, a baseline survey will be conducted to grasp current disposal practice/behavior, attitude and perception of SWM including source separation among target groups and non-target groups by semi-structured interview and appreciative inquiry.
- ♦ **[E]** As first step, a series of training for “Action Plan Operationalization” was conducted for each municipality in order to review organizational structure, divide job responsibilities for the relevant staff and formulate Annual Work Plan. As second step, training for “SWM Monitoring and Evaluation Systems” will be carried out followed by training for “Program-Based Budgeting” and “Engendering Public Private Partnerships (PPP)”.
- SWMRMC/MOLD informed that KRM had proposed possible candidate site for a waste processing facility inside their boundary.
- The JICA Study Team proposed the tentative schedule of site visits as follows:
  - ♦ Hetauda: September 11-13, 2004
  - ♦ India: September 18-24, 2004
  - ♦ Malaysia: September 27- October 2, 2004

## 2. Public Relation Activities (Mr. Ujiie)

- The JICA Study Team reported that the CKV Mascot has been selected for “Asakaj” under the cooperation of five municipalities and SWMRMC and informed that the inauguration ceremony of the Mascot would be held on August 1, 2004 (9:00-11:00).
- The JICA Study Team requested each municipality to hold the 3rd P/Hs within August in order to explain the Pilot Projects, the progress of the Study activities, and developed Annual Work Plans. Tentative schedules and issues to be discussed was confirmed as follows:
  - ♦ KMC: August 17, 2004  
Target: Improvement of Teku T/S, Improvement of F/D, Mass communication/education, Community compost
  - ♦ LSMC: August 16, 2004  
Target: Improvement of Teku T/S, Improvement of F/D, Mass communication/education, Community compost
  - ♦ BKM: August 15, 2004  
Target: Source separation, Mass/Interpersonal communication/education
  - ♦ MTM: August 18, 2004  
Target: Integrated collection & transportation, Mass communication/ education
  - ♦ KRM: August 12, 2004  
Target: Plastic separation, Mass communication/education

3. TWG/WG (Mr. Ujiie)

- It was confirmed that the TWG meeting would be held every two weeks in principle to discuss the progress and issues of the Pilot Projects.
- The chairperson of Working Group, Mr. Silwal, and the JICA Study Team have agreed to discuss the members, activities and schedule of the Working Group.

4. Others (Mr. Ujiie)

- The JICA Study Team informed the tentative overall schedule until the end of November 2004 and confirmed the assignment schedule of the JICA Study Team members.

End

<b>Subject:</b>	TWG Meeting (12th)	
<b>Date:</b>	August 13, 2004	
<b>Time:</b>	14:30 - 16:30	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson)
	KMC	Ms. Sanu Maiya Maharjan, Assistant Officer, CMU
	LSMC	Mr. Rudra Pd. Gautam, Chief, Planning Section
		Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
		Ms. Sabina Maharjan, Community Mobilizer, Community Mobilization Section
		Ms. Sarita Awali, Community Mobilization Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section
		Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section
		Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting,
		Mr. Sanu Babu Pariyar, Account Officer, Administration Section
		Mr. British Singh, Junior Engineer, Planning and Technical Section
		Mr. Krishna Bhola Maharjan, Junior Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujii
		Ms. Sachiko Suwa
		Ms. Anuradha Tulachan (note taker)

1. Progress Report on Pilot Projects being conducted

The CKV Study Team shared the progress of each Pilot Project with Focal Points as follows:

**A: Improvement of Collection and Transportation**

A-1.1: Practice of Source-Separated Collection in BKM (D-3. Interpersonal Communication and Education) (Mr. Dinesh)

- A draft work plan for separated collection has been submitted to the JICA Study Team. Target area to implement separated collection is Ward 14, 15, and 17 with a target household of 250 for which ECCA will be doing the baseline survey. The target start time for separated collection is 3rd week of September 2004.
- The size and type of bucket to be used for waste separation, which will be provided by the JICA Study Team, will be discussed.
- As one of the baseline survey, a two day citizen workshop facilitated by ECCA was attended by forty six participants from Ward 14, 15 and 17 and two Focal Points as observer.
- BKM, ECCA and the JICA Study Team will discuss the whole program of interpersonal communication/education again in order to re-think the effective linkage for source separated collection project on August 16, 2004.

A-1.2: Practice of Collection and Transportation in MTM (Mr. Ujiie)

- MTM discussed the route of collection considering an area near its municipality office. (Bahkha Bazaar-Chapacho- Naya Thimi). MTM was selected as a pilot area for waste collection by discussion with the JICA Study team. Waste will be collected by hand carts from connecting streets to the main street and a waste collection vehicle, which will be procured through JICA, will pick up the collected waste at the main street.
- MTM has not decided on where to dump the collected waste. Possible areas are 1) Teku, 2) Hanumante River dumping site, or 3) a site near the pilot area in Thimi.
- The tentative start date for waste collection along the designated route is January 2005.

A-3: Practice of Planning and O&M of Transfer Station (Teku T/S) (Mr. Ujiie)

- The topographic survey and groundwater survey by boreholes were already completed in Teku T/S.
- The location of weighbridge was still discussed among KMC, CEMAT and the JICA Study Team. If the weighbridge will be located in front of the tire shop (right side in Teku), traffic conflict points will be created before and after the weighbridge. On the other hand, the JICA Study Team recommended to locate in opposite side (left side), though space is limited by the existing compost plant.

**B: Promotion of Waste Minimization**

B-1: Training for Waste Minimization Facility (Mr. Ujiie)

- Data collection at the composting facility in BKM will be started after the rainy season, which means around the middle of September, though it depends on the weather.
- BKM requested to survey market of recycling paper also. The CKV Study explained that the target of market survey is only composting in this time.
- The site to be visited in India has not fixed yet, one of the sites currently being considered is in Pune.

B-2: Practice of Local Level Waste Minimization Activities (Ms. Sanu)

- KMC has currently identified three potential sites to carry out community based composting, which is Balkhu (fruit market), Kalimati (vegetable market) and Tukucha (fruits, vegetable and meat market).
- KMC is also considering a composting based on door-to-door waste collection in Ward 21. The Ward representative has agreed to cooperate if space for composting is provided at Teku T/S (there is currently no potential space for carrying out community based composting in Ward 1).
- LSMC plans to discuss the composting way (Community based or home based) on the 3rd Public Hearing. Community based composting in five selected areas (all major vegetable and

fruit markets) is one of plans and home composting in other target areas.

#### B-2.2: Practice of Plastic Separation in KRM (Mr. Gyan)

- Currently, three wards are being considered as target areas for plastic separation at source activity. Since it would be a challenge to provide the people with an incentive to separate plastics from waste that is already being collected by UNIQUE, this area will exclude from target areas.

#### C: Improvement of Final Disposal Planning and Operation (Mr. Ujiie)

- The JICA Study team informed that the Advisory Committee members will visit Nepal at the end of August and they will do lecture for sanitary landfilling including Fukuoka methods on September 1, 2004. EAST will also make a presentation regarding detail design of Sisdol S/T-LFS.

#### D: Promotion of Public Awareness and Behavior Change Communication / Education (Ms. Suwa)

- Following the 1st sharing meeting in KMC for city volunteer, 2nd in LSMC for women's group were held in LSMC on August 10, 2004 and participants could share experiences including how to form or facilitate the group as municipality. Next sharing meeting in MTM for women's group will be held on August 15, 2004.
- Study tour in Hetauda will be carried out on September, 2004 in order to learn initiatives taken by Hetauda Municipality regarding effective SWM.
- At first and second week of August, consultancy meeting regarding Mass communication/ Education was held on each municipality with support by Clean Energy Nepal. As the next step, a training camp will be carried out on August 25 - 27, 2004 in which five members from each municipality will participate.

#### E: Development of Operation and Management Capacity (Mr. Ujiie)

- Monitoring and Evaluation Training was carried out in each municipality at the beginning of August.
- The JICA Study Team asked each municipality to think about appropriate places to obtain samples for Quality and Quantity survey to go over data management system.

#### 2. 3rd Public Hearing (Ms. Suwa)

- The dates for conducting the 3rd P/Hs in each municipality were confirmed as follows:
  - ♦ LSMC; August 16, 2004 (Mon)
  - ♦ MTM; August 17, 2004 (Tues)
  - ♦ KRM; August 24, 2004 (tentative)
  - ♦ BKM; Will decide on August 16, 2004

- ♦ KMC; Not yet
3. Mascot (Ms. Suwa)
- Jhyapu community declared opposition to the mascot because Jyapu was not the caste to clean up the city with the broom which Askai holds in his hands. As Jyapu community agreed Askai without the broom, a meeting among the relevant persons to discuss this issues.
4. Others (Mr. Ujiie)
- CKV Newsletter of No.3 (English) was completed and distributed to the TWG members.

End

<b>Subject:</b>	TWG Meeting (13th)	
<b>Date:</b>	September 16, 2004	
<b>Time:</b>	17:00 - 19:00	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ram Maharjan, Civil Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section
	LSMC	Mr. Rudra Pd. Gautam, Chief, Planning Section Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
	BKM	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section
	KRM	Mr. Anuj Pradhan, Assistant, Planning and Technical Section Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. Sanu Babu Pariyar, Account Officer, Administration Section Mr. British Singh, Junior Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Kiyoshi Shimizu Ms. Toshiko Shimada Ms. Sachiko Suwa Ms. Anuradha Tulachan (Note taker)

1. Progress Report on Pilot Projects being conducted

The CKV Study Team members including Focal Points shared the progress of each Pilot Project as follows:

**A: Improvement of Collection and Transportation**

A-1.1: Practice of Source-Separated Collection in BKM (D-3. Interpersonal Communication and Education) (Mr. Dinesh)

- BKM explained that targets for waste separation at source were 350 households. The households will be requested to separate organic and inorganic wastes into two different buckets distributed by BKM. The waste thus separated will be collected separately.

A-3: Practice of Planning and O&M of Transfer Station (Teku T/S) (Mr. Rajesh)

- KMC explained how constructing the platform at Teku T/S would solve the problems regarding multiple times load and unload of the collected waste, It would also make transporting waste more efficient, both cost wise and time wise. The weighbridge to be installed would provide a daily record of the amount of waste being collected and transported.
- The construction work at Teku T/S would take place in two phases; phase I of which would commence from mid October to beginning of December, 2004. The second phase is expected to be implemented between January and mid February, 2005.



## **B: Promotion of Waste Minimization**

### **B-1: Training for Waste Minimization Facility (Mr. Ujiie)**

- Consultants are yet to be finalized for conducting market survey for compost.
- Site visit in India has been postponed to October from September, 2004.
- Compost data collection in BKM has been postponed and will start in the middle of October after the monsoon season.

### **B-2.3: Practice of Promotion of Home Composting in LSMC (Mr. Amatya)**

- Regarding community based composting activities in Lalitpur, WEPCO was requested to submit a more detailed plan including not only home based composting but also small scale community composting in Lalitpur. WEPCO had been recommended by the JICA Study Team because of their history of involvement and experience in the field of composting.
- The JICA Study Team requested LSMC to prepare a basic plan for carrying out the community composting Pilot Project and also asked that Community Development Section be involved while preparing the plan.

### **B-2.4: Practice of Plastic Separation in KRM (Mr. Gyan)**

- A three days training of youth groups will be conducted on September 24-26, 2004 in order that youth groups learn plastic collection by using “Suiro”, home composting as well as the methodology of community-based activities. After this training, the women are expected to be able to conduct orientation programs and a training facilitated by trained youth groups.

## **C: Improvement of Final Disposal Planning and Operation (Mr. Ram)**

- The improvement works at Sisdol S/T-LFS is currently in the tender phase.
- SWMRMC agreed that in case any complaints arise from the local communities in and around Sisdol S/T-LFS, SWMRMC would address it, even though concerned local people at Sisdol have already been compensated in monetary terms. However, it would be impossible for SWMRMC to provide resettlement assistance to all concerned individuals as it is beyond the scope of SWMRMC.
- Regarding employment of local people for the Sisdol S/T-LFS, SWMRMC has decided that vacancies would be filled through VDC and not directly by SWMRMC.

## **D: Promotion of Public Awareness and Behavior Change Communication / Education**

### **D-1: Training for Community Mobilization Activities (Ms. Shimada)**

- The study tour in Hetauda was carried out on September 9-11, 2004 and the participants could learn initiatives taken by the municipality side regarding effective SWM.

D-2: Practice of Mass Communication and Education (Ms. Shimada)

- A meeting was held with representatives of *Jyapu Mahaguthi* on September 16, 2004 regarding the mascot (Askai). At that meeting, we decided to have another mascot committee meeting to discuss to finalize within two weeks.

D-3: Practice of Interpersonal Communication and Education (Mr. Dinesh)

- A three days camp for children, who are expected to become nature club members and be involved in waste minimization activities in schools and communities, will be held starting September 17, 2004 with support by ECCA.

**E: Development of Operation and Management Capacity (Mr. Ujiie)**

- Waste quality and quantity survey is currently being conducted at KMC. The survey in other municipalities will start from September 23, 2004. Focal Points were requested to participate in the survey as an OJT.
- Focal Points will meet at Teku T/S at 9:30 a.m. on coming Saturday (September 18, 2004) to observe waste quality and quantity survey being conducted by local consultants, SILT.
- The office equipment (desktop computer, printer, other peripherals) from JICA have been installed to each municipality for solid waste data management.

3. Others (Mr. Ujiie)

- The JICA Study Team informed the required procedure for the tender for procurement of secondary transportation vehicles. Delivery of the vehicles is expected to be late than the original date.

End

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<b>Subject:</b>	TWG Meeting (14th)	
<b>Date:</b>	October 14, 2004	
<b>Time:</b>	15:30 - 18:30	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ashok Shahi, Civil Engineer Mr. Ram Maharjan, Civil Engineer Mr. Nirmal Darshan Acharya, Civil Engineer
	KMC	Ms. Shriju Pradhan, Coordinator, CMU Ms. Sanu Maiya Maharjan, Assistant Officer, CMU
	LSMC	Mr. Rudra Pd. Gautam, Chief, Public Works Division Mr. Pradeep Amatya, Chief, Environment and Sanitation Section
	BKM	Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section Mr. Krishna Pd. Suwal, Community Development Assistant, Social Welfare & Sanitation Section Mr. Dilip Kumar Suwal, Assistant, Sanitation Sub-Section
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section Ms. Krishna Shrestha, Assistant, Community Development and Sanitation Section Mr. Surendra Shrestha, Junior Engineer, Planning and Technical Section
	KRM	Mr. Bal Krishna Maharjan, Chief, Planning and Technical Section Mr. Anuj Pradhan, Assistant, Planning and Technical Section Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Ms. Sachiko Suwa (note taker) Ms. Anuradha Tulachan
	SILT Consultants	Mr. J.B. Karki Mr. Sarbagya Bajracharya
	CEN	Mr. Deepak K.C. Mr. Bikram Bajracharya

#### 1. Progress Report on Pilot Projects being conducted

The CKV Study Team (both JICA Study team and Nepalese counterparts) confirmed the Focal Points of the Pilot Projects from SWMRMC and five municipalities, local consultants and NGOs who were supporting a series of pilot activities.

After that, the CKV Study Team shared the progress of each Pilot Project by explanation from Focal Points as follows: They were also requested to present the progress of each project at next 3rd seminar on coming November.

## **A: Improvement of Collection and Transportation**

A-1.1: Practice of Source-Separated Collection in BKM (D-3. Interpersonal Communication and Education) (Mr. Dinesh)

- The size and type of bucket to be used for waste separation was almost decided. The CKV Study Team suggested making several holes on buckets in order to prevent people using for other purposes. They also suggested collecting the charge of buckets in order to make this system sustainable and get community to feel their own responsibility. BKM will determine the cost to be borne by the local people through discussion with the community.
- BKM will discuss how to explain about this separation collection system to the community and distribute the buckets cooperated with nature clubs.
- The meeting between BKM and a core group of the community is planned to be held on October 29, 2004.

A-1.2: Practice of Collection and Transportation in MTM (Mr. Shah)

- Nine collection points, where the vehicle stops for few minutes to pick up the collected waste, have been already decided. But transfer points, where the waste collected by hand carts are loaded to a vehicle, have not been decided yet. MTM will have another meeting after Dasain.
- MTM is going to submit A4 form which is requested for the procurement process of the collection vehicle on coming Monday (October 18, 2004).

A-3: Practice of Planning and O&M of Transfer Station (Teku T/S) (Mr. Ujiie on behalf of Mr. Rajesh)

- Since October 11, 2004, construction works at Teku T/S has been started by the selected contractor, Swachchhanda Nirman Sewa Pvt. Ltd.
- Cutting of the surface concrete of the site has just started as part of earth works for the excavation.

## **B: Promotion of Waste Minimization**

B-1: Training for Waste Minimization Facility (Mr. Ashok)

- Several workshops were held to discuss roles of municipality and government (SWMRMC) for waste minimization facility. The CKV Study Team also compared the difference between three technical proposals which were submitted to SWMRMC last year including Luna and discussed feasible system for the Kathmandu Valley by consideration of technical as well as operational aspects.
- MEH Consultant has prepared the questionnaire for the survey of compost market by involving comments from the CKV Study Team.
- The JICA Study Team will discuss the schedule of “Data Collection at BKM Compost Facility”, which will be necessary for continuation then months, with JICA Tokyo.

**B-2: Practice of Local Level Waste Minimization Activities (KMC; Ms. Shriju, LSMC; Mr. Amatya)**

- Specifications of compost bin to be used by the Pilot Project, such as capacity (100L) and color (dark green), have been determined among the Focal Points and the JICA Study Team so that each municipality will use unified one under the CKV Study. The Focal Points have agreed that the cost of compost bins will be shared among the JICA Study Team, municipality and local people. The cost to be borne by the local people has been decided to be same in all municipalities.
- KMC plans to carry out community based solid waste management activities in Ward 21. These activities include source separation, home composting and paper recycling, which will be supported by SOUP.
- LSMC plans to carry out home composting activities at the following areas.
  - ♦ Ward 1 and 2 (core area) supported by WPCO
  - ♦ Ward 11, 12, 18 supported by SOUP
  - ♦ Ward 5, 7, 8 (high density area) directly implemented by Community Development Section, LSMC

**B-2.4: Practice of Plastic Separation in KRM (Mr. Anuj)**

- At the end of September, 2004, KRM conducted a three days training of youth groups, which covered the methodology of 3R, plastic collection by using “Suiro”, home composting by bin, vermin and pile methods, and planning for community-based SWM activities. After that, a two days training for local women was also held at each target area with support by trained youth groups on October 9- 14, 2004. At the training, suiro and cotton bag were distributed to the participants.
- Youth groups will monitor the activities of women two weeks later

**C: Improvement of Final Disposal Planning and Operation (Mr. Ram)**

- Construction works have started at Sisdol since October 1, 2004. The excavation of the site is being carried out by the selected contractor, BHAIKAB Construction Co.(P) Ltd.
- At the end of September, 2004, a part of the dam has been collapsed due to the heavy rain, which will be restored by SWMRMC. The JICA Study Team has requested SWMRMC to reinforce the dam in order to bear the pressure which will be imposed by the disposed waste.

**D: Promotion of Public Awareness and Behavior Change Communication / Education**

**D-1: Training for Community Mobilization Activities (Mr. Nirmal)**

- Mascot was finally decided after the discussions with a Jyapu community. The Mascot has been redesigned as a typical Nepalese, whose name is “ASHAKAJI”.
- The 4th Sharing meeting regarding Study Tour in Hetauda was held on September 30, 2004 in order to share the experience especially for community based activities in Hetauda.

D-2: Practice of Mass Communication and Education (Mr. Krishna Pd. Suwal)

- Through a series of Public Event Organizational Committee (PEOC) meetings, each municipality are preparing for their Public Event which will be held after Dasain.

**E: Development of Operation and Management Capacity**

- Regarding solid waste data management, SILT Consultant explained the flow of solid waste data and the draft format of data base in which SWM relating data of each municipality will be put. The CKV Study Team recommended that the data base should be made simpler in order to make the staff understood easily as a first step. After Dasain, the JICA Study team, Focal Points and SILT Consultant will discuss more details to determine the suitable format.

2. Pre-testing and discussion for Mass communication/ education materials

The CKV Study Team discussed the following mass communication materials as pre-testing. The comments will be collected by coming Monday (October 18, 2004) to be finalized.

- ♦ Sticker (several types)
- ♦ Brochure (two kinds)
- ♦ Radio Jingle (one script)

3. Others (Mr. Ujiie)

- Study Tour in India has been postponed and is planned to be carried out in November, 2004.
- At the next TWG meeting, participants of study tour in Malaysia are requested to make a presentation in order to share the experience in Malaysia.
- The JICA Study Team will leave Kathmandu on October 15, 2004 and will come back on October 26, 2004. Next assignment of the JICA Study Team is October 26 to December 9, 2004 in Nepal.

End

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<b>Subject:</b>	TWG Meeting (15th)	
<b>Date:</b>	November 15, 2004	
<b>Time:</b>	15:00 - 17:20	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ashok Shahi, Engineer Mr. Ram Maharjan, Engineer Mr. Nirmal Darshan Acharya, Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purushottam Shakya, Chief, Mechanical Section Mr. Chitra Kumar Sunuwar, Chief, Operation and Enforcement Unit Ms. Shriju Pradhan, Coordinator, Community Mobilization Unit
	LSMC	Mr. Rudra Pd. Gautam, Chief, Public Works Division Mr. Pradeep Amatya, Chief, Environment and Sanitation Section Ms. Sabina Maharjan, Community Development Section Ms. Gyanishova Maharjan, Community Development Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Moti Bhakta Shrestha, Officer, Social Welfare & Sanitation Section
	MTM	Mr. Surendra Shrestha, Engineer Mr. Tulsi Bhakta Tako, Assistant, Community Development Section
	KRM	Mr. Bal Krishna Maharjan, Chief, Planning and Technical Section Mr. Anuj Pradhan, Assistant Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Shungo Soeda Mr. Mahmoud Riad Ms. Minako Nakatani Ms. Toshiko Shimada Ms. Sachiko Suwa Ms. Anuradha Tulachan (note taker)

1. Reports of Study Tour in India (Mr. Shakya)

The explanations about the study tour in India were made by Mr. Soeda and the participants, respectively. Various questions were raised and opinions were exchanged. The reports of each participant will be submitted to the JICA Study Team by November 19, 2004.

