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EVALUATION STUDY OF LOW COST SANITATION IN WEST BENGAL

Submitted to

HUDCO (Urban Infrastructure Wing)

OPERATIONS RESEARCH GROUP
BARODA 390 007

JANUARY 1991

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CHAPTER I

INTRODUCTION

1.0 Background

In view of the high cost of underground sewerage disposal systems, and septic tank, Low Cost Sanitation (LCS) is being considered as a viable and affordable alternative in raising levels of sanitation services in towns. Apart from raising levels of service, this is also seen as a method by which the inhuman practice of scavenging could be eradicated. Considering these environmental and social objective, Government of India proposes to cover 300 towns through out the country. Prior to the task of implementing such a programme, it was felt imperative that the existing programmes be assessed objectively for its replicability and understanding the parameters necessary to achieve success. It is in this context that HUDCO sponsored this study.

1.2 The objectives

The objectives of the study are:

a) identify factors responsible for relative success or failure of the programme

b) assess effectiveness of various approaches

c) assess the impact of L.C.S. on scavenging system

d) identify problems

e) recommend improvements in the programme so as to enable HUDCO prepare a strategy for large scale implementation.

1.3 Approach

The programme has been reviewed at two levels:

	Task
Level 1	Review of the programmes at state level
Level 2	Review of the on-going programme in selected towns by means of a survey of households (users and non-users), officials, contractors and scavengers.

As part of the study 6 towns were selected based on:

a) financial performance under LCS
b) Programme initiated in the town before 1987
c) Spatial spread including a hill town
d) Programme coverage

The selected towns are:

Scheme	Financial Performance	
	Good (>40% achievement)	Bad (<40% achievement)
a) Liberation of scavengers (c)	Shantipur	-
b) Liberation of scavengers (s)	Midnapore	Gobardanga
c) Municipal Development Programme (MDP)	Naihatti	
d) Ganga Action Plan GAP	-	Naihatti
e) IDSMT	Darjiling Jalpaiguri	Midnapore

1.4 Present Report

The present report is the third report of the study. The first report presented the approach, the second report provided the sample plan and schedules to be canvassed and the present report presents the results of the field survey.

1.5 Report Organisation

Chapter I provides a background of the study.

Chapter II presents an overview of LCS programme in Bengal, in terms of programme implementation and performance.

Chapter III contains the survey results of L.C.S. users in terms of household profile, shelter profile, services and perception of the users.

Chapter IV contains the survey results of service privy users in terms of household profile, shelter profile, services and perceptions of the users.

Chapter V contains the survey results of community latrine users in terms of household profile, shelter profile, services and perceptions of the users.

Chapter VI contains the survey results of households without any facility in terms of household profile, shelter profile, services and perception of the users.

Chapter VII presents the perception of officials and contractors and a note on liberation of scavengers.

CHAPTER II

AN OVERVIEW OF LCS IN WEST BENGAL

2.0 OVERVIEW

Low Cost Sanitation (LCS) in West Bengal is being implemented as part of Central, State as well as internationally funded programme and commenced as early as 1984. They are:

a) Centrally sponsored Liberation of Scavengers Programme (LOSC)

b) State sponsored Liberation of Scavengers Programme (LOSS)

c) Ganga Action Plan (GAP) funded by Central Government

d) Integrated Development of Small and Medium towns (IDSMT)

e) Municipal Development Programme (MDP) funded by the World Bank.

Apart from the above programmes LCS has also been undertaken with funding from the state public health department. The number of towns covered under each scheme is listed below:

Scheme	Town covered	Year started
LOS-C	20	1983
LOS-S	37	1984
GAP	19	1986
IDSMT	23	1985
MDP	31	1984

2.1 Programmes and their implementation

2.2.1 State and Centrally sponsored Programmes

L.C.S. Programme in West Bengal is generally designed by the Municipal Engineering Directorate (MED) and executed by the local body through contractors. MED is also the monitoring agency, but it is confined only to programmes implemented with central assistance like LOS(c), IDSMT and GAP. Normally MED has no control over the activities under LOS(s).

2.2.1.1 Sources of funds

The sources of fund by programme is given below:

Scheme	Funding
a) IDSMT	40% by State, 40% by Centre. 20% by local body guaranteed by State Govt.
b) LOS (Central & State)	100% Grant
c) Ganga Action Plan	50% by Ganga Development Authority and 50% by Ministry of Social Welfare

As far as funding pattern to the household is concerned it is on a 100% grant basis.

Project Implementation

The project is designed either by MED or the local body with assistance from MED. This project is then sent for approval by the State (Local Government and Urban Development Department) through the MED.

The design of LCS adopted is based on UNDP-TAG model and as a policy MED has decided to adopt the 10 user model and provides facility upto seat level only. The cost is based on the TAG design, but it is revised based on the circle PWD rates and is revised every year.

Apart from assistance in designing, MED also deputes an engineer in construction supervision and the engineer is also responsible for clearance of bills of contractors for payment if it is a centrally sponsored scheme like IDSMT. The MED supplies cement, fibre glass pan and trap to the local body. The selection of contractor for execution of work is done by the municipality.

The programme as such has twin objectives of improving service levels and liberating scavengers. The component of scavenger rehabilitation is implemented by the SC/ST development corporation of the State Government under the department of social welfare.

2.2.2 Programmes under the World Bank Projects

As part of CUDP-III, LCS component was undertaken under the overall Municipal Development Programme (MDP). This programme is implemented by an MDP Directorate under CMDA. This agency assists the local body in planning, designing and execution and monitors the programme. CMDA's bustee cell also implements LCS within its limit, funded as part of Ganga Action Plan.

2.2.2.1 Sources of funds

The programme is funded as part of a larger programme of the World Bank. The MDP Directorate finances the local body on a 25% Grant and 75% loan basis. The local body in turn provides the facility on a 100% grant basis to the households.

Programme implementation

The designs of the LCS unit are based on TAG design and proposals are normally sent to the executive engineers office for technical appraisal. After pre-feasibility, it is sent to the MDP Directorate; for technical and financial sanction. If the cost of scheme is greater than Rs.5 lakh it is approved by the secretary or else it is done by directors in MDP.

CMDA only looks at technical viability and is not much involved in decisions regarding how it is implemented by the local body.

Technical viability is mainly in terms of conformity to SOR and provisions in the budget.

Normally the approvals of schemes goes through a process of clearance by a zonal coordinating and monitoring committee, which forwards it to a regional coordinating and monitoring committee. The final decision is taken by the municipal works committee.

2.3 An overview of the programme at state level

The LCS programme as indicated earlier has been implemented as part of numerous programme indicate that the programme has been relatively successful in most towns of the state (Table 2.1). The only programme wherein there has been a delay in execution is with the Ganga Action Plan. The problem with this scheme is that it was agreed to by the ministry of Social Welfare that it would contribute to 50% of the cost. Hence in most towns only 50% could be achieved. In towns wherein work was slow, the directorate had decided to transfer allocations of such funds to other towns.

The scheme implemented by CMDA differs from that of the MED in that the CMDA programme provides superstructure. This non-provision of superstructure has been one of the reasons for non-usage of L.C.S. by some households.

Table 24. PERFORMANCE OF LCS PROGRAMME IN TOWNS OF WEST BENGAL

SCHEME	SL.NO.	TOWN	POPULATION/STATUS	YEAR OF START	PROGRESS FINANCIAL	PROGRESS PHYSICAL	PROGRESS COMMUNITY	EXPENDITURE UP TO DATE (Rs. Lacs)
LCS (C)	1	[illegible]	35 M	1983	61	567		9.5
	2	[illegible]	[illegible]	1983	[illegible]	[illegible]	12	
	3	BOLPUR	35 M	1983	100	670		15.50
	4	KANPURHAT	35 M	1984	72	1054		20.10
	5	TAMLUK	29 M	1984	93	1835		30.20
	6	KALNA	35 M	1984	95	1079	5	21.00
	7	ALIPORDUAR	45 M	1984	100	2246		47.80
	8	DHULIA	25 M	1985	4	20		0.47
	9	TAKI	25 M	1985	76	1200	4	21.09
	10	CHANDA	60 M	1985	101	820		20.24
	11	BURDWAN	167 M	1986	65	3288	21	60.41
	12	JALPAIGURI	62 M	1986	100	1001		20.00
	13	ASANSOL	167 M	1986	103	5330		137.00
	14	JHARGRAM	27 M	1987	102	540		5.77
	15	SHANTIPUR	82 M	1987	100	3280		83.51
	16	ENGLISH BAZAAR	79 M	1988	100	510		12.10
LCS (S)	1	HANSI	33 M	1984	31	195		2.65
	2	DURGAPORE	312 NAA	1984	126	550		10.65
	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		3.14
	4	J.GUNJ-A.GUNJ	33 M	1985	29	17		0.35
	5	SAINDHIA	24 M	1985	50	133		2.50
	6	RANIGANJ	49 M	1985	57	127		2.29
	7	CONTAI	36 M	1985	100	52		1.00
	8	NABADWIP	109 M	1985	110	625		10.50
	9	MIDNAPORE	80 M	1986	59	514	19	11.71
	10	SILIGURI	154 M	1986	81	1460		34.15
	11	COOCH BEHAR	62 M	1986	84	1512		33.50
	12	ASHOKNAGAR-KALYANGR	55 M	1987				9.00
	13	JANGIPUR	44 M	1987	14			1.00
	14	BURNPUR	33 NAA	1987	40	300		7.14
	15	KULTIBARIA HF	58 NAA	1987	49	350		7.30
	16	PURULIA	74 M	1987	51	715		14.00
	17	[illegible]	105 M	1987	54	323		5.72
	18	BASIRHAT	61 M	1987	100	345		8.00
	19	BAIDURIA	33 M	1987	101	800		10.00
	20	HALDIA	21 NAA	1988	10	130		2.65

Table 2.1 (contd.)

