

3.4 Middlemen Survey

3.4.1 Survey Sheet

Middlemen and Micro-industries Recycling Survey

Interviewer:		Date:	
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General Information:

Name of Interviewee:	
Position of Interviewee:	
Name of Business:	
Address/location:	
No of Years of Operation:	

Nature of Business:

a) What are the main activities of your business?

Recycling Activities Collection Details

3.1 What materials do you recycle and in what condition? *(please circle the materials recycled and their condition in the table below)*

Materials	Condition				
	Plastics	Mixed, unwashed	Sorted, unwashed	Sorted, clean	Other
Polythene	Mixed, unwashed	Sorted, unwashed	Sorted, clean	Other	
Bags	Polysacks	Flour bags	Poultry feed bags	Sugar bags	Other
Paper	Old newspapers	Old exercise books	White paper	Cardboard/boxes	Other
Glass	Whole Arrack bottles	Whole beer bottles	Other whole bottles/jars	Broken bottles	Other
Metals	Aluminium	Beer cans	Copper/brass	Ferrous	Other
Tyres	Small			Large	
Other	Old battery cases (washed, cleaned)		Wood		Other

Please describe what "other" means below:

.....

.....

- 3.2 Who collects these recyclable materials for you? (tick one or more and describe the type of wastes to which they apply)
- | | Tick | Waste Types |
|--|------|-------------|
| (a) Individuals | [] | |
| (b) You and/or some of your workers | [] | |
| (c) LA/private contractor garbage collection labourers | [] | |
| (d) Community groups/non-governmental organizations | [] | |
| (e) Middlemen | [] | |
| (f) Other – describe: | [] | |

- 3.3 What are the main sources these recyclable materials come from? (fill in the table with the materials you recycle, the main sources and the approximate percentages from these sources if you know them)

Materials	Main sources			
	First	Second	Third	Others
e.g. Cardboard	C (75%)	M (15%)	Ht (5%)	S, GO (5%)

Use the following codes:

H	Households	Ht	Hotels	Hp	Hospitals
C	Commercial enterprises (e.g. shops, banks, etc.)	GO	Government offices	I	Industries
M	Markets	S	Schools	O	Other

Please describe what "other" means below:

.....

- 3.4 Where do these recyclable materials come from and what is the approximate percentage of materials collected from each area?
- | | Tick | % |
|---|------|-----|
| (a) Within Urban/Municipal Council Area | [] | [] |
| (b) Within District | [] | [] |
| (c) Within Province | [] | [] |
| (d) Other Areas – describe: | [] | [] |

3.5 Fill in the table below with the following information:

- (a) On average, how many units (kg, items, etc.) of these recyclable materials do you collect per month?
- (b) How much do you pay for such materials per unit (Rs/kg, Rs/item, etc.)?
- (c) Is your demand for these materials stable?
- (d) Is the supply greater than or less than your demand?

Please add any relevant comments on demand/supply issues for these materials below the table.

Material	Quantity	Price paid	Total payment (Rs/mth)	Demand stable	Supply vs. demand
<i>e.g. Clean, sorted plastics</i>	<i>80kg/mth</i>	<i>5Rs/kg</i>	<i>400 Rs</i>	<i>Yes</i>	<i>Greater</i>
Total payment					

Comments:.....
.....

Worker Details

In the table below, indicate the number of full-time and part-time workers, including yourself, and in each case, the average number of hours worked per week and days worked per month on the recycling activities carried out by your business.

Table 2 : WorkerDetails

Workers	No	Hrs worked per wk on recycling activities	Days worked per month on recycling activities
Manager/owner			
Full-time worker			
Part-time worker			

Recycling Activities Processing/Sales Details (fill in Table 3 with answers)

5.1 What do you do with these materials? (tick one or more and describe the types of waste to which they apply)

- | | Tick | Waste Types |
|--|------|-------------|
| (a) Transport directly to factories | [] | |
| (b) Pre-process (e.g. sort, wash, dry) and transport to factories | [] | |
| (c) Process (e.g. grind, pelletise, etc.) and transport to factories | [] | |
| (d) Use as raw materials for making other products | [] | |
| (e) Other – describe: | [] | |

5.2 If you ticked (d) in Q5.1, what products do you make from these materials?

.....
.....

5.3 Who do you sell these materials and/or the products you make from them to? Where relevant (e.g. commercial, industrial), specify the name, location and how far away are these places are located.

Customers	Materials sold	Name	Location	Distance (km)
Individuals				
Commercial enterprises (e.g. shops, markets)				
Tourists				
Factories for further processing				
Other				

Please describe what "other" means:

.....

Fill in the table below with the following information:

- (a) How many units (kg, items) of these materials and/or products do you sell per month?
- (b) How much do you sell these materials and/or the products you make from them for?
- (c) Is the demand for any products you make from these materials small, medium or large?

Material	Quantity	Sales Price	Income (Rs/mth)	Demand
<i>e.g. Plastic pellets</i>	<i>50kg/mth</i>	<i>40Rs/kg</i>	<i>2,000</i>	<i>Medium</i>
Total income:				

Comments:.....

.....

What is your average expenditure and income per month from these recycling activities:

Average operating expenses = Rs/mth
 Average income = Rs/mth
 Net income = Rs/mth

What are the main costs incurred by your business in these recycling activities?; and what is the approximate percentage total costs in each category? (*tick all that apply and estimate the approximate percentages of the five main types. If you do not know this, just rank the five main types, 1 = highest, 2 = 2nd highest, etc.*) Tick % or rank

- (a) Buying the recyclable materials [] []
- (b) Storage prior to transportation [] []
- (c) Transportation [] []
- (d) Labour [] []
- (e) Other raw materials (e.g. chemicals, additives) [] []
- (f) Utilities (electricity, water, telephone, etc.) [] []
- (g) Land/building rental [] []

- | | | |
|-----------------------------|-----|-----|
| (h) Machinery maintenance | [] | [] |
| (i) Other – describe: | [] | [] |

Other Information

How much waste do you produce from your recycling activities per month?

Answer: kg/mth

What do you do with the waste from your recycling activities? (*tick one or more*)

- | | |
|---|-----|
| (a) All waste is recycled | [] |
| (b) Collection by LA/private contractor | [] |
| (c) Bury/burn on property | [] |
| (d) Other - describe: | [] |

What are the main issues/problems facing your recycling activities? (*tick all that apply and rank up to the five most serious problems, 1 = worst, 2 = 2nd worst, etc.*)

	<i>Tick</i>	<i>Rank</i>
(a) Shortage of recyclable materials	[]	[]
(b) Contamination/poor quality of recyclable materials	[]	[]
(c) High land/building rental costs	[]	[]
(d) Excessive transportation costs	[]	[]
(e) Unstable demand for recyclable materials and/or products	[]	[]
(f) Utilities problems (e.g. electricity cuts, no water, etc.)	[]	[]
(g) Loss of market (e.g. collapse of tourism)	[]	[]
(h) Difficulties in obtaining credit	[]	[]
(i) Other - describe:	[]	[]

Comment on what could be done to help solve these problems/issues?

.....

Any other comments/useful information?

.....

Notes for interviewer:

1. Check that quantities collected for recycling tally with quantities sold on to others, where relevant.
2. Check that costs and income tally with quantities and indicated sales prices.

3.4.2 Result 1

Middlemen						3.1																		
ID No	Business name	Owner/Manager	Address/location	Opn Yrs	Main activities	Plastics					Polythene				Bags			Paper						
						MU	SU	CS	Oth	Tot	MU	SU	CS	Tot	PS	FB	SB	Tot	NP	EB	CB	Oth	Tot	
MM1	Weerasiri Stores	HR Kaldera	168, Periyarmulla, Negombo	5	Buying/selling recycled goods											Y	Y	Y	Y	Y				Y
MM2	Rasic Stores	Rasic	218 Alawaththa Rd, Negombo	10	Buying/selling recycled goods														Y	Y				Y
MM3	Tushana Traders	FM Fonseka	18/2 St Joseph St, Negombo	8	Buying/selling recycled goods	Y				Y									Y	Y				Y
MM4	V Sandanam	V Sandanam	10 Visgiri Pl, Negombo	3	Buying/selling recycled goods														Y	Y				Y
MM5	T Thirumani	T Thirumani	10 Regina Rd, Negombo	3	Buying/selling recycled goods														Y	Y	Y			Y
MM7	Quick Search	G Mohandas	Aluth Kurana Pitipana, Negombo	7	Buying/selling recycled goods			Y		Y		Y	Y			Y	Y	Y	Y	Y	Y			Y
MM8	Murugan Stores	A Chandrakala	45A St Joseph St, Negombo	9	Buying/selling recycled goods	Y				Y									Y	Y				Y
MM9	Chandrika Stores	M Unnadure	729 Colombo Rd, Kurana, Negombo	10	Buying/selling recycled goods											Y	Y	Y	Y	Y	Y	Y	Y	Y
MM10	Raja Stores	AA Raja	220/1 Halawatha Rd, Kotuwa	NA	Buying/selling recycled goods																			
MM11	Salaman Raja	S Raja	2 Sisira Building, Daluwa Kotuwa, Koch.	15	Buying/selling recycled goods																			
MM12	Jeasuwardian	Jeasuwardian	180 Halawatha Rd, Koch.	3	Buying/selling old metals/batteries																			
MM13	Ananda Kumara	A Kumara	153 Halawatha Rd, Manaweriya, Koch.	4	Buying/selling recycled goods	Y				Y													Y	Y
Total			Total number of middlemen surveyed	12	No	3	0	1	0	4	1	0	1	1	0	3	3	3	9	7	4	1	9	

Notes:

1. Cells containing formulae shaded in light blue - do not use.
2. NA = no answer; IR = irrelevant

Recycling Factory

Middlemen						3.1																			
ID No	Business name	Owner/Manager	Address/location	Opn Yrs	Main activities	Plastics					Polythene				Bags			Paper							
						MU	SU	CS	Oth	Tot	MU	SU	CS	Tot	PS	FB	SB	Tot	NP	EB	CB	Oth	Tot		
MM6	Speed Pallets	S Fernando	50 Archbishop Nicholas Markus Mw. N	1	Plastic flakes/pellets manufacture	Y	Y	Y	Y	Y	Y	Y	Y	Y											

ID No	3.2 Collectors													3.3 Main sources																													
	Glass					Metals				Tyres			Other			Pl	Po	Ba	Pa	Gl	Me	Oth	Tot	Plastic (%)					Polythene (%)														
	Arr	BB	BJ	Br	Oth	Tot	Al	BC	CB	Fe	Tot	Sm	Lg	Tot	Ba									Oth	Tot	H	Ht	Hp	C	I	O	H	Ht	Hp	I	O							
MM1	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM2	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM3	Y	Y	Y	Y		Y	Y	Y	Y	Y		Y	Y						A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C		5	50	0	0	45	0												
MM4	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM5	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM7	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A,B,E	A,B,E	A,B,E	A,B,E	A,B,E	A,B,E		70	0	0	0	0	30		10	0	0	90	0						
MM8	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A		10	80	0	10	0	0												
MM9						Y	Y	Y	Y	Y				Y	Y	Y						A,F	A,F	A,F																			
MM10	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM11	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y			A	A	A	A	A	A																			
MM12	Y	Y	Y	Y		Y	Y	Y	Y	Y				Y	Y	Y						A,E	A	A,E																			
MM13						Y	Y	Y	Y	Y				Y	Y	Y						E	E	E																			
Total		9	9	9	9	0	10	11	9	11	12	12	0	1	1	12	0	12								21	33	0	28	11	7.5	10	0	0	90	0							
															Count										Avg																		
															A	3	1	3	8	9	11	11	11	Sum = 100										Sum = 100									
															B	2	1	1	2	2	2	2	2	3.3 Other is mainly service stations																			
															C	1	0	0	1	1	1	1	1																				
															D	0	0	0	0	0	0	0	0																				
															E	2	1	1	1	2	3	2	3																				
															F	0	0	0	0	0	1	1	1																				

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ID No	3.2 Collectors													3.3 Main sources																										
	Glass					Metals				Tyres			Other			Pl	Po	Ba	Pa	Gl	Me	Oth	Tot	Plastic (%)					Polythene (%)											
	Arr	BB	BJ	Br	Oth	Tot	Al	BC	CB	Fe	Tot	Sm	Lg	Tot	Ba									Oth	Tot	H	Ht	Hp	C	I	O	H	C	Hp	I	O				
MM6																			A,C,E,F	A,C,E,F					A,C,E,F	7	6.5	40	40	6.5	7.5	40	6.5	40	6.5					