2. Progress, Issues and Further Schedule of Pilot Projects (Mr. Ujiie)

The JICA Study Team and the Nepalese Counterparts went through the progress made so far and discussed further steps to be taken on the Pilot Projects currently being conducted.

## **A: Improvement of Collection and Transportation**

### A-1.1: Practice of Source-Separated Collection in BKM

- The JICA Study Team will order the buckets (green and red) within this month to be for separation of waste at source (house)
- BKM will finalize the brochure to be distributed along with the buckets soon..

### A-1.2: Practice of Collection and Transportation in MTM

- MTM has submitted the A4 form to JICA once, but they will re-submit to MOLD necessary for procurement process of the collection vehicle.
- MTM will work towards deciding on a temporary disposal site.

### A-3: Improvement of Teku Transfer Station

- The progress of the construction is quite good, but installation of weighbridge previously planned for November 15<sup>th</sup> has been postponed and will be completed by the end of November 2004..

## **B: Promotion of Waste Minimization**

### B-1: Training for Waste Minimization Facility

- Study tour participants to India should submit their reports by November 19, 2004.
- SILT Consultant (P.) Ltd. has been assigned as the consultant for data collection at BKM Compost Facility. Basic data collection at the facility is scheduled to start this week.
- The JICA Study Team suggested SWMRMC/KMC to make time for land allocation for a large-scale compost plant.

### B-2: Practice of Local Level Waste Minimization Activities

- Orders for compost bins have already been placed by the JICA Study Team.
  - ♦ 200 compost bins ordered by the JICA Study Team will be delivered to SWMRMC on November 30, 2004.
  - ♦ ECCA will also bring 36 bins to be distributed to SWMRMC.
- Distribution of compost bins including training of local people within November, 2004. SWMRMC will hand over the compost bins to the municipalities and other organizations concerned.
- The JICA Study Team explained that a draft of the User's Manual on Home Compost Bin would be available on November 16, 2004. A finalized User's Manual will be produced after collecting comments from the municipalities.



#### B-2.4: Practice of Plastic Separation in KRM

- The JICA Study Team requested KRM to submit results of the activities being monitored by the youth groups.

### **C: Improvement of Final Disposal Planning and Operation**

#### C-1: Training for Final Disposal Planning

- Mr. Kiran Ulak presented the lessons learned from the study tour in Malaysia. Participants from Nepal attended a Seminar titled "Safe Closure and Rehabilitation of LFS in Malaysia" and visited landfill sites in Malaysia. Conclusions and suggestions presented during the presentation were:
  - ♦ Nepal should also start thinking about Safe Closure of LFS.
  - ♦ Issues that come along with privatization such as monopoly, service quality and dependence of local authority etc should be given due consideration.

#### C-2: Practice of Semi-aerobic Sanitary Landfilling (Sisdol S/T-LFS)

- The JICA Study Team brought attention to the problems that need to be tackled in order to proceed with the construction at the semi-aerobic LFS.
  - ♦ Reinforcement of dam at the site.
  - ♦ Improvement of drainage system.
  - ♦ Addressing the small springs and sponge-like soil at the site.
  - ♦ Addressing the demands put forth by the owners of the households in and around the site.

### **D: Promotion of Public Awareness and Behavior Change Communication / Education**

#### D-1: Training for Community Mobilization Activities

- The JICA Study Team is planning on a study tour inside Nepal and is now collecting suggestions for candidate sites.

#### D-2: Practice of Mass Communication and Education

- Public events are scheduled to be held in BKM on November 18 and 19, 2004 and in KRM on November 19 and 20, 2004.
- Other upcoming events include preparation of radio jingle, wall painting at LSMC and brochure distribution.

### **E: Development of Operation and Management Capacity**

#### E-1: Training of Action Plan Operational Management

- Further activities to be included in A-2 will be discussed during the PPP Training. The JICA Study Team requested the participants to discuss amongst themselves about the additional activities they would like to include.

- Activities under the consultancy component will be conducted in December. The JICA Study Team requested the municipalities to coordinate with DMI to schedule their part of activities.

#### E-2: Practice of Solid Waste Data Management

- Results from the Waste Quantity and Quality Survey carried out during the wet season will be discussed after it is made available.
- The JICA Study Team provided planned schedule of activities for database management until April 2005. Installation of solid waste management database in the municipalities will begin the week of November 15, 2004. The JICA Study Team requested the municipalities to arrange the local consultant's visit to input basic data. Inputting data should be done within the month of December and all municipalities are expected to start trial use of database on their own starting April 2005.

#### 3. Midterm Evaluation of the Progress and Achievements (Mr.Ujiie)

Each municipality was requested to submit the mid-term evaluation of the Pilot Projects activities by November 19, 2004 directly to the CKV Study Team through SWMRMC. Points to be included in the report are:

- ♦ Progress
- ♦ Involvement
- ♦ Lessons Learned
- ♦ Outputs (Achievements)
- ♦ Other issues to be noted
- ♦ Request for further activities in Phase 3 (Term 2)

#### 4. Implementation Organization (Mr.Ujiie)

- Municipalities were asked to appoint all existing Focal Points as TWG/ T/F member.
  - ♦ LSMC has decided to nominate Ms. Laxmi Rajbhandari as a T/F member.

Focal Points	A. Collection and Transportation (Inc.Data Management)	B. Waste Minimization (Composting, Recycling)	C. Landfilling (Inc.Env. Monitoring)	D. Public Awareness and Behavior Change	E. Operational Management
SWMRMC	Mr. Nilmar (Data)/ Mr.Ram (T/S)	Mr. Ashok	Mr. Ram	Mr. Nilmar	Mr. Ashok
KMC	Mr. Rajesh	Mr. Rajesh (Large)/ Ms. Shriju**(Community)	Mr. Kiran	Ms. Shriju/ Ms. Sanu	Mr. Rajesh
LSMC	Mr. Pradeep	Mr. Pradeep (Large)/ Ms. Laxmi (Community)	Mr. Rudra	Ms. Laxmi Ms. Sabina	Mr. Rudra
BKM	Mr. Dinesh	Mr. Moti	Mr. Laxman	Mr. Dilip Mr. Krishna	Mr. Laxman
MTM	Mr. Satya	Mr. Surendra/ Ms. Krishna	Mr. Satya/ Mr. Shiva*	Mr. Tulsi/ Ms. Krishna	Mr. Tulsi
KRM	Mr. British	Mr. Gian	Mr. Bal	Mr. Anju	Mr. Bal

5. Operation and Management of Teku T/S and Sisdol LFS (Mr. Ujiie)

- Procurement schedule for secondary transportation vehicles was provided to the participants.

6. Further Schedule (Mr. Ujiie)

- ♦ November 23, 2004 (Tue): 3rd Steering Committee Meeting
- ♦ November 24, 2004 (Wed): Site visit to Sisdol and Teku by JICA Representative
- ♦ November 24, 2004 (Wed): Signing of Minutes of Meeting
- ♦ November 25, 2004 (Thu): 3rd Seminar
- ♦ Submission of Interim Report
- ♦ PCM Training: November 23rd-24th

7. Others (Mr. Ujiie)

- Presenters for the 3rd Seminar of CKV Study to be held on November 25, 2004 were decided as follows:
  - ♦ Presentation 1: A-3: Training for Transfer Station- Mr. Rajesh (KMC)
  - ♦ Presentation 2: B-1: Training for Waste Minimization Facility- Mr. Ashok (SWMRMC)
  - ♦ Presentation 3: B-2: Practice of Local Level Waste Minimization- Ms. Shriju (KMC), Mr. Gyan (KRM)
  - ♦ Presentation 4: C-2: Training for Semi Aerobic Sanitary Landfill System- Mr. Ram (SWMRMC)
  - ♦ Presentation 5: D-2: Practice of Mass Communication/Education- Mr. Tulsi (MTM)
  - ♦ Presentation 6: D-3: Practice of Interpersonal Communication/Education- Mr. Krishna (BKM)
  - ♦ Presentation 7: E-1: Training for Action Plan Operational Management- Mr. Rajesh (KMC)
  - ♦ Presentation 8: E-2: Training for Solid Waste Data Management – Mr. Nirmal (SWMRMC)/ Mr. Pradeep (LSMC)
  - ♦ Interim Evaluation and Suggestions- Mr. Toshiyuki Ujiie (JICA Study Team)
- Members from The JICA Study Team members will leave Kathmandu on the following dates:
  - ♦ Ms. Toshiko Shimada- November 23, 2004
  - ♦ Ms. Minako Nakatani- November 26, 2004
  - ♦ Mr. Toshiyuki Ujiie/ Mr. Shungo Soeda- November 27, 2004
  - ♦ Mr. Mahmoud Riad/ Ms. Sachiko Suwa- December 9, 2004
  - ♦ The next assignment of the JICA Study Team in Nepal will begin in January 2005.

End

<b>Subject:</b>	TWG Meeting (16th)	
<b>Date:</b>	January 21, 2005	
<b>Time:</b>	10:30 - 12:30	
<b>Venue:</b>	Hotel Clarion Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ashok Shahi, Engineer Mr. Ram Maharjan, Engineer Mr. Nirmal Darshan Acharya, Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section Ms. Sanu Maiya Maharjan, Assistant Officer, Community Mobilization Unit
	LSMC	Mr. Rudra Pd. Gautam, Chief Public Construction Division Mr. Pradeep Amatya, Chief Environment and Sanitation Section Ms. Laxmi Pd Rajbhandari, Section Chief, Community Development Section Ms. Sabina Maharjan, Community Mobilization Section
	BKM	Mr. Lok Nath Poudyal, CEO (observer) Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section Mr. Krishna Pd. Suwal, Community Development Assistant
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section Mr. Tulsi Bhakta Tako, Section Chief, Community Development and Sanitation Section
	KRM	Mr. Surendra Shrestha, Engineer Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer Mr. Krishna Bholu Maharjan, Junior Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Shungo Soeda Ms. Sachiko Suwa Mr. Vikram Basyal (note taker)

1. Open Remarks (Mr. Shakya, Mr. Ujiie)

- A chairperson of TWG, Mr. Shakya, greeted the CKV Study Team and requested all TWG members to make the Study successful for effective solid waste management.
- A leader of the JICA Study Team, Mr. Ujiie, explained briefly what the JICA Study Team discussed with JICA Tokyo in Japan in December 2004 including two months extension of the Study and assignment schedule of the JICA Study Team members.

2. TWG Meeting held on January 7, 2005 (Mr. Shakya)

- Mr. Shakya explained that Nepalese side held TWG meeting on January 7, 2005 by themselves and discussed the following:
  - ♦ Nepalese side issued a letter to request the extension of the time period of the Study up to June, 2005 from April, 2005.
  - ♦ The Achievements of Country-Focused Training in Japan were reported by the trainees except Mr. Satya who was absent from the meeting.
  - ♦ MTM was strongly requested to participate in the TWG meeting every time.
  - ♦ Nepalese side would have a meeting to discuss the contents of IT/R (2) on January 25, 2005 and they would report the results to the JICA Study Team later.

3. Report of Country-Focused Training in Japan (Mr. Ujiie)

Each trainee reported their expression of Country-Focused Training in Japan as follows;

- Mr. Satya Narayan Shah (MTM)

Mr. Satya reported that several kinds of solid waste management facilities as well as management system could be observed in Japan. He also mentioned that although it must be difficult to bring similar system to Nepal because of high cost of the Japanese systems, some ideas including waste segregation and reuse or recycle system especially the glass separation method could be imported from Japan.

- Mr. Krishna Bholu Maharjan (KRM)

Mr. Krishna expressed his fruitful training in Japan and also said that all the system of SWM especially segregation system in Japan was very impressed.

- Mr. Dinesh Rajbhandari (BKM)

Mr. Dinesh reported that overall solid waste management system in Japan was great, but he said that we had to think about financial issue. He also mentioned that, in view of environmental education, the environmental museum was very effective to raise awareness of the public.

- Mr. Pradeep Amatya (LSMC)

Mr. Pradeep expressed the good experiences in Japan although he felt that the training period was rather short. He also expressed the impressive programs and lectures such as Semi-aerobic system including use of bamboo as local materials in the system and time and motion. He thought that the Japanese system was beyond affordable capacity of Nepal especially financial matter, so he suggested that the budget for solid waste management was necessity in Nepal. In addition, the attitude of people in Japan for disposing the waste in the proper way was impressive and necessity for effective SWM in Nepal as well.

- Mr. Nirmal Darshan Acharya (SWMRMC)

Mr. Nirmal expressed that the education level of people on solid waste management was impressed and suggested that Nepal should also have to educate people properly about SWM. He also mentioned that incineration, waste minimization system as well as semi-aerobic system including leachate treatment and liner systems were learned.

- Mr. Purusotam Shakya (KMC)

Mr. Purusotam expressed that time of one month went by very quickly in Japan. But he said

that semi-aerobic system was good although same type of liner was not used in Sisdol S/T-LFS.

▪ Mr. Rajesh Manandhar (KMC)

Mr. Rajesh reported that people's awareness was very impressive and he could see their participation and cooperation on solid waste management, which was necessity for effective solid waste management. In addition, he thought that database management system in a city was very systematic. He suggested that in order to make SWM in Nepal more effective, we should think cost effective matter, when some system would be introduced.

4. Operation of Sisdol S/T-LF and Teku T/S (Mr. Shakya, Mr. Ujiie)

- Mr. Shakya explained that SWMRMC had been trying to organize a local committee composed of the representatives of local peoples who live in the areas where may be affected by the Sisdol landfill site. Mr. Shakya also stressed that Sisdol landfill site could be operated only after agreements of the committee will be obtained.
- Within January 2005, the Working Group was confirmed to be held among MOLD, SWMRMC, KMC, LSMC and the JICA Study Team to discuss more details and crucial issues of operation of Sisdol S/T-LF and transportation of the waste including responsibilities demarcation and cost sharing.
- It was confirmed that the operation of Sisdol S/T-LF would be started from the beginning of March, 2005 or earlier. Before that, a basic agreement among the concerned parties i.e. MOLD, JICA Study Team, KMC, LSMC and KRM (with witness by JICA, SWMRMC) would be made as a M/M.
- It was also confirmed that the solid waste would be transported by using the existing equipment of KMC and LSMC at the beginning.

5. Schedule of the Study (Mr. Ujiie)

- The JICA Study Team explained detail schedule of the assignment of the JICA Study Team of Phase 3.
- The JICA Study Team reported that implementation of Phase 4 of the CKV Study as monitoring and follow up of the action plan activities was confirmed at the JICA Advisory Committee Meeting in Tokyo.

6. Progress Report on Pilot Projects being conducted (Mr. Ujiie)

The following progress, schedule and relating issues of each Pilot Project were shared and confirmed among the TWG members including Focal Points and the JICA Study Team:

**A: Improvement of Collection and Transportation**

A-1.1: Practice of Source-Separated Collection in BKM

- Although sets of buckets for waste segregation were handed over to each of the target ward offices in December 2004, orientation and distribution to the local people have not been conducted.

A-1.2: Practice of Collection and Transportation in MTM

- MTM has not submitted the A4 form to MOLD/MOFA yet. The JICA Study Team requested to make it speed up.

A-2: Training for Practical Guidelines for Public Private Partnership (PPP) on SWM

- PPP training starts on February 9, 2005 as the round table meeting on PPP policy. Practical guidelines and prototype contracts are planned to be developed.

A-3: Practice of Planning and O&M of Transfer Station (Teku T/S)

- KMC and LSMC were requested to discuss the waste transportation plan and operational matters of Teku T/S soon.
- The JICA Study Team reported that JICA expressed an interest to give a support to rent some transportation trucks from April to June 2005, which will be used for waste transferring training at Teku T/S.

**B: Promotion of Waste Minimization**

B-1: Training for Waste Minimization Facility

- The draft report for compost market prepared by MEH Consultant will be distributed to the Focal Points, who are requested to make comments to the report.
- The field data collection at compost plant at BKM will start soon.
- KMC asked SWMRMC about the situation of the contract with LUNA Fertilizer Company and the further necessary actions. Mr. Shakya explained that SWMRMC has issued a letter to caution LUNA to express their actual intention. Mr. Shakya also suggested that as it was rather difficult to operate a large-scale composting facility successfully by seen in the South Asian countries, we should consider a step-wise development of the facility starting from a 30-40 ton/day of capacity.
- As SWMRMC informed that they have not searched the land for a compost facility, the JICA Study Team requested the Nepalese side to try to find the land for the composting facility in order to take a next step. KMC suggested that if the contract with LUNA would be terminated, they may consider the facility at Alter.

B-2: Practice of Local Level Waste Minimization Activities

- As the all amount of CKV compost bins (1,200) has been ordered, SWMRMC was requested to distribute CKV compost bins efficiently. The parties whose activities are ahead, the bins will be handed over with priority.
- A vermin composting shed is proposed to be set up at Teku T/S by KMC. The organic waste is to be transported from Putali Saddock vegetable market. KMC was requested to prepare the drawings of the shed.

- KRM will set up a storage house for the collected plastic bags supported by JICA.

### **C: Improvement of Final Disposal Planning and Operation**

#### C-1: Training for Final Disposal Planning

- The Pilot Project on Practice of EIA at Taikabu LFS will be conducted including topographic and geological surveys, concept design and supplemental environmental surveys. In addition, IEE practice on Phasidol and Bancaredanda candidate LFSs based on the draft EIA Guideline of Nepal and the JICA Environmental Guideline is planned to be conducted. The lessons learnt from both Pilot Projects would be reflected to the draft EIA Guideline.
- SWMRMC explained that there are two broad methods to acquire (compensate) the land, i.e. land for the land and money for the land. In the former case BKM should try to arrange the land as much as possible while the latter case SWMRMC may provide BKM with financial support.
- BKM explained that BKM had been requesting the NPC through MOLD to recognize the Taikabu LFS development as a national priority project. However, BKM was requested by SWMRMC to form a committee for Taikabu LFS including local people, BKM, VDC and MTM in order to discuss various issues regarding LFS by coming Wednesday (January 26, 2005).

#### C-2: Practice of Semi-aerobic Sanitary Landfilling (Sisdol S/T-LFS)

- SWMRMC was requested that a dam at Sisdol S/T-LFS should be improved carefully based on the recommendations of the JICA Study Team and SWMRMC agreed for that.
- Environmental Coordination Committee (ECC) was requested to be organized within January, 2005. After organization of ECC, the monitoring survey will be conducted five times until May 2005.

### **D: Promotion of Public Awareness and Behavior Change Communication / Education**

#### D-1: Training for Community Mobilization Activities

- 3day Trainer on Training (TOT) will be held on February 1-3, 2005 (changed to January 31-February 2 later) to provide the Focal Points with i) the basic concept of training and different learning styles, ii) training techniques and facilitation skills, and iii) designing skills for a training program and a training session related to SWM.
- A study tour is planned to be held in April or May to Dharan and Ithari.

#### D-2: Practice of Mass Communication and Education

- The radio jingle of the CKV Study is being broadcasted on Metro FM, 19:15-19:45 every Saturday and Sunday during its environmental program. CEN is now asking to the other FM stations for broadcasting.



- In the Phase II, song contest at schools, clean up campaign and public event are planned based on the requests from Nepalese side. Detail discussion will be conducted at the kick off meeting to be held on January 25, 2005.

#### D-3: Practice of Interpersonal Communication and Education

- BKM were requested to call a meeting with the concerned local communities, ECCA and the JICA Study Team in order to proceed smooth nature club activities as soon as possible.

### **E: Development of Operation and Management Capacity (Mr. Ujiie)**

#### E-1: Training for Action Plan Operational Management

- The JICA Study Team suggested that each municipality should take necessary actions to finalize the organization based on the HRD training and OD support.
- SWMRMC will be invited in the Stakeholder and Conflict Management Training (Module 7).

#### E-2: Practice of Solid Waste Data Management

- Workshop will be held on January 24, 2005 13:00- at SILT Consultant office to discuss the results of the waste quality and quantity survey and database system.
- SWMRMC was requested to increase the server capacity of MOLD in order to upgrade the website of not only the CKV Study but also SWMRMC. SWMRMC agreed that.

### **Others**

- The requested medical waste Pilot Project was not approved this time mainly due to the unclear responsibility demarcation and program contents. KMC expressed that as medical waste was serious problem and there was very high risk of reaching medical waste in the land fill site, they would try to produce the clear idea.

#### 7. 4th Public Hearings (Mr. Ujiie)

- The JICA Study Team requested each municipality to hold the 4th P/Hs during the end of January to the beginning of February 2005, and stressed that it was a good opportunity to explain the progress of Pilot Projects.
- The suggested important topics to be explained to peoples for KMC and LSMC were the operation of Sisdol S/T-LFS and Teku T/S, and for BKM and MTM were the planned surveys at Taikabu LFS.

#### 8. Inter-Ministerial Coordination Meeting (Mr. Ujiie)

- The JICA Study Team suggested that the inter-ministerial coordination meeting should be called to discuss the demarcation of SWM among related ministries including medical waste in March as discussed at the 3rd ST/C.

9. Mission of JICS (Mr. Ujiie)

- The JICA Study Team informed that Mission of JICS would come to Nepal to finalize the specification of the transportation vehicles (waste management vehicles) from January 26 to February 2, 2005. The first meeting will be held with SWMRMC/ KMC/ LSMC.

End

<b>Subject:</b>	TWG Meeting (17th)	
<b>Date:</b>	June 21, 2005	
<b>Time:</b>	14:00 - 16:00	
<b>Venue:</b>	KMC Meeting Room	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, General Manager (Chairperson) Mr. Ashok Shahi, Engineer Mr. Ram Maharjan, Engineer Mr. Nirmal Darshan Acharya, Engineer
	KMC	Mr. Indra Man Suwal, Head, Environmental Department Mr. Rajesh Manandhar, Chief, SWM Section Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section Ms. Shriju Pradhan, Coordinator, Community Mobilization Unit
	LSMC	Mr. Pradeep Amatya, Chief Environment and Sanitation Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section Mr. Krishna Pd. Suwal, Community Development Assistant
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section
	KRM	Mr. Anuj Pradhan, Chief, Solid Waste Management Unit Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer Mr. Krishna Bhola Maharjan, Junior Engineer, Planning and Technical Section
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Mahmoud Riad Mr. Shungo Soeda Mr. Norihiko Inoue Ms. Sachiko Suwa Mr. Vikram Basyal (note taker)

1. TWG Meetings held by the Nepalese side (Mr. Shakya)

- It was reported that Nepalese side hold the TWG meeting for discussion of progress of the Study and other related SWM among SWMRMC and five municipalities.
- The TWG members promised to provide their comments on 1st and 2nd Interim Report of the Study by June 27, 2005. They also agreed to offer the comments on Draft Final Reports after observing the reports.