SCHEME	S.NO TOWN	POPULATION STATUS	YEAR OF START	PROGRESS FINANCIAL	PROGRESS PHYSICAL	PROGRESS COMMUNITY	EXPEND. TILL DATE (Rs.Lac)
LCS NOP	1 CHA[illegible]	76 M	198[illegible]	34	6[illegible]		7.51
	2 BARANAGAR	167 M	1984	47	423		7.56
	3 GARULIA	57 M	1984	54	167		7.25
	4 BATPARA	263 M	1984	64	984		17.25
	5 S DUMDUM	227 M	1984	69	232		5.51
	6 UTTARPARA-KOT	79 M	1984	75			18.33
	7 BALLY	137 M	1984	79	892		31.72
	8 PANIHATTI	205 M	1984	79	906		14.90
	9 KONNAGAR	51 M	1984	79			1.33
	10 RISHRA	81 M	1984	82	749		13.16
	11 HOOGLY	126 M	1984	83	114		33.95
	12 BANSBERIA	77 M	1984	83			12.47
	13 NAIHATI	114 M	1984	88	772		17.62
	13 CHANDANNAGAR	101 M	1984	90	1242		32.49
	14 BHADRASWAR	59 M	1984	100	383		7.36
	15 BARUIPUR	27 M	1984	108	420		6.06
	16 TITAGARH	104 M	1985	7			1.0[illegible]
	17 BAIDYABATI	76 M	1985	61	93		1.95
	18 DUMDUM	36 M	1985	71	171		2.45
	19 SERAMPORE	127 M	1985	77	906		24.9[illegible]
	20 BUDGE BUDGE	66 M	1985	80	355		6.47
	21 ULBERIA	123 M	1985	81	637		48.05
	22 HALISHAHAR	54 M	1985	99	527		13.47
	23 NEW BARRACKPORE	8[illegible] M	1985	10[illegible]	[illegible]		3.1[illegible]
	24 KAMARHATTI	240 M	1986	61	381		10.33
	25 N BARRACKPORE	81 M	1986	68	855		16.05
	26 GAYESPUR	41 NAA	1986	71	106		2.89
	27 BARRACKPORE	112 M	1986	77	396		6.09
	28 KANCHRAPARA	90 M	1986	79	92		14.03
	29 RAJPUR	44 M	1986	92	381		9.35
	30 BARASAT	66 M	1987	65	77		1.62
	31 N DUM DUM	96 M	1987	100	242		3.96
GAP CMDA	1 BAIDYABATHI	76 M	1986	62	457		8.50
	2 KHARDAH	45 M	1986	87	591		9.42
	3 GARULIA	57 M	1986	90	780		12.78
	4 CHANDANI	76 M	1986	90	881		14.40
	5 KANCHRAPARA	9[illegible] M	1986	9[illegible]	1245		21.10
	6 UTTARPARA	79 M	1986	95	608		14.90
	7 BUDGE BUDGE	66 M	1986	99	954		17.30
	8 BARRACKPORE	112 M	1986	100	1159		21.00
	9 NORTH BARACKPORE	81 M	1986	100	1866		33.97
	10 RISHRA	81 M	1986	100	1036		16.81
	11 BHADRESWAR	59 M	1986	100	750		13.61
	12 KONNAGARH	51 M	1986	158	713		12.00

Table 2.1 (conto.)

SCHEME	S.NO	TOWN	POPULATION	STATUS	YEAR OF START	PROGRESS FINANCIAL	PROGRESS PHYSICAL	PROGRESS COMMUNITY	EXPENDITURE (Rs.Lacs)
	13	NAIHATI	134	M	1987	15	287		3.71
	14	SERAMPORE	127	M	1987	104	204		4.79
	15	HOOGHLY CHINSURAH	120	M	1987	107	1415		25.65
	16	HALISHAHAR	94	M	1987	135	1790		31.50
NON DMDA	17	KALYANI	37	NAA	1987	15			1.37
	18	BERHAMPORE	100	M	1987	92			51.40
	19	NABADWIP	112	M	1987	97			57.60
IDSMT	1	MIDNAPORE	27	M	1985	35	192	6	7.47
	2	CONTAI	36	M	1985	40	200		4.34
	3	RAIGANJ	66	M	1985	49	447		10.13
	4	ENGLISH BAZAAR	79	M	1985	55	770		1.61
	5	BERHAMPORE	100	M	1985	60	690		12.85
	6	KHARAGPUR	235	M	1985	63	698		12.73
	7	BALURGHAT	105	M	1985	78	900		16.55
	8	KALIMPONG	29	M	1985	83	215		6.79
	9	SURI	41	M	1985	83			15.36
	10	RANAGHAT	64	M	1985	83	913	0	16.92
	11	BASIRHAT	61	M	1985	83	910	0	17.46
	12	DARJEELING	57	M	1985	82	0	45	20.53
	13	KATWA	47	M	1985	88	1075	10	23.26
	14	COOCH-BEHAR	62	M	1985	99	1361		20.96
	15	PURULIA	74	M	1985	99	1381		24.24
	16	JALPAIGURI	62	M	1987	104	120		2.44
	17	KRISHNAGAR	96	M	1985	111			26.06
	18	SILIGURI	154	M	1985	117	1991		26.36
	19	BANKURA	96	M	1988	12	210		3.21
	20	RANIGANJ	45	M	1989	0	0		0.09
LOB (Sept 2000)	1	JEALDA	13	M	1984	23	107		2.56
	2	CHANDRAMUKHA	13	M	1984	85	240		3.63
	3	KHARAR	8	M	1985	9	50		1.04
	4	OLD MALDA	9	M	1985	17	44		1.97
	5	KHIRPAI	9	M	1985	21	65		2.26
	6	JAINAGAR-MAJILPUR	10	M	1985	27	750		5.12
	7	RAMJIBANPUR	12	M	1985	34	191		3.95
	8	DANTAN	15	M	1985	41	95		1.45
	9	TOOFANGANJ	5	M	1985	54	1027		17.39
	10	HALDIBARI	7	M	1985	64	287		9.10
	11	BELDANGA	10	M	1985	65	259	6	6.97
	12	BIRNAGAR	15	M	1985	100	1385		27.00
	13	DINHATA	15	M	1985	106	568	2	11.13

Table 2.1 (contd.)

SCHEME	S.NO	TOWN	POPULATION	STATUS	YEAR OF START	PROGRESS FINANCIAL	PHYSICAL	COMMUNITY	EXPENC. TILL DATE (Rs.Lac
	14	DISHERGARH	14	M	1987	15	0		1.40
	15	KURSEORC	16	M	1987	100	150	10	5.00
	16	BUSKARA	12	M	1986	37	155		2.93
	17	NIMATPORE	18	NAA	1986	100	500		14.00
LOS(MDF)<20000	1	NAIHATI	14	M	1984	88	772		19.27
IDSMT <20000	1	BISHNUPUR		M	1985	35	560		7.80
	2	TARAKESHWAR		M	1985	94	204		3.92
	3	HABRA		M	1986	42	400		11.76
LOS(C) < 20000	1	SONARPUR-HI	20	M	1983	80	1100	07	15.70
	2	MEHALIGURI	5	M	1984	10	241		4.99
	3	MATHABANGA	11	M	1984	100	1139		22.45
	4	DUBRAJPUR	20	M	1987	100	272		0.00

CHAPTER III

PROFILE AND PERCEPTIONS OF L.C.S. USERS

3.0 Background

The survey to assess the performance of LCS was conducted in 6 towns of West Bengal. The survey covered:

a) Users of LCS
b) Users of dry latrines
c) Users of community facilities and other facilities
d) Officials
e) Contractors and
f) Liberated scavengers

The perceptions of each group is presented in the subsequent chapters.

3.1 Town Profile

The towns selected are spread over the entire state and the population ranges between 27,000 (Gobardanga) to 1,14,000 (Naihatti).

The towns surveyed have adequate piped water supply for drinking purposes. For other purposes localised sources like wells or tanks are used. Darjiling is the only town where the per capita supply is low (28 lpcd).

The towns have adequate road network and the density ranges from 4.4 km/sq (Santipur) to 18.9 km/sq.km. (Midnapore).

Sanitation facility, inadequate in most towns has improved after the introduction of LCS system. Holdings with LCS account for almost 20% in the selected towns except Darjiling where space constraint has forced the local body to opt for community level facility and in Midnapore wherein the proportion of households with septic tanks is quite high.

Table A : Town Profile

Town	Area sq.km	Popul-ation '81	Water supply LPCD	Road density km/sq.km	Sanitation		LCS	Others
					Hold-ings	House conne-ctions/ septic tanks		
Shantipur	24.6	0.84	NA	4.4	15600	10.9	21.0	68.1
Gobardanga	10.00	0.27	Piped supply. Under constn.	10.2	6854	NA	20.1	NA
Darjiling	10.57	0.57	28	6.1	3663	55.0		45.0
Jalpaiguri	10.00	0.62	45	7.8	6763	66.4	29.7	3.9
Midnapore	10.36	0.86	55	18.9	11152	91.0	2.0	7.0
Naihatti	4.35	1.14	60	10.9	7100	42.2	25.3	32.5

3.1 LCS Performance

The performance of LCS has been relatively better in most towns. The towns offtake has been poor in Gobardanga (LOS-S), Midnagpore (IDSMT) and Naihatti (GAP). The reasons for poor performance is outlined in the following sections in terms of reactions of various participants in the programme.