ID No	Bags (%)				Paper/cardboard (%)								Broken Glass (%)					Glass - bottles (%)					Metals (%)					Batteries					3.4 Collection Area (%)						
	H	Ht	O	C	H	Ht	Hp	C	Go	S	I	O	H	Ht	Hp	C	I	O	H	Ht	Hp	C	I	O	H	Ht	Hp	C	I	O	H	Hp	I	C	O	Prop (%)	A	B	C
MM1	0	0	0	100	80	0	0	20	0	0	0	0	0	0	0	0	0	60	24	8	8	0	0	60	20	0	0	70	30	4.9	100%								
MM2					90	0	0	10	0	0	0	0	80	10	10			80	10	10			20		60	20	80		20	18.3	80%	20%							
MM3					80	0	0	0	7.5	5	0	7.5	30			70		30	23		47		70		23	60	10		90	9.3	70%	10%	10%	10%					
MM4					100													100					70	100					100	1.4	100%								
MM5					95	0	0	5	0	0	0	100						100					70	61			39	50	50	2.8	100%								
MM7	20	0	0	80	31.4	0	0	0	0	8.57	52	8.57	30	70				30	70				29	0.6		50	20	30	40	47.1	70%	20%	10%						
MM8					86.7	0	0	6.7	0	0	0	6.7	60				40	60	40				48			52	30	70	4.5	60%	30%	10%							
MM9																							39		53	8	100		1.2	60%	5%			35%					
MM10	2	0	78	20	30	0	0	0	0	0	0	70	50	30		20		50	30		20		70			30	100	3.0	60%	40%									
MM11													20	80				20	80				60		40			70	2.0	80%	20%								
MM12																							37		7	56		100	3.7	10%	30%	40%	20%						
MM13								100					100										100				100		1.8	10%	10%	20%	60%						
Total	7	0	26	67	74	0	0	18	1	2	7	13	59	48	16	45	40	54	38	9	25	70	53	10	38	40	33	67	Avg	71%	18%	8%	3%						
	18	0	5.1	78	51	0	0	13	0	4	24	8	61	31	4	2	0	2	63	27	6	2	0	2	55	1	0	7	22	15	50	0	15	3	32				
Sum =	100				Sum =	100						Sum =	100					Sum =	100				Sum =	100				Surr	100										

Qty's of different materials collected by different middlemen used in calculating weighted average sources (%) in Q3.3

	Pl		Bg	Glass			Me	Batt
	All	Po		P/C	Br	Bo		
MM1	0	0	400	1100	0	670	670	1830
MM2	0	0	0	1100	1500	16000	16000	3450
MM3	200	0	100	50	600	600	350	100
MM4	0	0	0	250	0	900	900	800
MM5	0	0	0	280	350	300	300	4605
MM7	325	2000	2800	3500	1000	5600	5600	10040
MM8	56	0	0	150	200	900	900	0
MM9	0	0	0	0	0	0	0	2410
MM10	0	0	225	350	300	500	500	2650
MM11	0	0	0	0	400	440	440	1160
MM12	0	0	0	0	0	0	0	2650
MM13	12	0	0	800	300	0	0	8000
Total	593	2000	3425	7430	4100	25910	25910	37945

Must adjust this table after entering data to eliminate any values for which there is NA in Q3.3 - do manually
Adjusted cells shaded in orange

"Prop" column lists prop'n of materials collected from different sources, as calculated in purchases sheet - used for calculating weighted avg in Q3.4

3.4
MM12 - if have order, they go and buy
MM13 is wholesaler

ID No	Bags (%)				Paper/cardboard (%)								Broken Glass (%)					Glass - bottles (%)					Metals (%)					Batteries					3.4 Collection Area (%)						
	H	Ht	O	C	H	Ht	Hp	C	Go	S	I	O	H	Ht	Hp	C	I	O	H	Ht	Hp	C	I	O	H	Ht	Hp	C	I	O	H	Hp	I	C	O	Prop (%)	A	B	C
MM6																																							

4. Worker details										5.1 Processing							5.2 5.3 Customers									
ID No	Manager/owner			Full-time workers			Part-time workers			Total H/mth	Equiv FT	PI	Po	Ba	Pa	Gl	Me	Oth	Products	PI	Po	Ba	Pa	Gl	Me	Oth
	No	Hr/wk	d/mth	No	Hr/wk	d/mth	No	Hr/wk	d/mth																	
MM1	1	75	30	0	var	25	10		357	1.7			NA	C	A,B	A	NA				Ce	In	In,Ce	In,Ce,F		
MM2	1	56	30	8	320	20	0		1154	5.5				C	B	A,C						In	In	F	In,Ce	
MM3	1	49	30	0			4.5		210	1.0	R/WS			R/WS	R/WS	A	R/WS		In			In	In	In	In,F	
MM4	1	72	26	0			0		267	1.3				R	R	WS	R					In	In	Ce	In	
MM5	3	168	30	0			2	10	727	3.5				R/WS	R/WS	R/WS	R/WS					In,WS	In,WS	In,WS	In,WS	
MM7	1	65	28	1	65	28	3	10	524	2.5	R/WS	R/WS	R/WS	R/WS	R/WS	R/WS	R/WS		In	In	In			Ce		
MM8	1	60	28	1	70	28	0		520	2.5	In/WS			In/WS	In/WS	In/WS	In/WS		NA			NA	NA	In/Oth	NA	
MM9	1	14.5	27	1	52	27	0		257	1.2						R/WS	R/WS					In, Oth	In, Oth	In, Oth	In, Oth	NA
MM10	1	60	28	0			0		240	1.2				R/WS	R/WS	R/WS	R/WS						In, Oth	In, Oth	In, Oth	In, Oth
MM11	1	75	28	0			0		300	1.4				R/WS	R/WS	R/WS	R/WS						In, Oth	In, Oth	In, Oth	In, Oth
MM12	3	144	26	0			1	3	536	2.6				A	A	WS	WS		In			In	In	Oth	Oth	
MM13	1	20	15	0			0		43	0.2	A					A	A							Ce,F	In	
Total	16			11			8		5135	24.7																

Assume Equiv FT works 208 h/mth in private sector (8h/d x 26d/mth)

MM5: assume 5days/mth based on 10h/wk
var = variable
MM3: 4-5hr/wk (PT)

	R	WS	A	B	C	D	E	NA	IR	Sum
R = retail	2	1	2	5	6	5	7			28
WS = wholesale	3	1	2	5	6	5	6			29
A	1	0	0	1	2	4	1			9
B	0	0	0	0	2	0	0			2
C	0	0	0	2	0	1	0			3
D	0	0	0	0	0	0	0			0
E	0	0	0	0	0	0	0			0
NA	0	0	1	0	0	0	1			2
IR	0	0	0	0	0	0	0			0
Sum	4	1	4	9	13	21	10			62

5.1
MM5,9 - 70% retail, 30% wholesale
MM8 - mainly wholesale; some retail
MM10 - 65% retail, 35% wholesale
MM11 - 80% retail, 20% wholesale

Use "In" for individuals
Other - mainly wholesale

4. Worker details										5.1 Processing							5.2 5.3 Customers									
ID No	Manager/owner			Full-time workers			Part-time workers			Total H/mth	Equiv FT	PI	Po	Ba	Pa	Gl	Me	Oth	Products	PI	Po	Ba	Pa	Gl	Me	Oth
	No	Hr/wk	d/mth	No	Hr/wk	d/mth	No	Hr/wk	d/mth																	
MM6	2	112	28	16	768	26	0		3361	15.9	C	C							In	F	In	F				

MM6 : mgr/owner - 1 @84h/wk; other @ 28h/wk; tot = 112
Manager owner: 1 @26d/mth, 1 @30d/mth; avg = 28

ID No	Name, location, distance (km)	5.5 Profit			Exp and income checked			5.6 Main Costs								
		Expenditure	Income	Net income	Recycl Payments	Recycl Sales	Net income	A	B	C	D	E	F	G	H	I
MM1	Raja Traders (Paliyagoda); other places (Col, Neg); Bhuwaika Madamp	NA	NA		40788	48874	8086	1		3	2					
MM2	Rohini Stores (Negombo), other places (Moratuwa, Colombo)	270000	130000	-140000	161800	247120	85520	1			2			3	2	
MM3	Bhuwaika, Madampe (26km)	90000	100000	10000	62046	76175	14129	1		2	4			3		5
MM4	MM in Munnakkare (0.5km)	30000	35000	5000	28193	28670	2477	1					3	2		
MM5		60000	70000	10000	75311	98214	20903	1		3					2	
MM7	Anthony's Metals, Wattala (25km)	100000	115000	15000	277020	345703	68683	1		4	4			2	3	
MM8	Ranjit (Colombo)	40000	55000	15000	42942	52120	9178	1		4	5			3	2	
MM9		75000	85000	10000	65500	76100	10600	1		2	5			3		4
MM10		20000	25000	5000	23361	27761	4400	1		4				3	2	
MM11		30000	40000	10000	34003	39339	5336	1		4					2	
MM12	Colombo (46km)	50000	60000	10000	50400	56000	5600	1		3				2	4	
MM13	Bhuwaika Factory, Madampe (24km)	28000	35000	7000	31130	38340	7210	1							2	
Total		Total 793000	NA	NA	890252	1132415	242123									

From recyclables purchases and sales data

From comparison of recyclables and purchases data, suspect data identified (shaded in orange)

Rank	A	B	C	D	E	F	G	H	I
1	2.5	12	0	0	0	0	0	0	0
2	2	0	0	2	2	0	3	6	0
3	1.5	0	0	3	0	1	5	1	0
4	1	0	0	4	2	0	0	1	1
5	0.5	0	0	0	2	0	0	0	0
Sum		12	0	9	6	1	6	8	1
Wt avg		30.0	0.0	12.5	7.0	1.5	13.5	14.5	1.0

5.6
MM3 - pay to brokers

ID No	Name, location, distance (km)	5.5 Profit			Exp and income checked			5.6 Main Costs								
		Expenditure	Income	Net income	Recycl Payments	Recycl Sales	Net income	A	B	C	D	E	F	G	H	I
MM6	Pellets - Mr Justin (Negombo), Rodrigo & Sons (Moratuwa, 55km); Kings Plastic (Negombo; 1.5km)	540000	800000	260000	269625	693750	424125	1				2		3		4

ID No	6.1	6.2	6.3									6.4 & 6.5
	Qty (kg/mth)	Action	Main problems									
			A	B	C	D	E	F	G	H	I	
MM1	160	C	1	2	5	4	3					Want legal protection (not police), low interest loan
MM2	3000	B,C	4	2	5		1	3				Get help from NMC
MM3	6	D	4			3		1		5	2	Low interest loan
MM4	5	D										
MM5	5	D			1					2	3	Low interest loan
MM7	15	C	1		4					2	3	money, vehicle problem
MM8	300	D	2		4	3		1		5		Low interest loan
MM9	30	D	1		2	3			4			Open buying centre or foreign market
MM10	30	D	2		3		5		4		1	Want monetary aids or loan
MM11	25	C	1		2			3				Low interest loan, monetary facilities or aids
MM12	30	D	1			3			2			Low interest loan or aids
MM13	15	D	4		1			3	2			If buying centre opened in Negombo, can supply
Total:												

	Rank	A	B	C	D	E	F	G	H	I
1	2.5	5	0	2	0	1	2	0	0	1
2	2	2	2	2	0	0	0	2	2	1
3	1.5	0	0	1	4	1	3	0	0	2
4	1	3	0	2	1	0	0	2	0	0
5	0.5	0	0	2	0	1	0	0	2	0
Sum	10	10	2	9	5	3	5	4	4	4
Wt avg	19.5	4.0	13.6	7.0	4.5	8.5	6.0	5.0	7.5	

6.2 6.3
MM3, 4: MM3 - political problem
NMC collect MM6 - bank interest

ID No	6.1	6.2	6.3									6.4 & 6.5	
	Qty (kg/mth)	Action	Main problems										Comments on what could be done to help solve these problems + Other
			A	B	C	D	E	F	G	H	I		
MM6	150	C										1	Less local govt support; public awareness (start schools); prices sometimes poor

3.4.3 Result 2

Section		1		3.1		3.5																										
ID No	Business name	Code	Plastics						Polythene						Bags						Newspaper											
			Qty	Unit	Price	Unit	Total	Dem	SvD	Code	Qty	Unit	Price	Unit	Total	Dem	SvD	Code	Qty	Unit	Price	Unit	Total	Dem	SvD							
MM1	Weerasini Stores					0												FN,SB	400	bags	4	ea	1600	N	=	1100	kg	15	/kg	16500	Y	=
MM2	Rasic Stores					0																				1100	kg	15	/kg	16500	Y	=
MM3	Tushana Traders	MU	200	cans	165	ea	33000	Y	>																	75	kg	14	/kg	1050	Y	>
MM4	U Sandanam					0																				150	kg	20	/kg	3000	Y	=
MM5	T Thirumani					0																				60	kg	15	/kg	900	Av	>
MM7	Quick Search	S	100	chairs	100	ea	10000	Y	>	MU	1000	kg	1.5	/kg	1500	Y	>	FB,SB	2800	bags	5	ea	14000	Y	>	500	kg	15	/kg	7500	Y	>
		MU	225	kg	4		900	Y	>	SC	1000	kg	5	/kg	5000	Y	>															
MM8	Murugan Stores	SC	56	cans	9.64	ea	538.84	N	<																	100	kg	15	/kg	1500	Y	>
MM9	Chandrika Stores					0																										
MM10	Raja Stores					0												FB,SB,oth	225	bags	1.05	ea	236.3	N	<	25	kg	8	/kg	200	N	<
MM11	Salaman Raja					0																										
MM12	Jesuwardian					0																										
MM13	Ananda Kumara	SC	12	cans	40	ea	480	Y	>																	100	kg	13	/kg	1300	N	<
	Total		225	kg			44920	Rs			2000	kg		/kg	6500	Rs																
			268	Cont.																												
			100	chairs																												