2. 4th Seminar (Mr. Ujiie)

- It was informed that the 4th Seminar would be conducted on June 27-28, 2005 at the Hyatt Regency Hotel. The planned main contents were reports of Pilot Project activities, introduction of Action Plans, site visit to Teku T/S and Sisdol S/T-LFS, evaluation of the Study

and Q&A.

- Each Focal Point of Pilot Projects was requested to make a presentation to introduce their activities by using slides in around 10-15 minutes. In addition, the following TWG members from five municipalities and SWMRMC were also requested to make a presentation about their finalized Action Plan in around 10 minutes.

- ♦ KMC; Mr. Kiran Ulak
- ♦ LSMC; Mr. Rudra Gautum
- ♦ BKM; Mr. Laxman Kisiju
- ♦ MTM; Mr. Satya Narayan Shah
- ♦ KRM; Mr. Bal Krishna Maharjan

3. 4th Steering Committee (Mr. Shakya)

- It was informed that 4th ST/C would be held on June 29, 2005 at MOLD and Minutes of Meeting (M/M) agreed among the members would be signed.
- The expected contents of Phase 4 would be discussed at the 4th ST/C and be included in the M/M.

4. 5th Public Hearings (Mr. Ujiie)

- Five municipalities were requested to organize the 5th P/Hs for explanation of the results of the Pilot Projects and finalized Action Plans by July 10, 2005.

5. Target of Action Plan (Mr. Soeda)

- The JICA Study Team explained solid waste management ratio to be adopted to the target of the Action Plans and TWG members agreed to adopt it as the Target.

6. Progress and Remarkable issues of Pilot Projects

- MTM was requested to speed up the request of a collection vehicle to JICA through MOLD/MOFA.
- A prototype PPP contract would be finalized by discussing among the concerned municipalities.
- KMC was requested to finish the remaining works in Teku T/S including provision of drain cover and water supply.
- Nepalese side was requested to proceed site selection for WPF.
- The sharing meeting of local level composting activities would be held for discussion on the results of compost quality analysis, revised manual for composting and lesson learned from the Pilot Project activities.
- Workshop on EIA practice for Taikabu and IEE practice of long-term LFS would be held.
- Duties of SWMRMC should be done soon and SWMRMC would inform the date of

Environmental Coordination Committee tomorrow.

- SWMRMC and five municipalities were requested to review A/P and AWP carefully including modification of the target based on the discussion.
- The TWG member would discuss revised database system of solid waste and results of QQ survey in the next meeting.

7. Upcoming Schedule (Mr. Ujiie)

- JICA Advisory Committee will visit Nepal from June 26 to June 30, 2005 for attending 4th Seminar, 4th Steering Committee and visiting the site.
- Next 18th TWG meeting will be held on June 24, 2005 for discussing the contents of M/M to be signed at the 4th Steering Committee.

End

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<b>Subject:</b>	TWG Meeting (18th)	
<b>Date:</b>	June 24, 2005	
<b>Time:</b>	14:00 - 16:00	
<b>Venue:</b>	KMC Meeting Room	
<b>Participants:</b>	KMC	Mr. Indra Man Suwal, Head, Environmental Department Mr. Kiran Ulak, Engineer, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section
	LSMC	Mr. Pradeep Amatya, Chief Environment and Sanitation Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section
	MTM	Ms. Krishna Shrestha, Assistant, Community Development and Sanitation Section Mr. Surendra Shrestha, Junior Engineer, Planning and Technical Section
	KRM	Mr. Anuj Pradhan, Chief, Solid Waste Management Unit Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer
	JICA Study Team	Mr. Toshiyuki Ujiie Mr. Shungo Soeda Mr. Norihiko Inoue Ms. Sachiko Suwa (note taker)

1. 4th Steering Committee (Mr. Ujiie)

- The TWG members confirmed that the 4th ST/C would be held on June 29, 2005, 14:00-16:00 at MOLD. The tentative contents of M/M were also explained.
- The TWG members suggested that as night collection system would be continued, they would discuss the A/P regarding collection, transportation and operation of final disposal based on the night collection.
- The TWG members explained that they wanted to discuss medical waste management at 4th ST/C. The JICA Study Team mentioned that because medical waste management, of which responsible demarcation were not unclear in Nepal, had not been targeted by the Study.
- MTM requested to discuss that MTM could transport their waste to Teku T/S at the 4th ST/C. In this connection, KMC mentioned that KMC would agree to receive waste from MTM so that they would proceed official way in near future.
- The CKV Study Team decided to discuss the contents of M/M in the morning on June 29, 2005 before the 4th ST/C again.

3. Finalization of Action Plans (Mr. Ujiie)

- BKM was requested to decide their vision of Action Plan for finalization from three choices

developed by BKM T/F.

- Five municipalities were requested to review Action Plans and Implementation Plans for the finalization.

4. Others (Mr. Ujiie)

- The TWG meeting would be held on July 5, 2005 and July 12, 2005.
- The 2nd workshop of Public Private Partnership on SWM would be held on July 3, 2005 and five municipalities were welcomed to attend the workshop.
- The JICA Study Team explained that workshop for Local Level Waste Minimization Activity would be held on July 6, 2005 in order to review the activities of local level waste minimization and discuss future plan of monitoring and follow-up.
- Five municipalities were requested to hold 5th P/Hs for explanation of the results of the Pilot Projects and finalized Action Plans by July 10, 2005. They were also requested to keep a meeting record/minutes as well as an attendant list and submit them to the JICA Study Team.

End

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<b>Subject:</b>	TWG Meeting (19th)	
<b>Date:</b>	July 5, 2005	
<b>Time:</b>	15:00 – 17:00	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants</b>	SWMRMC	Mr. Ashok Shahi, Acting General Manager (Chairperson) Mr. Ram Maharjan, Engineer Mr. Nirmal Darshan Acharya, Engineer
	KMC	Mr. Rajesh Manandhar, Chief, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section Ms. Shriju Pradhan, Coordinator, Community Mobilization Unit Ms. Sanu Maiya Maharjan, Community Mobilization Unit
	LSMC	Ms. Sabina Maharjan, Community Development Section
	MTM	Ms. Krishna Kumari Shrestha, Assistant, Community Development and Sanitation Section
	KRM	Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting Mr. British Singh, Junior Engineer
	JICA Study Team	Mr. Toshiyuki Ujiie Ms. Sachiko Suwa Mr. Vikram Basyal (note taker)
	SILT	Mr. D. B. Singh Mr. J. B. Karki

1. Practice of Solid Waste Data Management (Local consultant, SILT)
  - Solid waste data management system, which was modified based on comments from Focal Points, was explained with demonstration.
  - The modified system would be installed into computer of to each of five municipalities and SWMRMC.
2. Finalization of Action Plan (Mr. Ujiie)
  - The JICA Study Team explained their comments on the A/Ps of the five municipalities and SWMRMC. The TWG members were requested to consider the comments for finalization of their A/P. Some municipalities were recommended to include activities regarding solid waste data management.
3. Others (Mr. Ujiie)
  - It was confirmed that the 20th TWG meeting would be held on July 12, 2005 at LDTA.

End



<b>Subject:</b>	TWG Meeting (20th)	
<b>Date:</b>	July 12, 2005	
<b>Time:</b>	15:00 – 17:00	
<b>Venue:</b>	Local Development Training Academy	
<b>Participants:</b>	SWMRMC	Mr. Surya Man Shakya, Ex-General Manager Mr. Ashok Shahi, Acting General Manager Mr. Ram Maharjan, Engineer Mr. Nirmal Darshan Acharya, Engineer
	KMC	Mr. Indra Man Suwal, Head, Environmental Department Mr. Rajesh Manandhar, Chief, SWM Section Mr. Purusotam Shakya, Chief, Mechanical Section Ms. Shriju Pradhan, Coordinator, Community Mobilization Unit
	LSMC	Mr. Pradeep Amatya, Chief Environment and Sanitation Section
	BKM	Mr. Laxman Kisiju, Chief, Planning and Technical Section Mr. Dinesh Rajbhandari, Sanitation Engineer, Planning and Technical Section Mr. Moti Bhaktamastra, Social Welfare Officer, Social Welfare & Sanitation Section Mr. Krishna Pd. Suwal, Community Development Assistant
	MTM	Mr. Satya Narayan Shah, Chief, Planning and Technical Section
	KRM	Mr. Anuj Pradhan, Chief, Solid Waste Management Unit Mr. Gyan Bazra Maharjan, Assistant, SWM/Accounting
	JICA Study Team	Mr. Toshiyuki Ujiie Ms. Sachiko Suwa (note taker)

1. Explanation of Draft Final Report (Mr. Ujiie)

- The JICA Study Team explained the contents of Draft Final Report of the Study briefly.
- The TWG members were requested to send their comments to the JICA Study Team by August 15, 2005. The TWG members promised to hold the TWG meeting in order to discuss Draft Final Report and send collected comments to the JICA Study Team by deadline.

2. Others (Mr. Ujiie)

- KMC and LSMC were requested to hold the 5th P/Hs for explanation of the results of the Pilot Projects and finalized Action Plans as soon as possible and report the record of the hearing to the JICA Study Team.
- The JICA Study Team expressed their concern about continuous cooperation of SWMRMC and the five municipalities in future. It was confirmed that the TWG member would continue to hold of the TWG meeting under the initiative of SWMRMC.
- The JICA Study Team explained that the Phase 4 of the Study was expected to start around October, 2005.

End

### **3. *Record of Seminar***

### 3. Record of Seminar

#### 1. Proceedings of 1st Seminar

- Date:** March 19, 2004  
**Time:** 10:00 - 16:30  
**Venue:** Local Development Training Academy Meeting Room (A)  
**Participants:** Total 99 people (MOLD, SWMRMC, Other ministries, Five municipalities, Donors, NGOs, CBOs, Private sectors, universities, media, JICA)  
**Distribution**  
- Handout of each presentation materials  
- Newsletter (No.1 English)  
- CKV file and memo pad made of recycled paper  
- CKV ball pen

#### 1.1 Agenda

Time	Program	Presenters
9:30- 10:00	Registration	-
10:00- 10:05	Welcome Address	JICA
10:05-:10:10	Opening Remarks	MOLD
10:10- 10:20	Introduction of the CVK Study and it's Members (Organization of the CVK Study, Members)	SWMRMC
10:20-10:40	Coffee Break	-
10:40-11:10	Presentation 1: Outline of the CKV Study	JICA Study Team
11:10-11:20	Presentation 2: Public Relations of the CKV Study (Introduction of Acronym, Slogan, News letters, etc.)	JICA Study Team
11:20-11:40	Presentation 3: Training Needs Analysis (TNA) – methods and preliminary results-	JICA Study Team
11:40-12:00	Presentation 4: Public Participations – roles and plan of public hearings-	JICA Study Team
12:00-13:00	Lunch	-
13:00-13:15	Presentation 5: SWM* in KMC	KMC
13:15-13:30	Presentation 6: SWM* in LSMC	LSMC
13:30-13:45	Presentation 7: SWM* in BKM	BKM
13:45-14:00	Presentation 8: SWM* in KTM	KTM
14:00-14:15	Presentation 9: SWM* in MTM	MTM
14:15-14:30	Coffee Break	-
14:30-14:50	Presentation 10 : Roles and Activities of SWMRMC	SWMRMC
14:50-15:10	Presentation 11: Preliminary Suggestions to SWM in the Kathmandu Valley	JICA Study Team
15:10-16:30	Discussions	MOLD
16:20-16:30	Closing Remarks	MOLD

Note:\*SWM includes current situations, issues and results of 1st public hearing

## **1.2 Records of the 1st Seminar**

### **1.2.1 Welcome Address and Open remarks**

Resident representative of JICA Nepal Office greeted for the participants as welcome address. Following that, secretary of MOLD made open remarks and express the hope to be succeeded such challengeable study.

### **1.2.2 Introduction of the Study and its Members**

The chairperson of Technical Working Group (TWG) introduced the Study including the scope of the Study as well as workflow and relevant members including Steering Committee (ST/C), TWG, Task Force (T/F) and the JICA Study Team.

### **1.2.3 Presentation from the JICA Study Team**

The JICA Study Team explained about the outline of the Study including the six approaches of the Study. The JICA Study Team emphasized that the Nepalese side should have the initiative to advance the Study and formulate the Action Plan.

The JICA Study Team also explained public relations activities including introduction of acronym and slogan of the Study which was determined by TWG members. The JICA Study Team also informed publication of first version in English of CKV Newsletter which was distributed at the seminar. Following that, the JICA Study Team explained Training Needs Analysis (TNA), which one day workshops were implemented at each city and SWMRMC. As the preliminary results of TNA Workshop, the JICA Study Team mentioned that high priority was strategic planning in SWM, which is common in all cities, and other priorities was human resource development, financial resource management, SMW technical issue and community mobilization/public education

As the last presentation from the JICA Study Team, public involvement under the study was explained. Components of public involvement are public relations program, public awareness and behavior change communication program, and community participation program.

### **1.2.4 Presentation from TWG Members of Each Municipality**

TWG members from each city made presentations regarding the current situation of SWM and summarized the results of the 1st Public Hearing by using power-point slides. As the current situation of SWM, waste generation, collection and transportation system and composting activities were explained as preliminary fact findings. After that, TWG reported the 1st Public Hearing and the opinions and comments from the participants were summarized.

### **1.2.5 Presentation of Roles and Activities of SWMRMC**

TWG member of SWMRMC presented the roles and activities of SWMRMC. Major responsibilities of SWMRMC presented were 1) development of appropriate legislation and environmental guidelines, 2) landfill site development, 3) financial support wherever appropriate in all aspects of SWM.

### **1.2.6 Preliminary Suggestions to SWM in the Kathmandu Valley**

The JICA Study Team suggested the necessity of umbrella concept and basic concept for the Kathmandu Valley. The JICA Study Team also explained the basic ideas regarding semi-aerobic landfill, composting facilities and transportation system.

### **1.2.7 Discussions Session**

During the discussion session, a variety of questions and opinions were exchanged among the participants as follows:

- 1) Waste picker, who play a significant role in recycling, should be addressed as target groups of the Action Plan.
- 2) When calculating the costs of SWM, costs beared by NGOs, CBOs and people being charged as collection fees should be included.
- 3) It is needed to clarify the data of Bhaktapur that 92.12% of SWM budget for sweeping.
- 4) The coordination roles of SWMRMC was recommended
- 5) The necessity of national policy before the development of individual Action Plans was pointed out.
- 6) Composting activities was recognized as important.
- 7) Environmental education should be carried out in order to increase the level of understanding of SWM among children and youth.
- 8) Comparative analysis of the proposed disposal sites should be undertaken from financial, environmental and social aspects in order to determine the final disposal site.
- 9) There should be strong commitment from each city and taken into consideration of the effective mechanism for political sustainability of project continuity.
- 10) To clear roles of each organization was very important to manage SWM.
- 11) It is needed to invite young people as well for the activities of the Study.

## 2. Proceedings of 2nd Seminar

<b>Date:</b>	July 2, 2004
<b>Time:</b>	10:00 – 17:00
<b>Venue:</b>	Local Development Training Academy Meeting Room (A)
<b>Participants:</b>	Total 112 people (MOLD, SWMRMC, Other ministries, Five municipalities, Donors, NGOs, CBOs, Private sectors, universities, media, JICA)
<b>Distribution</b>	- Handout of each presentation materials - Newsletter (No.2 Nepalese) - CKV file and memo pad made of recycled paper - CKV ball pen

### 2.1 Agenda

Time	Program	Presenters
9:30- 10:00	Registration	-
10:00- 10:05	Welcome Address	JICA Nepal
10:05-:10:10	Introduction of the CKV Study	SWMRMC
10:10- 10:20	Closing Remarks	MOLD
10:20-10:40	Coffee Break	-
10:40-11:10	Presentation 1: Activities of the CKV Study in Phase 1 and 2	JICA Study Team
11:10-11:20	Presentation 2: Suggestions from the JICA Study Team for Formulation of Draft Action Plan (1) (Landfill site and overall facility plan)	JICA Study Team
11:20-11:40	Presentation 3: Suggestions from the JICA Study Team for Formulation of Draft Action Plan (2) (Collection and Transportation, Waste Minimization)	JICA Study Team
11:40-12:00	Question and Answer	JICA Study Team
12:00-13:00	Lunch	-
13:00-13:15	Presentation 4: Draft Action Plan of KRM	KRM
13:15-13:30	Presentation 5: Draft Action Plan of MTM	MTM
13:30-13:45	Presentation 6: Draft Action Plan of BKM	BKM
13:45-14:00	Presentation 7: Draft Action Plan of LSMC	LSMC
14:00-14:15	Presentation 8: Draft Action Plan of KMC	KMC
14:15-14:30	Coffee Break	-
14:30-14:50	Presentation 10 : Draft Action Plan of SWMRMC	SWMRMC
14:50-15:10	Presentation 11: Human Resource Development (HRD) and Pilot Projects	JICA Study Team
15:10-16:30	Discussions	MOLD
16:20-16:30	Closing Remarks	MOLD

### 2.2 Record of the 2nd Seminar

#### 2.2.1 Welcome Address and Open remarks

Both representative of JICA Nepal Office and joint secretary of MOLD greeted for the participants as welcome address respectively.

## 2.2.2 Introduction of the Study and its Members

The chairperson of Technical Working Group (TWG) introduced the CKV Study including summary of the activities of the CKV Study in Phase 0-2. The chairperson explained that one of the main objectives of the CKV Study was the formulation of Draft Action Plans (DfA/P) for five municipalities. On the process for formulation, a series of seminars, Public Hearing (P/H), TWG meeting, field visit and TNA meeting were conducted from January to May, 2004 by TWG and Task Force (T/F) with support from the JICA Study Team.

## 2.2.3 Presentation from the JICA Study Team

The JICA Study Team reported about the activities of the CKV Study in Phase 0-2 emphasizing that ownership of Nepalese side for each activity. As for the DfA/P, T/F of each municipality formulated by receiving suggestion or support step by step from the JICA Study Team. Other activities including 1st Seminar, 1st and 2nd P/H, publication of series of Newsletters, establishment of website as well as field survey were also explained.

Following that, the JICA Study Team presented about the suggestions for landfill site and overall facility plan under the umbrella concept for five municipalities and SWMRMC. The results of comparison of total nine alternatives as long-term facility plan, which were the combinations of transfer station(s), intermediate treatment facility(s) and sanitary landfill site(s), by using several indicators such as technical aspect, environmental or social consideration and 'ton.km' were explained.

Suggestions for collection and transportation, waste minimization activities were also presented by the JICA Study Team.

## 2.2.4 Question and Answer

After the presentation from the JICA Study Team, following question and answer were observed.

**Table A.2.2-1 Question and Comments from Participants (A.M.)**

	Question/ Comments	Answer from the JICA Study Team
1	Civil Aviation Guideline in Nepal requesting for 13-15Km radius for airport is not necessarily from a global standard practice. The JICA Study Team should recommend that such guideline is not necessary.	Civil Aviation Authorities are agreeable to building landfill site within 13-15km radius of the airport with the condition that JICA should operate it.
2	Why are compactors being recommended for KMC? Due to following three reasons, it would not be suitable; i)due to high density of organic, not much room to compact waste, 2)type of technology in compactor is too advanced, using hydraulic, 3)Municipalities' capacity for O&M is not adequate for such vehicles	Compactor has several ways to use. In near future it might be used not only as secondary transportation vehicle but also as transfer spot to Sisdol LFS. It is also easy to have repair compared with normal tractor.
3	Cost/Benefit analysis should be conducted before acquiring any new vehicles and local market should be looked into more closely.	We will carry out market survey for small size refuse collection vehicles.
4	According to the waste pyramid, analysis for SWM planning should start from bottom up. That means priority should be placed on waste processing facility.	As for the waste processing facility, point is well taken.

	Question/ Comments	Answer from the JICA Study Team
5	What are the cost comparisons for semi aerobic/anaerobic landfill sites?	From the cost point of view, semi aerobic is more efficient than anaerobic. For semi aerobic its benefits are :1) leachate produce is less toxic, 2) land could be settled more easily after closure. For aerobic, its benefits are to be able to utilize gas. However this would require heavy initial investment.
6	Has the CKV Study Team thought of combining the semi aerobic system with biological treatment systems?	
7	Inclusion of waste reduction strategy is missing. More emphasis should be placed on behavior change among the public.	
8	With Okharpauwa designated as disposal site, increase in waste transportation is foreseeable. How are the municipalities going to cover the cost?	
9	Management section of hospital waste should involve the stakeholders such as Ministry of Health, MOPE, municipalities and healthcare institutions. Although there are national guidelines, implementation situation is poor.	

Source: JICA Study Team

### 2.2.5 Presentation from TWG Members of Each Municipality and SWMRMC about Draft Action Plan

TWG members of each municipality and SWMRMC presented their DfA/P by using power point slide respectively. Each presentation included their Vision, Target, and several approaches with strategy and necessary activities.

### 2.2.6 Human Resource Development (HRD) and Pilot Projects

The JICA Study Team explained human resource development (HRD) strategy under the CKV Study by analyzing the results of Training Needs Analysis (TNA) which was conducted at five municipalities and SWMRMC on February to March, 2004. The Study Team emphasized that both operational management capacity and technical capacity should be developed as parallel so that sustainable self development can be done.

Following that, the JICA Study Team explained the designed pilot projects, which are categorized into five components. From HRD strategy of view, four projects, i.e. A) Improvement of Collection and Transportation, B) Promotion of Waste Minimization, C) Improvement of Final Disposal Planning and Operation and D) Public Awareness and Behavior Change, will effective for technical capacity building of Nepalese side. On the other hand, other one projects, i.e. E) Improvement of SWM Capacity, will be conducted as operational management capacity building training.