3.2 Perceptions of LCS Users

The perceptions of LCS users has been ascertained in terms of:

a) Awareness of the benefits of LCS
b) Procedural aspects
c) Construction and
d) Maintenance

Table B : LCS Performance in selected centres

Town	Programme	Population ('000s)	Year of start of program	Progress: expenditure as on 86 (lacs)	Progress: Financial achievement (%)	Progress: No. of units: Individual	Progress: No. of units: Community
Shantipur	LOS(C)	84	1987	63.51	100	3280	-
Gobardanga	LOS(S)	27	1985	3.24	24	205	-
Darjiling	IDSMT	57	1985	20.53	88	-	45
Jalpaiguri	IDSMT	62	1985	20.01	100	1200	-
Midnapore	IDSMT	27	1985	7.47	35	1310	6
Naihatti	GAP	114	1987	3.91	15	287	-
	MDP		1984	17.62	88	772	-

This section also presents a profile of LCS beneficiaries.

3.2.1 Household Profile

The average household size varies from 5.32 in the case of Naihatti to 7.67 in Midnapore (Table 1).

The chief wage earners (CWE) of most households are in the age group of 30-50. In Shantipur, a larger proportion (over 63%) are above 50 years (Table 3). Most CWE in the towns surveyed are self employed (44% in Naihatti to 73% in Shantipur), employment in the private sector is significant in Naihatti (32%) and Jalpaiguri (28%) on an average 80% of the CWEs are full time employees (Table 4).

The education level of CWE indicates that a large proportion of them have attended schools. The only towns were a larger proportion of illiterate CWEs were found was in Gobardanga (40%) and Jalpaiguri (56%) (Table 5).

The average household income of LCS users ranges from Rs.889 in Gobardanga to Rs.1131 in Midnapore.

It has been observed that except in Midnapore in all other towns over 65% LCS users were found having an income of less than Rs.1000. This proportion in Midnapore is to the extent of 42% only (Table 7).

The average expenditure was found to be between Rs.893 in Gobardanga to Rs.1175 (Midnapore). The major item of expenditure is food and the most important being education (Table 8).

3.2 Shelter Profile

The households surveyed were mostly from non-congested neighbourhoods and in most case the settlements were more or less organised. The households surveyed stay in ground floor only.

Tenure status of the households indicated that over 90% of the users are owner households.

The roof of most dwelling units varies with town. In Shantipur over 63% reside in units with a cement concrete roof, in Gobardanga, 70% have a combination of tiles and thatched roofs. In Jalpaiguri larger proportion reside in units with asbestos roof (Table 13). The wall in most cases is pucca or semi-pucca. In Midnapore 35% households reside in units with mud wall and in jalpaiguri use of wood as wall material is predominant (Table 14).

The floor type is either cement or mud (Table 15).

Services

The major source of water supply of LCS user households are either well (Jalpauguri), handpump (Shantipur) or community facilities. Use of tanks for washing purposes is predominant (Table 16). As far as users of piped water or public standpost is concerned, the average duration of supply ranges from 3 hours in Shantipur to 8 hours in Naihatti. Water as such is not a problem (Table 17). Water in most cases is available within a distance of 20 metres (Table 18).

Power availability is as low as 7% in Gobordanga to 65% in Midnapore (Table 20).

3.2.3 Perception of LCS

Prior to conversion to LCS over 80% of the households were using dry latrines/pit type latrines, which had to be cleaned frequently. The reasons why majority of the households accepted LCS is because of privacy, non-availability of scavengers and the fact that this is an environmentally safe method of disposal.

Pit characteristics

The pits in all the cases are located within the compound but not under any covered area (Table 22). While in installation of pits, one of the consideration is distance from source of water. The pit should be located at a minimum distance of 10 mt from the nearest water source. Almost 50% of the pits in Shantipur, and Jalpaiguri and Midnapore are within a distance of 10 mt. In Gobardanga and Naihatti 37% of the pits are within a distance of 10 mt (Table 24). This is more due to lack of space.

Use and individual maintenance

Though the pit is designated as a 10 user system, in a much as 35% of the households surveyed, they are used by less than 5 members (Table 25). Normally all households use LCS facility and it is for the designated use only. Maintenance is done periodically and use of acid, soap or phenyl is common (Table 28). The life of the system depends on flushing and it has been observed that over 70% flush the system with less than 6 litres of water. Water as indicated earlier is easily available (Table 29).

Problems and constraints

Most households as such have not come across any problem with the functioning of LCS. Wherever encountered, it has been in terms of defective fixtures, or clogging of pipe despite non-usage for waste dumping. Bad smell is the major problem and households as well as officials attribute this to lack of maintenance and proper flushing (Table 31).

Acceptability of LCS

The households were asked to rate the material quality, work quality, design and performance in terms of good, bad or acceptable (Table 32-36).

As far as material is concerned over 80% in Naihatti, Shantipur and Gobardanga have indicated that as good. Whereas around 35% in Jalpaiguri and Midnapore have stated it to be bad. In terms of work quality except Jalpaiguri, in all other towns it is good or acceptable. Most households feel the design to be good as also its functioning.

Households who have indicated problem with material generally refer to cement mortar, aggregates and bricks which in turn affects quality. As part of technical survey, quality of brick was tested and it was found to break when dropped from a height of 3 ft. In few cases voids were also observed.

The aggregates used in the cement concrete (and steel bars) are of average quality. Though a standardized fibre glass pan is used, the households have replaced these on their own with sanitary pans.

There have also been instance of collapse of pit walls, which reflects the quality of work.

Quality control

Quality is supposed to be ensured by constant supervision from the municipality. Generally it has been observed that visits by overseers were rare and it was the ward commissioner (a non-technical person) who used to visit (Table 31). Though officials point out that visits are frequent, the households contradict their view point. Discussions of officials with MED in a few circles indicated that contractors generally do not implement their suggestions while execution. They attribute this to the fact that the contractors are in no way dependent on these officials. In fact being closer and working on the basis of ward representatives is gainful for them. It should be noted that payments are made by the local body and not MED.

Awareness of utility and procedures

A large proportion of households are not aware of the time taken for a pit to get filled up (Table 40). Care was taken to cover households who were provided LCS during the period 1985-87. Not a single household had reported the pit being full. Officials point out that it will take at least 5-6 years for a pit to get filled up. The households though aware of the LCS's utility in terms of prevention of pollution, have not understood the utility of the two pit system (that of the night soil decomposing during the period of usage of second pit). They indicated that as soon as a pit is full, they will inform the municipality to clean it. Most households are also not aware of the fact that if a pit is full, then it is possible to divert night soil to the second pit.

The procedure in availment of LCS depends on application to the municipality (first come basis), and need for a facility. The information source in most cases has been the ward commissioner or other municipal officials. The households are aware of the fact that selection depends on time of application, but also indicate that closeness to the ward representative helps in availing the facility faster. Households are also aware of the fact that distribution of facility is based on availability of funds and space within his plot.

An overview

The beneficiaries of LCS facility are satisfied with the system, as it provides privacy and is a safe disposal mechanism. The basic problems faced are with fixtures; which are defective and quality of material used. One major problem is now provision of superstructure (except in MDP), household have invested between Rs.300 (thatch/bamboo) Rs.1200 for a pucca structure. Households have also indicated that beneficiary selection also needs to be based on capability to invest even in the least cost superstructure. They have raised this issue because, in such localities households have been provided LCS but have not used due to lack of superstructure, whereas those requiring it immediately had to wait for their turn. It has been observed that there are facilities lying unused for over 2 years.

Households have indicated that if any individual is interested in LCS they would recommend this facility. They feel that there is a need for faster provision of the facility as it takes a year to avail the same. Quality they feel needs care in terms of constant inspection from technical staff. The very fact that they are willing to recommend is an indicator of its acceptability.

Table 3.1 : No. of family members per Households (HH)

Town	% distribution of size group					
	<5	5-7	8-10	>10	Total	Avg HH size
Shantipur	33	37	23	7	100	6.45
Gobardanga	33	53	14	-	100	5.76
Jalpaiguri	24	44	12	20	100	7.08
Midnapore	8	50	23	19	100	7.67
Naihatti	40	56	4	-	100	5.32
Total	27.6	48	15.2	9.2	100	6.46

Table 3.2 : Age distribution of HH

(per cent)

Town	0-15 years		16-59 years		>59 years		Total
	Male	Female	Male	Female	Male	Female	
Shantipur	15	12	33	31	6	3	100
Gobardanga	20	19	29	25	4	3	100
Jalpaiguri	15	16	33	29	4	3	100
Midnapore	11	13	33	33	6	4	100
Naihatti	7	16	37	31	6	3	100
Total	13.6	15.2	33	28.8	5.2	3.2	100

Table 3.3 : Age of Chief Wage Earner (CWE)

Per cent

Town	Years			Total
	<30	30-50	>50	
Shantipur	-	37	63	100
Gobardanga	10	53	37	100
Jalpaiguri	16	48	36	100
Midnapore	4	46	50	100
Naihatti	12	60	28	100
Total	8.4	48.8	42.8	100

Table 3.4 : Occupation of CWE

Per cent

Town	Self empl-oyed	Govt. sector	Private sector	Others	Total	Status of occupation		
						Full time	Part time	Total
Shantipur	73	10	4	13	100	90	10	100
Gobardanga	57	7	13	23	100	73	27	100
Jalpaiguri	56	4	28	12	100	80	20	100
Midnapore	65	15	8	12	100	88	12	100
Naihatti	44	8	32	16	100	84	16	100
Total	59	8.8	17	15.2	100	83	17	100

Table 3.5 : Education of CWE

Per cent

Town	Illiterate	<7th class	7-10th class	>10th	Total
Shantipur	10	47	33	10	100
Gobardanga	40	33	20	7	100
Jalpaiguri	56	16	20	8	100
Midnapore	27	23	23	27	100
Naihatti	28	56	12	4	100
Total	32.2	35	21.6	11.2	100

Table 3.6 : No. of earners per HH

Per cent

Town	One or more male	One or more female
Shantipur	100	3
Gobardanga	100	13
Jalpaiguri	100	16
Midnapore	100	-
Naihatti	100	8
Total	100	8

Table 3.7 : Monthly household income (Rs.)/Expenditure (Rs.)