MM7 - 100 chairs + 200kg

MM7 - purchases = 200; sales = 250, changed to 225

MM1 buy=1000,sell=1200 - use 1100

MM2:buy=200;sell=500-use 350

Notes:

1. Blue shaded cell indicates no quantity or cost information given (NA inserted in units column rather than qty column, as the latter upsets the spreadsheet calculations)
2. Green shaded cell indicates data that has been modified so that sales and purchases figures are consistent.
3. NA = no answer
4. Non-whole number prices obtained as average of several different kinds of the same item being sold for different prices
Details are on survey sheets

Section		1		3.1		3.5																										
ID No	Business name	Code	Plastics						Polythene						Bags						Newspaper											
			Qty	Unit	Price	Unit	Total	Dem	SvD	Code	Qty	Unit	Price	Unit	Total	Dem	SvD	Code	Qty	Unit	Price	Unit	Total	Dem	SvD							
MM6	Speed Pallets	SC	3750	kg	20		75000	Y	L																							
		M	11250	kg	13		146250	Y	L																							

MM6 - 10-30Rs/kg; 10-15Rs/kg

Section																										Total quantities				Actual	Prop'n of total (%)				
Metals - copper/brass									Metals - Aluminium						Beer cans						Batteries					Cont-ainers	Bottles	Bags	Kg			Payments (Rs)			
ID No	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD							
MM1	50	kg	70	/kg	3500	Y	>	80	kg	60	/kg	4800	Y	>	100	kg	25	/kg	2500	Y	>	100	kg	10	/kg	1000	Y	>	0	0	0	0	40786	=	4.9
MM2	500	kg	80	/kg	40000	Y	=	980	kg	60	/kg	57000	Y	>	100	kg	25	/kg	2500	Y	>	100	kg	10	/kg	1000	Y	>	0	16000	0	6350	161000	=	18.3
MM3	150	kg	80	/kg	12000	Y	>	100	kg	60	/kg	6000	Y	>	100	kg	25	/kg	2500	Y	>	100	kg	10	/kg	1000	Y	>	200	600	0	630	62046	>	9.3
MM4	50	kg	90	/kg	4500	Y	=	150	kg	65	/kg	9750	Y	=	100	kg	25	/kg	2500	Y	>	100	kg	10	/kg	1000	Y	>	0	900	0	1125	26193	=	1.4
MM5	400	kg	80	/kg	32000	Y	>	200	kg	60	/kg	12000	Y	>	5	kg	20	/kg	100	Y	>	400	kg	10	/kg	4000	Y	>	0	300	0	5835	75311	=	2.8
MM7	1000	kg	80	/kg	80000	Y	>	840	kg	60	/kg	50400	Y	>	200	kg	35	/kg	7000	Y	>	2240	kg	8	/kg	17920	Y	>	325	5900	2800	17005	277020	=	47.1
MM8	110	kg	80	/kg	8800	Y	>	250	kg	60	/kg	15000	Y	>	50	kg	25	/kg	1250	Y	>	100	kg	9	/kg	900	Y	>	56	900	0	2686	42042	=	4.8
MM9	450	kg	90	/kg	40500	Y	>	200	kg	65	/kg	13000	Y	>	100	kg	25	/kg	2500	Y	>	100	kg	8	/kg	800	Y	>	0	0	0	2750	65500	=	1.2
MM10	100	kg	80	/kg	8000	Y	>	50	kg	60	/kg	3000	Y	>	10	kg	20	/kg	200	N	<	80	kg	10	/kg	800	Y	>	0	500	225	1890	23561	=	3.0
MM11	40	kg	85	/kg	3400	Y	>	100	kg	65	/kg	6500	Y	>	10	kg	25	/kg	250	Y	>	500	kg	9.5	/kg	4750	Y	>	0	440	0	3550	34003	=	2.0
MM12				/kg	0						/kg	0						/kg	0									0	0	0	8300	50400	=	3.7	
MM13	100	kg	85	/kg	8500	Y	>	50	kg	60	/kg	3000	Y	>				/kg	0			200	kg	10	/kg	2000	Y	>	12	0	0	3250	31130	=	1.9
	2950	kg			241200	Rs		2970	kg			180450	Rs		375	kg			11200			4555	kg			34970			588	25910	3425	56405	890292	=	100.0

MM1: buy=40; sell=60-use 50

MM1: buy=60; sell=100 - use 80

MM2: buy=900; sell=1000 - use 950

MM1: buy=200; sell=120 - use 160

MM2: buy=100; sell=500-use 300

1. "Actual" column advises whether actual payments will be higher based on whether or not complete information was supplied.
2. Proportion column calculates the proportion of total materials collected by different enterprises as (no of containers/total containers + no of bottles/total bottles + no of bags/total bags + kg/total kg)/4 * 100% - used in general spreadsheet
3. Items = containers, chairs - see plastics column for details
4. MM3 also pays 5000 Rs/mth for tyres
Added to above total

Section																										Total quantities				Actual	Prop'n of total (%)				
Metals - copper/brass									Metals - Aluminium						Beer cans						Batteries					Cont-ainers	Bottles	Bags	Kg			Payments (Rs)			
ID No	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD	Qty	Unit	Price	Unit	Total	Dem	SvD							
MM6				/kg	0						/kg	0						/kg	0						/kg	0				0	0	6750	129000	=	3.0
				/kg	0						/kg	0						/kg	0						/kg	0				0	0	11250	140625	=	5.0

3.4.4 Result 3

		1		3.1		5.4		Plastics				Polythene				Various bags				Newspaper				Qty				
ID No	Business name	Code	Qty	Unit	Price	Unit	Total	Dem	Code	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty
MM1	Weerasiri Stores						0				kg		/kg	0		400	Bags	4	ea	1600	M	1100	kg	18	/kg	19800	M	
MM2	Rasic Stores						0				kg		/kg	0			Bags	4	ea	0		350	kg	20	/kg	7000	H	750
MM3	Tushana Traders	MU	200	Cont	189	ea	37750	H			kg		/kg	0			Bags	1	ea	0		75	kg	15	/kg	1125	H	25
MM4	U Sandanam						0				kg		/kg	0			Bags	1	ea	0		150	kg	22	/kg	3300	H	100
MM5	T Thirumeni						0				kg		/kg	0			Bags	1	ea	0		60	kg	20	/kg	1200		150
MM7	Quick Search	SC	100	chairs	150	ea	15000	M	MU,SC	2000	kg	7	/kg	14000	M	2800	Bags	6	ea	16800	M	500	kg	20	/kg	10000	M	1000
							225				kg		/kg	0			Bags	1	ea	0			kg		/kg	0		
MM8	Munugan Stores	SC	56	Cont	16.4	ea	920	M			kg		/kg	0			Bags	1	ea	0		100	kg	25	/kg	2500	M	50
MM9	Chandrika Stores						0				kg		/kg	0			Bags	1	ea	0			kg		/kg	0		
MM10	Raja Stores						0				kg		/kg	0		225	Bags	1.67	ea	375.8	L	25	kg	9	/kg	225	H	25
MM11	Salaman Raja						0				kg		/kg	0			Bags	1	ea	0			kg		/kg	0		
MM12	Jeasuwardian						0				kg		/kg	0			Bags	1	ea	0			kg		/kg	0		
MM13	Ananda Kumara	SC	12	Cont	45	ea	540	H			kg		/kg	0			Bags	1	ea	0		100	kg	17	/kg	1700	L	
	Total		300	Cont			56235	Rs		2000	kg		/kg	14000	Rs	3425	bags		ea	16776	Rs	2480	kg		/kg	46850	Rs	2100

MM7: buy=200;sell=250; use 225

MM1:buy=1000,sell=1200-use 1100

MM2: t

MM2:buy=200;sell=500-use 350

Notes:

- Blue shaded cell indicates no quantity or cost information given (NA inserted in units column rather than qty column, as the latter upsets the spreadsheet calculations)
- Green shaded cell indicates data that has been modified so that sales and purchases figures are consistent.
- NA = no answer
- Non-whole number prices obtained as average of 5.4 Large container: 6 @ 70Rs ea; small container: 50 @10Rs ea
e.g. MM8 - Q5.4 - large container - 6 @70Rs ea; small container - 50 @10Rs ea.
Details are on survey sheets
- Demand - H = high, M = medium, L = low

		1		3.1		5.4		Plastics				Polythene				Various bags				Newspaper				Qty				
ID No	Business name	Code	Qty	Unit	Price	Unit	Total	Dem	Code	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty
MM6	Speed Pallets	crush	4500	kg	37.5	/kg	168750	M-H			kg		/kg	0			Bags	1	ea	0			kg		/kg	0		
		pellet	10500	kg	50	/kg	525000	M-H			kg		/kg	0			Bags	1	ea	0			kg		/kg	0		

Average sales quantity = 10-11T/mth pellets and 4-5T/mth crush

Average sales price = 35-40Rs/kg for crush and 45-55Rs/kg for pellets.

ID No	Paper - exercise books					Cardboard					Broken glass					Glass - Arrack/beer/other bottles						Metals - ferrous									
	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Code	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty
MM1	kg		/kg	0				/kg	0			kg		/kg	0		Arr,BB,oth	670	Bott	6.14	ea	4113.8	M	1700	kg	7	/kg	11900	M	60	
MM2	kg	8	/kg	6000	H			/kg	0		1500	kg	2	/kg	3000	H	Arr,BB,oth	18000	Bott	5.97	ea	95520	H,H,M	2000	kg	9	/kg	18000	L	500	
MM3	kg	10	/kg	250	Me			/kg	0		50	kg	3	/kg	150	H	Arr,BB,oth	600	Bott	4.5	ea	2700	H		kg		/kg	0		150	
MM4	kg	7	/kg	700	Me			/kg	0			kg		/kg	0		Arr,BB,oth	900	Bott	4.55	ea	4095	H,H,M	600	kg	7.5	/kg	4500	H	50	
MM5	kg	12	/kg	1800		70		4.5	/kg	315		350	kg	1.5	/kg	525		Arr,BB,oth	300	Bott	4.83	ea	1449		4000	kg	8.5	/kg	34000		400
MM7	kg	6	/kg	6000	L	2000		3.5	/kg	7000	M	1000	kg	1.75	/kg	1750	L	Arr,BB,oth	5600	Bott	4.38	ea	24528	M,M,L	8000	kg	8	/kg	64000	L	1000
MM8	kg	10	/kg	500	L			/kg	0		200	kg	2.5	/kg	500	M	Arr,BB,oth	900	Bott	4.5	ea	4050	H,H,L	2000	kg	7	/kg	14000	H	110	
MM9	kg		/kg	0				/kg	0			kg		/kg	0									2000	kg	8	/kg	16000	M	450	
MM10	kg	6	/kg	150	L	300		5	/kg	1500	H	300	kg	2.5	/kg	750	M	Arr,BB,oth	500	Bott	5.6	ea	2800	H,H,L	1000	kg	8	/kg	8000	H	100
MM11	kg		/kg	0				/kg	0			400	kg	2	/kg	800	H	Arr,BB,oth	440	Bott	2.93	ea	1289.2	H,H,L	2500	kg	8	/kg	20000	H	40
MM12	kg		/kg	0				/kg	0				kg		/kg	0								8000	kg	7	/kg	56000	H		
MM13	kg		/kg	0		500		4	/kg	2000	L	300	kg	3	/kg	900	M							2000	kg	8.75	/kg	17500	H	100	
	kg		/kg	15400	Rs	2870			/kg	10815	Rs	4100	kg		/kg	8375	Rs		25910	Bott		ea	140545	Rs	33800	kg		/kg	263900	Rs	2950

MM2:buy=2000;sell=1000-use 1500

Note: sales prices are average for different bottles (individual quantities in survey forms)
MM1:buy=440;sell=900; use 670
MM2:buy=15000;sell=17000-use 16000

No data for MM2 and MM3
MM1:buy=400;sell=3000-use 1700
No data for MM3

MM1:

3-43

ID No	Paper - exercise books					Cardboard					Broken glass					Glass - Arrack/beer/other bottles						Metals - ferrous									
	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Code	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty
MM6	kg		/kg	0				/kg	0			kg		/kg	0										kg		/kg	0			