### 2.2.7 Discussions Session

During the last discussion session, a variety of questions and opinions were exchanged among the participants as follows:



**Table A.2.2-2 Question and Comments from Participants (P.M.)**

	<b>Question and Comments to each organization</b>	<b>Answer from each organization</b>
<b>CKV Study / Umbrella Concept</b>	<ul style="list-style-type: none"> <li>- Are there some roles of universities and educational institutes in CKV Study?</li> <li>- Though long term vision is till 2015, it should be considered about sustainability after 2015.</li> <li>- Does CKV consider VDC within the valley as well?</li> <li>- In CKV's plan, do you discuss to plan other disposal options like biogas or pellets?</li> <li>- How much studies have been done with LFS selection including Bungmati, Chobar?</li> <li>- The CKV Study highlighted Okharpauwas' high costs. But if environmental saving costs is included in the cost/benefit analysis, the cost would not be so expensive.</li> <li>- It is necessary to make responsibilities of both municipality and MOLD clearer and to make coordination among them.</li> </ul>	<ul style="list-style-type: none"> <li>- The CKV Study welcome universities and educational institutions to involve in the Study. So would like to let us know about their ideas.</li> <li>- After 2015, each municipality and SWMRMC may have fourth or fifth revisions of A/P by themselves. In Japan, all municipalities have to revise and adjust their SWM A/Ps every 5 years.</li> <li>- CKV Study's target has been focused on five municipalities based on S/W. But it is up to Nepalese side to consider to involve VDCs in A/Ps.</li> <li>- It may be able to think about biogas utilization, but rather, waste processing plant is more important.</li> <li>- The Study compared LFS option based on DOG's study.</li> <li>- There is a fundamental act, i.e. Local Self Governance Act and SWM Act. It is necessary to consolidate those acts. It should be thought about the role of SWMRMC as a technical center and coordination body. Municipality should also think first about what could be done at municipality level.</li> </ul>
<b>KMC</b>	<ul style="list-style-type: none"> <li>- Does KMC encourage NGOs in SWM?</li> <li>- What does KMC vision for Clean Green KMC mean?</li> </ul>	<ul style="list-style-type: none"> <li>- KMC concept is where the private sector are working well, leave it to them. KMC would like to use NGOs for soft components.</li> <li>- The "Green" in vision came to incorporate with another section with Urban Environment Section responsible for greenery.</li> <li>- Regarding the incinerator not functioning in Teku, (take 400 to 500 kg of medical waste) due to local opposition. Once LFS is fixed, we could think of moving the incinerator somewhere.</li> </ul>
<b>LSMC</b>		<ul style="list-style-type: none"> <li>- What will be done after 2015?: For the moment LSMC is at 0 level. 2015 is so far from today. At that time, another plan after 2015 will be formatted</li> <li>- For "sustainability", currently no PPP principles or mechanisms. During the AP, these mechanisms will be put in place for sustainability.</li> </ul>
<b>BKM</b>	<ul style="list-style-type: none"> <li>- How is the situation of Taikabu?</li> <li>- Have there been discussions on the use of MTM at Taikabu?</li> </ul>	<ul style="list-style-type: none"> <li>- In Taikabu, EIA survey is now conducted.</li> <li>- BKM and MTM has been discussed coordination and cost-sharing verbally (not formally)</li> </ul>
<b>MTM</b>	<ul style="list-style-type: none"> <li>- How does MTM plan for their disposal site? (Cooperate with KMC? Negotiated with BKM for Taikabu?)</li> </ul>	<ul style="list-style-type: none"> <li>- In regards to Taikabu, Still not discussed formally to BKM.</li> <li>- If MTM does not succeed to sign with BKM for Taikabu, MTM is mentioned in its plan 1) to promote composting to reduce waste, 2) to introduce temporary collection points and dumping sites for emergency purposes.</li> </ul>
<b>KRM</b>	<ul style="list-style-type: none"> <li>- Regarding final disposal of KRM, how to coordinate with KMC?</li> </ul>	<ul style="list-style-type: none"> <li>- As mentioned in the DFA/P, KRM would not operate a separate LFS outside umbrella from economical point of view. Under the umbrella concept, to cooperate and collaborate with KMC is needed.</li> </ul>

### 3. Proceedings of 3rd Seminar

<b>Date:</b>	November 25, 2004
<b>Time:</b>	9:00 - 16:00
<b>Venue:</b>	Local Development Training Academy Meeting Room (A)
<b>Participants:</b>	Total 104 People (MOLD, SWMRMC, Other ministries, Five municipalities, Donors, NGOs, CBOs, Private sectors, universities, media, JICA)
<b>Distribution</b>	- Handout of presentation materials - Newsletter (No.3, 4 English) - CKV file and memo pad made of recycled paper - CKV ball pen

#### 3.1 Agenda

Time	Program	Presenters
9:00- 9:30	Registration	-
9:30- 9:35	Welcome Address	JICA
9:35- 9:40	Introduction of the CKV Study	SWMRMC
9:40- 9:50	Activities of the CKV Study in Phase 3 (Introduction of CKV Pilot Projects)	JICA Study Team
9:50-10:00	Closing Remarks (Speech by chief guest)	MOLD
10:00-10:20	Coffee Break	-
10:20-10:35	Presentation 1: Pilot Project A: Improvement of Collection and Transportation (A-3: Training for Transfer Station)	KMC
10:35-10:50	Presentation 2: Pilot Project B: Promotion of Waste Minimization (B-1: Training for Waste Minimization Facility)	SWMRMC
10:50-11:10	Presentation 3: Pilot Project B: Promotion of Waste Minimization (B-2: Practice of Local Level Waste Minimization)	(1) KMC (2) KRM
11:10-12:00	Question and Answer	MOLD
12:00-13:00	Lunch	-
13:00-13:15	Presentation 4: Pilot Project C: Improvement of Final Disposal Planning and Operation (C-2: Training for Semi-Aerobic Sanitary Landfill System)	SWMRMC
13:15-13:30	Presentation 5: Pilot Project D: Public Awareness and Behavior Change Communication/ Education (D-2: Practice of Mass Communication/Education)	MTM
13:30-13:45	Presentation 6: Pilot Project D: Public Awareness and Behavior Change Communication/ Education (D-3: Practice of Interpersonal Communication/ Education)	BKM
13:45-14:00	Coffee Break	-
14:00-14:15	Presentation 7: Pilot Project E: Solid Waste Management Capacity Development (E-1: Training for Action Plan Operational Management)	KMC

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14:15-14:30	Presentation 8: Pilot Project E: Solid Waste Management Capacity Development (E-2: Training for Solid Waste Data Management)	LSMC/ SWMRMC
14:30-15:20	Midterm Evaluation and Suggestion	JICA Study Team
15:20-15:50	Discussions	MOLD
15:50-16:00	Closing Remarks	MOLD

### **3.2 Records of the 3rd Seminar**

#### **3.2.1 Welcome Address**

Resident representative of JICA Nepal Office greeted for the participants as welcome address and express his hope to be succeeded such challengeable study.

#### **3.2.2 Introduction of the Study**

Following welcome address, the chairperson of Technical Working Group (TWG) introduced the Study including the scope of the Study as well as workflow and relevant members including Steering Committee, TWG, T/F and the JICA Study Team.

#### **3.2.3 Introduction of Pilot Projects under the Study**

The JICA Study Team explained a series of activities under the Study especially for the outline of each of five components of Pilot Projects briefly which have been implemented until July 2004 by the five municipalities and SWMRMC.

#### **3.2.4 Presentations of Progress of Pilot Projects Activities**

Total eight Focal Points presented their progress and upcoming activities of each Pilot Project in around 15 minutes by using slides with several photos.

#### **3.2.5 Mid-term Evaluation and Suggestion**

The JICA Study Team explained mid-term evaluation of SWMRMC and each of five municipalities, i.e. Pilot Projects activities, implementation of the Study including formation of Draft Action Plan and holding of Public Hearings. Further activities of Pilot Projects in Phase 3 and suggestion in implementing the activities were also addressed.

#### **3.2.6 Discussions Session**

Two times of discussion session were set up both in the last of morning session and last of afternoon session in order for active discussion for specific themes. At that time, the following questions and comment, in which there were many questions for waste minimization activities, were exchanged among the participants and the CKV Study Team.

**Table A.3.2-1 Question and Comments from Participants**

Subjects	Question and Comments	Answer from the CKV Study Team
<b>Collection and Transportation</b>	Currently, KMC's waste is being carried on rickshaws and other small vehicles to Teku T/S. How will you manage your collection if you are to increase your collection rate drastically?	<i>KMC</i> ; KMC has plans to gradually replace/remove the existing old vehicles being used. KMC would also like to request private sectors to upgrade their vehicles (to hydraulic system) in the coming years.
<b>Waste Minimization</b>	How feasible is it to replicate similar composting facilities of India in Nepal?	<i>SWMRMC</i> ; The waste composition is similar in nature. The climatic condition is a bit varied, but it would not have a significant effect on composting activities. If a similar scale of land (7-10 hectares) is made available, similar large scale composting facilities can be established in Nepal.
	Has the Study considered managing other kinds of wastes (metals, plastics, glass) besides organic waste for waste minimization?	<i>KMC</i> ; Although the municipality has not been able to manage all different kinds of waste with the same capacity, many private organizations have been directly or indirectly involved in buying and selling of various kinds of waste including metals and glasses. <i>JICA Study Team</i> ; Since 70-80 % of the total waste is organic, the Study has been focusing on composting activities. However, this does not mean that the Study has completely left out other kinds of waste materials. As part of Pilot Project in KRM, plastic separation activities are being carried out and trainings have been provided for recycling of various kinds of waste there.
	What about the social and environmental aspects of establishing a compost facility? Will procedures like EIA be followed?	<i>JICA Study Team</i> ; <i>SWMRMC</i> is currently finalizing guidelines for EIA which will hopefully be able to be used for the composting facility to be established. EIA is essential and it will be done either by the <i>SWMRMC</i> or <i>KMC</i> . <i>SWMRMC</i> ; A national level EIA guideline is ready and feedbacks have been collected from various organization and technical resource persons. In addition, 58 students will be trained on performing EIA and sent to all of the 58 municipalities
	On what basis can we assume that compost made from organic waste can have a market? Also, wouldn't it be wise to completely ban plastics rather than just promote separation?	<i>KMC</i> ; Household level composting activities have had a great success rate in KMC. More than 700 composting bins have already been distributed and follow up surveys after trainings have indicated that almost all of the trainees were actually practicing making compost from organic waste. <i>KMC</i> is also promoting creating a vegetable garden in roof tops for households that do not have garden space so that compost obtained can be used in their gardens.
	Compost producers tend to face the varying selling rates from Rs.15- Rs.30/kg. How does it compare with the Indian case and what is the plan of municipality for sustainability?	<i>SWMRMC</i> ; In case of India, the average selling rate is IR 2-IR 3/kg. Compost made from vermi sells for IR 15/kg. <i>JICA Study Team</i> ; Detailed market survey will be conducted in order to assess the demand and existing compost/fertilizer/manure use among the farming communities in and around the Kathmandu Valley. Planning will be based on the results of the survey.
	Will educational institutions like schools be involved in the Pilot Projects currently being conducted in Ward 21 of KMC? How do you	<i>KMC</i> ; <i>KMC</i> has been involving schools through the BABA program (Nature Club activities) to other activities in SWM. In Ward 21, there are many kinds of youth groups which are now involved in the Project.

Subjects	Question and Comments	Answer from the CKV Study Team
	plan to ensure the sustainability of the activities?	
<b>Final Disposal</b>	Will the access roads to Sisdol Landfill site be the same as the roads in Muglin/Nayaranghat that suffer landslides every year?	<i>SWMRMC</i> ; Local Consultant has been assigned to conduct the appropriate studies required for the access roads to Sisdol Landfill site.
	Will KRM be sharing the Sisdol Landfill?	<i>KRM</i> ; KRM will share Teku T/S by agreement between KMC and KRM.
<b>Medical Waste</b>	Does KMC have any plans to segregate medical wastes?	<i>KMC</i> ; Laws and regulations regarding managing of medical waste have been unclear so far. However, several demonstration programs have been conducted by KMC regarding medical wastes since 2001.

#### 4. Proceedings of 4th Seminar

<b>Date:</b>	June 27-28, 2004
<b>Time:</b>	9:30 – 16:00 (1st Day). 13:30-17:00 (2nd Day)
<b>Venue:</b>	Hyatt Regency Hotel Kathmandu
<b>Participants:</b>	1st Day; 177, 2nd Day (Site Visit); 124, 2nd Day (afternoon session); 146 (MOLD, SWMRMC, Other ministries, Five municipalities, Donors, NGOs, CBOs, Private sectors, universities, media, JICA)
<b>Distribution</b>	- Handout of each presentation materials - CKV Newsletters (No.5 Nepalese, No. 6 English) - Cloth Bag with Ashakaji design - CKV file and memo pad made of recycled paper - CKV ball pen - CKV promotion materials produced under the Pilot Project D-2 (stickers, notebook, leaflet)

#### 4.1 Agenda

##### 1st Day (June 27, 2005)

Time	Program	Presenters
9:00- 9:30	Registration	-
9:30- 9:35	Welcome Address	JICA
9:35- 9:45	Introduction of the CVK Study	SWMRMC
9:45- 9:55	Activities of the CKV Study	JICA Study Team
9:55-10:10	Closing Remarks (Speech by Chief Guest)	MOLD
10:10-10:30	Coffee Break	-
10:30-10:50	Presentation 1: Pilot Project A: Improvement of Collection and Transportation (A-1.1 Practice of Separation Collection, A-1.2 Practice of Collection and Transportation)	A-1: BKM A-2: MTM
10:50-11:00	Presentation 2: Pilot Project B: Promotion of Waste Minimization (B-1: Training for Waste Minimization Facility)	SWMRMC
11:00-11:20	Presentation 3: Pilot Project B: Promotion of Waste Minimization (B-2: Practice of Local Level Waste Minimization)	(1) KMC (2) KRM
11:20-12:00	Question and Answer	MOLD
12:00-13:00	Lunch	-
13:00-13:15	Presentation 4: Pilot Project C: Improvement of Final Disposal Planning and Operation (C-2: Training for Semi-Aerobic Sanitary Landfill System)	SWMRMC
13:15-13:30	Presentation 5: Pilot Project D: Public Awareness and Behavior Change Communication/Education (D-2: Practice of Mass Communication/Education)	LSMC
13:30-13:45	Presentation 6: Pilot Project D: Public Awareness and Behavior Change Communication/Education (D-3:	BKM

Time	Program	Presenters
	Practice of Interpersonal Communication/Education)	
13:45-14:00	Coffee Break	
14:00-14:15	Presentation 7: Pilot Project E: Solid Waste Management Capacity Development (E-1: Training for Action Plan Operational Management)	KMC
14:15-14:30	Presentation 8 : Pilot Project E: Solid Waste Management Capacity Development (E-2: Training for Solid Waste Data Management)	SWMRMC
14:30-15:30	Discussions	MOLD
15:30-15:50	Closing Remarks	MOLD
15:50-16:00	Introduction of 2nd Day	JICA Study Team

### **2nd Day (June 28, 2005)**

Time	Program	Presenters
8:00- 8:30	Registration (at Teku Transfer Station)	-
8:30-9:00	Site Visit 1: Teku Transfer Station and Vermi Composting	KMC
9:00-12:00	Site Visit 2: Sisdol Landfill Site	SWMRMC
12:00-13:00	Lunch	-
13:00-13:20	Introduction of Umbrella Concept	JICA Study Team
13:20- 14:10	Introduction of Action Plans	Five Municipalities
14:10-14:30	Coffee Break	-
14:30-14:50	Overall Evaluation and Recommendations	JICA Study Team
14:50-15:20	Discussions	MOLD
15:20-16:00	Vote of Thanks	CEOs and SWMRMC
16:00-16:20	Closing Speech by Guests	JICA Advisory Committee
16:20-16:30	Closing Remarks	MOLD

## **4.2 Records of the 4th Seminar (1st Day)**

### **4.2.1 Welcome Address**

Resident representative of JICA Nepal Office greeted for the participants as welcome address and express his gratitude towards relevant organization for success of the Study.

### **4.2.2 Introduction of the Study**

Following welcome address, the chairperson of Technical Working Group (TWG) introduced the Study shortly including Action Plan developed by each municipality and SWMRMC and a series of Pilot Projects implemented. After that, the JICA Study Team explained overall work flow of the Study.

### 4.2.3 Presentations of Pilot Projects Activities

Total eight Focal Points presented their activities of Pilot Project in 10-15 minutes by using slides utilizing several photos and/or moving record. Almost all Focal Points tried to speak in English through many times exercises previously.

### 4.2.4 Discussion Session

During the discussion session of 1st Day, a variety of questions and opinions especially for waste minimization and Sisdol Short-term Landfill were exchanged among the participants and the CKV Study Team as follows.

**Table A.4.2-1 Question and Comments from Participants**

Subjects	Question and Comments	Answer from the CKV Study
Waste Minimization	What has been done about the quality of the compost? Are any standards set for that?	<i>SWMRMC</i> ; We have considered the C/N ratio, fertilizer values and other parameters as well for compost products. The standards will be dealt with based on the standards set by India, GTZ and others.
	Why is the cost of vermi-compost so high relative to that of other composts?	<i>KMC</i> ; Firstly the special species of vermi are to be bought, and secondly we get very little amount of vermin-compost from waste (compared to quantity of compost from other wastes). We need organic wastes around twice the weight of the worms used. While the cost of vermi-compost in household level is up to Rs 25/kg, the price of vermi-compost produced under medium scale by <i>KMC</i> is estimated to be around Rs 7.5/kg.
	Why is there so much of price difference in the compost manure of Bhaktapur municipality and other municipalities, is it due to quality difference?	<i>SWMRMC</i> ; Quality is not much difference (except for some glass particles in the manure of <i>BKM</i> ) but the compost is subsidized by <i>BKM</i> . <i>BKM</i> is conducting composting activity as the means of waste minimization and this has reduced its overall waste management cost as well. The other cost findings of compost are based on the market survey under the Study.
	What are major plans for waste minimization?	<i>SWMRMC</i> ; <i>SWMRMC</i> initially contracted with Luna Chemicals and Fertilizers (P) Ltd. to make compost from the organic waste out of the waste that reaches Sisdol, but due to some problems, the deal did not start as planned. The municipalities are doing household composting and wider range composting as well. For example, it is starting composting of organic wastes from vegetable market in <i>KMC</i> and also plans to conduct small scale (50 tons/day) and medium scale (100 tons/day) composting so as to achieve waste minimization.
	What kind of support is <i>KMC</i> providing to local people to promote composting?	<i>KMC</i> ; <i>KMC</i> is focusing especially on vermi-composting at present. It has been providing training on vermi-composting as well as materials required to the interested people with the charge of Rs 500.
	What supportive activities have been done for reduction of waste in the household level?	<i>KMC</i> ; Subsidy is given up to 30% in the compost bins and some in vermi-composting. Trainings are also given as technical assistance. In cooperation with <i>CEN</i> (NGO), <i>KMC</i> is training students as 'City Volunteers', and eco-clubs are also formed in the schools because the children can bring about the best changes in households as well. <i>LSMC</i> ; <i>LSMC</i> is also providing the compost bins with some subsidy. The need of attitude change is focused in the Action Plan of <i>LSMC</i> . <i>LSMC</i> have focused on the Women's Groups



Subjects	Question and Comments	Answer from the CKV Study
		in ward/tole levels so that waste management can be effective in the household levels.
	What are the key strategies of municipality (KMC) in waste minimization, especially recycling?	Besides present activities, KMC focuses on two fundamentals: 1) legal system is to be developed to promote recycling and composting, and 2) the recycled products and compost must be of better quality and user friendly so that they sustain in the market.
<b>Sisdol Landfill</b>	In Sisdol, can the gas generated from the landfill be used?	<i>SWMRMC</i> ; Since Sisdol was introduced semi-aerobic process of landfilling, very little methane gas as well as CO <sub>2</sub> is generating (unlike in case of anaerobic landfilling system). So it is not tapped for use.
	What kind of facilities available for leachate management in Sisdol?	<i>SWMRMC</i> ; This landfill comes under 'Level 3' of landfilling system and all the leachate comes to the leachate collection points and then goes to aeration pond. Here biological treatment takes place under aerobic conditions and then it is recirculated on to the landfill.
	How has the leachate generation been quantified for the Sisdol S/T-LF?	<i>SWMRMC</i> ; The estimation of generation of about 45 m <sup>3</sup> of leachate per day is based on the waste quantity and catchment area of the site.
	What is the purpose of placing jute mat above the clay liner?	<i>SWMRMC</i> ; The main purpose is to separate the clay liner and the river shingles placed over it as a filter materials. Furthermore jute mat also enhances the flow of leachate.
	What about the side-liners needed to prevent the seepages in Sisdol S/T-LF?	<i>SWMRMC</i> ; As per the geo-hydrological study, there is rock in the site so no side-liner (vertical) is used.
	Is there coordination between the organizations (KMC and <i>SWMRMC</i> ) for transportation and operation (cost sharing) of Sisdol S/T-LF at present?	<i>SWMRMC</i> ; The decision to go to Okharpauwa was made around 10 years back by National Planning Commission (NPC). There is a good coordination between the municipalities and <i>SWMRMC</i> and basically the operation and transportation costs are born by the KMC and LSMC. If some fund is in real lacking for the operation, <i>SWMRMC</i> can request to NPC and there may be made some financial arrangements.
	What is the time frame for landfilling in Okharpauwa?	<i>SWMRMC</i> ; Valley I of Sisdol will be operated for coming 1.5 years, while within next 7 months Valley II of Sisdol will be completed by <i>SWMRMC</i> and will be made ready for use. The activities needed to prepare long term landfill site at Banchade Danda has started and will be completed by 3 years.
<b>Others</b>	Have the municipalities included the role of NGOs /CBOs in sustainable SWM?	<i>KMC</i> ; All municipalities have included participation of NGOs and CBOs in their Action Plans, which is necessary to solve the problem of solid waste management.
	Why aren't NGOs included in the capacity development activities in which only municipalities are highly focused for strengthening?	<i>JICA Study Team</i> ; We chose municipalities as the parties to have influence on the local communities in short period of time because they are direct contact with the local NGOs and CBOs in future. In addition, we also tried to involve NGOs, CBOs and private sector to the activities of SWM under the Pilot Projects of the Study as much as possible. <i>MOLD</i> ; The role and importance of NGOs are prioritized in the 10th National Five Year Plan. NGOs are recognized as stakeholders of effective SWM. <i>KMC</i> ; KMC has always taken the NGOs/private sectors as major partners for efficient SWM. Already 35% of the waste collection is done by the private sector through door to door collection in KMC. The private sector has shown

Subjects	Question and Comments	Answer from the CKV Study
		participation in waste transportation as well and in recent years we have vision to make up to 60% handover to the private sectors for local SWM activities. The concept is needed to make it clear how the NGOs/private sectors can be participated in activities of awareness generation and landfilling activities.
	What has been done or planned for medical waste management so far?	<i>KMC</i> ; Three years ago, KMC tried to incinerate the medical waste in the local areas, but due to strong opposing by the local communities and NGOs, KMC had to stop it. Above all KMC also realize that such incineration was not under good technology. KMC haven't started any incineration due to lack of clear division of roles and responsibilities for medical waste management including hazardous wastes. However because medical wastes are not allowed to transfer to Sisdol, KMC has started to deal with this issues of medical waste.
	There should have been some measures for occupational health safety.	<i>KMC</i> ; KMC did provide mask to the workers but they do not use it, they do not even wear the uniform that they are given. Thus first thing is to make them aware about the health risks. As far as the cases of carrying the children by female sweeper are concerned, it is due to the social structure.