Town	<500	500-750	750-100	>1000	Total	Monthly income (Rs.)	Monthly average expend-iture (Rs.)
Shantipur	10	33	27	30		842	967
Gobardanga	13	30	20	37		858	899
Jalpaiguri	4	20	40	36		923	995
Midnapore	-	19	23	58		1016	1131
Naihatti	4	40	24	32		860	956
Total	6.2	28.4	26.8	38.6		900	991

Table 3.8 : Monthly average expenditure on different items

Per cent

Town	Food	Clothing	Rent	Electricity	Taxes	Education	Others	Total
Shantipur	705	-	-	35	7	110	117	967
Gobardanga	720	-	-	-	3	101	75	899
Jalpaiguri	661	70	-	30	9	145	80	995
Midnapore	840	-	-	40	7	163	81	1131
Naihatti	713	-	-	41	8	109	85	956
Total	727.8	14	-	36.5	6.8	125.6	87.6	998.3

Table 3.9 : Religion of the H.H.

Per cent

	Hindu	Muslim	Other	Buddist	Total
Shantipur	85	15	-	-	100
Gobardanga	83	17	-	-	100
Jalpaiguri	94	4	2	-	100
Midnapore	77	23	-	-	-
Naihatti	80	20	-	-	100
Total	83.8	15.8	0.4	-	100

Table 3.10 : Neighbourhood and character

(Per cent)

Town	Slum	EWS	LIG	MIG	Total	Character		
						Cong-ested	Non-congested	Total
Shantipur	-	-	73	27	100	-	100	100
Gobardanga	-	7	80	13	100	13	87	100
Jalpaiguri	-	-	84	16	100	-	100	100
Midnapore	8	8	42	42	100	19	81	100
Naihatti	4	8	44	44	100	8	92	100
Total	2.4	4.6	64.6	28.4	100	8	92	100

Table 3.11 : Location of households

Town	Location			
	Ground floor	First floor	Second floor	Total
Shantipur	100	-	-	100
Gobardanga	100	-	-	100
Jalpaiguri	100	-	-	100
Midnapore	96	4	-	100
Naihatti	100	-	-	100
Total	99.2	0.8	-	100

Table 3.12 : Tenure Status

(per cent)

Town	Owner	Tenant	Others	Total
Shantipur	93	7	-	100
Gobardanga	100	-	-	100
Jalpaiguri	100	-	-	100
Midnapore	100	-	-	100
Naihatti	100	-	-	100
Total	98.6	1.4	-	100

Table 3.13 : Roof type

(Per cent)

Town	Cement concrete	Thatched with tiles	Thatched with bamboo & leaves	Wooden roof	Others	Asbestos covered	Tin plates covered	Total
Shantipur	63	24	-	-	13	-	-	100.0
Gobardanga	7	70	-	-	23	-	-	100.0
Jalpaiguri	5	5	-	15	5	50	20	100.0
Midnapore	38	27	19	-	15	-	-	100.0
Naihatti	24	52	4	-	20	-	-	100.0
Total	27.4	35.6	4.6	3	15.2	10	4	100.0

Table 3.14 : Wall type

(Per cent)

Town	Brick with cement mortar	Brick with mud	Stone wall	Mud wall	Wooden or bamboo made	Others	Total
Shantipur	73	27	-	-	-	-	100
Gobardanga	7	20	-	23	-	50	100
Jalpaiguri	-	10	-	8	76	6	100
Midnapore	35	27	-	35	-	3	100
Naihatti	68	4	-	12	-	16	100
Total	36.6	17.6	-	15.6	15.2	15	100

Table 3.15 : Floor type

(Per cent)

Town	Mosaic plast-ered	Stone slabs	Cement plast-ered	Mud floor	Wooden	Others	Total
Shantipur	-	-	80	20	-	-	100
Gobardanga	-	-	10	87	-	3	100
Jalpaiguri	-	-	8	84	8	-	100
Midnapore	-	-	52	42	-	4	100
Naihatti	-	4	44	48	-	4	100
Total	-	0.8	38.8	56.2	1.6	2.2	100

Table 3.16 : Sources of water

(Per cent)

Town	Stand post	Hand pump (comm)	Hand pump (Ind.)	Well (comm)	Well (own)	Piped	Others	Total
Shantipur	10	17	60	-	10	3	-	100
Gobardanga	7	63	20	7	-	-	3	100
Jalpaiguri	-	12	-	44	20	4	*20	100
Midnapore	35	35	-	4	19	19	11	123
Naihatti	76	4	-	-	4	20	-	104
Total	25.6	26.2	16	11	10.6	9.2	6.8	105.4

* from river, tank, etc.

Table 3.17 : Average duration of supply (hours)

(Per cent)

Town	Piped	Stand post
Shantipur	3	3
Gobardanga	4	-
Jalpaiguri	5	-
Midnapore	3	-
Naihatti	7.5	7
Total	4.5	2

Table 3.18 : Distance to water source (in Mts)

(per cent)

Town	<5	5-10	11-20	>20	Total	Average distance to source
Shantipur	40	27	17	16	100	11.68
Gobardanga	17	20	30	33	100	17.15
Jalpaiguri	12	20	32	36	100	18.12
Midnapore	15	27	31	27	100	15.97
Naihatti	-	56	28	16	100	13.76
Total	16.8	30	27.6	25.6	100	15.34

Table 3.19 : Average consumption of water per day/HH (in lts)

(per cent)

Town	Drinking	Cooking	Bathing	Toilet	Others	Total water consumption
Shantipur	42	90	126	100	64	422
Gobardanga	49	89	148	127	130	543
Jalpaiguri	27	31	37	35	34	164
Midnapore	49	92	206	116	80	543
Naihatti	56	87	144	103	70	460
Total	44.6	77.8	132.2	96.2	75.6	426.4

Table 3.20 : Availability of power

(per cent)

Town	Yes	No	Total
Shantipur	53	47	100
Gobardanga	7	93	100
Jalpaiguri	44	56	100
Midnapore	65	35	100
Naihatti	48	52	100
Total	43.4	56.6	100

Table 3.21 : Method used before adopting LCS

(Per cent)

Town	Dry latrine	Pit type	Open field	Others	Total
Shantipur	100	-	-	-	100
Gobardanga	70	30	-	-	100
Jalpaiguri	76	24	-	-	100
Midnapore	96	4	-	-	100
Naihatti	85	15	-	-	100
Total	85.4	14.6	-	-	100

Table 3.22 : Location of pits

(per cent)

Town	Covered area or verandah	Within compound	Outside compound	Others	Total
Shantipur	-	97	3	-	100
Gobardanga	-	100	-	-	100
Jalpaiguri	-	100	-	-	100
Midnapore	4	96	-	-	100
Naihatti	-	100	-	-	100
Total	0.8	98.6	0.6	-	100

Table 3.23 : Location of LCS Unit

(per cent)

Town	Covered area or verandah	Within compound	Outside compound	Others	Total
Shantipur	-	97	3	-	100
Gobardanga	-	100	-	-	100
Jalpaiguri	-	100	-	-	100
Midnapore	4	96	-	-	100
Naihatti	-	100	-	-	100
Total	0.8	98.6	0.6	-	100

Table 3.24 : Distance between individual source of water & pits (in mts.)

(per cent)

Town	0-5	6-10	11-15	16-20	>20	Total	Average distance
Shantipur	26	29	23	10	12	100	11.41
Gobardanga	23	13	37	7	20	100	13.26
Jalpaiguri	16	36	12	24	12	100	12.56
Midnapore	11	46	12	-	31	100	13.00
Naihatti	23	15	31	23	8	100	12.52
Total	18.8	27.8	23	12.8	16.6	100	12.55

Table 3.25 : No. of persons using a 10 users LCS Unit

(per cent)

Town	No. of persons using a 10 users LCS Unit				Total	Average no. of persons using
	<5	6-10	11-15	>15		
Shantipur	29	42	20	9	100	8.94
Gobardanga	46	50	-	4	100	6.98
Jalpaiguri	24	44	28	4	100	9.04
Midnapore	27	35	23	15	100	9.69
Naihatti	50	35	12	3	100	7.37
Total	35.2	41.2	16.6	7	100	8.4

Table 3.26 : Whether used for waste disposal

(per cent)

Town	Yes	No	Total
Shantipur	4	96	100
Gobardanga	-	100	100
Jalpaiguri	-	100	100
Midnapore	-	100	100
Naihatti	-	100	100
Total	0.8	99.2	100

Table 3.27 : Whether LCS used regularly

(per cent)

Town	Yes	No	Total
Shantipur	98	2	100
Gobardanga	100	-	100
Jalpaiguri	100	-	100
Midnapore	100	-	100
Naihatti	100	-	100
Total	99.6	0.4	100

Table 3.28 : Cleaning material used

(per cent)

Town	Acid	Soap/ surf	Phenyl	Plain water	Others	No material used	Total
Shantipur	26	40	19	10	2	3	100
Gobardanga	27	10	20	23	10	10	100
Jalpaiguri	4	60	20	8	-	8	100
Midnapore	-	35	15	54	4	-	108
Naihatti	24	16	28	16	10	8	102
Total	16.2	32.2	20.4	22.2	5.2	5.8	102

Table 3.29 : Quantity of water used after each use (in lts.)