Cardboard is being stockpiled

ID No	Metals - copper/brass					Metals - Beer cans					Metals - Aluminium					Batteries					Total quantities				Actual				
	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Containers		Bottles	Bags	Kg	Sales (Rs)
MM1	kg	90	/kg	4500	H		kg		/kg	0		80	kg	70	/kg	5600	H	100	kg	8.5	/kg	1300	M	0	870	400	3090	48874	=
MM2	kg	95	/kg	47500	H		kg		/kg	0		950	kg	70	/kg	66500	H	300	kg	12	/kg	3600	H	0	16000	0	6350	247120	=
MM3	kg	100	/kg	15000	M	100	kg	30	/kg	3000	H	100	kg	70	/kg	7000	M	100	kg	12	/kg	1200	H	200	800	0	800	76175	>
MM4	kg	95	/kg	4750	H		kg		/kg	0		150	kg	70	/kg	10500	H	75	kg	11	/kg	825	M	0	900	0	1125	28670	=
MM5	kg	95	/kg	38000		5	kg	25	/kg	125		200	kg	70	/kg	14000		400	kg	12	/kg	4800		0	300	0	5635	98214	=
MM7	kg	95	/kg	95000	M	200	kg	42	/kg	8400	M	840	kg	70	/kg	58800	M	2240	kg	10	/kg	22400	M	325	5600	2800	19005	345703	=
MM8	kg	90	/kg	9900	H	50	kg	25	/kg	1250	H	250	kg	70	/kg	17500	H	100	kg	10	/kg	1000	H	50	900	0	2660	52120	=
MM9	kg	100	/kg	45000	H		kg		/kg	0		200	kg	70	/kg	14000	H	100	kg	11	/kg	1100	H	0	0	0	2750	76100	=
MM10	kg	90	/kg	9000	M	10	kg	25	/kg	250	M	50	kg	75	/kg	3750	M	80	kg	12	/kg	960	M	0	500	225	1690	27761	=
MM11	kg	97.5	/kg	3900	H	10	kg	35	/kg	350	M	100	kg	75	/kg	7500	H	500	kg	11	/kg	5500	H	0	440	0	3550	39339	=
MM12							kg		/kg	0			kg		/kg	0		300	kg	9	/kg		M	0	0	0	8300	56000	=
MM13	kg	100	/kg	10000	Me		kg		/kg	0		50	kg	70	/kg	3500	M	200	kg	11	/kg	2200	M	12	0	0	3250	38340	=
	kg		/kg	262550	Rs	375				13375		2970	kg		/kg	208650	Rs	4555	kg		/kg	44945	Rs	593	25910	3425	58405	1132415	

MM1: buy=60; sell=100 - use 80
MM2: buy=900; sell=1000 - use 950

MM1: buy=200; sell=120 - use 160
MM2: buy=100; sell=500 - use 300

Notes:
1. MM3: sales price for tyres = 8000
Added to above total (but quantity not known)

3-44

ID No	Metals - copper/brass					Metals - Beer cans					Metals - Aluminium					Batteries					Total quantities				Actual					
	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Qty	Unit	Price	Unit	Total	Dem	Containers		Bottles	Bags	Kg	Sales (Rs)	
MM6	kg		/kg	0			kg		/kg	0			kg		/kg	0			kg		/kg	0			0	0	0	4500	168750	=
	kg		/kg	0			kg		/kg	0			kg		/kg	0			kg		/kg	0			0	0	0	10500	525000	=

3.4.5 Data summary for graphs

Q3.3

	Main sources (%)							Metals	Batteries
	Plastic	Polythene Bags	Paper/card	Broken gla	Glass bottl				
Households	41.0	10.0	16.5	51.2	63	62.7	55.0	50.4	
Hotels	24.4	0.0	0.0	0.0	27	26.8	1.1	0.0	
Hospitals	0.0	0.0	0.0	0.0	6	6.4	0.0	0.0	
Commercial	3.0	0.0	78.4	12.8	2	1.7	7.2	3.3	
Schools	0.0	0.0	0.0	4.1	0	0.0	0.0	0.0	
Industries	15.2	90.0	0.0	24.5	0	0.0	21.8	14.8	
Other	16.4	0.0	5.1	7.6	2	2.4	15.0	31.6	
	100.0	100.0	100.0	100.2	100	100.0	100.0	100.0	

Q5.6

	Rank	1	2	3	4	5	Wt avg
A Purchases	1	0	0	0	0	0	30
B Storage	12	0	0	0	0	0	0
C T ransportation	0	0	3	0	4	0	12.5
D Labour	0	0	2	0	2	2	7
E Other raw materials	0	0	0	1	0	0	1.5
F Utilities	0	0	3	5	0	0	13.5
G Land/building rental	0	0	6	1	1	0	14.6
H Machinery maintenance	0	0	0	0	1	0	1
I Other	0	0	0	1	0	1	2
Sum	12	13	11	8	3	82	

Q6.3

	Rank	1	2	3	4	5	Wt avg
A Shortage of recyclables	1	5	2	0	3	0	19.5
B Recyclables contaminatio	0	0	2	0	0	0	4
C High land/building rental c	2	2	2	1	2	2	13.5
D Excessive transportation d	0	0	0	4	1	0	7
E Unstable demand	1	1	0	1	0	1	4.5
F Utilities	2	0	0	3	0	0	9.5
G Loss of market	0	0	2	0	2	0	6
H Obtaining credit	0	1	2	0	0	2	5
I Other	1	1	1	2	0	0	7.5
Sum	11	11	11	8	5	76.5	

		Percentages of total qty of recycables									Tot	Notes
		H	Ht	Hp	C	M	S	GO	I	O		
	PI	41	24	0	3	0	0	0	15	16	100	
	Po	10	0	0	0	0	0	0	90	0	100	
	Bg	16.5	0	0	78.4	0	0	0	0	5.124	100	
	P/C	51	0	0	13	0	4	0	24	8	100	
	Br	61	31	4	2	0	0	0	0	2	100	
	Bot	63	27	6	2	0	0	0	0	2	100	
	Me	55	1	0	7	0	0	0	22	15	100	
	Ba	50	0	0	3	0	0	0	15	32	100	
Tot (kg)		Actual quantity from different sources										
225	PI	92	55	0	7	0	0	0	34	37	225	1
2000	Po	200	0	0	0	0	0	0	1800	0	2000	
343	Bg	56	0	0	269	0	0	0	0	18	343	2
7430	P/C	3794	0	0	952	0	304	0	1817	562	7430	
4100	Br	2515	1260	150	95	0	0	0	0	80	4100	
17101	Bot	10718	4587	1092	287	0	0	0	0	416	17100	3
40095	Me	22036	450	0	2874	0	0	0	8736	5998	40094	
4555	Ba	2294	0	0	150	0	0	0	672	1439	4555	
75848	Tot	41707	6352	1242	4633	0	304	0	13059	8549	75847	
Adjust Tot1		45183	6882	1346	5019	0	330	0	14147	9262	82168	4
Location factor		76	100	75	90	100	100	100	25	80	71	
Adjust Tot2		34252	6882	1009	4517	0	330	0	3537	7409	57936	5
Qty	kg/d	1126	226	33	149	0	11	0	116	244	1905	
Notes:	%	59.1	11.9	1.7	7.8	0.0	0.6	0.0	6.1	12.8	100.0	

1. PI quantity specified here omits containers/chairs which are reused rather than recycled
2. One bag weighs 0.1 kg
3. One bottle weighs 0.66 kg (avg weight of 10 beer and arrack bottles) - assume same source distribution for bottles and broken glass.
4. Adj1 - adjust total to a/c for a total of 13 middlemen in Negombo with only 12 being surveyed
5. Adj2 - adjust Adj1 to a/c for 71 % of materials collected in NMA (assume applies to all categories)
 - a. Assume 100 % for M, S and GO - no impact as qtls from these sources are zero or relatively small.
 - b. Assume 75 % for Hp - qty seems too large to just come from Negombo hospitals
 - c. Assume 90 % for Ht, as many large hotels in and near Negombo
 - d. Assume 25 % for I as Negombo is close to Katunayake Free trade zone and Ekela Industrial zone
 - e. Assume 90 % for C - as active commercial sector
 - f. Assume 80 % for O - mainly garages
- f. Get household total by difference= 76 % or 34252 kg/mth

3.5 Compost Barrel Survey

Findings from Negombo - Compost Barrel Survey

A questionnaire survey was conducted among 80 households who either received or bought a compost barrel in Negombo Municipal Areas, in order to gather (a) present situation of composting, and (b) indication to the development of home composting.

Period of survey: First week of August, 2002

Sample size: 80

Sampling areas: Various areas in Negombo Municipal Area

Lists of recipients were obtained from the Divisional Environment Officer in NMC.

Background Information :

Interviewees had received the compost barrels 3.9 years ago on the average (range from 2.5 years ago to 6.5 years ago). Though the barrels had crafted by NMC, the distribution was mainly carried out by Grama Niladali Officer, and not by DEO stationed in NMC. Most of them were distributed with free of charge.

When the assistants of the study team visited the households on the list, they found that some of them on the lists did not even demand the barrels though their names were on the lists.

Survey Results :

Q. Are you still using the compost barrel? Yes/No

	Number	%
a Yes	6	8%
b No	69	86%
c Never used	5	6%
Total	80	100%

Q. Average property and garden size

(perches)	Using	Not using	Total
Property area	20.7	16.8	17.1

(perches)	Using	Not using	Total
Garden area	9.7	8.7	8.8

Q. Household Size / Household Expenditure / Per capita Expenditure

(person)	Using	Not using	Total
Avg. number of household members	4.5	4.7	4.7

(Rs.)	Using	Not using	Total
Avg. household expenditure	13,333	8,340	8,724

Note: Number of effective answers are 78

(Rs.)	Using	Not using	Total
Expenditure per person	2,963	1,787	1,875

Note: Number of effective answers are 78.

Q. Why did you decide to get a compost barrel? (Multiple answer)

	Using		Not using		Total	
	Number	%	Number	%	Number	%
a Compost barrel cost was low	0	0%	19	12%	19	11%
b Compost barrel appeared easy to use	2	15%	13	8%	15	9%
c Compost barrel looked like it would not attract pests	0	0%	1	1%	1	1%
d Compost barrel would not take up much space	0	0%	8	5%	8	5%
e Council offered education/training in how to use it	0	0%	5	3%	5	3%
f Compost making is recommended by Municipal Officers/workers	2	15%	33	21%	35	20%
g Interested in producing compost for use in own garden	5	38%	45	28%	50	29%
h Hoping to increase income, through making compost for own use/sale	0	0%	16	10%	16	9%
i Composting is good for the environment – it reuses/recycles waste	4	31%	15	9%	19	11%
j Other	0	0%	3	2%	3	2%
Total	13	100%	158	100%	171	100%

Note: Other means "because there is no collection service or no place to discharge wastes."

Q. Did you receive any education/information on how to use the barrel? Yes/No

	Using		Not using		Total	
	Number	%	Number	%	Number	%
a Yes	6	100%	61	70%	67	72%
b No	0	0%	13	30%	13	28%
Total	6	100%	74	100%	80	100%

Q. If yes, what kind of training / information were you provided with?

	Using		Not using		Total	
	Number	%	Number	%	Number	%
a Information on waste materials suitable for composting	6	35%	58	33%	64	33%
b Information on waste materials not suitable for composting	6	35%	61	35%	67	35%
c Information on how to use barrel	4	24%	41	23%	45	23%
d Information on how to deal with any problems	1	6%	5	3%	6	3%
e Information on who to contact for help	0	0%	10	6%	10	5%
f Others	0	0%	0	0%	0	0%
Total	17	100%	175	100%	192	100%

Q. What kinds of waste materials did/do you add to the compost bin?

	Using		Not using		Total	
	Number	%	Number	%	Number	%
a None (i.e. never used)	0	0%	5	2%	5	1%
b Food or vegetable scraps	4	17%	65	20%	69	19%
c Fish bones	2	8%	35	11%	37	10%
d Meat or meat bones	2	8%	16	5%	18	5%
e Fat, cooking oil or dairy products	1	4%	6	2%	7	2%
f Household sweepings (e.g. hair, dust, wood ash)	4	17%	49	15%	53	15%
g Plain paper or newspaper	1	4%	32	10%	33	9%
h Glossy or colored paper	0	0%	3	1%	3	1%
i Polythene or plastics	0	0%	3	1%	3	1%
j Metals	0	0%	0	0%	0	0%
k Leaves or grass	5	21%	56	17%	61	17%
l Noxious weeds or diseased garden clippings	1	4%	11	3%	12	3%
m Tree waste (twigs, branches, etc., but not leaves)	2	8%	12	4%	14	4%
n Soil or dirt	1	4%	9	3%	10	3%
o Sawdust or wood shaving or hay	0	0%	0	0%	0	0%
p Chicken manure	0	0%	2	1%	2	1%
q Albizia leaves	1	4%	22	7%	23	6%
r Others	0	0%	4	1%	4	1%
Total	24	100%	330	100%	354	100%

Q. If you are not using the compost barrel, how long did you use it for?

	Number	%
a Never used	5	6%
b Less than 1 month	2	3%
c More than 1 month but less than 3 month	1	1%
d More than 3 month but less than 6 month	7	9%
e More than 6 month but less than 12 month	12	15%
f More than 12 month but less than 18 month	12	15%
g More than 18 month but less than 2 years	14	18%
h More than 2 years	21	26%
i Irrelevant	6	8%
Total	80	100%