Source: JICA Study Team

### 4.3 Records of the 4th Seminar (2nd Day)

#### 4.3.1 Site Visit

In the morning of 2nd day , site visit to Teku Transfer Station (T/S) and Sisdol S/T-LF was conducted especially for the people who hasn't visit the site and has little chance to visit in near future. In Teku, Focal Point of Pilot Project A of KMC explained improved Teku T/S including platform, while medium-scale vermi-composting facility was explained by Focal Point of Pilot Project B. Following that, participants moved to Sisdol S/T-LF and observe waste disposal activities at Sisdol S/T-LF, where Focal Points of Pilot Project C explained semi-aerobic landfill including leachate collection and treatment system to the participants.

#### 4.3.2 Introduction of Umbrella Concept

Afternoon session started by the JICA Study Team to introduce Umbrella Concept which is a basic concept of common direction for effective SWM for SWMRMC and the five municipalities. The JICA Study Team explained overall framework of Umbrella Concept and each component which included collection and transportation, solid waste minimization, landfill, public awareness and community mobilization, organizational and institutional arrangement and financial arrangement.

#### 4.3.3 Introduction of Action Plans

Following the introduction of Umbrella Concept, SWMRMC and each of five municipalities explained their own Action Plans by using their slides. Each organization introduced their Vision, Target and Action Plan including Approaches, Strategies and Necessary activities.

#### 4.3.4 Overall Evaluation and Recommendations

The JICA Study Team presented overall evaluation of Pilot Projects through achievement level of project purpose and five criteria including efficiency, effectiveness, impact, relevance and sustainability. Lessons learned from Pilot Projects were also presented which were considered to finalize Action Plans. In addition, the JICA Study Team made a recommendation for more effective SWM and achievement of their vision and target of Action Plan.

#### 4.3.5 Discussion Session

During the discussion session of 2nd Day, questions for waste minimization activities and Sisdol S/T-LF were raised and TWG members as well as Focal Points answered them as follows.

**Table A.4.3-1 Question and Answer**

Subjects	Question and Comments	Answer from the CKV Study
<b>Waste Minimization</b>	What has been the approach to promote the marketing of general compost and vermi-compost?	<i>SWMRMC</i> ; “Better quality and reasonable cost” is the approach that seems to be best for sustainability of compost products. It is needed to improved quality of the compost. The balance of demand and cost is very important. Involvement of local groups, especially the farmers has been identified as the key to promote the compost market.
	What is the approach for enforcement of various activities for waste minimization?	<i>LSMC</i> ; Public Private Partnership (PPP) approach has been taken as the key approach to include NGOs/ CBOs in waste minimization activities.
<b>Sisdol S/T-LF</b>	Is enough compensation given to the local people of Sisdol and what about the acceptance by local people?	<i>SWMRMC</i> ; Good amount of compensation has been given. The physical infrastructures have been developed and also the job opportunities have been increased in the area. So, social acceptance is not to be worried about.
	Won't there be problems in taking the vehicles through such long distances and at night times?	At present the vehicles go to Sisdol only at day time. The disposal done at night time is only at the banks of Bagmati River. Till now no problems have been seen in transporting the waste to Sisdol. But it is necessary to plan whole system of collection, transportation and disposal in Sisdol for closure of Bagmati.

Source: JICA Study Team

#### 4.3.2 Closing

At the closing ceremony, Dr. Isamu Yokota, leader of JICA Advisory Committee, made a speech and expressed a great impression of Nepalese efforts and a various kinds of activities under the Study. He also spoke the expectation their continuous efforts on SWM for future in order to achieve their vision.

## **4. *Record of Public Hearing***

## 4. Records of Public Hearings

### 1. First Public Hearings

#### 1.1 Overview

The first Public Hearing (1st P/H) was held in each of five Municipalities in the beginning of March 2004 with the following objectives;

- To inform the public about the CKV Study including its framework, objectives, and schedules, as well as the background and objectives of P/H
- To discuss regarding current situation by focusing on achievement and constraints on solid waste management (SWM) in each municipality

Task Force (T/F) members of each Municipality organized and facilitated the 1st PH with the support of CKV Study. The overview is described below.

**Table 1.1 Date, Participants and Discussion Items of the 1st Public Hearing**

Municipality	Date/Time/Venue	Participants	Discussion Items
KMC	March 11 10:00-14:00 Meeting Hall in Bagh Durbar	90 Mayor, Deputy mayor, Ward chairpersons, NGOs/ CBOs, private sectors, Intellectuals, media/ journalists	Participants were divided into six groups namely, 1)awareness, 2)management, 3)medical waste, 4)recycling and composting, 5) privatization, 6)rule and regulation. Many solutions including awareness campaign or punishment system were suggested.
LSMC	March 14 10:00-16:00 Office Hall	71 Mayor, Deputy, Ward chairpersons, NGOs/ CBOs, Intellectuals, journalists	Participants were divided into four groups namely, 1)awareness, 2)management, 3)recycling and composting, and 4) public involvement. One of the causes of the problems is lack of awareness or education.
BKM	March 7 13:00-17:00 Meeting Hall of BCIC	57 Deputy Mayor, Ward chairpersons, advisors, Hospitals, NGOs/ CBOs,	Participants divided into three groups by topic wise discussed 1)source separation, 2)recycle and composting, and 3)public involvement. One of the key issue is dissemination of information on SWM activities.
MTM	March 5 13:00-16:00 Meeting Hall	28 Mayor, Deputy Mayor, Ward chairpersons, Intellectuals, NGOs	Each participant addressed his/her opinions. Not only about effective composting system but also the necessity of mobilization of local community groups was discussed.
KRM	March 5 7:30-11:00 Phect Hall	29 Deputy Mayor, Ward chairperson, NGOs/ CBOs	Participants divided into three groups discussed the problems, causes, solutions for each issue. Life style to use a lot of plastic bags was also addressed as one of the causes

Source: Each Municipality, CKV Study Team

## 1.2 Summary of results of discussion in each Municipality<sup>1</sup>

The results of discussion held in each 1st P/H are summarized below.

### ■ Kathmandu Metropolitan City (KMC)

The participants divided into four groups by topics discussed both problems and solutions for each topic as follows;

**Table 1.2 Results of discussion at 1st Public Hearing of KMC**

Group	Problems	Solutions
<b>Group 1: Public Awareness</b>	<ul style="list-style-type: none"> <li>- Lack of awareness</li> <li>- 3R Concept widely unknown</li> <li>- Dependent on KMC</li> </ul>	<ul style="list-style-type: none"> <li>- Awareness campaign</li> <li>- Mass education</li> <li>- Focus on housewives</li> <li>- Sweeper as an asset</li> </ul>
<b>Group 2: Medical Waste</b>	<ul style="list-style-type: none"> <li>- Inadequate data base</li> <li>- Policy/responsibility</li> <li>- Lack awareness</li> </ul>	<ul style="list-style-type: none"> <li>- Research/study</li> <li>- Guideline and law</li> <li>- Coordination among stakeholders</li> <li>- Awareness campaign</li> </ul>
<b>Group 3: Recycling and Composting</b>	<ul style="list-style-type: none"> <li>- Lack of information related to recycling &amp; compost (objectives, benefits, etc)</li> <li>- Inefficient collection system</li> <li>- Lack of information about the organizations involving recycling &amp; composting</li> <li>- Low demand</li> </ul>	<ul style="list-style-type: none"> <li>- Segregation at source at household &amp; community levels</li> <li>- Composting at household level</li> <li>- Information dissemination</li> <li>- Promote to use recyclable goods</li> </ul>
<b>Group 4: Management</b>	<ul style="list-style-type: none"> <li>- Landfill site</li> <li>- Inadequate space within municipal boundary</li> <li>- Political intervention in solid waste</li> <li>- Low priority from central government</li> <li>- Inefficient management capacity and low public support</li> </ul>	<ul style="list-style-type: none"> <li>- Landfill site with low transportation cost and die consideration of public health</li> <li>- Waste reduction at source</li> </ul>

Source: KMC Task Force

### ■ Lalitpur Sub-Metropolitan City (LSMC)

The participants selected topics to be discussed and were divided into 4 groups.

**Table 1.3 Results of discussion at 1st Public Hearing of LSMC**

Group	Problem	Solution	Responsibility	Causes
<b>Group 1: Collection</b>	1. Lack of Public awareness	Public awareness programme	LSMC, CBO, NGO	Uncivilized
	2. Lack of coordination between CBO/NGO and municipality	Establishment of coordination between committees	LSMC, CBO, NGO	Selfishness
	3. Lack of equipments	Sufficient equipment	LSMC	Dependent upon donor
	4. No transfer station	Transfer station far from public settlement (safe place)	Public, LSMC	Public doesn't want transfer station nearby

<sup>1</sup> These results were presented by counterpart personnel at the first Seminar.

Group	Problem	Solution	Responsibility	Causes
	5. Unmanaged market	Properly cleaning	Shopkeepers, LSMC	People throw unwarned portion
	6. Unfixed collection time	Punctuality	LSMC	Less manpower
	7. Politics	Far from politics	Government, LSMC	Situation
	8. Financial	Government support for SWM	Government, LSMC	Payment system implemented
	9. No permanent landfill site	Establishment of sanitary landfill site	Government, LSMC	
<b>Group 2: 3R Concept</b>	1. Less support in segregation	To promote recycling at local level	CBO, private sector	
	2. To promote financial support	Using of recycling paper by office	LSMC	
	3. Lack of Technology on Bio-Gas production and utilization	Establishing Bio-Gas Plan	Government /Municipality	
	4. Lack of knowledge (Methodology of organic waste as composting)	Training public on recycling	Recycling Institute	
	5. Lack of financial support on the technology and training on SWM	SWM tax should be included in	Government and Municipality	
	6. Taxes for the export of bottles	No tax for recycling	Government	
	7. Recycle paper are expensive	First priority to recycle paper	Government	
	8. Recycle things are not used by public	Giving more facility	Businessman	
<b>Group 3: Education</b>	1. Uneducated	Awareness programme	NGO, CBO, LSMC, Government, Telecommunication	Lack of solid waste education programme
	2. Unskilled employer	Training of employer Selection of right person	LSMC	Lack of training programme
	3. Not taking responsibility	a) Community discussion b) Familiarize with law c) Community participation	LSMC	Lack of equipment Lack of strong law
	4. Unfamiliar with technical things	Technical training programme	LSMC, NGO	Lack of technical institution
	5. Lack of coordination	Establishment of coordinating community	LSMC, NGO	Lack of time
	6. Lack of authority development	a) Establishment of community b) Training c) Capacity building	LSMC, NGO	
	7. Careless	Punishment and rule should be strongly implemented	Government, LSMC	
	8. School level are unfamiliar with SWM	SWM education should be added in school level text	School, NGO, LSMC, Government	

Group	Problem	Solution	Responsibility	Causes
<b>Group 4: Public Participation</b>	1. Family, CBO/ NGO, Participation	Public responsibility	All level of people	
	2. Lack of coordination between LSMC and local people	Attachment of LSMC with people	Bottom up approach by LSMC	
	3. Gap between NGO, CBO and implementation part	Monitoring by formulating committee	LSMC, NGO, CBO, local level	
	4. Various living standard of people	Implemented by pollutant, pay rule, punishment and fine system	LSMC	
	5. Public economic condition	Income generation project	LSMC, NGO, CBO, local level	
	6. Factor of participation economic, social religious	Implemented policy, rule	NGO, CBO, LSMC	
	7. Public view of present action	Participation approach	Arrange by LSMC/ NGO	
	8. Lack of public policy rule	Publicity of policy with vision	All level of people by LSMC	

Source: LSMC Task Force

#### ■ Bhaktapur Municipality (BKM)

The participants were divided into three groups for discussion. The results of discussions and suggestion are indicated below.

**Table 1.4 Results of discussion at 1st Public Hearing of BKM**

Group	Discussion/ Suggestion
<b>Group 1: Reduction of Solid waste</b>	<ul style="list-style-type: none"> <li>- Survey of municipal waste for identifying different sources, natures &amp; composition of waste</li> <li>- Priority on installation of intermediate waste treatment plants / recycling plants (compost, paper recycling) &amp; waste sorting plants within the final disposal site i. e. in the sanitary landfill site</li> <li>- Development of policies for punishment/rewards for public and industries</li> <li>- Taikabu (Tedole) of Tathali VDC as sanitary landfill site for BKM depending on the practicability.</li> </ul>
<b>Group 2: Waste Separation</b>	<ul style="list-style-type: none"> <li>- Separation at the source as organic &amp; inorganic</li> <li>- Emphasis on household level waste minimization by use of compost bin</li> <li>- Public awareness for separation of wastes as organic &amp; inorganic at the source to be carried out by community based organizations (CBOs)</li> <li>- Dissemination of information's on SWM activities.</li> <li>- Public awareness &amp; motivation through CBOs regarding waste separation, waste recycling at the source with the introduction of household compost bin – household level trainings, dissemination of education &amp; information at local community level and even collection of household waste by CBOs depending on the willingness of the community &amp; its practicability.</li> </ul>
<b>Group 3: NGOs, CBOs, &amp; Private Sector Participation</b>	<ul style="list-style-type: none"> <li>- Direct involvement of different NGOs/ CBOs &amp; private sectors on SWM</li> <li>- NGOs can provide knowledge about the utility / use of collected wastes in different ways/ aspects</li> <li>- To delegate/ decentralize authority to CBOs / NGOs / private sectors on the basis of their responsibilities &amp; scope of the work on SWM</li> <li>- Public private partnership approach in regards of SWM by involving NGOs for providing educational &amp; skill development trainings to CBOs related to SWM, private sectors for management of reusable/recyclable wastes step by step</li> </ul>

Source: BKM Task Force



### ■ Madhyapur Thimi Municipality (MTM)

Each participant expressed one's opinion, concern and suggestions regarding SWM. The major opinions are shown next.

<ul style="list-style-type: none"> <li>- Develop sustainable plans and policies</li> <li>- Timely planning budget</li> <li>- Researching and categorizing the source of waste</li> <li>- Mobilize local community groups for solid waste management and give responsibilities of SWM</li> <li>- Awareness of SWM should be given to the local people</li> <li>- Develop the system of separation and collection for biodegradable and non-biodegradable waste from source directly</li> <li>- Improvement of existing composting chamber</li> <li>- Construction of chamber in each ward for organic waste</li> <li>- Recycle materials should be sent to the recycle plant</li> <li>- Establishment of own recycling plant in near future</li> <li>- Non-degradable waste to be sent land field site</li> <li>- Properly manage environmental concerns</li> <li>- Management of medical and Industrial waste at the source</li> <li>- Enforcing rules and regulations</li> </ul>
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### ■ Kirtipur Municipality (KRM)

The participants were divided into three groups for discussion. Each group made a presentation as follows;

**Table 1.5 Results of discussion at 1st Public Hearing of KRM**

Group	Problem	Causes	Solution	Responsibility
1	Waste in open drain	Lack of awareness	Charging fine system	KRM & related bodies
	Waste surrounding the public taps	Lack of awareness	Municipality should take responsibility	
	Throwing waste in public place	Having not proper system of sanitation	People's awareness programme (women, student, youth)	Social Organizations
	Lack of knowledge & awareness regarding SWM	Sanitation not done by Municipality	Providing composting site by Municipality	KRM
	Maximum use of plastic and throwing in street	Responsible body not play responsible role	Collecting waste should be regular & in fixed time	Related bodies
2	Throwing waste unsystematically	Not having fixed station	Providing fixed space & delivering composting knowledge	KRM (Give responsibility to private sector)
	Problem of sewerage	Not frequent sanitation	To draw attention of related bodies time to time	Ward water supply corporation
	Maximum use of plastic	Light material & modernization	Reuse & reduce of plastic	Whole CBOs & individual (Give responsibility to organization for reuse)
3	Blockade of sewerage by plastic & bad smell	Lack of awareness & not related curriculum in school level	Media, publicity & punishment system	Club, local organization & people
	Throwing waste unsystematically	Not fixed proper station	Fix proper point & collecting punctually	KRM, local organizations
	Construction waste scatterd in street	Careless of local habitants	To be responsible people's representatives & regular supervision	KRM, advisor

Source: KRM Task Force

### 1.3 Feedback and suggestions

A total of five P/H meetings are planned by T/F members in each of five municipalities during the implementation of the CKV Study. It is expected that T/F members will improve planning and facilitation skills for such P/H meetings by the end of CKV Study. There are some feedback and suggestions made by the CKV Study Team members for further improvement.

**Table 1.6 Feedback and Suggestion from 1st Public Hearing**

Municipality	Feedback	Suggestion for Further Improvement
<b>KMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well organized with the participation of a wide range of stakeholders.</li> <li>- Mobilization of young and dedicated city volunteers was very good initiative.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation was concise and clear.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Group discussion was very interactive based on the topics addressed by the participants.</li> <li>- Facilitation for each group was effective.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time management need to be improved.</li> <li>- In the beginning of P/H, its objectives should have been more clarified in terms of formulating Draft Action Plan (DfA/P) on SWM, which might help participants to focus on SWM issues alone.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- It should have included the activities related to community mobilization and awareness carried out by Community Mobilization Unit.</li> </ul>
<b>LSMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Interactive public hearings with the participation of different stakeholders</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation was clear and comprehensive with many photos and charts, which might be very helpful for participants to understand the current situation easily.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Group discussion and presentation were very participatory based on the topics addressed by the participants.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time should have been allocated to the discussion part rather than remarks from many high-rank officials. Otherwise, participants might become uncomfortable since they had limited time to address their opinions.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation should have included the community-based SWM activities conducted by Community Development Section.</li> </ul>
<b>BKM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well organized P/H. It was observed that all T/F members were actively involved in organizing and proceeding the meeting.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The objectives and structure of CKV Study were clearly explained.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The way of group discussion was very good by dividing into three groups based on three topics.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Too much tea break?</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The information in the slide was too much. The major points should be focused, which helps participants to understand easily.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- If the clear instruction such as how participants should discuss was made, it would be very helpful.</li> </ul>

Municipality	Feedback	Suggestion for Further Improvement
MTM	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time management was very good.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The OHP presentation was very helpful for participants to understand.</li> <li>- The objectives of the CKV Study were clearly explained.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The facilitation from the municipality side by encouraging the participants to consider and discuss the landfill site was very effective.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Room arrangement need to be further considered.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The failure of community chambers and its causes should have been addressed and explained from the municipality side.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The more interactive and participatory ways for P/H can be recommended.</li> </ul>
KRM	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Interactive and participatory public hearings</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Current situation was good presentation by showing the chart which describes the component of municipality waste.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The instruction for discussion was very clear.</li> <li>-- Informal discussion was very interactive and effective.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- More women's participations need to be encouraged.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The collection areas should have been indicated on the map, which might be useful for the participants to understand the current situation.</li> </ul>

Source: JICA Study Team

## 2. Second Public Hearings

### 2.1 Overview

The second Public Hearing (2nd P/H) meeting was held in each Municipality except for KRM<sup>2</sup> from the beginning to the middle of May 2004. The main objectives of 2nd P/H were as follows:

- To brief about the progress of CKV Study activities such as the discussion results of TWG meetings, the seminar, the site visit to Okharpauwa, the validation meeting of TNA, the participatory workshop of public involvement, etc.
- To explain the preliminary Draft Action Plan (DfA/P) formulated by the T/F to the public
- To collect a various of opinions through the discussions among the participants

T/F members of each Municipality organized and facilitated the 2nd PH with the support of CKV Study. The overview is described below.

**Table 2.1 Date, Participants and Discussion Items of the 2nd Public Hearing**

Municipality	Date/Time/Venue	Participants	Discussion Items
KMC	May 17 11:00-14:00 City Hall	30 Mayor, NGOs/ CBOs, private sectors, media/ journalists	Among the discussion session, the problems of irregular service of the door to door collection or the problems of no proper division of responsibilities between KMC and private sector were pointed out.
LSMC	May 14 10:00-15:00 Hall at LDTA	70 Ward chairperson, Intellectuals, NGOs CBOs	Participants categorized four issues namely, 1)collection, transportation and landfill site, 2)promotion of waste minimization, 3)public awareness, and 4)organizational and institutional management. They discussed the suggestion to the DfA/P and proposed to introduce 3R approach or awareness campaigns including documentary programmes or primary school level curriculum, etc.
BKM	May 2 13:0-16:00 Meeting room at BKM	50 CEO, Ward chairpersons, NGOs/ CBOs, advisors	During the discussion session, participants proposed the reuse system of plastics and glasses, privatization of compost plant in order to make the system more efficient, or involvement of VDCs to the DfA/P
MTM	May 15 10:00-15:00 Hospital Hall	53 Mayor, Deputy Mayor, Ward chairpersons, NGOs/ CBOs, residents	Participants categorized four issues namely, 1)collection, transportation and landfill site, 2)promotion of waste minimization, 3)public awareness, and 4)final disposal manner. They discussed the suggestion to the DfA/P and pointed out the necessity of the disposal site, formulation of the supervisory committee, or public awareness programs etc.

Source: Each Municipality, CKV Study Team

### 2.2 Summary of results of discussion in each Municipality

The results of discussion held in each 2nd P/H are summarized below.

<sup>2</sup> KRM couldn't hold 2nd P/H because of unavoidable circumstances.