(per cent)

Town	<2	3-4	5-6	>6	Total	Average quantity of water used
Shantipur	10	38	26	26	100	5.04
Gobardanga	6	30	34	30	100	5.44
Jalpaiguri	12	28	36	24	100	5.12
Midnapore	8	15	46	31	100	5.69
Naihatti	31	18	31	19	100	4.51
Total	13.4	26	34.6	26	100	5.16

Table 3.30 : Anything put in the latrine to help its function

(per cent)

Town	Yes	No	Total
Shantipur	4	96	100
Gobardanga	23	77	100
Jalpaiguri	8	92	100
Midnapore	7	93	100
Naihatti	4	86	100
Total	9.2	90.8	100

Table 3.31 : Any problem with LCS functioning

(per cent)

Town	No	Emits bad smell	Fixtures defective	Fixtures not durable	Pipe choking	Others
Shantipur	84	-	6	-	3	6
Gobardanga	90	-	7	-	-	3
Jalpaiguri	60	16	4	4	12	8
Midnapore	73	5	11	-	11	-
Naihatti	73	11	11	-	-	5
Total	76	6.4	7.8	0.8	5.2	4.4

Table 3.32 : Opinion about the quality of material

(per cent)

Town	Good	Acceptable	Bad	Total
Shantipur	84	7	8	100
Gobardanga	80	3	17	100
Jalpaiguri	48	16	36	100
Midnapore	50	12	38	100
Naihatti	61	16	23	100
Total	64.6	10.8	24.6	100

Table 3.33 : Opinion about the quality of work

(per cent)

Town	Good	Acceptable	Bad	Total
Shantipur	77	7	16	100
Gobardanga	86	7	7	100
Jalpaiguri	60	8	32	100
Midnapore	65	20	15	100
Naihatti	85	4	11	100
Total	74.6	9.2	16.2	100

Table 3.34 : Opinion about the design

(per cent)

Town	Good	Acceptable	Bad	Total
Shantipur	90	7	3	100
Gobardanga	97	-	3	100
Jalpaiguri	92	4	4	100
Midnapore	85	7.5	7.5	100
Naihatti	92	8	-	100
Total	91.2	5.3	3.5	100

Table 3.35 : Opinion about the performance (flushing)

(per cent)

Town	Good	Acceptable	Bad	Total
Shantipur	88	6	6	100
Gobardanga	94	3	3	100
Jalpaiguri	84	12	4	100
Midnapore	92	4	4	100
Naihatti	85	7.5	7.5	100
Total	88.6	6.5	4.9	100

Table 3.36 : Opinion about the fixtures

(per cent)

Town	Good	Acceptable	Bad	Total
Shantipur	77	10	13	100
Gobardanga	94	3	3	100
Jalpaiguri	76	8	16	100
Midnapore	76	7	17	100
Naihatti	77	11.5	11.5	100
Total	80	7.9	12.1	100

Table 3.37 : LCS Unit constructed in

(per cent)

Town	1985-87	1988-89	1990
Shantipur	84	16	-
Gobardanga	33	44	23
Jalpaiguri	48	36	16
Midnapore	4	61	35
Naihatti	38	46	16

Table 3.38 : Number of days taken for construction

(per cent)

Town	<5	6-10	11-20	>20	Total	Average no. of days taken per unit
Shantipur	74	16	6	4	100	6.94
Gobardanga	87	13	-	-	100	5.39
Jalpaiguri	68	12	4	16	100	9.00
Midnapore	70	15	11	4	100	7.46
Naihatti	61	23	8	8	100	5.12
Total	72	15.8	5.8	6.4	100	6.78

Table 3.39 : Persons came to supervise construction

(per cent)

Town	None	Ward commissioner	Overseer or municipal officials	Total
Shantipur	45	9	46	100
Gobardanga	50	13	40	103
Jalpaiguri	32	12	56	100
Midnapore	35	11	54	100
Naihatti	81	4	15	100
Total	46.6	9.8	42.2	100.6

Table 3.40 : Whether informed as to how many years it would take for the pits to get filled

(per cent)

Town	Yes	No	Total
Shantipur	32	68	100
Gobardanga	70	30	100
Jalpaiguri	32	68	100
Midnapore	38	62	100
Naihatti	42	58	100
Total	42.8	57.2	100

Table 3.41 : Source of information about LCS

(per cent)

Town	Friends	Relatives	Ward commi-ssioner	Municipal officials	Others	Total
Shantipur	-	3	64	23	10	100
Gobardanga	10	6	64	17	3	100
Jalpaiguri	16	-	64	8	12	100
Midnapore	4	4	69	15	8	100
Naihatti	19	19	19	43	-	100
Total	9.8	6.4	56	21.2	6.6	100

Table 3.42 : Whether aware of beneficiary selection

(per cent)

Town	Yes	No	Total
Shantipur	45	55	100
Gobardanga	70	30	100
Jalpaiguri	52	48	100
Midnapore	50	50	100
Naihatti	46	54	100
Total	52.6	47.4	100

Table 3.43 : Time taken to get LCS unit (in months)

(per cent)

Town	<1	1-3	3-6	>6	Total
Shantipur	19	39	19	23	100
Gobardanga	53	17	7	23	100
Jalpaiguri	4	16	24	56	100
Midnapore	12	30	23	35	100
Naihatti	8	23	8	61	100
Total	19.2	25	16.2	39.6	100

CHAPTER IV

PROFILE AND PERCEPTIONS OF SERVICE PRIVY USERS

4.1 Perceptions of service privy users:

The perceptions of dry latrine users has been ascertained in terms of:

a) Opinion about the present sytem
b) awareness of the benefits of L.C.S.
c) Willingness to pay for having a L.C.S. unit and cost of the unit as perceived by them.

4.2 Household Profile

The average household size varies from 5.0 in the case of Gobardanga to 8.2 in Midnapore (Table 4.1). The chief wage earners (CWE) of most households are in the age group of 30-50 years. In Jalpaiguri and Naihatti a larger proportion (about 60%) are above 50 years (Table 4.3). Most CWE in the towns surveyed are self employed (40% in Naihatti to 80% in Midnapore), employment in the Government sector is significant in Jalpaiguri (40%) and Midnapore (20%), employment in the private sector is significant in Naihatti (40%) and Gobardanga (33%), on an average 90.75% of the CWE are fulltime employees (Tabel 4.4).

The average household income per month of service privy users ranges from Rs.691 in Gobardanga to Rs.1070 in Midnapore. It has been observed that in Gobardanga over 80% users were found having an income of less than Rs.1000. This proportion in Midnapore and Naihatti is to the extent of 40% only (Table 4.7).

The average expenditure was found to be between Rs.725 in Gobardanga to Rs.1137 in Midnapore (Table 4.7). The major item of expenditure is food, which is about 75% of the total expenditure, and the next important being education (Table 4.8).

4.3 Shelter Profile

The households surveyed were mostly from non-congested neighbourhoods, excepting Naihatti, were about 60% of the surveyed households reside in congested area. All the households surveyed reside in ground floor only (Table 4.9).

Tenure status of the households indicated that over 80% of the users are owner households, and tenants are significant in Midnapore (20%) and Naihatti (20%). The roof of most dwelling units varies with town. In Gobardanga over 65% reside in units with thatched tiles roof, in Jalpaiguri all of them reside either under asbestoes sheets roof or thatched with tiles type. In Midnapore about 60% reside under cement concrete roof, and in Naihatti, most of them reside under thatched with tiles kind of roof (Table 4.12). The wall in most cases is either of brick wall made with cement mortar or with mud, only in Jalpaiguri all the households are having walls made with bamboo (Table 4.13).

The floor type is mostly mud floor, only in Midnapore, the cement plastered floor is observed to a large extent (60%) (Table 4.14).

4.4 Services

The most significant source of water supply is through community standposts in all the towns. Community handpump is major source of supply in Gobardanga (66%). In Midnapore, many of the households have wells within their compound (40%). In Naihatti, the piped water supply caters to 40% of the service privy users households (Table 4.15). The average duration of supply of piped water is around 4 hours and for standposts it is 4.5 hours. Water as such is not a problem. Water in most cases is available within a distance of 20 metres except in Jalpaiguri were it is around 25 metres (Table 4.17).

Power availability is as high as 80% in Midnapore to 20% in Gobardanga (Table 4.19).

4.5 Percpetion of service privy users

4.5.1 Opinion about the present system

Service privies are widely used as a means of solid waste disposal as its cost of construction is very low. Dry earth, bucket type, well type are the mostly used (Table 4.20). Everywhere the unit is located within the compound of the house (Table 4.21). In majority of the households surveyed, more than 80% are not satisfied with the present system of solid waste disposal (Table 4.22). The main drawbacks and problems as mentioned by the households are (i) irregular cleaning of the unit by scavengers (ii) the unit emits bad smell (iii) not hygienic.

4.5.2 Awareness of L.C.S. and their benefits

Majority of the households are aware of low cost sanitation units (Table 4.23) through ward commissioners, municipal office and friends or relatives, who have a L.C.S. unit in their house (Table 4.24). All of them are interested in having a L.C.S. unit in their house and they revealed that the advantages with L.C.S. are (i) no need of scavengers services for cleaning, (ii) does not emit bad smell, (iii) more hygienic compared to service privy. Most of the households are trying for a L.C.S. unit either by approaching the municipal office or through the ward commissioner who is elected by the people of the particular ward.