Q. If you have never used the compost barrel or have stopped using it, why is this? (*Multiple answer*)

	Not using		Never used		Total	
	Number	%	Number	%	Number	%
a Lack of knowledge on how to make compost	1	1%	1	8%	2	2%
b Composting takes too much time	4	4%	1	8%	5	4%
c Not enough space on site	2	2%	1	8%	3	2%
d Too much water gets into the bin	8	7%	0	0%	8	7%
e Odor problems	13	12%	2	15%	15	12%
f Pest problems	15	14%	2	15%	17	14%
g Bin has rusted badly	59	54%	0	0%	59	48%
h Lost interest	3	3%	3	23%	6	5%
i Compost takes too long to make	2	2%	2	15%	4	3%
j Compost product was poor in quality	1	1%	0	0%	1	1%
k Neighbors said something against	0	0%	0	0%	0	0%
l Other	1	1%	1	8%	2	2%
Total	109	100%	13	100%	122	100%

Q. During use, how much compost did you produce on average per month?

(Kg.)	Using	Not using	Total
Average production per month	3.9	3.7	3.8

Q. How do you think the Council's home composting programme might be improved? (*Multiple answer*)

	Using		Not using		Total	
	Number	%	Number	%	Number	%
a Use of non-rusting container	5	28%	59	36%	64	35%
b Improved design of compost system	5	28%	25	15%	30	16%
c Improved training / education of household users	2	11%	21	13%	23	13%
d Council to give container for free	1	6%	11	7%	12	7%
e Information on who to contact for help / advice	2	11%	11	7%	13	7%
f Regular inspection by council staff	3	17%	33	20%	36	20%
g Other	0	0%	1	1%	1	1%
h Don't know	0	0%	3	2%	3	2%
Total	18	100%	164	100%	182	100%

3.6 Other Information in Negombo Other information in Chilaw

Findings from Labor Line Survey in Negombo

A questionnaire survey was conducted among 50 households in Municipal labor line in Negombo, to gather a basic socio-economic profile of inhabitants of Municipal labor line.

Period of survey: Second week of September 2002
Sample size: 50 households in Thaladuwa

Q1 Ethnicity

		Negombo	
		Number	%
a	Sinhala	1	2%
b	Muslim	0	0%
c	Tamil	49	98%
d	Other	0	0%
Total		50	100%

Q2 Religion

		Negombo	
		Number	%
a	Buddhist	0	0%
b	Islam	0	0%
c	Hindu	25	50%
d	Christian	25	50%
e	Other	0	0%
Total		50	100%

Q3 Language Abilities

	Tamil		Sinhala	
	Number	%	Number	%
Can not communicate	1	2%	2	4%
A little bit of daily conversation	0	0%	2	4%
Can speak	24	48%	37	74%
Can speak, read and write a little bit	13	26%	5	10%
Can speak, read and write well	12	24%	4	8%
Total	50	100%	50	100%

Note: Four out of five survey assistants are Sinhala speaker, and the fact itself chooses interviewees who speak better Sinhala.

Q4 Household Size

(person)	Negombo
Avg. number of household members	5.9

Q5 Income and Income Sources

(Rs.)	Avg. household income	Income per person
Negombo	9,430	1598

	Negombo	
	Number	%
Municipal waste collection labor	33	29%
Government / Municipal Council works other than waste collection	0	0%
Private sector	9	8%
Manufacturing, other than the garment industry	3	3%
Small scale manufacturing	7	6%
Garment industry	28	25%
Education	0	0%
Transport	0	0%
Security forces	0	0%
Tourism	0	0%
Foreign employment	2	2%
Agriculture / Fishery	25	22%
Construction	0	0%
Health	0	0%
Domestic work	1	1%
Communications	0	0%
Pension	2	2%
Other	2	2%
Total	112	100%

Note: Other means "wage labors who engage in various kinds of works."

Q6 Housing Quality

	Negombo	
	Number	%
a Separate house	0	0%
b Single line room	43	86%
c Back to back line room	6	12%
d Room of a house	1	2%
e Other	0	0%
Total	50	100%

	Floor		Walls		Roof			
	Number	%	Number	%	Number	%		
1 Cement	49	98%	Brick / concrete	43	83%	Tile	34	68%
2 Floor tiles	0	0%	Sheets	1	2%	Corrugated iron	11	22%
3 Wooden	0	0%	Wattle & daub	1	2%	Asbestos sheet	4	8%
4 Earth	1	2%	Wooden	6	12%	Cadjan (coconut leaves)	1	2%
5 Other	0	0%	Other	1	2%	Other	0	0%
Total	50	100%	Total	52	100%	Total	50	100%

Note: Other wall means "walls made by cardboard."

Q7 How long has your household lived in this house?

	Negombo	
	Number	%
a Less than 5 years	0	0%
b 5 - 10 years	2	4%
c 10 - 15 years	3	6%
d 15 - 20 years	2	4%
e More than 20 years	43	86%
Total	50	100%

Community Focus Group Discussion 1

Name of the Municipality:	Negombo Municipal Council
Area name:	Thaladuwa Rd. (Municipal Labour Lane)
Date & Time:	2002/09/07, 15:30 – 16:30
Precipitants:	<ol style="list-style-type: none">1. Ms. M. Oishi (JICA study team)2. Mr. S. Sasikumar (Asst.- JICA study team)3. Nine female and two male residents of Thalaeuwa Rd. Negombo

3. Opinions about present situation of garbage collection

1.1 Identified main problems

- 1) Bad condition of drainage¹
- 2) Bad condition of old collection bin
- 3) Insufficient number of public toilets

1.2 Proposed solutions / suggestions

- They demand Municipal drainage clearing service, either once a week or once a month.
- The old collection concrete bin is not in use since those who living near the bin shows the strong objection to the bin system. Now people bring their wastes to the trailer directly when a trailer comes to the nearest main road three times per week. All the garbage still remained near the bin will be removed by community people on the occasion of Shramadane (volunteer work) on 8th September, 2002.

1.3 Other problems

In this area, people say that housing is the most serious problems. High population density, in addition to the insufficient infrastructure, is attributed to the poor living condition of the area.

4. Observation of Shramadane

As mentioned at the community focus group discussion, members of CBO called Janashkti initiated Shramadane (volunteer work) to clean all the drainages up in the area on 8th September 2002. In addition to members of the CBO, many male household members participated in the Shramadane. They borrow one municipal trailer to put all the sludge in, and trailer will come to bring this trailer to the dumping site in the following day.

¹ The drainage was constructed when Ms. Ogata (JOCV) had been working hard for the improvement of living conditions in the Municipal Labour Lane. She also introduced a monthly drainage cleaning by community people themselves.

Community Focus Group Discussion 2

Name of the Municipality:	Negombo Municipal Council
Area name:	Wellaweediya.
Date & Time:	2002/09/09, 15:30 – 16:30
Precipitants:	<ol style="list-style-type: none">1. Ms. M. Oishi (JICA study team)2. Ms. Subhashini Seneviratne (JICA study team)3. Mr. Nakaomoto (JOCV)4. Ms. Priyani, Asst. for CDO- Negombo municipal council5. 5 female residents of Wellaweediya, Negombo

Opinions about present situation of garbage collection

Present collection system

Participants who live along Kanatta road, Wellaweediya road and Suriya road explain the present collection system. Garbage is collected by handcarts to the nearest bins. Later the garbage in the bin will be collected by tractors.

Kanatta road- 3 times / week Wellaweediya – daily Suriya road - daily

Identified main problems

The four problems are identified as their major problems regarding the solid waste.

- 4) Improper discharge behaviour of people at the collection point.
- 5) Number of the collection bin is not enough.
- 6) Bad condition of the drainage system.
- 7) No way to discharge waste water around the school area.

Proposed solutions / suggestions

- 1) Awareness program by NMC officials to educate people to discharge wastes properly.
- 2) Constructing a new bin and provide a daily collection service for Kanatta road.
- 3) Cleaning drainage at least twice a month.
- 4) Constructing a drainage close by the school, to discharge waste water.

Other problems

In this area, people are very stubborn and they don't listen to others when they give instruction or advice with regard to good practices. If they are asked to do something, they will never do it. If they are asked not to do, then they will do it on the contrary. It is very difficulty to change their practices and attitudes.

Organizational Information Sheet 1

Interview date : 2002/07/27

Name of the organization:	Arthacharya Foundation, Negombo Office
Name of the chairperson:	Mr. Thilakaratne
Address and contact number:	221, Kimbulapitiya Rd, Aluthwatte, Negombo
Year of establishment:	1994

1. General information

- No. of personnel: 8
- Fund resource: Central Environment Authority, Ministry of Health
- Working area: Negombo (in 6 GN divisions)

2. Main activities

The solid waste management program, namely composting and recycling is one of their major programs in Negombo area. The program started with the Integrated Resource Management Project (IRMP). This project, managed by the Central Environmental Authority, is supported by the Government of the Netherlands, and aims to develop sustainable management for the Muthurajawela Marsh and Negombo Lagoon wetland area. It also seeks to identify opportunities and means of including participatory income generating activities for the local population. Under IRMP, Arthacharya Foundation has worked for Munnakaraya and Siriwardene place. Instead of discarding their wastes to the lagoon, composting and recycling were encouraged.

CBOs will be formed first and these CBOs start handling recycling activities such as transporting and trading recyclables among their communities. At present, the NMC offers a vehicle as often as once a month or so. As for the trading of recyclables, first CBOs buy recyclables from each member households and sell to the bigger traders or factories, CBOs using the funds from CEA under IRDP. In the composting program, AF distributes two types of barrels made of either steel or concrete. Earlier they have distributed steel barrels only and now started producing concrete barrels. For members, who maintain their saving accounts actively under the AF's microfinance program, the AF gives the barrels free of charge. Normal market prices are Rs. 850 for a steel barrel and Rs.700 for a concrete barrel.

Other programs are nutrition program, credit program and school environmental programs.

3. Cooperation with other organizations

Usually they work in cooperation with NMC, World Vision, Sanasa, Schools, and Zonal education office.

Organizational Information Sheet 2

Interview date : 2002/08/28

Name of the organization:	Sevanatha
Name of the chairperson:	Mr. K.A.Jayaratne
Address and contact number:	Sevanatha, Urban Resource Centre, 14 School lane, Nawala, Rajagiriya Tel: 94-1-878893/879710/94-74-404259 Fax: 94-1-878893 E-mail: sevanatha@sri.lanka.net
Year of establishment:	1 st of January, 1989

1. General information

1. No. of personnel:

12 full time personnel and additional staffs depending the requirements of the project
(currently 23 altogether)

2. Fund resource / Supporting agencies:

- Government Ministries and Departments,
- Colombo Municipal Council and other local authorities in Greater Colombo area,
- UNDP and UNCHS, World Bank supported urban program,
- Regional organization such as ACHR, CITYNET, and UNESCAP,
- Diplomatic mission of Colombo particularly the Embassy of Japan, Royal Netherlands Embassy, Royal Norwegian Embassy, and other international organizations such as US Save the Children, Redd Barna and Asia Foundation

3. Working area: Greater Colombo

2. Main activities

To provide an improved living environment for urban poor by implementing community based resource management and poverty reduction program through participatory development approaches.

1. Community empowerment through information sharing, training and networking.
2. Capacity building of the urban stakeholders through replicable models of participatory development
3. Improve partnership among urban stakeholders
4. Promote principles of good urban governance
5. Influence urban development policies through participatory research

3. Cooperation with other organizations

Working in collaboration with government organizations, urban local authorities, NGOs and CBOs.

Activities of Divisional Environmental Officers

Interview date: 2002/08/08

Name of the Municipality:	Negombo Municipal Council
Name of the officer:	Mrs.Ganga Devananda,
Year of appointment:	1994
Address and contact number:	Municipal Council Negombo. 031- 22275
Residence:	074-870686

1. Organizational information (which department do you belong to in municipalities)

- Central Environment Authority: Environmental Education and Awareness Division
- In the municipality, she works under the municipal commissioner.

2. Main activities

- Environmental education and awareness program
- Working on environment protection license- She is the secretary of the technical committee. The commissioner and MOH, is also members of this committee.
- Inspection on complaints with regard to the environmental issues.
- Conducting survey which requested from the CEA (already the DEO has done two surveys, namely, the Industrial survey and the compost barrel survey)

2.1 School Program

The Environmental Pioneer Brigades in 15 schools and the Eco Clubs in 7 primary schools have been established. Presently there are 42 schools in the Negombo Municipal Area and 10 schools out of the 42 are newly attached to the NMA. Participating schools are as follows.