■ **KMC**

Regarding the DfA/P presented by KMC, the session for question and answer took place. The major questions and answers are as follows;

**Table 2.2 Results of discussion at 2nd Public Hearing of KMC**

Question	Answer
Though door-to-door service provided by private sector is not regular and not so good, people are paying monthly bill. Why is KMC not monitoring their work?	In some wards the waste collection task is being handled by KMC-ward only. But in some wards, the private sectors, in which some are authorized and some are not, are providing door-to-door service. The unauthorized private organizations are working independently without the prior approval from KMC. Due to lack of any legal bindings, their work can't be monitored by KMC. Therefore, KMC is now planning to bring all these private organizations under the umbrella of KMC through legal bindings, after which their work will be monitored regularly.
Too many private institutions are mushrooming up in the same ward for SWM so that the work is getting even more messy and irregular. There is no proper division of responsibilities for these institutions. Only the authorized and registered private institutions should be allowed to work in SWM (door-to-door collection service).	KMC is thinking to hand over the work of solid waste collection of each ward to a single private sector (i.e. one to one service) which will be authorized and registered under KMC.
What is the role of NGOs/CBOs and private sector in SWM? Don't you think there is a need to distinguish the clear cut roles and responsibilities of NGOs/CBOs and private sectors in this A/P?	NGOs/CBOs are Non-profit organizations and the main responsibility of NGOs/CBOs working in SWM is to conduct awareness programmes (and not to provide door-to-door service in exchange of money which is a task of private sector). In other words, NGOs/CBOs handle the software works and private sectors handle the hardware works.
What is WEC and what is its responsibility?	WECs are Ward Environment Committees. KMC is planning to expand and strengthen WECs to support local initiatives by making a bridge between KMC and the local organizations of wards. KMC is also planning to form WEC in each ward within 5 yrs.
This action plan has set a goal of increasing the waste collection coverage by private sector up to 50 % without any drastic decrease of sweeper population. How's it going to happen?	KMC haven't taken any more new sweepers for about three years and now there are about 150 sweepers working under KMC. Every year these sweepers will be provided with the training like gardening, mechanics etc. and they will be provided with the alternative jobs (based on their training) inside KMC.

Source: KMC Task Force

There are mainly two recommendations made by participants.

- This A/P has only addressed about composting, and not specifically about paper and plastic recycling. There should be some studies conducted for analyzing the efficiency of paper recycling in KMC and the A/P should also mention specifically about plastic and paper recycling.
- KMC shouldn't hand over the total SWM work to the private sector and they shouldn't totally rely on them. Private sectors basically work for money; they may not bother much about good collection service and proper disposal of waste. So, municipality should develop check and balance mechanism. Some mechanism should be there to monitor and regulate the work of private sectors.

■ **LSMC**

Four topics i.e. A) collection, transportation and landfill site, B) promotion of waste minimisation, C) public awareness, and D) organizational and institutional management were discussed among the participants. The results are described below.

**Table 2.3 Results of discussion at 2nd Public Hearing of LSMC**

Group	Discussion/ Suggestion
<b>Group A: Collection, Transportation and Landfill Site</b>	<p>I. Collection</p> <ul style="list-style-type: none"> <li>- There should a clear differentiation of the various wastes generated from the households, hotels, restaurants and health institutions.</li> <li>- Biodegradable and bio-undegradable wastes should be kept in different bins.</li> <li>- Collection of wastes should be done on specific time by the concerned bodies.</li> <li>- Reducing the waste at the source itself. Like, using paper and plastic.</li> </ul> <p>II. Transportation</p> <ul style="list-style-type: none"> <li>- Collection of wastes generated by the households and communities by appropriately functioning vehicles.</li> <li>- The vehicles that collect the wastes should cover the wastes properly in order to not let the smell out.</li> <li>- The vehicles that collect wastes should not be kept in the road for too long.</li> <li>- Good transfer station facilities must meet best available technology standards.</li> </ul> <p>III. Landfill site</p> <ul style="list-style-type: none"> <li>- Re-considering the various problems and failures of the past dumping site problems, there should be a suitable landfill site that shouldn't bring any political, social, cultural and environmental issues.</li> <li>- Special consideration should be given in the minimization of leachate generated from the landfill and also minimize the effects of bio-gas generated from the landfill site.</li> <li>- Buffer zone concept should be introduced around the landfill site.</li> <li>- The engineering and environmental aspect of the landfill site should be supervised, inspected, and monitored on regular basis.</li> </ul>
<b>Group B: Promotion of waste minimization</b>	<ol style="list-style-type: none"> <li>1. Maximization of wastes separation through i) Vermin composting, ii) Bin composting, iii) Heap method, iv) Pit method</li> <li>2. Introducing 3R approach: Reduction, Reuse, and Recycle. This is something the government and other responsible sectors can implement immediately, for this has been a famous and effective approach for controlling waste in most of the developing countries including Bangladesh.             <ol style="list-style-type: none"> <li>i. Plastics: Milk plastics could be used make basket, shower pads, doormats, toys and other various decoration pieces.</li> <li>ii. Those materials that could not be used directly again like broken plastics and rubber tubs should be directly taken to the junk buyers and the just buyers would eventually to the factories respectively.</li> <li>iii. Clothes that are worn that are old and worn out should be collected in one place, to see even if they could be used to other various purposes like, if they could be distributed to the poor and needy. Cotton could be used to vermin composting.</li> <li>iv. Glasses could be reused again, especially reused on the top of brick walls for security reasons.</li> <li>v. Medicine bottles could be re-used again through a thorough cleaning and disinfectant method.</li> </ol> </li> <li>3. Reasonable values on plastic products There should be a specific price for various food packages, like noodles, biscuits, oil and milk. When there is price for such things people would not litter around intentionally. The concerned shopkeepers or retailers should give the rated price.</li> </ol>
<b>Group C: Public Awareness</b>	<p><u>Raising Awareness level:</u> Let us make people understand why we really need to do it! Let us make them understand the existing condition and the rationale of people's involvement in waste management! Awareness campaigns, media can play a vital role! The main hope, according to many people in Kathmandu, is the rising level of environmental awareness among the young. The awareness of the public could be further increased by the following.</p>

Group	Discussion/ Suggestion
	<ul style="list-style-type: none"> <li>i. Through media</li> <li>ii. Leaflets and pamphlets</li> <li>iii. Exchange and exposure visits</li> <li>iv. Documentary programmes</li> <li>v. Street shows on solid waste management.</li> <li>vi. Community development committee orientation</li> <li>vii. Single household and ward committee level campaigns</li> <li>viii. Women group focused trainings</li> <li>ix. Primary school level curriculum catered for students.</li> <li>x. Youth club orientation</li> <li>xi. Interaction between various concerned organizations, agencies on solid waste management.</li> <li>xii. Special trainings on vermin composting, heap method and pit method at household and ward level.</li> <li>xiii. Introduce 3R approach, reducing consumption, reusing and recycling.</li> </ul> <p><u>Strengthening the Service Delivery:</u> To make people internalize “nothing comes for free”, let them make pay the price of living in the cities! Paying for the service delivered would give people some sense of responsibility to be aware of their participation, and it would strengthen the financial position of the service organization as well.</p>
<p><b>Group D: Organizational and Institutional Management</b></p>	<p><u>Manpower needed for the organizational and institutional management.</u></p> <ul style="list-style-type: none"> <li>- Executive--1</li> <li>- Environmentalists—2</li> <li>- Technical officer—1</li> <li>- Section officer—7</li> <li>- Security—10</li> <li>- Cleaner—20</li> <li>- Doctor—1, Nurse—2</li> <li>- Accountant—1, Accountant Assistant—1</li> <li>- Administrative Assistant—4</li> <li>- Group Mobilizes—10</li> <li>- Guard and Peon—4</li> <li>- Gardener—2</li> </ul> <p><u>“Organizational and Institutional Management”</u></p> <ul style="list-style-type: none"> <li>- Environmental Department should be established in each municipality offices.</li> <li>- Decentralization strategies for effective solid waste management should be approached.</li> <li>- Establishment of different sections under the environmental department should be established.</li> <li>- There should be specialists working in each sections</li> <li>- Local clubs, organizations, NGOs and INGOs working in the solid waste management sector should be coordinated by this department.</li> <li>- Target groups like, women, youth and children should be mobilized.</li> <li>- There should be a reliable and strong networking between he different municipalities and ward committees.</li> <li>- The NGOs and INGOs currently working the solid waste management sector should give continuity their work.</li> <li>- Legal provision regarding the solid waste management should be clear.</li> <li>- Various public awareness campaigns and programmes should be launched.</li> <li>- In depth study, research and training should also be provided.</li> <li>- Emergency service for the sweepers, cleaners, scavengers should be provided</li> <li>- Cleaning programmes, environment conservation, plantation programmes should be conducted on regular basis.</li> <li>- Thorough monitoring and evaluation mechanism should be there to scrutinize the various works conducted by the various organizations, agencies, NGOs, INGOs, community based organizations for further betterment of their works.</li> <li>- For the long-term solution, a rope way should be installed to dump wastes in glen and ravines, far from human settlement.</li> </ul>

Source: LSMC Task Force

## ■ BKM

Regarding the DfA/P on SWM proposed by BKM, the participants made comments and suggestions by verbal and written forms.

- There are mix of visions and missions in the proposed visions by the Municipality. It should be separately stated.
- According to the increase in the population and urbanization, the amount of waste will be increased. In this regard, reduction activities such as composting might be effective and necessary. In order to promote composting, the Municipality needs to take initiatives in purchasing the compost which the community/individual made. Such provision of incentives is the key to encourage the community/individual to be involved into SWM.
- Compost plan is necessary to be upgraded or constructed in order to minimize the waste. The urgent countermeasures are needed to tackle with the increased waste.
- The level of awareness on SWM among the public is not far from satisfactory. It should be focused on.
- Such public hearing is likely to be effective way to disseminate information and collect views from the public.
- Handouts should have been distributed beforehand, which helps the participants to discuss the agenda actively.
- The target of the CKV Study should be expanded to neighboring VDCs. Some village support programs including orientation program and training for VDC chairpersons, communities and concerned NGOs need to be integrated into SWM.
- Environment education or clean education campaign need to be carried out and to be expanded to neighboring VDCs.
- In order to make adjoining rivers and streams which have been polluted clean, some measurement such as regulations against factories discharging chemicals should be considered.
- The issue on SWM should be considered in the context of eco-tourism.
- The solutions for the sewage problems should be also considered.
- Clean up program as well as awareness program should be carried out at the ward or tole level. Community-level groups should be focal point for these activities.
- The way of promotion of paper and plastic recycling should be considered.
- Women and women's group can be mobilized for SWM activities if the appropriate support and instruction is given.
- Source separation together with awareness program should be promoted. Organic waste should be used for making compost. In order to promote composting, compost bin should be distributed with some subsidy from the Municipality. The certain amount of compost should be purchased by the Municipality, too.
- Plastic collection system should be developed by the Municipality. For example, the Municipality can let the community collect recyclable plastic in the specified places and coordinate to sell the recycle dealers.
- Compost plant should be improved.
- For reducing plastic, the use of plastic should be prohibited within the Municipality. Instead of the plastic, paper bags should be promoted for use.
- The municipality should help the groups or communities which try to sell the production made of plastic to expand its marketing.
- Composting should be promoted on the production/marketing basis.
- Plastic should be collected in the specified place and be burnt.

## ■ MTM

The participants were divided into four groups and discussed each topic as follows;



**Table 2.4 Results of discussion at 2nd Public Hearing of MTM**

Group	Discussion/ Suggestion
<b>Group 1: Improvement of Waste Collection, Transportation and Disposal</b>	<ul style="list-style-type: none"> <li>- For the improvement of waste collection, the places having wider roads should be provided with enough waste collection vehicles, and those places having narrow roads should be provided with hand carts.</li> <li>- The waste collection time should be fixed and each household should be informed properly about the collection time so that they can throw their household waste directly into the municipality vehicle rather than at some corner of the road.</li> <li>- If MTM and the wards can't afford to buy enough vehicles for waste collection, it should at least make arrangements to hire the vehicles for collecting waste from all parts of Thimi.</li> <li>- For proper waste disposal, the disposal site should be searched in cooperation with BKM and KMC.</li> <li>- The people involved in waste collection and waste transportation should be given trainings on the types of waste, waste segregation and waste collection according to the type of waste.</li> <li>- A supervisory committee should be formed in each ward to supervise the works of waste collection, transportation and disposal.</li> <li>- One of the participants from the other group suggested for the improvement of the condition of road at Thimi rather than spending money on new vehicles because if the road condition won't be improved, it will be worthless spending money in vehicles.</li> </ul>
<b>Group 2: Promotion of Waste Minimization</b>	<ul style="list-style-type: none"> <li>- A/P should focus on waste minimization through minimization of waste generation (source reduction of waste).</li> <li>- Every person should be made aware about the value of waste. They should be taught that waste is a valuable resource, but at wrong place.</li> <li>- Green Production approach should be applied for waste minimization at household and community levels. People should be taught about maximum/proper utilization of all goods so that the generation of waste at household level will be decreased automatically. If this approach is implemented, there will no more be the problem of budget, sweepers, waste collection vehicles etc.</li> <li>- The ownership feeling should be raised among the people. Unless the people are made aware that it's their town, their waste and their responsibility to manage waste, then no significant work can be done in solid waste management.</li> <li>- The action plan of Thimi shouldn't target for increasing the number of waste collecting bins or vehicles, but should target for reducing the waste volume through reuse, reduce and recycle techniques and public awareness programs.</li> <li>- If municipality is thinking about composting of organic waste, then it should also produce market for the compost; otherwise composting practice won't be sustainable.</li> </ul>
<b>Group 3: Improvement of Final Disposal manner</b>	<ul style="list-style-type: none"> <li>- Financial problem is a main constraint in the proper disposal of waste. The action plan should clearly state about who will invest for buying land, waste transporting vehicles, compost chamber construction. (Community/ Private sector/ Municipality/Ward or who else?)</li> <li>- Discussions should be conducted among the people living in the proposed landfill site and their agreement should be taken before dumping waste in their site.</li> <li>- After each batch of waste dumped at the landfill site, the place should be sprinkled with the chemicals.</li> </ul>
<b>Group 4: Public Awareness</b>	<ul style="list-style-type: none"> <li>- Workshops on household level SWM should be conducted at ward level for the participants from each household.</li> <li>- People from each household should be encouraged to make kitchen garden at their house. MTM can also support this by making a regulation which strictly emphasizes on making kitchen garden at newly constructed houses. [By making kitchen garden at every house, the household level waste (organic waste) can be reutilized in the garden as compost].</li> <li>- People should be encouraged to make compost at household level. Compost bins can be provided in individual household.</li> <li>- Trainings should be conducted on health, solid waste management to make people aware.</li> <li>- A supervisory team should be formed in each ward to supervise the implementation status of the household regarding the solid waste management which they have learnt in workshops &amp; trainings.</li> </ul>

Source: MTM Task Force

## 2.3 Feedback and suggestions

Following the 1st P/H, T/F members in each Municipality organized and facilitated the 2nd P/H. In spite of tight schedule as well as political instability, they made efforts for arranging and holding 2nd P/H. Feedback and suggestions are described below.

**Table 2.5 Feedback and Suggestion from 2nd Public Hearing**

Municipality	Feedback	Suggestion for Further Improvement
<b>KMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Though there were not enough participants because of the political situation, KMC could coordinate to hold the meeting.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation was concise and clear.</li> <li>- Handout was helpful for participants.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- At Q &amp; A session, KMC answered each question clearly.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- P/H was too short to get the opinion and comments as feedback to their DfA/P.</li> <li>- It should be set discussion session among the participants.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation of two members from KMC should be coordinated in advance in order not to present overlap.</li> </ul>
<b>LSMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well coordinated by T/F members.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation was well prepared not only for the explanation of DfA/P but also the process of the Study including the results of 1st P/H.</li> <li>- Handout was helpful for participants.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Each of four group discussed actively and the presentation from each group was clear by using papers to summarize.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- T/F member should facilitate the whole meeting by themselves.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation should have arranged to make understand more easily for participants.</li> </ul>
<b>BKM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well prepared and organized by T/F members.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Well prepared</li> <li>- Handout was helpful for participants.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Clear instruction and good review of the 1st P/H and the background of the CKV Study</li> <li>- Distribution of cards for writing down opinions was good method.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time management need to be improved</li> <li>- The room seemed to be too small</li> <li>- The advisors of the municipality should have been informed about the outline of the Study and P/H.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Font size need to be arranged</li> <li>- A little bit loud and clear voice</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Need to provide fair opportunities for every participant to express their views</li> </ul>
<b>MTM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well prepared and facilitated by T/F member</li> <li>- Various kinds of stakeholder were participated.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- The presentation using power point was very good to understand.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Group discussion and presentation were participatory and most of the people were giving their inputs during focus group discussion session.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Room is not suitable for group discussion.</li> <li>- It would have been better if there was a Q &amp; A session after focus group discussion and their presentations to get more curious opinions.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- During focus group discussion, the people couldn't sit in a circle; hence, there was division of groups among each group.</li> </ul>

Source: JICA Study Team

### 3. Third Public Hearings

#### 3.1 Overview

The third Public Hearing (3rd P/H) was held in each of the five Municipalities in August and September, 2004 with the following objectives;

- To brief about the progress of the CKV Study activities such as DfA/P, holding 2nd Seminar, action plan operational management training, study tour, and other training activities, etc.
- To explain the planned Pilot Projects in each municipality
- To explain annual work plan which was developed in July
- To collect a various of opinions through the discussions among the participants

The Task Force (T/F) members of each Municipality with focal point(s) of pilot projects were organized and facilitated with the support from the JICA Study Team. The overview is described below.

**Table 3.1 Date, Participants and Discussion Items of the 3rd P/H**

Municipality	Date/Time/ Venue	Participants	Discussion Items
KMC	September 21, 2004 10:00-13:00 KMC Office in Sundhara	75 Ward Environment Committee members, NGOs/ CBOs, reporters, student	The main topics discussed were- 1) Teku T/S pilot project, 2) Sisdol LFS pilot project, 3) community based composting pilot project, and 4) primary collection and transportation.
LSMC	August 16, 2004 10:30-15:00 LDTA	60 Former Mayor, Ward chairpersons, NGOs/ CBOs, Women's groups	During the discussion session, suggestions for waste minimization program or public awareness were mentioned. Some participants requested to make more chance for NGO/CBO to participate in the SWM activities.
BKM	August 23, 2004 11:00-15:00 Meeting Hall of BCIC	73 CEO, Residents from model areas for separation collection project (Ward 14, 15, 17)	After explanation of separation collection project including formation of nature clubs by TWG, the group coordinators of each model ward were selected who has a responsibility to form the core group in each ward.
MTM	August 23, 2004 10:30-15:00 Ward Office	13 Former Mayor, Former Deputy Mayor, Ward chairpersons, NGOs, CBOs	Main discussion items were 1) proposed collection and transportation system 2) wall painting (location) and 3) public events (location and contents).
KRM	August 24, 2004 8:00-10:00 Municipality Office	30 CEO, NGOs/ CBOs, Youth groups from target area of plastic separation project	Participants discussed plastic separation project in order to make more effective. Problem related to difficulty of selling plastic to a buyer was also pointed out.

Source: Each Municipality, CKV Study Team

#### 3.2 Summary of Results of Discussion in each Municipality

The results of discussion held in each 3rd P/H are summarized below.

■ **KMC**

The main topics presented were 1) Sisdol LFS Pilot Project, 2) Teku T/S Pilot Project, 3) Mass Communication/ Education Pilot Project including CKV Mascot 4) Fruit Market Composting Pilot Project and Community SWM Pilot Project at Ward 21. During discussion session, cards were distributed for writing down opinions to every participant and after collection of those cards, municipal staff read some of the comments and ask municipal staff to answer.

**Table 3.2 Results of Discussion at 3rd Public Hearing of KMC**

Topics	Some Comments and Answer
<b>Teku Transfer Station</b>	1. For period starting now until when Sisdol is ready, operating Teku T/S for a longer period of time would be beneficial. To this, Mr. Rajesh replied that such arrangement would be contingent upon consent from the residents in the surrounding area.
<b>Sisdol Landfill Site</b>	2. Whether or not continuous monitoring of environmental aspects would be done at Sisdol LFS after operation. Lack of monitoring might lead to health hazards and other environmental problems. 3. A concern at the Sisdol LFS is the possibility of polluting the river flowing by it. To this Mr. Rajesh explained that the environmental impact study now was being conducted by ENPHO and monitoring at site would go on even after the site comes into operation. The JICA Study Team also explained that the leachate once collected would be carefully studied before being discharged into the river. 4. Since Sisdol LFS is coming into operation starting January, 2004, people who have gradually started to adopt waste minimization activities might think that the need to adopt such practices is over and consequently decide to go back to their practice of discarding waste carelessly.
<b>Community based composting pilot project</b>	5. Lack of space for composting is a hindrance for many people who are interested in composting. If KMC could help interested people in this regards, a lot more people would be ready to start composting with organic waste. 6. Much more can be done by the municipality within the Fruit Market Composting Pilot Project. For instance, it could build a cold storage place for fruits so that fruits can be preserved for a longer period of time and waste itself can be minimized. Also, biogas production on site could be possible. 7. Training for compost making should not be restricted to a couple of wards. Waste minimization would be effective only if all of the 35 wards in KMC receive training and composting is made mandatory.
<b>Primary collection and transportation</b>	8. Primary waste collection should be systemized so that piles of waste do not remain on roads and streets for extended periods of time. KMC should implement effective monitoring of the procedures being undertaken by the contractors who are in charge of collecting waste. 9. Dhobikhola area is currently facing the problem of uncontrolled waste dumping in and around the Dhobikhola River. KMC has not expressed its commitment to follow through on points agreed upon earlier with regards to managing waste in and around the river. 10. Waste collected and transported in trucks are usually dropped along the way resulting in foul smell. Since EM seems to be effective in controlling bad odor, its use on the wastes in collection vehicles and also in the transfer station might help to mitigate the problem of foul smell.
<b>Others</b>	11. If wastes from organizations and offices can be managed, a big portion of the total waste can be minimized. 12. At present, KMC is signing contracts with private sectors only for waste collection. Able NGOs should also be given a chance to work under such contracts.

Source: JICA Study Team

## ■ LSMC

Following explanation of overall proposed pilot projects from TWG, focal point presented “Mass Communication/Education Pilot Project” including CKV Mascot and pilot projects for transfer station and sanitary landfill site. A variety of comments not only for proposed pilot projects but also for current problems faced were observed as follows.