A few of the households cannot accommodate a LCS unit because of space constraint and expressed their reluctance to have the pits underneath room or verandah. Almost all the households prefer to have the LCS unit constructed in the same place as the present service privy is located and the 2 pits to be located within the compound and strictly outside any built up area (Table 4.25).

Willingness to pay for LCS unit:

About 80% households on an average are willing to pay for L.C.S. on a monthly instalment basis and remaining 20% constitute households who are either not willing to pay anything or unable to pay (Table 4.26). The average cost of L.C.S. unit as perceived by the

households varies from as low as Rs.1050/- in Naihatti to Rs.1533/- in Gobardanga. The average monthly instalment the households are willing to pay for getting an L.C.S. unit varies from Rs.25/- in Jalpaiguri to Rs.37/- in Gobardanga (Table 4.27).

Some of the households, especially in Midnapore who are using service privy, revealed their preference for sanitary type of system instead of a 2 pit L.C.S. unit. The advantages of a septic type as compared to LCS unit as mentioned by them are (i) ceramic pan which is larger and better looking than a fibre glass pan used in LCS (ii) more hygienic as compared to LCS as no percolation of water takes place from the pits and possible contamination of well water.

They suggest that the municipality apart from constructing LCS free of cost, should also consider the feasibility of giving the LCS unit cost, which is Rs.2300 approximately, to those households willing to construct a septic tank system in place of service privy, so that the rest of the amount for the construction of the septic tank system will be borne by the household. And the LCS construction cost amount to be released as per the progress of construction of septic tank system. They say that this adjustment is possible as the main aim of Government is to eradicate the service privies and liberate the scavengers.

Table 4.1 : No. of family members

(per cent)

Town	<5 yrs	5-7	8-10	>10	Total	Average size of HH
Gobardanga	50	50	-	-	100	5.0
Jalpaiguri	40	60	-	-	100	5.2
Midnapore	40	-	20	40	100	8.2
Naihatti	60	20	20	-	100	5.4
Total	47.5	32.5	10	10	100	5.95

Table 4.2 : Age distribution of households

(per cent)

Town	15 years		16-59 yrs		>59 years		Total
	Male	Female	Male	Female	Male	Female	
Gobardanga	10	10	36	44	-	-	100
Jalpaiguri	26	5	39	30	-	-	100
Midnapore	27	12	39	20	2	-	100
Naihatti	12	16	32	20	12	8	100
Total	18.75	10.75	36.5	28.5	3.5	2	100

Table 4.3 : Age of CWE

(per cent)

Town	<30	30-50	>50	Total	Average age of CWE
Gobardanga	33	67	-	100	35.05
Jalpaiguri	20	20	60	100	46.00
Midnapore	-	60	40	100	46.00
Naihatti	-	40	60	100	49.00
Total	13.25	46.75	40	100	44.01

Table 4.4 : Occupation of CWE/Status of Job

(per cent)

Town	Occupation					Status		
	Self employed	Govt. sector	Private sector	Others	Total	Full time	Part time	Total
Gobardanga	50	-	33	17	100	83	17	100
Jalpaiguri	60	40	-	-	100	100	-	100
Midnapore	80	20	-	-	100	100	-	100
Naihatti	40	-	40	20	100	80	20	100
Total	57.5	15	18.25	9.25	100	90.75	9.25	100

Table 4.5 : Education of CWE

(per cent)

Town	Illiterate	<7th Class	8-10	>10th Class	Total
Gobardanga	33	33	34	-	100
Jalpaiguri	-	60	40	-	100
Midnapore	40	20	20	20	100
Naihatti	40	60	-	-	100
Total	28.25	43.25	23.5	5	100

Table 4.6 : Earners in the household

(per cent)

Town	Male	Female
Gobardanga	100	10
Jalpaiguri	100	-
Midnapore	100	-
Naihatti	100	20
Total	100	7.5

Table 4.7 : Average monthly HH income and expenditure

(per cent)

Town	Monthly HH Income (Rs.)				Total	Average monthly HH income (Rs.)	Average monthly HH expd. Total (Rs.)
	<500	500-750	750-1000	>1000			
Gobardanga	33	33	17	17	100	725	691
Jalpaiguri	20	20	20	40	100	828	860
Midnapore	-	-	40	60	100	1137	1070
Naihatti	-	20	20	60	100	1015	1020
Total	13.25	18.25	24.25	44.25	100	926.25	910.25

Table 4.8 : Average expenditure on different items

Town	Average expenditure on the following items (Rs./month)							
	Food	Clothing	Rent	Electricity	Taxes	Education	Others	Total
Gobardanga	540	NA	-	-	-	133	52	725
Jalpaiguri	603	NA	-	-	-	75	150	828
Midnapore	862	NA	-	32	16	127	100	1137
Naihatti	760	113	-	-	13	75	54	1015
Total	691.25	28.25	-	8	7.25	70.75	120.95	926.25

Table 4.9 : Location of Household

(per cent)

Town	GF	FF	SF	Total
Gobardanga	100	-	-	100
Jalpaiguri	100	-	-	100
Midnapore	100	-	-	100
Naihatti	100	-	-	100
Total	100	-	-	100

Table 4.10 : Neighbourhood and character of households

(per cent)

Town	Neighourhood of HH					Character		
	Slum	EWS	LIG	MIG	Total	Cong-ested	Non-congested	Total
Gobardanga	-	-	67	33	100	17	83	100
Jalpaiguri	-	-	100	-	100	-	100	100
Midnapore	-	-	40	60	100	20	80	100
Naihatti	20	-	40	40	100	60	40	100
Total	5	-	61.75	33.25	100	24.25	75.75	100

Table 4.11 : Tenure status

(per cent)

Town	Owner	Tenant	Others	Total
Gobardanga	100	-	-	100
Jalpaiguri	100	-	-	100
Midnapore	80	20	-	100
Naihatti	80	20	-	100
Total	90	10	-	100

Table 4.12 : Roof type

(per cent)

Town	Cement concrete	Thatched with tiles	Thatched with bamboo leaves	Wooden roof	Other	Asbestos sheets	Total
Gobardanga	-	67	-	-	33	-	100
Jalpaiguri	-	40	-	-	-	60	100
Midnapore	60	-	20	-	20	-	100
Naihatti	10	40	15	10	15	10	100
Total	17.5	36.75	8.75	2.5	17	17.5	100

Table 4.13 : Wall type

(per cent)

Town	Brick with cement mortar	Brick with mud	Stone wall	Mud wall	Bamboo & mud	Others	Total
Gobardanga	40	40	-	10	-	10	100
Jalpaiguri	-	-	-	-	100	-	100
Midnapore	60	40	-	-	-	-	100
Naihatti	60	40	-	-	-	-	100
Total	40	30	-	2.5	2.5	2.5	100

Table 4.14 : Floor type

(Per cent)

Town	Mosaic plastered	Stone slabs	Cement plastered	Mud floor	Others	Total
Gobardanga	-	-	17	83	-	100
Jalpaiguri	-	-	-	100	-	100
Midnapore	-	-	60	40	-	100
Naihatti	-	-	13	87	-	100
Total	-	-	22.5	77.5	-	100

Table 4.15 : Source of water

(per cent)

Town	Stand-post	Hand pump (comm-unity)	Hand pump (Indi-vidual)	Well (comm)	Well (own)	Piped	Others	Total
Gobardanga	34	66	-	16	-	16	-	132
Jalpaiguri	60	20	-	60	-	-	-	140
Midnapore	40	-	-	20	40	20	-	120
Naihatti	60	-	-	-	-	40	-	100
Total	48.5	21.5	-	24	10	19	-	123

Table 4.16 : Average duration of supply (hrs.)

Town	Piped	Standpost
Gobardanga	4	N.A.
Jalpaiguri	-	4.5
Midnapore	2	N.A.
Naihatti	7	N.A.
Total	4.33	

Table 4.17 : Distance to water source (Kms.)

(per cent)

Town	<5	5-10	11-20	>20	Total	Average distance of water source
Gobardanga	-	50	50	-	100	12
Jalpaiguri	-	-	40	60	100	24.4
Midnapore	20	40	40	-	100	10.6
Naihatti	-	20	60	20	100	17.2
Total	5	27.5	47.5	20	100	16.1

Table 4.18 : Average water consumption per day per HH

(In lts.)