Name of the school	No of Groups	Medals obtained
1. Newsted Girl's College	2	1
2. Marystela Boy's College	1	1
3. Harischandra Vidyalaya	1	1
4. St. Peters College	1	1
5. Ave Maria College	1	1
6. Wijyaratnam Hindu College	1	0
7. Wellaveediya St. Sebastian College	3	1
8. Bolawalana M.V.	2	0
9. Alhilal Central College (muslim)	1	0
10. Alfalal Muslim Vidyalaya	1	0
11. Kurana St. Anne College	1	0
12. Daluwakotuwa St. Anne College	1	0
13. Kochchikade Vidyalaya	1	0
14. Kudapaduwa Vidyalaya	1	0
15. Vidyalankara Vidyalaya	1	0

Among these 15 schools, Newsted Girl's College, Marystela Boy's College, Harischandra V., St. Peters College, Bolawalana M.V., Kurana St. Anne V. and Daluwakotuwa St. Anne V. are

active. Kudapaduwa vidyalaya and Vidyalankara vidyalaya have just established the Environmental Pioneer Brigades recently.

A district environmental commissioner, who is a trained school teacher regarding environmental education, is in D.S.Senanayake College in Mirigama, out of NMA. His name is Mr. Wajira Sirimanne. Within NMA, Mr. Kumarasinghe of St Peters College is very active in this program.

The Eco Clubs have been established in the following schools.

1. St. Peters College
2. Wellaveediya St. Sebastian V.
3. Pallansena Vidyalaya
4. Palangathurai Vidyalaya
5. Daluwakotuwa St Anne Primary School
6. Daluwakotuwa St Anne College
7. Vidyalankara Vidyalaya

2.2 Environmental Committee

No environment committee has been established in the municipal council (as of 2002/08/08). Back in 1998, it had formed once, but after appointing a divisional environment officer in the divisional secretary office, NMC transferred the environmental committee to the divisional secretary office in Negombo. Now the DEO in NMC participates in these meeting held at the divisional secretary office. Usually the environmental committee meetings are held once in every three month. Divisional secretary, Mayor, office bearers of NGOs, police officers, agricultural officers and educational officers participates in the meetings.

2.3 Other activities

The DEO work in cooperation with NGO (Lions club) on specific days such as the world environment day, the tree planting day and so on. The CDO have arranged painting competition for school children once before.

Chapter 4

Negombo Pilot Projects

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Chapter 4 NMC Pilot Projects – Progress Diary

4.1 Summary of January-March Planning Meetings

- NMC decided to fit S/A units on 9 tractors with 7 units being kept as spares, to cover both equipment breakdowns and so that some units could be fitted to Kochchikade tractors if privatization did not proceed in that area.
- Negombo was to be combined into 6 zones with 2 tractors per zone.
- Six bell collection tractors were to be used (one per zone) in stage 1, the remaining three being used to cover breakdowns so that NMC could keep to the collection schedule.
- NMC planned to remove ~70 of existing concrete bins after new bell collection system introduction, possibly by Shramadana. Remaining bins (10) considered necessary.
- JICA stationary trailers were to be painted orange with the words “NMC” and “Keep our city clean” added. JICA trailers to be used at 3 locations = 2 at supermarket; 1 at DS Senanayake market. Existing 3 trailers used at these places to be relocated to Lazarus Rd, Periyamulla; Siriwardana Pl in front of clinic, Munnakaraya; Kadolkale, in front of Senasa.
- Each bincart was to have the words “NMC” + “Keep our city clean” + unique no + date of issue painted on them. Blue 40L buckets were acceptable to NMC. Bincarts were to be used in Bazaar and Munnakaraya. CPHI said security okay based on continuation of existing handcart storage arrangements.
- Litter bins: Agreed on 100L metal barrels, with holes in bottom for drainage and to discourage theft; colour = orange. Each bin to be painted with NMC + “Don’t put your waste on the ground – please use this bin” + unique no + date of issue. A record was to be kept of these. Bins were to be handed over to shops/traders for their care. NMC was to prepare a final list of locations for bins, based on 10 bins suggested for Beach Park + no bins for Kochchikade until privatization resolved.
- When discussing how to deal with SWM & PIP problems, a dual approach was recommended - supervisors and community. Two community supervision options considered: street committee and voluntary health animator.
- NMC considered PIP involved a lot of extra work for them to implement and manage. Hence, they suggested promoting one of the supervisors to do most of the extra management work.

4.2 NMC/JICA Process Improvement Projects (PIP) - Status Report, 26 May 2003

Meetings were held with NMC on May 19 and May 28 to discuss progress during March-May while the study team were away. The main items discussed at this meeting are summarised in this report, which was translated into Sinhala and given to NMC. Participants at one or both meetings included the Mayor, Commissioner, MOH, CPHI, PHIs (Seneviratne, Somathilaka), Chief Clerk (Health),

Health Committee chairman, some Council members, Mr A Fernando (Golden Star Beach Hotel), CDO, EDO, Vet Dr, Mr Nakamoto, Sevanatha representative, NMC Supervisors (7), several other people.

4.2.1 Management capacity

4.2.1.1 Progress

a. Bylaws

- JICA handed over one copy in Sinhala of draft model bylaws to Mayor on 28 May. Mr Wasantha has already prepared a draft list of bylaw issues/ideas for Negombo as part of national model bylaws project.

b. Control Board and Monthly Report

- NMC have hung control board on wall. Some data is being computerized for sticking on to the board. Another board is being used to enter daily attendance.
- Monthly report not being used yet.

c. Action Plan

- Mr Seneviratne has started to prepare draft Action plan for discussion (based on JICA plan).
- JICA/NMC/stakeholders meeting held on 28 May to discuss Action plan. English/sinhala copies of draft action plan distributed to participants. NMC decided to form a Task Force to complete the action plan within the next two months. JICA included as member of task force. Mr Seneviratne to coordinate task force meetings.

d. Other

- Kochchikade privatized garbage collection service began on 1 Apr. The contractor is also required to apply final cover soil to the disposal site.
- NMC promoted one of existing supervisors (Mr Frank) to Senior Supervisor, with responsibility for most PIP management tasks (e.g. looking after control board, record keeping, etc.).
- Supervisor and labourer have now been assigned to disposal site for recording vehicle trips.
- Labourers had first six monthly medical checkup in March.
- “Vertical meeting” held on 28 Feb attended by Mayor, Health Committee chairman, 5 Council members, MC Secretary, CPHI, 2 PHIs, Senior Supervisor, 3 supervisors, 5 labourers - first meeting of its kind involving all levels of NMC staff and Council members.
- NMC has written to relevant Ministry on 7 May requesting more PHIs (cadre = 6, MOH recommendations = 14, current no = 3 (4th PHI currently working at airport on SARS).
- Mayor supported labourers’ suggestion of issuing them with uniform in appropriate lightweight material. However, NMC will not do this until next year, as uniform material has already been purchased for this year.

4.2.1.2 Existing Problems

- Monthly report and control board not being used. NMC agreed to start using these by 31 May.
- No trips are being recorded at final disposal site, as no shelter for assigned staff.

4.2.1.3 Required Actions

- Continuous encouragement of Mayor, municipal council members and key citizens is required.
- Monthly report and control board to be used, as proposed above.
- NMC to build shelter at disposal site by 23 May, so that vehicle trips can be recorded.
- Minutes from JICA/NMC meetings to be recorded, typed and circulated, noting action points including responsible person and deadline.
- JICA to make supervisor training an actual course with certificate awarded to all attendees at end.
- Meeting to be held on Wed, 28 May to discuss Action Plan. JICA to translate and circulate key content before then. Invite SCP to Action Plan meetings and try to work together on SWM issues (also invite other relevant parties to Action Plan meetings – e.g. Arthacharya).

4.2.2 Waste Collection Improvement

4.2.2.1 Publicity

a. Progress

- Vehicle publicity done over three days in each of the 45 streets covered by stage 1.
- Planned to distribute approximately 5,000 leaflets in Stage 1 - not yet completed.
- 50 noticeboards installed, but only 20 filled in with supervisor and collection details.

b. Existing Problems

- Noticeboard and leaflet publicity has not been well organized, leading to confusion, with many people not knowing what they are allowed to do and not allowed to do, especially for garden waste.
- 1-3 noticeboards have been removed by some people.
- Noticeboards are too small and not highly visible.

c. Required Actions

- Supervisors to complete leaflet distribution in their areas by 31 May.
- Supervisors to complete filling of noticeboards with collection, supervisor and street committee representative details (as they are selected).
- Noticeboard locations should be shown on control board.
- NMC needs to consider how to reduce noticeboard theft.

4.2.2.2 Bell Collection

a. Progress

- S/A units fitted on 9 tractors - 8 currently in working order. Three amplifiers are not working and 4 speaker sets are broken (attributed to “excessive vibration”). NMC is repairing the horns by fitting a supporting bracket, while broken amplifiers are being replaced by JICA. NMC thinks equipment quality is relatively poor (Taiwanese).
- Negombo has been divided into nine zones (due to transfer of Kochchikade supervisors to Negombo).
- Bell collection started with 6 tractors.
- Feedback from PHIs, supervisors and public on bell collection:
 - Good response/support from public.
 - Over 60-70% of residents are cooperating with the new system.
 - General support from labourers (“easier work”) and supervisors.
 - Bell collection is quicker when everything is working properly (i.e. no need to get diesel, not raining, not muddy at disposal site). Labourers finish work earlier.
 - Increased garbage (about +10%) being discharged for collection.
- 8 concrete bins removed – some transferred to schools who have requested bins.
- Motorcycles: 6 motorcycles distributed.

b. Existing Problems

- NMC’s waste collection work is sometimes irregular (main reasons = absent drivers, vehicle breakdowns, ordering diesel).
- *Playing music is irregular (3 amplifiers and 4 speaker sets are currently broken).*
- Difficult to hear music in some areas with many small lanes off the main road – Munnakaraya, Wellaveediya, Kudapaduwa, Kadolkale.
- Mr Fernando (Golden Star Beach hotel) complained about the bell collection performance in his area (Kudapaduwa). He suggested setting up at least one “model area” which works properly.

c. Required Actions

NMC should try to keep to the waste collection schedule and to play music in the bell collection areas.

NMC has agreed to the following specific actions to do this:

- Keep buffer stock of essential tractor items (e.g. tyres, tubes, starter motor).
- Replace faulty amplifiers and complete speaker set repair.
- Install additional speaker/amplifier (S/A) units on four tractors transferred from Kochchikade to Negombo.
- Give training to NMC staff member interested in auto-electrician job.
- Tractors should fill up with diesel in the evening rather than morning.

- Mayor to write letter saying that if any staff don't apply for leave in advance as per the proper system and then take leave, this will be a "no pay" day for them.
- CPHI to give copy of muster record to leave clerks for cross-checking. CPHI should also get copy of driver leave requests for planning purposes.
- CPHI to attend Works monthly meeting to raise issues relevant to Health section.
- Kudapaduwa supervisor to be shifted to Periyamulla and replaced with one of the female supervisors (ex-Kochchikade).
- Mayor agreed to CPHI's suggestion that tree cuttings should be removed by the Works section.

In addition, NMC should consider how to deal with the noise issue in crowded areas with many byroads and whether it is better for drivers to be transferred back to Health section and/or whether to employ/train any spare drivers.

4.2.2.3 Stationary Trailers

a. Progress

- NMC now using 7 trailers in stationary mode (3 x JICA, 4 x NMC). One JICA trailers is being parked at Bandula market.
- CPHI recommended washing trailers weekly to prolong life.

b. Existing Problems

- NMC labourers state that the JICA trailer is too small, while it is difficult to empty garbage into it once it is over half full.
- Some existing NMC trailers are too small in capacity while others have holes in them.
- Trailers are not being washed regularly.

c. Required Actions

- Mayor decided two smaller trailers should be modified to increase their capacity and five other trailers should have the holes in them repaired within one week.
- NMC are going to buy five new stationary trailers (115,000Rs) for use at handcart collection points. Now waiting for letter from Secretary to Health section.
- NMC to arrange for weekly washing of trailers and to concrete washing area.
- Stationary trailer locations should be marked on the control board.

4.2.2.4 Modified Handcarts (bincarts)

a. Progress

- NMC now has 40 handcarts (30 normal, 10 modified). It has reduced the number of handcarts in use from 30 to 17.
- Bincarts were trailed by NMC using 6 x 40L blue buckets.

b. Existing Problems

- Bincarts are no longer being used by NMC. Labourers said they are too small, while the buckets are difficult to empty into stationary trailer, especially when over half full.

c. Required Actions

The modified handcarts are not being used correctly – they are not designed for primary collection of residential waste but is suitable for street waste (e.g. mainly dirt and litter). The basic idea is to replace primary handcart collection with direct collection by tractors, with handcarts then being used for street sweeping. If this policy can't be kept, the new handcarts may be modified to the old style by NMC.

4.2.2.5 Litter bins (100L half barrels – 20 fixed, 20 movable)

a. Progress

- Only the movable bins have been installed to date.

b. Existing Problems

- Fixed litter bins are still in storage.
- The movable half barrel is difficult to empty by one person when full, due to its weight (measured as 40kg) and large diameter.
- Movable bins were distributed without anything painted on them. Previously, NMC agreed to paint "NMC" and a message on each bin and to number them.

c. Required Actions

- Mayor wants the fixed bins installed as soon as possible.
- NMC to complete painting on movable bins by 31 May.
- Bin locations should be shown on control board.