**Table 3.3 Results of Discussion at 3rd Public Hearing of LSMC**

Topics	Comments. Contents of Discussion
<b>Waste Minimization (compost)</b>	<ul style="list-style-type: none"> <li>- Vermi composting is the most economical form of composting. LSMC can play the role of a manager for networking among stakeholders as pilot project.</li> <li>- Even if the communities would like to establish a community composting plant, no land is available. HMG needs to provide incentive for people who would like to do composting (providing bins, EM free of cost) and impose a penalty to those who do not conform to established rules.</li> <li>- In order to successfully promote waste minimization, waste management should be tied to income generation.</li> <li>- LSMC should create opportunities for NGOs/CBOs to support their activities. For example, Municipality could subsidize and assist in distribution of compost bin which is developed by NGO.</li> <li>- LSMC should consider introducing rules that support waste minimization in the housing system itself. For example, new housings to be built in the future should be required to set aside a piece of land for planting trees and composting.</li> </ul>
<b>T/S</b>	- The two ponds in Balkumari, Chobhar are possible places to be used as T/S.
<b>Others</b>	- The message of "Sapha Sahar Hamro Rahar" should be publicized and explained at the tole level through visual images.

Source: JICA Study Team

## ■ BKM

BKM focused on discussion items for “Practice of Source-Separated Collection Pilot Project”. After detail explanation of the pilot project including formation of nature clubs, the group coordinators of each model ward (Wards 14, 15, 17) were selected who has a responsibility to form the core group in each ward (Mr. Bishwanath Prajapati, Mr. Shyam Sundar Mata and Mr. Hari Krishna Bhail, respectively).

## ■ MTM

After both “Mass Communication/Education Pilot Project” including a mascot and “Establishment of a Collection and Transportation System Pilot Project” were presented by each focal point, discussion were focused on 1) proposed collection and transportation system 2) public events (location and contents) and 3) wall painting (location).

**Table 3.4 Results of Discussion at 3rd Public Hearing of MTM**

Topics	Comments. Contents of Discussion
<b>Collection and Transportation system</b>	<ul style="list-style-type: none"> <li>- Only one vehicle for waste collection is not sufficient. One more vehicle is needed for emergency period. MTM answered that MTM may buy another small vehicle next year.</li> <li>- The waste collectors and sweepers should be the locals because the locals will be more motivated towards their work and the ward-staffs can also monitor their work and guide them regularly.</li> <li>- Waste collection service should be provided equally to all the wards.</li> <li>- The waste collection vehicle should have a siren to call people for throwing waste in the truck directly at once.</li> <li>- The solid waste should be segregated while collecting in the collection vehicle. For this, partition can be made in the vehicle for organic materials and non- degradable materials.</li> <li>- To check the collection service and the level of cleanliness, regular monitoring of the areas is very important.</li> <li>- MTM should manage maximum portion of the waste inside the municipality through chamber composting since disposal of waste outside the municipality will charge extra tax to the people of Thimi and it will be costly even for the municipality.</li> <li>- MTM should transport waste to Teku T/S. But it is possible only when the municipality is provided with some financial support for fuel and maintenance cost of transportation.</li> <li>- The compost chamber should be re-operated and managed by community themselves.</li> </ul>
<b>Public Event</b>	<ul style="list-style-type: none"> <li>- Street drama with cultural show is the most effective method for Thimi since it can gather a large crowd.</li> <li>- Other methods are; 1) Documentary 2) Mass meeting, and 3) Rally</li> </ul>
<b>Wall Painting</b>	<ul style="list-style-type: none"> <li>- Several places are suggested for putting the wall painting (Balkumari, Maru tole, Nikosera community building, Compost chamber, Ward Office)</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>- MTM should invite more participants from different organizations for P/H including NGOs/ CBOs, women's group and representatives from all 17 wards with using more wide space.</li> <li>- The same person should be called in all P/H for they will be able to participate in the discussions properly if they possess the in-depth knowledge on the topic.</li> </ul>

Source: JICA Study Team

#### ■ KRM

After the presentation of brief explanation of the CKV Study, a mascot and “Mass Communication/Education Pilot Project”, “Practice of Plastic Separation and Home Composting Pilot Project” and Draft Action Plan of KRM were introduced. The feedbacks obtained from the participants are summarized below.

<ul style="list-style-type: none"> <li>- A participant from Ward 8, which is basically a village area, requested to include Ward 8 to plastic separation project. KRM answered that the project will be launched in the core area at first and then expanded in adjoining villages later because the program won't be effective if it is started at once in all the places.</li> <li>- One of the local organizations, which has been involved in collecting plastics for a month, said that they are confused about selling the plastics to the recycling factory and they don't know what to do next with those collected plastics. KRM answered that recycling factories buy only huge amount of plastics and after starting the pilot project of plastic separation, large volume of plastics can be collected to sell the recycling factories with agreement. KRM requested them to keep on collecting the plastics till then.</li> <li>- Participant emphasized that it is necessary to think about economic sustainability of the project. Because it's not a one day work and the municipality can't always rely on JICA for financial and technical support and the people involved in the project can't always work voluntarily too, it must be needed to develop a mechanism to earn money from waste for making the project sustainable.</li> <li>- To mobilize the school students in solid waste management activities is effective to take over the work of solid waste management in next generation.</li> </ul>
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### 3.3 Feedback and Suggestions

As a whole, the 3rd P/Hs were held more smoothly and suitably in comparison with 1st and 2nd P/Hs. All the five municipalities are considered to have become to know how to manage and facilitate the P/H better than before. Feedback and suggestions for the 3rd PHs from the JICA Study Team are discussed below:

**Table 3.5 Feedbacks and Suggestions for 3rd Public Hearings**

Municipality	Feedback	Suggestion for Further Improvement
<b>KMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well prepared verbal presentation.</li> <li>- Active discussion was developed.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Presentation materials were well presented.</li> <li>- Presentation on the technical part might have been difficult to grasp for most of the participants.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Many questions and complains for primary collection system were observed.</li> <li>- Everyone was given a fair chance to present their questions and suggestions in writing on meta card.</li> <li>- KMC responded well with regards to questions raised against KMC practices.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Starting should be on time.</li> <li>- To Invite more kinds of stakeholders will be better.</li> <li>- More simple explanation regarding technical part from KMC should be better.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Use of Nepali text, understandable words and measuring units might help in case of explaining technical details to non-technical audience.</li> <li>- Handouts at the beginning of the presentation might help the audience to follow the details more easily.</li> </ul>
<b>LSMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Good presentation regarding overview of the current progress on activities and future plans.</li> <li>- Time management is poor.</li> <li>- Good participation rate.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Presentation materials were well presented.</li> <li>- Contents in some of the handouts were poorly visible.</li> <li>- Presentation regarding the technical aspects of the project (T/S, landfill site) could not be heard properly due to the mike not functioning</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Many participants mentioned the comments.</li> <li>- Some of the comments could not be heard at the back due to the mike not working well</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Giving a tentative timeline on how the meeting will proceed before the start of the meeting could help the participants assess the availability of time.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- A translation of CKV presentation in Nepali could clarify the objectives the study to the non-English speaking audience</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- To facilitate the discussion session will be effective to collect their wanted opinion.</li> </ul>
<b>BKM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well prepared verbal presentation.</li> <li>- Active discussion was developed.</li> <li>- Good participation rate, but limited in target wards</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Presentation materials were well presented.</li> <li>- Some presentation were to long.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Many participants mentioned the comments.</li> <li>- Group discussion was well organized.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- To Invite more kinds of stakeholders will be better.</li> <li>- To provide the participants with the time will be effective to help the participants' understandings of the objective</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- To make presentation materials visually is better for easy understandings.</li> <li>- A translation of CKV presentation including mass education and interpersonal communication into Nepali (or Newali) is effective to the non-English speaking participants</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- To hold the time for general and free discussions times will be effective to collect their wanted opinion.</li> </ul>

Municipality	Feedback	Suggestion for Further Improvement
MTM	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Participant number, few representatives from different local organizations is not sufficient.</li> <li>- Presentation is good.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- All the presentations were good and comprehensible.</li> <li>- It is easy to understand the proposed collection route by using map.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The discussion was taken place after each presentations. This provided the participants to understand the subject and participate in the discussion properly.</li> <li>- Only few selected people participated in the discussion.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- P/H should be invited on more participation of the people from different NGOs/ CBOs and wards.</li> <li>- More wide space for P/H should be better.</li> <li>- Focal points who are related to the topic for discussion should join to the P/H.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- In order to get many feedbacks from different participants as much as possible, the facilitator should devise the discussion session.</li> </ul>
KRM	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Good participation from local organizations including target youth group for plastic separation project.</li> <li>- Delay in starting the program</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Presentations were good with using not only slides by projector but also figures by papers.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The discussion session was too short; Very few participants could provide their comments.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Too short in order to get comments from participants.</li> <li>- Time management is needed.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- To present more smoothly, some assistant for presenter is needed to help to display a presentation material.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- To put more time for discussion is needed to collect effective opinions from different kind of participants.</li> </ul>

Source: JICA Study Team

## 4. Forth Public Hearings

### 4.1 Outline

The fourth Public Hearing (4th P/H) was held in each of the four Municipalities except Bhaktapur Municipality<sup>3</sup> in February and March, 2005 with the following objectives;

- To brief about the progress of Pilot Projects and overall CKV Study activities
- To collect various opinions and suggestions so as to incorporate them into Action Plan on SWM.

The focal points of each pilot project and Task Forth members took initiation to organize and facilitate the P/H with the support from the JICA Study Team at each municipality as follows.

<sup>3</sup> BKM could not hold 4th P/H because of unavoidable circumstances.



**Table 4.1 Date, Participants and Discussion Items of the 4th P/H**

Municipality	Date/Time/Venue	Participants	Discussion Items
KMC	March 7, 2005 10:30-13:00 KMC Office in Sundhara	75 Ward Environment Committee members, NGOs/ CBOs, University Students, Journalists, Media	The main pilot projects explained were 1) Teku T/S, 2) Sisdol LFS, 3) Community based composting, and 4) Mass communication. During the discussion session, participants focused on not only pilot projects but also new collection system ordered by government <sup>4</sup> .
LSMC	February 10, 2005 11:30-14:00 LSMC Office	20 CEO, Ward representatives, NGOs/ CBOs, Women's groups	During the discussion session, participants mainly focused on new collection system ordered by government.
MTM	February 15, 2005 12:30-14:00 Ward Office	13 Former Mayor, Former Deputy Mayor, NGOs/ CBOs	Main discussion items were 1) proposed collection and transportation system under pilot project and 2) sweeping system in MTM.
KRM	March 2, 2005 15:30-17:30 KRM Office	23 NGOs/ CBOs, University Students, Youth groups from target area of plastic separation project, Journalists	Participants mainly discussed plastic separation pilot project and also how to apply 3R concept to Kirtipur efficiently.

#### 4.2 Summary of Discussions in each Municipality

The results of discussion in each 4th P/H are summarized below.

##### ■ KMC

The main topics presented were 1) Sisdol LFS Pilot Project, 2) Teku T/S Pilot Project, 3) Mass Communication/ Education Pilot Project and 4) Ward 21 Community-based Composting Pilot Project. After the presentations, cards were distributed to every participant for writing down their opinions. Municipal staff read and answered to the comments as follows.

**Table 4.2 Discussed Items at 4th Public Hearing of KMC**

Topics	Discussed Items
<b>Teku Transfer Station</b>	- If the waste brought by collection vehicles is directly transferred to the secondary vehicles, the scavengers on the site would lose their jobs. →KMC; <i>Recycling or waste separation should ideally be done by everyone at home.</i>
<b>Sisdol Landfill Site</b>	- Why isn't Bagmati closed right after Sisdol LFS starts operating? →KMC; <i>Because it takes time to arrange all necessary secondary vehicle.</i>
<b>Community based composting pilot project</b>	- Why Ward 21 is selected as a pilot area for composting? →KMC; <i>There are active local clubs in Ward 21 of which network can be effective for sustainable system.</i> - Vermi composting should be publicized more. - KMC needs to control using of black polythene plastic bags.

<sup>4</sup> On February 9, 2005, the Government ordered that waste collection and transportation should be finished by 7 a.m.

Topics	Discussed Items
<b>Public-Private Partnership</b>	<ul style="list-style-type: none"> <li>- How does KMC plan to coordinate the activities of private organizations doing door-to-door collection? →KMC; After the order of collecting waste by 7 a.m, KMC has been working hard to come up with a new system that is effective and sustainable. In the due course, KMC has also been working on strengthening Public Private Partnerships for SWM services.</li> </ul>
<b>New collection and transportation system ordered by the Government</b>	<ul style="list-style-type: none"> <li>- Since the night time collection started, people have had to face problems on bringing their waste out due to lack of proper lighting.</li> <li>- In the notice provided by KMC, it has not specified where exactly waste to be disposed.. →KMC; Because if people is allowed to throw waste at a particular place, people might keep throwing waste outside. The notice requests people to give their waste to the collectors in their area.</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>- KMC has been spreading insecticides on waste in order to control flies and insects. Will it not affect the biodiversity in the area? →KMC; KMC has been using two types of chemicals, EM and Novak. Among the two, use of Novak in excessive amounts may cause negative impacts.</li> <li>- Some CBOs request to support land for composting. →KMC; KMC's policy is to support the various private sector organizations involved in SWM. However, at this point, providing funds and land is not considered.</li> </ul>

#### ■ LSMC

After focal points presented 1)Current situation of SWM in Lalitpur, 2) Community based composting activities, and 3)Transfer station and landfill site situation, participants discussed mainly new collection and transportation system ordered by the Government as follows.

**Table 4.3 Discussed Items at 4th Public Hearing of LSMC**

Topics	Discussed Items
<b>Community based composting PLP</b>	<ul style="list-style-type: none"> <li>- If waste minimization is the priority, compost bins should be made available covering a much wider area and not just the few wards involved in the current pilot project.</li> </ul>
<b>Transfer Station</b>	<ul style="list-style-type: none"> <li>- Plenty of land which could be used as a transfer station is available in Wards 1, 2, 10, 22 and Sundarighat. →LSMC; LSMC has started to identify potential sites for a transfer station, one of the candidate sites is Ophadol (across from Turibuvan University).</li> </ul>
<b>New system ordered by government</b>	<ul style="list-style-type: none"> <li>- If waste collection is to start at night, basic infrastructure like installation of lights at appropriate places and filling up potholes on the road are essential.</li> <li>- Collecting waste at night and early morning is likely to make lots of noise.</li> <li>- As the Government order does not specify the exact timings for private organizations to operate, various organizations are confusing. Therefore, all organizations involved and LSMC should discuss how the collection should proceed so as to convince the community members on the new rule.</li> <li>- It is not clear that who is responsible for collecting the penalty fees for disobeying the orders issued by LSMC. Instead of penalizing, it is more effective to reward people who provide information on those who fail to follow rules.</li> <li>- If each ward is given vehicles for waste collection, each ward could fix their own routes and make the service more efficient. →LSMC; LSMC will inform its residents of the new rules on SWM through mike announcement and flyer distribution. Because LSMC has not been clear about the details of how waste collection would proceed, after a week for checking, a meeting should be held to discuss problems or planning among all organizations involved.</li> </ul>

## ■ MTM

The 4th Public Hearing started with inauguration of a hoarding board which has been placed on the Nagadesh Ward Office Building. After that, focal Point presented 1) CKV related community activities, and 2) Collection and transportation pilot project, and 3) Lessons learned from Country Focused Training in Japan. Some comments not only for proposed pilot projects but also for current problems faced were collected as follows.

**Table 4.4 Discussed Items at 4th Public Hearing of MTM**

Topics	Discussed Items
<b>Collection and Transportation system</b>	<ul style="list-style-type: none"> <li>- Discussions with local community members in the candidate transfer site should be done soon.</li> <li>- If the waste is removed regularly so as to minimize bad smell in the transfer site, local community objections are likely to be minimal.</li> </ul>
<b>Mass Communication / Education</b>	<ul style="list-style-type: none"> <li>- A speech contest by students on environment/SWM can be organized as one of the activities.</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>- Although the number of sweepers is very small, a more productive work style can lead to better results in SWM. It is better to have local residents as sweepers as they are likely to care more about their local area.</li> <li>- It is imperative to have all three compost chambers running if MTM wants to minimize waste.</li> </ul>

## ■ KRM

Following the explanation about background of the CKV study and current situation of SWM, 1) current progress of pilot projects focused on plastic separation project and 2) Report on Country Focused Training in Japan were presented by each focal point. During discussion session, the following comments were collected from participants.

**Table 4.5 Discussed Items at 4th Public Hearing of MTM**

Topics	Discussed Items
<b>Plastic separation activity/</b>	<ul style="list-style-type: none"> <li>- There are different types of concepts such as 3R, 4R and even 5R. How relevant are these concepts in the context of Nepal?</li> <li>- It is necessary to consider that some people at the target area would ask for more plastic bags from shops so that they can sell it.</li> <li>- KRM should start to collect plastics from the target area immediately because the residents have filled up their suiro with plastics.</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>- Unique Group currently collects waste after 8 p.m. Two major problems that have arisen as a consequence are that 1) the waste left outside the houses to be picked up are dispersed by stray dogs and 2) waste on vehicles is scattered along the way. It is necessary to make clear responsibility for dispersed waste and monitoring of such activities.</li> <li>- Has the municipality considered involved in additional organizations in SWM of KRM? The competition is effective for better services.</li> </ul>

### 4.3 Feedback and Suggestions

Though municipalities couldn't hold the 4th P/Hs on a large scale because of political situation, as a whole, they held smoothly by themselves. Feedback and suggestions for the 4th P/Hs from the JICA Study Team are discussed below:

**Table 4.5 Feedbacks and Suggestions for 4th Public Hearings**

<b>Municipality</b>	<b>Feedback</b>	<b>Suggestion for Further Improvement</b>
<b>KMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Good facilitation and management.</li> <li>- Active discussion was developed.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Presentation materials were well presented.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Many questions and complains including for night collection systems were observed.</li> <li>- KMC responded well and carefully to each raised questions.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- To consider more variety of participants to be invited should be better for more meaningful P/H.</li> </ul>
<b>LSMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time management, participation rate was poor.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- It was good to provide handout of presentation materials but those were poorly visible.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Almost all comments were regarded for government decision about night collection so it was difficult for LSMC to explain LSMC's strategy for that at the moment.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Time management should be needed by facilitator.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- To explain pilot project more methodically with overall or structure should be easily understandable.</li> </ul> <p><b>Discussion</b></p>
<b>MTM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Presentation was good.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- All the presentations were good and well covered on SWM.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Only few people participated in the discussion.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- P/H should be invited on more participation from different NGOs/CBOs and wards.</li> <li>- More cooperation among municipal staff should be needed for management of the P/H.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Having maps, figures etc might help the participants to follow the details (eg, collection route)</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Making an effort to moderate the discussions so that more participants get to speak might be necessary</li> </ul>
<b>KRM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- It was good to invite target group members of the Pilot Project.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- It was nice to have pictures of the participants on some of the slides.</li> <li>- Country focused training were also explained by trainee.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Good comments for sustainability of the project were addressed and discussed.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Sitting arrangement in the room could be made such that the slides/presentation is visible to more people.</li> <li>- Variety of stakeholders should be attended.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Slides prepared in Nepali language might make it easier for people to follow</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Providing paper to note down comments might allow more voices to be heard</li> </ul>

Source: JICA Study Team

## 5. Fifth Public Hearings

### 5.1 Outline

The fifth Public Hearing (5th P/H) was held in each of the four Municipalities in July to August, 2005 with the following objectives;

- To brief about the results of final evaluation of Pilot Projects (in some municipalities, the progress of Pilot Projects) and overall CKV Study activities such as 4th seminar, etc.
- To share the lessons learned from Pilot Projects and the summary of Action Plan for SWM
- To collect recommendations for effective SWM through the discussions among the participants in order to finalize the Action Plan for SWM

The focal points of each pilot project and Task Forth members organized and facilitated the P/H at each municipality as follows.

**Table 5.1 Date, Participants and Discussion Items of the 5th P/H**

Municipality	Date/Time/Venue	Participants	Discussion Items
KMC	August 4, 2005 10:30-13:00 KMC Office in Sundhara	70 participants NGOs/ CBOs, Ward representatives, University, Scrap dealers, Journalists, Media	The main Pilot Projects explained were 1) Operation of Sisdol S/T-LF, 2) Waste minimization at local level and 3) Mass communication. During the discussion session, various questions including the problem of current collection system, PPP policy, Medical waste management after full operation of Sisdol were asked by participants.
BKM	July 6, 2005 13:00-16:00 Arniko Meeting Hall	70 participants CEO, Local people from Tathali <sup>1</sup> , Local Development Officer, Nature Club members, University, NGOs/ CBOs, etc.	After TWG members explained five different Pilot Projects briefly by using slides, Nature Club members presented their activities. During discussion, local people from Tathali expressed their opposition to Taikabu LFS and request BKM staff to visit the site and then discuss.
MTM	July 12, 2005 11:00-14:00 Ward Office	17 participants Local community, NGOs/ CBOs	TWG members presented 1) Collection and transportation activities, 2) Mass communication activities and 3) Contents of Action Plan on SWM. Main topics for discussion is collection and transportation activities and its sustainability.
KRM	July 8, 2005 8:00-10:00 KRM Office	15 participants NGOs/ CBOs, Youth groups from target area of plastic separation project, Journalists	After the Focal Point explained the Pilot Project of plastic separation and contents of Action Plan, participant discussed mainly possibility of expansion of target area and how to sustain the project with lack of human resource in KRM.

Note: LSMC couldn't hold 5th P/H because of unavoidable circumstances

Source: JICA Study Team

### 5.2 Summary of Discussions in each Municipality

The results of discussion in each 5th P/H are summarized below.

## ■ KMC

The main projects presented were 1) Mass Communication/ Education Pilot Project, 2) Local Level Waste Minimization Pilot Project, and 3) Collection and Transportation to Sisdol LF. During discussion session, the following comments were collected from participants.

**Table 5.2 Discussed Items at 5th Public Hearing of KMC**

Topics	Discussed Items
<b>Collection and transportation</b>	- Some are collecting waste at night but some are collecting in day time, so there should be proper monitoring. →KMC; The new collection system was just introduced so there may be many mistake but KMC would gradually tackle the problem.
<b>Waste Minimization</b>	- Recycling product and reusable things should be used in municipality office also.
<b>Sisdol Landfill Site</b>	- What about medical waste as Sisdol is not for it? →KMC; After October KMC will not collect the medical waste from hospital with municipal waste. Government should also join a discussion about this matter with municipalities.
<b>Public-Private Partnership</b>	- As 35 % of waste is collecting by private sector, what is the PPP policy? →KMC; The PPP procedure book which was developed under the Study would be distributed to the required organization.
<b>Others</b>	- Why a TV program Ankkur (Environment Program produced by KMC/CMU) is stopped? →KMC is now discussing this matter in order to continue the program.