Town	Drinking	Cooking	Bathing	Toilet	Others	Total
Gobardanga	45	88	114	118	21	386
Jalpaiguri	36	41	43	25	15	160
Midnapore	108	47	104	86	90	435
Naihatti	52	86	261	68	80	547
Total	60.25	65.5	130.5	74.25	51.5	382

Table 4.19 : Availability of power

(per cent)

Town	Yes	No	Total
Gobardanga	20	80	100
Jalpaiguri	-	100	100
Midnapore	80	20	100
Naihatti	40	60	100
Total	35	65	100

Table 4.20 : Type of dry latrine

(per cent)

Town	Dry earth	Bucket	Well	Others	Total
Gobardanga	17	16	67	-	100
Jalpaiguri	20	-	80	-	100
Midnapore	40	60	-	-	100
Naihatti	20	60	20	-	100
Total	24.25	34	41.75	-	100

Table 4.21 : Location of latrine

(per cent)

Town	Within compound	Outside compound	Total
Gobardanga	100	-	100
Jalpaiguri	100	-	100
Midnapore	100	-	100
Naihatti	100	-	100
Total	100	-	100

Table 4.22 : Whether satisfied with present system

(per cent)

Town	Yes	No	Total
Gobardanga	-	100	100
Jalpaiguri	20	80	100
Midnapore	20	80	100
Naihatti	-	100	100
Total	10	90	100

Table 4.23 : Whether aware of LCS

(per cent)

Town	Yes	No	Total
Gobardanga	50	50	100
Jalpaiguri	80	20	100
Midnapore	80	20	100
Naihatti	80	20	100
Total	72.5	27.5	100

Table 4.24 : Source of information about LCS

(per cent)

Town	Municipality	Friends/ relatives	Posters, hand bill etc.	Ward commissioner	Others	Total
Gobardanga	30	46	-	20	4	100
Jalpaiguri	14	55	-	23	8	100
Midnapore	9	60	-	25	6	100
Naihatti	20	45	-	30	5	100
Total	18.25	51.5	-	24.5	5.75	100

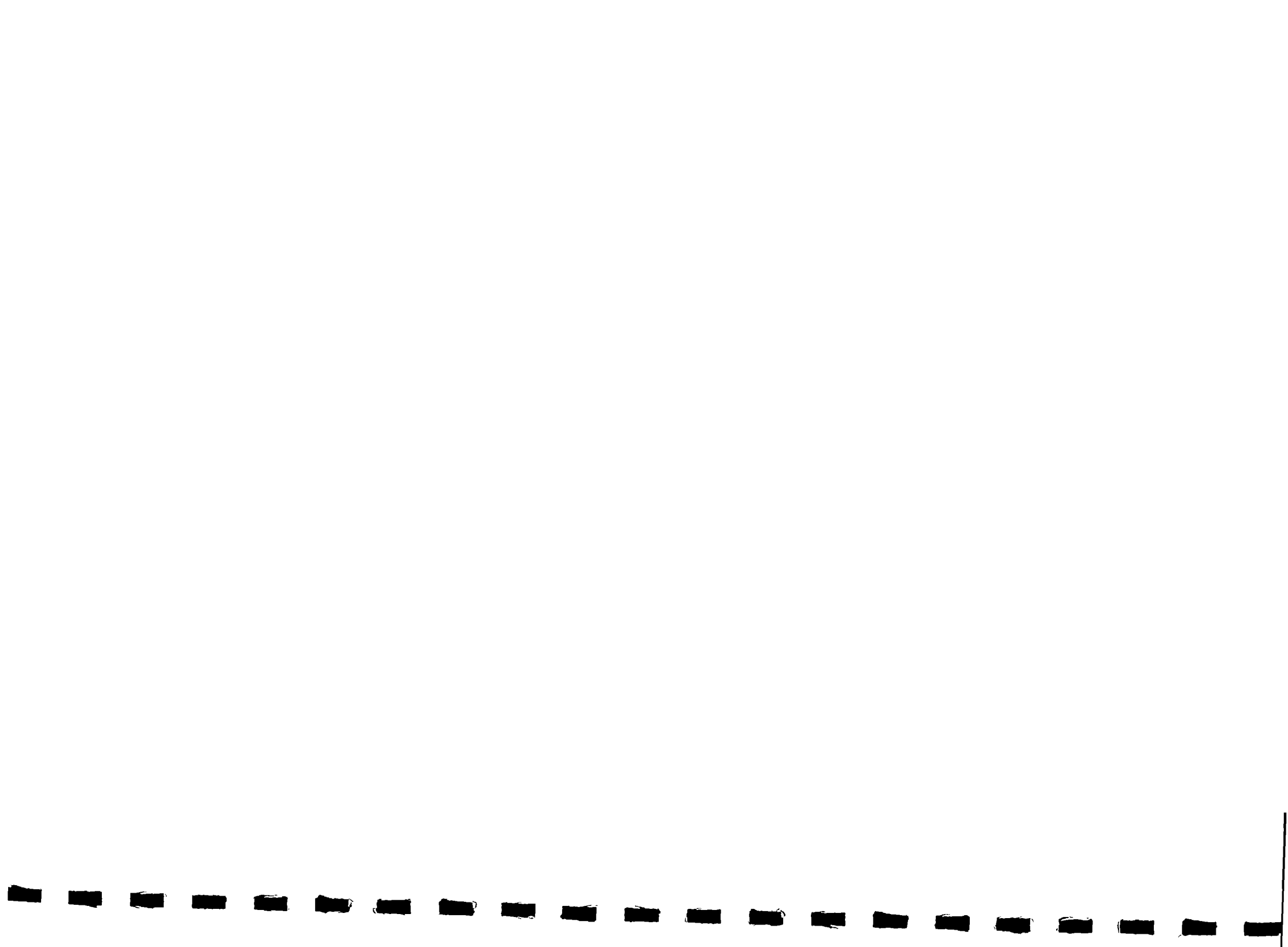


Table 4.25 : If you agree to a LCS where would you prefer the pits

(per cent)

Town	Outside compound	Within compound	Verandah	Wherever the present service privy is located	Others	Total
Gobardanga	10	60	-	30	-	100
Jalpaiguri	5	70	-	25	-	100
Midnapore	15	65	-	20	-	100
Naihatti	8	72	-	20	-	100
Total	9.5	66.75	-	23.75	-	100

Table 4.26 : Willingess to pay for a LCS Unit

(per cent)

Town	Percentage of households willing to pay for LCS on a monthly installment	Percentage of households, not willing or unable to pay for LCS on monthly instlalment	Total
Gobardanga	83	17	100
Jalpaiguri	74	26	100
Midnapore	80	20	100
Naihatti	78	22	100
Total	78.75	21.25	100

Table 4.27 : Average cost of LCS & Average amount the HH are willing to pay

Town	Average cost of LCS as perceived by household (Rs.)	Average monthly installment the households are willing to pay for getting an LCS Unit (Rs.)
Gobardanga	1533	37.00
Jalpaiguri	1140	25.00
Midnapore	1390	31.25
Naihatti	1050	30.00
Total	1276.25	30.81

CHAPTER V

PROFILE AND PERCEPTIONS OF COMMUNITY LATRINE USERS

5.1 Perceptions of Community Latrine Users

The perceptions of community latrine users has been ascertained in terms of:

a) Opinion about the functioning of community latrine

b) Awareness about the LCS system.

5.2 Household Profile

The average household size varies from 6 in the case of Darjiling to 7 in Naihatti (Table 5.1). The chief wage earners (CWE) of most households are in the age group of 30-50 years. In Jalpaiguri, a larger proportion (60%) of CWEs are below 30 years (Table 5.3). Most CWE in the towns surveyed are self employed (100% in Jalpaiguri and 80% in Midnapore), employment in the Government sector is significant in Darjiling (42%). On an average 77% of the CWE are fulltime employees, and a significant number of households working part-time are observed in Midnapore (60%) (Table 5.4).

The average household income per month of community latrine users ranges from Rs.812.50 in Jalpaiguri to Rs.1132.5 in Darjiling (Table 5.7). In Darjiling it is observed that 23% of the females are earners (Table 5.6).

The average expenditure was found to be between Rs.848 in Jalpaiguri to Rs.1172 in Darjiling (Table 5.8). The major item of expenditure is food, which constitute 76% of the total expenditure, and the next important being expenditure on education (Table 5.8).

5.3 Shelter Profile

The households surveyed are almost equally distributed between congested and non-congested neighbourhoods. In Naihatti, all the households surveyed are in congested

area. Majority of the households reside in ground floor only, except in Darjiling and Naihatti were 16% and 13% respectively of the households reside in first floor (Table 5.9).

Tenure status of the households indicated that in Midnapore and Jalpaiguri, most of them are owners and in Darjiling, Naihatti the households are mostly tenants (Table 5.10).

The roof of most dwelling units varies with town. In Darjiling most of the households have tin roofs (65%), in Jalpaiguri, 60% of the households were observed to have asbestos roof. In Midnapore about 80% reside under thatched with bamboo roof, and in Naihatti 75% reside under roofs which are thatched with tiles (Table 5.12).

The wall in Darjiling and Jalpaiguri is mostly made of bamboo. In Midnapore its mud wall and in Naihatti its mud wall with bricks (Table 5.13).

The floor type is mostly mud floor, only in Darjiling usage of wooden floor (67%) is observed to a large extent (Table 5.14).

5.4 Services

The most significant source of water supply is through community standposts in all the towns. Piped water supply caters to about 40% of the surveyed households in both Darjiling and Jalpaiguri. In Midnapore many of the households are having community well facility also (Table 5.15). The average duration of piped water supply varies from 2 hours in Darjiling to 8 hours in Naihatti, in the case of standposts it varies from 2 hours in Darjiling to 7 hours in Naihatti. Water is available in most cases within a distance of 30 metres (Table 5.16).

Power availability is as high as 79% in Darjiling to 20% in Jalpaiguri (Table 5.17).

5.5 Perception of community latrine users

5.5.1 Awareness of LCS system

Majority of the communitylatrine users are not aware of the LCS system (Table 5.20). The households are to

some extent aware of the LCS design, such as containing 2 leach pits etc. as the community latrine is also of the same design. But most of them are not aware that any household, is entitled to get a LCS unit free of cost from the municipality.

5.5.2 Opinion about the functioning of the community latrine

The community toilets as constructed by the municipality are generally of 3, 4 or 6 seater units and have superstructure with a roof, unlike only upto seat level for LCS.