4.2.3 Social Approach

4.2.3.1 Street Committees

a. Progress

- Large meeting held at Golden Star Beach hotel to discuss the SWM PIP and the general idea and support for street committee. This was attended by over 100 people and was very successful, with strong support for the PIP and street committee idea.
- Four community meetings already held to discuss PIP and street committees – Thaladuwa, Bazaar I & II, Munnakaraya, Kadolkale.
- Thaladuwa Welfare Society has nominated two representatives, while four men were nominated/volunteered as representatives at the Kadolkale meeting (two per Housing scheme).
- A draft document describing the roles and duties of street committees and their selected animators has been prepared.

- Idea proposed to issue active animators with ID card.
- JICA/NMC/stakeholders meeting held on 28 May to discuss st committees roles/duties at which the following were agreed:

St committees to be formed in bell collection areas within Negombo by June 30, based on one committee per street (45 streets). Each committee can select one or more people as representatives.

Street committees to hold monthly meetings at the community level, while three monthly meetings will be held at NMC for all animators.

Mr Fernando (Golden Star Beach hotel) agreed to cover the cost of animator ID cards.

Certificate and prize to be awarded for best street committee annually, with support from business and community organizations.

MOH has overall responsibility for street committee formation.

b. Existing Problems

- NMC is committing itself to a lot of work to set up and run these street committees. It should consider carefully how to do this using its existing resources.

c. Required Actions

- NMC to complete street committee formation, after considering JICA's concerns.
- JICA wants to hold meeting with representatives once reasonable number selected and roles/duties finalised.

4.2.3.2 Awareness through Temples/Churches

a. Progress

- Seven churches and two temples visited by JICA and NMC Health Committee chairman.
- Many priests announced about the PIP at Mass – this is how some people learned about it.
- Many priests/monks suggested a variety of follow up community education/awareness activities in their areas.
- Presentations were given at Sunday school in two temples, involving over 1,500 children from all over Negombo. These seemed very effective. Children were encouraged to go home and tell their families about what they learned.

b. Existing Problems

NMC lacks the resources to do such activities by themselves (i.e. no laptop computer or powerpoint projector).

c. Required Actions

- JICA will provide 10 education banners for NMC.
- JICA will provide copies of its presentations for community meetings and childrens' education for use on NMC's overhead projector.

4.3 NMC Action Plan Meeting, 12 Jun 2003

Present: MC, PHI Seneviratne, Health Committee chairman, Nakamoto, CC, CPHI, Vet Dr (VS), DEO, Ms Ganga (clerk) Chief Accountant (Mrs Manel), Mr Anthony Fernando, JICA (Sean, Nayana).

Absent: MOH, Secretary, Arthacharya representative, PHI Somathilaka, NMC Engineer, MOH Officer (planning dept).

- Went through JICA draft plan, discussing each element and giving different people responsibility for various tasks. Main points:
 - 111 (Bylaws): Bylaws to be discussed at Health committee meeting on 18 Jun 2003. JICA said when looking at bylaws, they should consider garden waste issue very carefully, particularly the definition of garden waste. Also reminded them of Mr A Fernando's suggestion of revoking the trade licences of commercial places not complying with SWM bylaws.
 - 112 (SWM responsible person/unit): MOH to be in charge of SWM (as now) with CPHI and PHI Seneviratne being jointly responsible. NMC thinks a single person can't be made responsible, due to their current shortage of PHIs (only two at Negombo office) and for practical reasons: CPHI said muster should be taken by PHI and Mr Seneviratne has to travel from near Colombo each day – hence he can't do this.
 - 113 (SWM Unit): CPHI said creation of SWM Unit post requires NMC to create a new post, get Treasury approval for it, allocate budget for it and then appoint suitable person. CPHI thinks salary scale should be higher than CPHI. PHI Seneviratne suggested appointing an Acting Manager in the interim period.
 - 123 (privatisation): Kochchikade privatisation is costing NMC more money, as they now have surplus labourers in Negombo. They need to look at how they can privatise SWM services so as to provide a better service at similar or lower cost.
 - 130 (SWM accounting code): Chief accountant asked for clarification. JICA explained what different items would cover and how having such a system would be very useful to NMC for looking at different SWM issues (e.g. privatisation vs NMC operation, how much to charge large waste generators). JICA gave her copy of SWM costs breakdown done for Galle. She said she can include as a separate item in the 2003 budget. One problem she has for budgeting is that no dept within NMC gives her their future plans.
 - 132,133 (charging fees): requires bylaws to be possible. JICA said model bylaws should be enacted by 2004.
 - 141 (transparency): NMC to decide whether to establish City Watch committee or use existing Environment committee or new street committees for this function.
 - 212 (pit composting): NMC wants to delete this, based on DEO's advice – most properties don't have enough space + water saturation problem.

- 240 (processing/treatment): NMC queried statement about only composting being suitable for Negombo. Want to include biogas at convent and open prison (proposed under Sustainable Cities programme), while NMC is also interested in a waste to energy plant., in collaboration with Swedish company. Apparently, the Mayor has got a 5acre block of land. They are going to ask the CEA to check if this land is okay for a waste-energy plant and if so, to invite the BOI to investigate whether this is feasible.
- 263 (new landfill): MC + PHI Somathilake allocated responsibility for new site. NMC needs to request land from the Land Dept.
- 272 (spare parts limit): Limit for spare parts procurement has already been increased about 5yrs ago. MC can approve up to 50,000; Mayor up to 100,000.
- Additional items proposed by PHI Seneviratne:
 - 273: Establish Health Education centre.
 - 274: Establish Information centre – this will have all available information on SWM in Negombo + will sell relevant items (e.g. compost barrels).
 - 275: Provide facilities for SWM unit – computer, telephone, etc.
- Other non-Action Plan items:
 - Two copies (in English) of monthly report handed over to MC and CPHI. NMC informed sinhala version will be sent to them next week.
 - Bell collection seems to be going well; supervisors are using motorcycles.
 - Three stationary trailers were located and are in use.
 - Hut at disposal site now has a roof but is not yet in use.
 - Senior Supervisor has resigned from his job, returning to normal supervisor work. Temporary clerk (Ms Ganga) has been appointed to permanent position to keep SWM records.
 - Hardcopy of Nayana's community meetings presentation and children's education pictures (Danny the drip) given to DEO for NMC's use.
 - Shramadana planned for 19 Jun along Archbishop Nicholas Fernando Mw, the idea being to make it a model street.

4.4 NMC Action Plan meeting, 26 Jun 2003

Present: Commissioner, MOH, Vet Dr, PHIs (Seneviratne, Somathilaka), CC (Health), Accounts Clerk, JICA (Nayana, Sean), Nakamoto, Mr Asela (Health Committee chairman); (Mayor and one MC member present for part of meeting; Nature Care representatives (M Fernando, C Weerasinghe) present for composting discussion).

- 111 (by-laws): NMC making 50 copies of model bylaws for distribution by 9 Jul to Council members, Health Section, Action Plan committee (Mr Somathilake responsible). Two more copies of model bylaws handed over.

- 112 (SWM responsible person/Unit): MOH asked what this involved. JICA explained about this *person being responsible for all current SWM works and in future SWM Unit and department.* Commissioner said some items (e.g. bringing SWM drivers under SWM unit) need to be addressed in the budget.
- 113: MC favours giving specific responsibility to one PHI for SWM. No action to be taken until current PHI shortage solved. (Mr Wasantha is due to return from SARS duty at airport on 1 Jul; CLG, Gampaha has also written to NMC asking about their no of vacant PHI positions – NMC has replied).
- 115 (landfill monitoring committee): JICA explained concept of monitoring committee and gave them NE monitoring checklist as a sample of what committee members are expected to do.
- Switched to item 241 (processing/treatment) due to presence of Nature Care Lanka representatives:
 - Background: Nature Care has submitted a proposal to NMC to construct and operate a compost plant. The first meeting was held last week and NMC invited them to attend today's action plan meeting.
 - Mr Fernando (Nature Care) explained that they are currently discussing composting with several other MCs including Kurunegala. MCs are required to supply land, pay 100Rs/load + 50,000Rs/mth management fee and sign a 25yr contract. In Negombo's case, Nature Care said as the MC can't provide land, they have discussed this with the prison who has agreed to provide land for this project provided they train the prisoners in how to make compost. Questioning revealed that the 50,000Rs/mth management fee is to help improve MC collection/ transportation efficiency rather than for managing the compost plant.
 - Answers to further questions:
 - a. Compost facility capacity will be up to 75 tractor loads.
 - b. Gate fee applies for non-separated waste; separated waste will be accepted for free.
 - c. Technology - same as Chilaw compost facility (ORDE).
 - d. Rejects will be incinerated with ash being added to compost!
 - e. Market – Nature Care's problem – indicated farmers in Kalupitiya = market.
 - f. Quality – can assure.
 - JICA suggested that if NMC wants to consider composting, they should look at it from the perspective of the long term plan – for example, going for a 4-10T/d capacity plant in the short term rather than a big plant to process all their garbage. In addition, JICA's vehicle waste composition results indicate ~45% food/kitchen waste (readily compostable), 25% garden waste/wood and 30% rejects. Hence, rejects will be significant and will require disposal. Then, after 3yrs, they can review the operation of the small scale plant and decide whether or not to expand it. JICA also suggested they should visit ORDE to see for themselves what they are doing. A visit was arranged for Jul 3.

- In general, some lively discussion with some good questions from NMC.

Nature Care then left.

- Items 150, 210 (education/awareness): Mr Nakamoto presented his draft suggestions.
- Action plan timeframes adjusted: short = 2003-2005; medium = 2006-2008, long = 2009-2012.
- Explained about importance of Action plan (SWM needs forward planning like other infrastructure – water, wastewater, drainage, particularly due to long time period required to obtain, approve and develop sanitary landfill site; required to prepare Action plan by CEA/Court case; more donors will require Action plans to be prepared as condition of obtaining financial assistance for SWM projects in future). Minimum they should be aiming for is 10yr plan in outline form + Action plan for 2004; desirable is Action plan for 2004-2006.
- No time left to discuss other items (both PHI Seneviratne and CPHI had prepared draft content).
- Other non-Action plan items:
 - Mr Asela wants to invite Health committee members (6) to attend Action plan meeting, as many of issues discussed are relevant to them. Agreed.
 - Distributed sinhala monthly report to NMC – copies given to Mayor, MC, MOH, PHI Seneviratne + Mr Seneviratne asked to give copies to CPHI and supervisors. Copy posted to Ms Ganga.
 - Mr Asela said they are worried about the durability of the motorcycles provided. Recommend reconditioned Honda Chaly motorcycles as better option – more durable and possibly cheaper.
 - Ms Ganga (clerk) recently assigned to assist with administration aspects of JICA project (e.g. monthly report preparation) has been transferred to Thalahena by Commissioner due to problems there. Commissioner didn't know she had been assigned to JICA duties due to lack of internal communication. NMC now considering who to assign to these duties instead.
 - Hut finished at landfill except for floor.

4.5 Negombo Action Plan Meeting Notes, 8 Jul 2003

Present: Commissioner, CPHI, Seneviratne (PHI), CC, Mr Fernando (Nature Care), Nakamoto, Coastal Zone Project Officer, Ms Manike (CDO), Ms Ganga (DEO), MC member, Mr Asela, Sean, Nayana

4.5.1 Pre-meeting

- Sustainable Cities Programme (SCP) meeting held at 10am. JICA was invited to attend last part of this meeting as SCP said they also want to prepare an Action Plan, including SWM, and want to work together as much as possible. JICA told them they were supposed to be invited to take part in JICA/NMC action plan meetings, but JICA did not know why they had not attended to date.
- Decided to hold Action Plan workshop on 18th July from 9am to 4pm to which all Council members and stakeholders are to be invited. SCP want to see what JICA is proposing and make

their own comments “filling in the gaps”, while allowing other stakeholders to contribute. Aim is to finalise the Action plan! JICA allocated one hr to give summary of our stage 1 report, followed by presentations from SCP and possibly a presentation on legal aspects (SLILG or other) (3 presentations x 1hr; third one to be finalised). Group discussion to be held in the afternoon from 1:30 to 4pm. Ms Ganga in charge of organising. Mr Sena-Pieris (SMED & Cleaner Production programme) proposed as moderator/facilitator. JICA suggested holding a pre-workshop planning meeting with Mr Sena-Pieris, Mrs Azoor (SCP), Ms Ganga and JICA in order to get full benefit from the workshop.

4.5.2 Action Plan Meeting

- Because of the SCP meeting, the action plan meeting was shifted to 1pm. However, as the SCP meeting did not finish until 1pm, the Action plan meeting didn't start until around 1:30pm, leaving little time for it, as JICA had another meeting at 3pm.
- Because of proposed workshop, not so much interest in action plan meeting today – several people thought it was wasting time.
- Also this action plan meeting was supposed to discuss Nature Care proposal in more detail with MC members but information about this meeting was only sent out yesterday, meaning no members attended and Mayor scolded Mr Seneviratne for poor organisation!
- Mr Seneviratne read out their report on visit to ORDE; Coastal project officer also did separate report which he read out.
- Coastal zone project officer said he would like to work with NMC on SW issues, especially in relation to pollution of the lagoon and sea.
- JICA went through a no of issues with them:
 - Draft school waste collection policy given to Ms Ganga for consideration.
 - Information on “what wastes should MC collect for composting” given out based on data for commercial, market, hotel, institutional and industrial sectors.
 - Some information given on Abans Kotte MC privatisation and Balangoda UC privatisation contract.
 - NMC checklist given to Mr Seneviratne to update.