## ■ BKM

TWG members presented all Pilot Projects implemented in BKM including 1) Source-separated Collection, 2) Waste Minimization activities, 3) Mass Communication and Education, 4) Interpersonal Communication and Education, and 5) Final disposal issues. BKM modified the presentation materials of the 4th Seminar in Nepalese instead of English in order to let participants understood easily. Following the presentation, Local professor of Khowpa Engineering College made a speech about SWM technology. In addition, two members of Nature Clubs made a speech about their present activities and future plan on SWM.

In the 5th P/H, BKM invited local people of Tathali VDCs, in which Taikabu candidate LFS is located, in order to make a chance to face each other and let them know about BKM's activities on SWM. In this connection, there were a lot of comments and questions about final disposal in BKM.

## ■ MTM

The main topics presented by TWG members were 1) Collection and Transportation Pilot Project and 2) revised Action Plan by using the slides.

At the discussion session, the participants were interested in the Collection and Transportation Project because it was first time for MTM to introduce the system. However, because MTM collected the waste by rental truck, the participants were concerned about sustainability of the project. MTM explained that MTM would continue to rental the vehicle until the vehicle procured by JICA would arrive.

## ■ KRM

Following welcome speech of CEO of the municipality, Plastic Separation Pilot Project and revised Action Plan and Annual Work Plan of FY2005/06 (2052/53) were presented.

After the presentation of the municipality staff, a discussion program started with the following topics:

- The main concern of the local people is about extension of the plastic collection program on whole municipal area.
- It was requested to the municipal staff as well as to the local community to make a sustainable program so that it can run smoothly after the Study.
- In order to involve community member, there should be some provision of the income generation to the people for their livelihood.
- There should be more awareness related program so that people will collect the plastic and bring to the storage house.
- Some NGO requested to consider municipality role of collection and transportation. Because it would be difficult for NGO to transport the waste to Teku T/S without any help from the municipality.

## 5.3 Feedback and Suggestions

As a whole, in addition that the municipalities hold smoothly the 5th P/Hs, the presentation about the result of Pilot Projects by the municipality staff were comprehensible by using slides. It can be said that they became used to having a presentation to the people through the Study. Feedback and suggestions for the 5th PHs from the JICA Study Team are discussed below:

**Table 5.3 Feedbacks and Suggestions for 5th Public Hearings**

Municipality	Feedback	Suggestion for Further Improvement
<b>KMC</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Active participation</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- KMC responded well with regards to questions raised on KMC practices.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- It must be more effective to use slide at presentation.</li> </ul>
<b>BKM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Well prepared verbal presentation.</li> <li>- Active participation and discussion was developed</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- It was good to use the presentation materials by Nepalese.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The discussion were focused on the opposition to the Taikabu.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Arranging for and setting up necessary equipment (computer/ plugging cords etc) well before the start time will facilitate a smooth start.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- It should be managed so that other participants can have questions and pass comments instead of the opposition of Taikabu.</li> </ul>

Municipality	Feedback	Suggestion for Further Improvement
<b>MTM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Effective comments were collected through the discussion.</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- All the presentations were good and comprehensible.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- Local people were active in participation to the discussion of the Pilot Project and Action Plan.</li> <li>- The answers from TWG members were clear.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Participation of more local people would be efficient.</li> <li>- It would be more efficient to invite other municipality staff and CEO.</li> </ul>
<b>KRM</b>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Few participation</li> </ul> <p><b>Presentation</b></p> <ul style="list-style-type: none"> <li>- Good presentation</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- The discussion session was too short; Very few participants could provide their comments.</li> </ul>	<p><b>General</b></p> <ul style="list-style-type: none"> <li>- Participation of more local people would be efficient.</li> </ul> <p><b>Discussion</b></p> <ul style="list-style-type: none"> <li>- To put more time for discussion is needed to collect effective opinions from different kind of participants.</li> </ul>

Source: JICA Study Team



## **5. *CKV Newsletters***



# CKV NEWSLETTER

No. 1  
March, 2004



## Clean Kathmandu Valley Study - Sapha Sahar Hamro Raha-

### Launching the Study on Solid Waste Management for the Kathmandu Valley

The Kathmandu Valley faces great challenges in solid waste management (SWM) including not only management system in terms of collection and transfer, final disposal site but also public awareness of the people. In order to improve the current situations, His Majesty's Government of Nepal (HMGN) and the Government of Japan have decided to carry out a joint study under the technical assistance of Japan International Cooperation Agency (JICA). The study, namely the CKV Study, commenced in January 2004 (Magh 2063/61) and will run for a total of 18 months.

#### Objectives

One of the objectives of the CKV Study is to formulate Action Plans (AP) on SWM up to 2015 (2071/72) for each of the five municipalities in the Kathmandu Valley, namely Kathmandu Metropolitan City (KMC), Lalitpur Sub-Metropolitan City (LSMC), Bhaktapur Municipality, Kirtipur Municipality and Madhyapur Thimi Municipality. During the formulation processes for respective AP, the study also aims to enhance SWM capacities of each city as well as encourage public relation.



Over looking practices in the river

#### Study Phases



The study comprises the following phases:

#### Organization of the CKV Study

Technical Working Group (TWG) has been established from members of each city and Solid Waste Management Resource Mobilization Center (SWMRMC) to implement this CKV study with the nine Japanese Study Team members. A Task Force (TF) has been also established in each city, as shown in the study organization figure. T/F members will take the initiative not only to formulate the Action Plans on SWM for each city but also to promote the partnership among the stakeholders by collaborating together and sharing experiences and views in order to tackle various SWM issues.

#### Ownership of each city stressed in the minutes

Ministry of Local Development particularly stressed in the minutes. Members of Advisory Committee from Japan also attended this meeting. The Study Team signed the minutes of meeting for discussions on the Inception Report for the Study and other related issues at MOLD on January 28th, 2004. Nepalese ownership of preparation of the Draft Action Plans and its finalization was



#### Message from the chairperson of TWG

This is clearly the genuine wish and emotional intention of all the people in the Kathmandu Valley that HMGN and the five municipalities will come up with a sustainable solution to the solid waste management problem at the earliest possible with the based on a visionary and implementable CKV Action Plan being prepared by the renowned experts from the JICA Study Team led by Mr. Ujio and fully supported by counterpart personnel.



#### Do you know the situation of the Bagmati River?

Where is your garbage finally disposed? - It is most likely being disposed at the open dumping site located along the holy Bagmati river. Most of solid waste generated from KMC, LSMC and Kirtipur Municipality has been dumped here since 2000. It includes not only organic materials from household but also paper, plastic as well as some medical and industrial wastes, accounting for approximately 250 - 300 t per day. Although after disposal, soil is covered over the solid waste, there is no control system of leachate (polluted water from solid waste), which directly contaminates the river and gives off a bad odor to nearby residential area. Considering these negative impacts, the CKV Study intends to recommend that all concerned municipalities stop dumping along the river as soon as possible, and to promote a series of discussions regarding new landfill sites among the stakeholders. Waste from Bhaktapur Municipality is found no better being dumped at the Hanumanthe Holy river.



Cow scavenging for food



Waste picker collecting recyclable materials from the garbage piles.

#### Message from the Team leader

Namaste! It is a great honor for us to conduct the CKV study and to launch the premiere issue. This newsletter is aimed for making more information available to the stakeholders about this 18 months study. Your constructive comments are very welcome. We are looking forward to taking steps with the Nepalese people for "Sapha Sahar Hamro Raha!"



#### 1st and 2nd Technical Working Group Meetings held

The first TWG meeting was held on February 7 to discuss an "Umbrella Concept", or an overall direction on SWM in the Kathmandu Valley as a prerequisite condition for formulating the Draft Action Plan of each city. The Umbrella Concept includes (1) Environmental protection of the Kathmandu Valley, (2) Sharing of the responsibilities for site allocation, construction and operation and post closure care, (3) Pooling of technical skills and their development, and (4) Unified stand to understand and address public concerns. The current situation on SWM in each city and facility planning within the Umbrella Concept including the site selection criteria and the sanitary landfill system were discussed among the TWG members. Also the acronym and the slogan of this study which are the key to promoting public relations were discussed. When many acronyms were proposed by the TWG members, the members were very excited. These were to be finally determined on the 2nd TWG meeting. During the CKV Study, the TWG meetings will be held regularly to discuss various aspects on SWM including the Action Plans and the pilot projects and other concerns among the TWG members.



#### Training Needs Analysis for each City and SWMRMC/MOLD

What is the priority of human resource development (HRD) regarding SWM in your organization? - Such Training Needs Analysis (TNA) is the main tool for identifying core areas for capacity building, and developing HRD strategies for five municipalities and SWMRMC under the CKV Study.

As the first step, a one day TNA workshop was held in each city, where the T/F members were encouraged by a facilitator from the CKV Study team to analyze the actual problems of SWM and to address the strategic areas for capacity building. During the brain storming session, lack of strategic planning or management system was found as



one of the major problems common to all municipalities. The development of SWM facility and the improvement of collection system, and HRD were identified as high priority areas among the participants of the workshop. Following the workshop, the questionnaire of TNA was distributed to relevant T/F members. Based on these questionnaires, the individual interview is being carried out to identify the gaps in required skills and knowledge on SWM. These results will be incorporated into HRD Program in the Draft Action Plans.

#### Coming Soon

On the website of MOLD, CKV Study is preparing to set up its webpage in the near future. Our website will cover the ongoings of the CKV Study. We look forward to your visit and valuable comments.



#### Visit the CKV Study office!

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# CKV NEWSLETTER

No. 2  
May, 2004

Clean Kathmandu Valley Study - Sapha Sahar Hano Sahar-



"Not only Municipality but also we need to take responsibility on SWM" -1st PH

As one of the Public Participation Programs of the CKV Study, the 1st Public Hearing (PH) was held in each of the five Municipalities i.e. Kirtipur, Thimi, Bhaktapur, KMC, and LSMC in the beginning of March. Task Force (TF) Members of each Municipality organized and facilitated this PH, in which relevant NGOs as well as CBOs, ward chairpersons, intellectuals, journalists, relevant HMG officials and private sectors were invited, to discuss the current problems and to explore possible solutions regarding Solid Waste Management (SWM) of their own Municipality.



The results of heated discussion was preserved by the participant.

During the discussion session, the problems related to the inefficient solid waste management system of the Municipality such as no sanitary disposal site and irregular collection services were pointed out by participants. In addition, the problems related to the actions of community and city dwellers were identified. They included the inappropriate disposal practices including open dumping, the lack of knowledge and the negative attitude of involvement on SWM. Based on the discussions, the participants identified feasible solutions such as the promotion of community-based SWM activities at the "Tola" levels in collaboration with NGOs/CBOs and the enforcement of rules and regulations by Municipality. After the 1st PH, "Not only Municipality but also we need to take responsibility regarding SWM" was heard from many participants.

Discussion Items	
Kirtipur -March 5 Thimi -March 5 Bhaktapur -March 7	Participants divided into three groups discussed the problems, causes, solutions for each issue. Life style in use (a lot of plastic bags was also addressed as one of the causes). Each participant addressed his/her opinions. Not only about effective composting system but also the necessity of mobilization of local community groups was discussed. Participants decided into three groups by topic also discussed. Distance representative, recycle and reusing, and public involvement. One of the key issue is dissemination of information on SWM activities.
KMC -March 11	Participants categorized the problems into six namely, 1) awareness, 2) management, 3) financial, 4) recycling and composting, 5) privatization, 6) role and regulation. Many solutions including awareness campaign or punishment systems were suggested.
LSMC -March 14	Participants categorized four issues namely, 1) awareness, 2) management, 3) recycling and composting, and 4) public involvement. One of the causes of all problems is lack of awareness or education.

### On Going Field Surveys

To grasp the current situation, the Study Team is now carrying out a series of field surveys, that are, 1) Waste Quantity and Quality, 2) Time and Motion of waste collection, 3) Recycling Market, and 4) Interview and Questionnaire on SWM practices of Households, Establishments and NGOs/CBOs. The results of these surveys will be used to formulate Action Plan for each city.



What kinds of waste do we storeage ?

### Message from the TWG member from KMC

The Solid Waste Management Component of the JICA focuses on preparing a SWM action plan and providing technical assistance to strengthen KMC's solid waste management section. In Nepal, however, experience shows that plans and master plans are often formulated with technical assistance from donor agencies, but they are rarely implemented because of the lack of funds, commitment, technical expertise and in some cases political commitment. In the case of Kathmandu, the political leadership has shown strong commitment as well as staffs of KMC for improving the SWM system to ensure that an efficient and sustainable SWM system is established in Kathmandu. Implementation of the SWM action plan is thus an important area where assistance from JICA is greatly appreciated.



Participants actively discussed the current problems on SWM.

### Do you know what kinds of "Composting" activities are being done in the Valley?

Compost is a soil conditioner, which can be made from fermentation of the organic materials including kitchen garbage. Through composting, we can recycle these organic wastes, which comprise around 70 % of the generated municipal solid waste, and reduce waste to go to Bagmati dumping site or Hanumanste dumping site. Presently, we can observe various activities for composting mainly by three methods; 1) Home composting by compost bins, which has been promoted by not only Municipality but also many NGOs/CBOs or Youth Clubs, 2) Community composting by vessel or pit, which has been managed by community level, and 3) Compost plant by yard piles, which is operated by Bhaktapur Municipality by collecting waste from households separately. Each household can manage to make compost and use it at their own garden or farm, so let's try to make compost at your home and realize "Sapha Sahar"!!!

Message from the Facility Plan Specialist of JICA Study Team



In planning solid waste management facilities we often come across the two acronyms; NIMBY and NIMTOO. "Not too many of us want to have a facility built 'in my backyard' and likewise too often those of us who are politicians do 'not' want to take the sensitive decisions to build these facilities 'in my term of office'. Let's work together to reduce and recycle our waste and to transparently plan and build only those environmentally friendly facilities necessary to clean up our valley and save rivers both Bagmati and Hanumanste.



1) Home Composting in KMC 2) Community Composting in LSMC 3) Compost Plant in Bhaktapur

### Stakeholders Gathering to Attend the 1st Seminar

The 1st Seminar of the CKV Study was held successfully on March 19th, 2004, in which almost one hundred stakeholders from many kinds of organizations including government organizations, donors, NGOs, CBOs, and private sectors, participated.

The seminar started with open remarks from the secretary of Ministry of Local Development (MOLD) and the resident representative of JICA Nepal Office. Following the introduction and explanation of the outline of the CKV Study from the members of Study Team, the TWG members from each city made presentations regarding the current situation of solid waste management and summarized the results of the 1st Public Hearing. The SWMRMC also presented their roles and activities.

During the discussion session, a variety of questions and opinions were exchanged among the participants. For example, it was suggested that environmental education be carried out in order to increase the level of understanding of SWM among children and youth. There were also some comments about waste pickers and the final disposal site. These comments and opinions will be taken into consideration to formulate the Action Plans.



### Action Plan up to 2015

What our city needs to do in solid waste management for achieving "Sapha Sahar" (Clean City in Nepal) up to the year 2015:-

Each TIF established in each city under the CKV Study is now in the process of formulating the draft Action Plan, which is expected to pave the way for realizing effective solid waste management. By grasping the current situation and projecting the future framework including population and land use, each TIF tries to set a vision and target. The target, which is required to be represented in a form of objectively verifiable indicators such as the collection ratio, the recycling, composting ratio, etc. will be set at short-term (2005-2007), mid-term (2008-2010) and long-term (2011-2015). Likewise the strategies and necessary activities will be decided for these three terms. The draft Action Plan is scheduled to be formed in June this year.

### Contents of the Action Plan II

1. Current Situations
2. Vision and Target
3. Approach and Strategy
4. Necessary Activities
5. Implementation Plan (Priority Project)
6. Monitoring plan of achievement level

### Click here !!!

To provide you with more details about our CKV Study at any time, CKV Study has set up its webpage. We look forward to your visits and valuable comments!!!

<http://www.mld.gov.np/swm/ckv/index.html>

### Visit the CKV Study office

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# CKV NEWSLETTER

No. 3  
August, 2004

Clean Kathmandu Valley Study - Sapha Sahar Hamro Khatra



## Solid Waste from KMC and LSMC Going to Sisdoi

Where will your waste in Kathmandu Metropolitan City (KMC) and Lalitpur Sub-Metropolitan City (LSMC) be transported for final disposal after closing the present Bagmati River dumping site? Solid Waste Management Resource Mobilization Center (SWMRMC), KMC and LSMC finally decided in April, 2004 to go to Sisdoi, which is located at Okharipauwa as we can see on the following map, as a short-term landfill site.



1) Necessity for closure of Bagmati River dumping site and preparation of the next final disposal site: Solid waste dumped at the Bagmati River by KMC and LSMC, which started south of Teku in 2000, has gradually moved downstream and the river width gradually became narrow these days. If we consider the capacity assuming a daily waste volume of 9000m<sup>3</sup> and encroachment on the river channel as well as critical environmental/social problems, the Bagmati River dumping site should be closed as soon as possible. So SWMRMC, KMC and LSMC discussed the ways to establish a short-term landfill site to use for a few years in order both to immediately close the Bagmati River dumping site and provide time to develop a long-term landfill site. Within the few conceivable candidate sites for short-term, the CKV Study, based on a technical and environmental comparative analysis and development period, suggested that Sisdoi is the most recommendable for KMC and LSMC. Finally SWMRMC, KMC and LSMC agreed to transport the waste to Sisdoi short-term landfill site.

Current appearance of Sisdoi Short-term Landfill Site

## 2) Development of Sisdoi short-term landfill site as semi-aerobic system

The JICA Study Team suggested that "semi-aerobic system" should be adopted to Sisdoi short-term landfill site. "Semi-aerobic system" may not be familiar to you. In short, this system is environmental friendly system which has the advantage of reducing leachate intensity, reducing methane gas generation and rapid stabilization of the disposed of waste with cost effective technology and simple construction and operation. A series of surveys were started on July, 2004 with support by JICA Study Team.

## 3) Operation and Maintenance

One of the most serious problems to operate the distant Sisdoi landfill, around 27 km from Teku transfer station, is the transportation cost of the waste from KMC and LSMC which will multiply several times more than the present cost. Last April, a working group was established by SWMRMC, KMC and LSMC in order to discuss how to operate and maintain Sisdoi landfill site including cost sharing and clarification of responsibilities. More detailed discussions on these issues as well as establishment of a waste minimization facility and planning for development of the long-term landfill are expected to continue.



Location of Sisdoi Short-term Landfill Site

## Draft Action Plan was formulated

Each five municipality in the Kathmandu Valley prepared the Draft Action Plan (DIAP) in May, 2004. For the formulation of the DIAP, Technical Working Group (TWG) held a series of meetings to discuss solid waste management issues including umbrella concept of the Kathmandu Valley with support from the JICA Study Team. As receiving the suggestions, each municipality had several meetings with Task Force members to discuss their own action plan. A series of TWG meetings (the results of Pilot Projects in April, 2005.



A series of TWG meetings (the results of Pilot Projects in April, 2005.

## Do you know "Bell Collection System", one of the most effective collection system?

"Buuuuu" When a siren is heard from the waste collection truck, people in the surroundings come out from their house to discharge the waste directly on to the truck. While the truck stands there for five to twenty minutes, forty to hundred people bring the waste. We can see these scene at old Patan area and also Ward 28 in Kathmandu in the morning. It is often called "Bell Collection System". In some areas, where bell collection is conducted quite well, there are no waste filtering around the collection point. Don't you think it is quite comfortable?

This bell collection system was started more than ten years ago in LSMC, when the people at Paulchok, who are aware to be clean their surroundings, requested municipality on their own initiative. But still in some other area, we can see the problem of the system that is lack of people's cooperation. We should understand that this system cannot be successful without people's behavior change from throwing away our waste



anywhere anytime. LSMC staff stressed that one of the key issue to succeed is "community's pressure". Shall we request to introduce bell collection system with cooperation of our community and support from municipal-ly and discharge our waste when we can hear "Buuuuu"?

Message from the JICA Study Team in charge at Collection & Transportation



Remember from the famous speech with your permission,

I have a dream that one day on the bank of Bagmati River, the children of yours will be able to play and pray in the water.

I have a dream that all your children will one day live in a valley where all garbage generated will be collected and disposed or recycled appropriately.

This is our hope. This is the Action Plan that you go forward to the future with.

And if Kathmandu is to be a clean valley, this must become true. So let recycling ring from the hilltops of Swayambunath! Let collecting ring from the zaveras of Bhatsumall! Let transporting ring from the living place to suitable disposal site!

When you let it ring from every place in the valley, you will be able to spread up that day when all of residents, municipalities and politicians will be able to join hands and give the words of CKV "Sapha Sahar Hamro Kathra".

## Challenges for Attitude/Behavior Changes

### -3-day Training

"People do not consider waste as resources." "People still dump waste in open places" - There are many undesired attitudes and behaviors in terms of Solid Waste Management (SWM) identified during the 3-day training regarding "Interpersonal Communication and Behavior Change Communication (BCC)". It was organized by the CKV Study in July 2004, targeting municipality staffs. The training covered the concept, roles of interpersonal communication, planning of BCC strategy and development of messages for effective SWM.



We can easily understand from role playing

Not only receiving the lecture, they also had group discussions and role plays. In the last session, the participants were divided into each municipality and discussed their plan of BCC strategy.

## Mascot for CKV is in the Kathmandu Valley soon!

By selecting from a number of fantastic ideas proposed by local NGOs/BOCs/clubs, residents, city volunteers and artists and staffs in five municipalities, the CKV Study is going to introduce its "Mascot" in August. Don't miss it!

## Visit the CKV Study Team Office

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Pilot Projects	Major Activities
Improvement of Collection and Transportation	- Pilot practice of solid waste collection at solid areas - Preparation of practical guidelines for utilizing private sectors for SWM - Training for cleaning and DSM of transfer station (Tribal Transfer Station)
Promotion of Waste Minimization	- Planning of a waste minimization facility - Minimization of local level waste minimization activities
Improvement of Final Disposal Planning and Operation	- Training of planning for final disposal - Semi-aerobic sanitary landfilling (Sisdoi Short-term Landfill Site)
Public Awareness and Behavior Change Communication / Education	- Capacity building for community mobilization among relevant staffs - Mass communication and education - Interpersonal communication and education
Improvement of SWM Capacity	- Action plan operational management training - Municipal level SWM technical training - National level SWM technical training