4.6 Stakeholders Action Plan Seminar, 18 July

This was held jointly with SCP, with around 50-60 people attending. Following some presentations, participants were split into groups to discuss different topics (e.g. institutional and organizational framework, 3Rs, education/awareness, technical system, final disposal), after which they presented their ideas to the whole workshop. This seminar resulted in many new ideas being included in the Action plan.

4.7 Informal Meeting with Mayor, 25 Jul

- Present: Mayor, CPHI, PHI Seneviratne, foreman.
- Presented JICA's letter to Mayor concerning lack of progress in implementing some components of the pilot projects. The Mayor summoned the CPHI and PHI to attend the meeting.
 - CPHI to attend to fixing fixed litter bins & move movable bins by 30 Jul, Mr Senaviratne responsible for starting use of control board.
 - Motorcycle issue more complicated. Supervisors are parking bikes at their homes (Mayor opposes this).
 - Mayor rang AO to ask for release of Mr Wasantha from airport duties.
 - Seven speakers/amplifiers broken – not sure of problem as sealed unit. To give JICA on Tues to try to find problem.
- Duwa: 300 people took part in Shramadana in Duwa area organized by priest prior to church festival. Cleaned beachside. Also 5 MC labourers and 3 tractors. CPHI said best shramadana he has seen for years. Removed 30 tractor loads from beachfront.
- Kadolkale – distributed 2 bags to people today for start of source separation project (same colour polysacks, different letters for degradable and non-degradable).
- MC currently repairing 5 trailers using own workshop. Using original chassis and replacing box. Have also ordered 5 new trailers. Capacity = 2.86m x 1.84m x 0.86m = 4.53m³. Inspected one trailer under reconstruction. Mayor said the repair cost has risen from ~20,000Rs 15mths ago to 25-30,000Rs now.

4.8 Supervisor Training, 26 July

- Mayor came to supervisor training and gave 15-20min speech to supervisors saying if labourers are giving them any problems to inform him, etc.
- NMC is going to have a discussion meeting with labourers on 30 Jul, involving the Mayor, Health Committee chairman, supervisors, labourers, looking at problems and solutions. There seems to be one particular problem area, involving a 'gang of labourers' – NMC is thinking of separating them.

4.9 Tel. Conversation with Thaladuwa Welfare Society, 7 Aug

Thaladuwa Welfare Society rang JICA to ask if there was anything we could do to help them - people in their area are depressed - NMC is not playing the music; garbage is being put out but not collected, resulting in scattered waste. They have heard someone in MC is trying to stop the bell collection.

4.10 Informal meeting with MOH, 13 Aug

- Impromptu meeting with MOH, deputy MOH, CPHI, PHI (Seneviratne), foreman, CC, Vet Dr, Mr Asela, MOH, while they were discussing the SWM budget for next year.

- JICA reported the problems found with their seven broken amplifiers – two had the same problem – due to vibration or mechanical damage to circuit; others damaged by water (IC circuit).
- Discussed bell system – want to try church/school bell system instead of S/A system due to problems experienced with S/As.
- Fixed bins in market area: very few suitable places for fixing, due to presence of concrete slabs over open drains. Hence, need to fix elsewhere.
- Had meeting between MMC management and labourers – only skimmed issues (e.g. aprons, etc.).
- Mr Asela and CPHI going to check Thu am the number of S/As still in service.
- No one is monitoring supervisors' use of motorcycles or fuel. Have made system worse than before (more mobile to do own business).
- Decided that Mr Seneviratne should submit supervision record at every health committee meeting. If supervisors are not working, overtime will be deducted from their pay by the Health committee.
- Mayor has received 20 telegrams from Thaladuwa area complaining about no bell system. He dismissed these as being politically motivated.
- At 30 Jul labourers meeting, one labourer distributed copies of a letter he had written, requesting the following items for work: 2 soaps/mth, pay overtime on schedule, medical checkup monthly, toilet facilities and quarters.
- Thaladuwa Society representative (Mr Peiris) met the mayor yesterday to discuss the bell collection system problem. Many people have complained at the Society's meetings. He also rang Mr Asela today. Both said steps are being taken to get the bell collection system working again.

4.10.1 Informal meeting, 21 August

- Handed over five repaired S/As to foreman.
- Had Health committee meeting where they discussed the motorcycle issue – not going to handover fuel allowance unless supervisors sign daily forms.
- Mr Asela/CPHI found 4-5 of the other 9 amplifiers not working (270-3151, GB4094, 270-3150, 274-509, 09-6733).
- NMC has now covered the entire disposal site with soil (80 loads in Jul).
- NMC (deputy mayor and some Council members) have informed MOLG + Prime Minister by letter that all is not well within NMC.
- Manual bell idea – Mr Seneviratne has 2 school bells (410Rs + 750Rs) but mayor doesn't support this idea.
- CPHI: filling of reports useless as some false information is being provided and as the hut is not yet finished at the landfill site, there is no means of checking whether the stated number of trips is

true or not. He questioned the value of the supervisor training, saying NMC has to change from top to bottom rather than from bottom to top.

- Discussed filling in monthly report with clerk.

4.11 Informal meeting, 22 Aug

- JICA informed Mayor about five speakers/amplifiers being returned and the hut at the landfill site not yet being finished. He rang the Works section and they said it would be completed by Mon. He doesn't like the manual bell idea "like elephant in Perahera". He is thinking of appointing three Council members to supervise SWM – 1 at landfill; 2 in city (may include members of opposition) and is also thinking of employing two young educated people to be trained in SWM.
- Gave copies of monthly reports and draft daily forms to Mr Seneviratne and copies on disc also.
- Collected two more amplifiers for repair from CPHI.
- CPHI went to works meeting yesterday – going to finish hut by Oct 1.

4.12 Tel conversation with Thaladuwa Welfare Society, 25 Aug

Mr Peiris (Thaladuwa WS) rang to say bell collection started again and to thank us.

4.13 SWM PIP Progress Meeting Minutes, 29 August 2003

Present: NMC: Mayor, Health Committee Chairman, MOH, CPHI, PHIs (Mr Seneviratne and Mr Somathilaka) Vet Dr, DEO, CDOs, Mr Nakamoto, foreman, 11 supervisors, 3 labourers; JICA: Dr Sean, Nayana.

This meeting updated NMC's progress since the May monthly report.

4.13.1 Management capacity

- Bylaws: These have been discussed at a Health committee meeting. Copies have been prepared. Secretary is to distribute these copies to Council members before the next Council meeting for their study/discussion.
- Control board: Preparations to start using this are about 60% complete. NMC to finish preparations and start using control board within next 1-2 weeks.
- Monthly report: NMC have started to fill this in. However, many supervisors are not handing in their day sheets, which contain the data needed to fill in the monthly report. They said they usually don't fill in these forms when they are on leave - NMC said the "Acting Supervisor" should fill in this case. Supervisors to improve their reporting.
- Service conditions: NMC is to prepare a duty list for supervisors within the next week. Once this is in place, one PHI will go round the zones to check if labourers are present. If not, the supervisor will be at fault. Audit section will help in this.
- Action Plan: JICA have prepared a revised draft Action plan in English from NMC/JICA meetings and the stakeholder action plan workshop. This is to be translated urgently, so as to produce a revised draft before the scheduled second seminar date of 24 September.

- New PHI: A new PHI has been appointed to Negombo. However, he is currently working in Colombo and the MOH in his area has not yet released his personal papers. Mayor to contact MOH to do this.
- Labourer uniforms: CC has to request required amount of material for these.
- Disposal site records: NMC are to complete shed (control hut) at landfill today. MOH wants NMC to start using this from Sep 1. Tractor drivers must fill some details (based on form supplied by JICA) and sign in a book when they come to the landfill. NMC will use a card system to try to reduce false recording of trips. CPHI and Mr Somathilake to monitor.
- Poor supervisor performance:
 - MOH said some supervisors are not doing their job well. NMC decided that 3h overtime will only be paid if tractors do three trips per day (this is considered sufficient trips to keep an area clean), unless supervisors have a reasonable excuse (e.g. broken tractor). NMC to prepare a new form for overtime approval by next month and to analyse number of trips vs overtime every week.
 - Supervisors are not signing form in workshop when diesel is issued. Supervisors to do.
- Vehicle repairs: Foreman suggested including on job card time of breakdown and time vehicle repaired.
- Meeting minutes: Dilani (supervisor appointed as clerk) to help prepare meeting minutes.
- CPHI is attending Works monthly meeting.
- Kudapaduwa supervisor has been shifted to Periyamulla and replaced with one of the female supervisors (ex-Kochchikade).
- MOH to write letter to ME requesting tree cuttings to be removed by the Works Section.
- Motorbikes: If PHIs find that supervisors are not present in their work areas, they will not be issued with any fuel.
- Other: NMC decided to invite other health committee members to next progress meeting.

4.13.2 Waste Collection Improvement

4.13.2.1 Bell Collection

- Noticeboards: NMC does not consider these very useful – the writing is too small and fading in the sunlight, while four have been removed by unknown persons.
- The bell collection had virtually stopped by about 1 week ago due to:
 - 9 broken amplifiers. 7 have been returned to NMC after repair by JICA. These have been reinstalled on NMC tractors and the bell collection has now started again.
 - Drivers not playing the music, possibly due to confusion as to where it should and should not be played. JICA explained about playing the bell collection music everywhere rather than in selected streets to overcome this problem, relying on curiosity as the major publicity method.

NMC said if drivers are not playing the music correctly, it will be recorded as the supervisor's fault.

- S/A job card: Section to be added to daily report sheet for supervisors to fill in if S/A not working. Will then write a job card and give this to the workshop. (suggested format = zone, date, tractor reg no, "problem with amplifier/speaker", "problem:", supervisor name and signature).
- NMC now have a buffer stock of most essential tractor items. Mayor wants them to keep 2 spare wheels in workshop each day.
- Temporary drivers don't fill the running chart of balance diesel. Supervisors are to sign this chart – otherwise no diesel will be issued.
- Concrete bins: Labourer requested NMC to remove one communal bin in Rajasingha Rd, as people put dog excreta inside. Mr Wasantha is to check such places.

4.13.2.2 Stationary Trailers

- Presence of roof limits capacity – labourers can no longer stand inside and compact load.
- Modification of two smaller trailers to increase their capacity and repair of holes in five other trailers is in progress.
- NMC are buying five new stationary open type trailers.
- NMC have not yet arranged for regular washing of trailers.

4.13.2.3 Modified Handcarts

- JICA explained again about the purpose of the handcarts and that NMC can modify them if they want to. Foreman to estimate cost of modification.
- NMC also going to give some of their own buckets within 1 week to shops (possibly at 50% discount) and collect them using the modified handcart.

4.13.2.4 Litter bins (20 x fixed; 20 x movable)

One fixed bin has been installed in supermarket area but is too low for unloading. NMC is to modify as appropriate and install some more fixed bins.

4.13.3 Social Aspects

- NMC to complete street committee formation and animator selection.
- JICA wants to hold a meeting with animators once a reasonable number have been selected and roles/duties finalised.
- NMC wants to organise a Shramadana as part of World Cleanup Day on 10-11 Oct.
- JICA handed over 10 copies of childrens' book (1 to Mayor, 1 to MOH, 1 to CPHI, 7 to DEO).
- NMC have used the education banners on several occasions.
- Mayor suggested doing awareness programme in two schools.
- JICA has provided paper copies of its presentations for community meetings and childrens' education. NMC has to make overheads of these for use on their overhead projector.

4.13.4 Other

- NMC are applying cover soil about once per week at the landfill site. JICA explained about importance of daily cover. JICA to discuss with Mr Somathilake best way of filling so that amount of daily cover soil required can be minimised.
- Mayor has said NMC may privatise garbage collection in Bazaar I, II and some other areas if supervisors and labourers do not do their job well, with all labourers being assigned to drain cleaning.
- Mayor proposed preparing a 15-20min video showing the bell collection, litter bins, dump site, street committee meeting, school programme and stationary trailers for presentation at national seminar. MOH to present on behalf of NMC.
- NMC requested JICA to write a letter to the Mayor proposing NMC should do a SWM “study tour” to Nuwara Eliya MC attended by the MOH, PHIs, Supervisors, and Health committee chairman. NMC would pay the costs of this trip.

4.14 Progress during September 2003 (in brief)

- Bell collection system seems to be working well again.
- All fixed litter bins have been installed.
- Second seminar held on 24 September attended by over 60 people, with the revised draft action plan being presented and discussed, leading to some further alterations and production of a draft final action plan. The second seminar was very well organized by NMC, involving a large number of different NMC staff and being run by them with minimal input from JICA and good participation from those attending.