The average distance of a unit from the users house varies between 21 mts in Midnapore to 60 mts in Darjiling (Table 5.21). The unit is used by almost all the members of the households, except for small children below the age of 5 years. The problems faced in the functioning of the community latrines are in the nature of (i) scarcity of water, (ii) lack of lighting facilities, (iii) emits bad smell and (iv) defective fixtures (Table 5.23). Scarcity of water is a major problem in Darjiling with 81% of the households reporting this problem. In other towns, water is available in sufficient quantity, but the users use normally less than the required amount of water. Most of the units cannot be used in the night because, they lack lighting facility, in some cases even though the facility is there, the bulbs are missing. Community latrines are mostly cleaned by the municipal scavengers and theydo it very irregularly (Table 5.25), only in Naihatti most of the units are cleaned by the users. In Darjiling due to lack of sufficient water, some of the units are cleaned even with drain water. The toilets are just cleaned with plain water and the usage of cleaning/germicide material like phenoil, soap, etc. is rarely observed. The users do not pay anything for the usage of the community latrine (Table 5.27).

The overall opinion about the community latrine is that the people are not satisfied with the functioning of the unit and for this, the reasons are mainly (i) peoples general negligence and usage of less quantity of water, (ii) irregular cleaning either by the users or scavengers and non-usage of cleaning materials.

Table 5.1 : Number of family members

(per cent)

Town	<5	5-7	8-10	>10	Total	Average No. of family members
Darjiling	42	46	9	3	100	6.03
Jalpaiguri	20	60	20	-	100	6.40
Midnapore	60	-	40	-	100	6.60
Naihatti	50	12	26	12	100	7.00
Total	43	29.5	23.75	3.75	100	6.51

Table 5.2 : Age distribution of household

(Per cent)

Town	0-5 yrs		16-59 yrs		>59 years		Total
	Male	Female	Male	Female	Male	Female	
Darjiling	16	12	36	31	3	2	100
Jalpaiguri	21	17	41	21	-	-	100
Midnapore	12	25	31	32	-	-	100
Naihatti	14	22	38	26	-	-	100
Total	15.75	19	36.5	27.5	0.75	0.5	100

Table 5.3 : Age of Chief Wage Earner

(per cent)

Town	<30 yrs	30-50	>50 yrs	Total	Average age of CWE
Darjiling	7	58	35	100	44.2
Jalpaiguri	80	20	-	100	28.0
Midnapore	20	40	40	100	43.0
Naihatti	12	50	38	100	43.9
Total	29.75	42	28.25	100	39.77

Table 5.4 : Occupation and Status of Jobs

(Per cent)

Town	Occupation					Status of job		
	Self employed	Govt. sector	Private sector	Others	Total	Full time	Part time	Total
Darjiling	44	42	9	5	100	90	10	100
Jalpaiguri	100	-	-	-	100	100	-	100
Midnapore	80	-	20	-	100	40	60	100
Naihatti	37	-	26	37	100	80	20	100
Total	65.25	10.5	13.75	10.5	100	77.5	22.5	100

Table 5.5 : Education of CWE

(Per cent)

Town	Illiterate	<7th class	8-10	>10th std.	Total
Darjiling	19	14	44	23	100
Jalpaiguri	60	40	-	-	100
Midnapore	40	40	20	-	100
Naihatti	37	37	26	-	100
Total	39	32.75	22.5	5.75	100

Table 5.6 : Number of earners in family

(Per cent)

Town	Male	Female
Darjiling	100	23
Jalpaiguri	100	-
Midnapore	100	-
Naihatti	100	-
Total	100	5.75

Table 5.7 : Household income

(Per cent)

Town	Monthly household income (Rs.)					Average HH income (Rs.)
	<500	500-750	750-1000	>1000	Total	
Darjiling	2	5	7	86	100	1132.5
Jalpaiguri	10	32	38	20	100	812.50
Midnapore	-	40	40	20	100	840.00
Naihatti	-	12	37	51	100	1010.75
Total	3	22.25	30.5	44.25	100	848.94

Table 5.8 : Household expenditure on different items

Town	Expenditure on the following items/month (Rs.)							Total expd. (Rs.)/ month
	Food	Clothing	Rent	Electricity	Taxes	Education	Others	
Darjiling	778	134	60	50	25	125	-	1172
Jalpaiguri	650	50	-	21	22	55	50	848
Midnapore	967	N.A.	-	NA	NA	60	70	1097
Naihatti	774	65	-	26	35	72	68	1040
Total	782.25	62.25	15	24.25	20.5	78	47	1039.25

Table 5.9 : Location of household

(Per cent)

Town	Ground floor	First floor	Second floor	Total
Darjiling	79	16	5	100
Jalpaiguri	100	-	-	100
Midnapore	100	-	-	100
Naihatti	87	13	-	100
Total	91.75	7.25	1.25	100

Table 5.10 : Neighbourhood & character of the house

(per cent)

Town	Neighbourbood					Character		
	Slum	EWS	LIG	MIG	Total	Cong-ested	Non congested	Total
Darjiling	3	9	42	46	100	30	70	100
Jalpaiguri	100	-	-	-	100	-	100	100
Midnapore	60	-	40	-	100	80	20	100
Naihatti	12	37	51	-	100	100	-	100
Total	43.75	11.5	33.25	11.5	100	52.5	47.5	100

Table 5.11 : Tenure Status

(per cent)

Town	Owner	Tenant	Others	Total
Darjiling	42	56	2	100
Jalpaiguri	100	-	-	100
Midnapore	80	20	-	100
Naihatti	37	63	-	100
Total	64.75	34.75	0.5	100

Table 5.12 : Roof type

(Per cent)

Town	Concrete	Thatched with tiles	Thatched with bamboo & leaves	Wooden roof	Asbestos roof	Tin roof	Others	Total
Darjiling	100	10	-	-	20	5	65	-
Jalpaiguri	100	-	-	-	-	60	40	-
Midnapore	100	20	-	80	-	-	-	-
Naihatti	100	-	75	-	-	-	-	25
Total	100	7.5	18.75	20	5	16.25	26.25	6.25

Table 5.13 : Type of wall

(Per cent)

Town	Brick with cement mortar	Brick with mud	Stone wall	Mud wall	Wooden or bamboo wall	Others	Total
Darjiling	42	-	-	-	58	-	100
Jalpaiguri	-	-	-	-	100	-	100
Midnapore	-	20	-	80	-	-	100
Naihatti	37	50	-	13	-	-	100
Total	19.75	17.5	-	23.25	39.5	-	100

Table 5.14 : Floor type

(Per cent)

Town	Mosaic plastered	Stone slabs	Cement plastered	Mud floor	Wooden floor	Others	Total
Darjiling	-	-	23	5	67	5	100
Jalpaiguri	-	-	-	100	-	-	100
Midnapore	-	-	-	100	-	-	100
Naihatti	-	-	13	87	-	-	100
Total	-	-	9	73	16.75	1.25	100

Table 5.15 : Source of water

Town	Stand post	Hand pump (community)	Hand pump (individual)	Well (community)	Well (own)	Piped	Others	Total
Darjiling	25	-	-	19	-	44	12	100
Jalpaiguri	60	-	-	-	-	40	-	100
Midnapore	20	20	-	40	-	20	-	100
Naihatti	75	25	-	-	-	25	-	125
Total	45	11.25	-	14.75	-	32.25	3	106.25

Table 5.16 : Distance to the water source (in mts.)

(Per cent)

Town	<5	5-10	11-20	>20	Total	Average distance of water source from house
Darjiling	37	30	16	17	100	11.81
Jalpaiguri	-	-	-	100	100	30.00
Midnapore	-	15	45	40	100	20.40
Naihatti	-	-	25	75	100	26.50
Total	9.25	11.25	21.5	58	100	22.20

Table 5.17 : Average duration of supply of water (hours)

Town	Piped	Standpost
Darjiling	2	2
Jalpaiguri	5	4
Midnapore	3	NA
Naihatti	8	7
Total	4.5	3.25

Table 5.18 : Average consumption per day per household (in lts)

Town	Drinking	Cooking	Bathing	Toilet	Others	Total
Darjiling	23	67	81	61	49	281
Jalpaiguri	36	35	41	21	5	138
Midnapore	56	41	74	55	75	301
Naihatti	50	99	155	143	37	484
Total	41.25	60.5	87.75	70	41.5	301

Table 5.18 : Availability of power

(Per cent)

Town	Yes	No	Total
Darjiling	79	21	100
Jalpaiguri	20	80	100
Midnapore	40	60	100
Naihatti	25	75	100
Total	41	59	100

Table 5.20 : Whether aware of LCS

(Per cent)

Town	Yes	No	Total
Darjiling	7	93	100
Jalpaiguri	25	75	100
Midnapore	40	60	100
Naihatti	38	62	100
Total	27.5	72.5	100

Table 5.21 : Distance to community latrine from House (Mts)

(Per cent)

Town	<15	15-30	30-50	50-75	75-100	100-150	150-200	>200	Total	Average distance from house
Darjiling	42	12	9	7	7	12	5	6	100	59.68
Jalpaiguri	-	80	15	5	-	-	-	-	100	27.55
Midnapore	60	20	15	5	-	-	-	-	100	19.75
Naihatti	12	38	35	10	5	-	-	-	100	34.64
Total	28.5	37.5	18.5	6.75	3	3	1.25	1.5	100	35.45

Table 5.22 : Whether all family members use community latrine

(Per cent)

Town	Yes	No	Total
Darjiling	93	7	100
Jalpaiguri	100	-	100
Midnapore	100	-	100
Naihatti	100	-	100
Total	98.25	1.75	100

Table 5.23 : Opinion about functioning, problems

(per cent)

Town	Scarcity of water	No light	Emits bad smell	Fixtures defective	Total
Darjiling	91	65	56	37	249
Jalpaiguri	34	72	61	42	209
Midnapore	24	58	68	21	171
Naihatti	27	63	58	24	173
Total	44	64.5	61	31	200.5

Table 5.24 : How often it is cleaned

(per cent)

Town	Regularly	2-3 times a week	Once a week	Others	Total
Darjiling	46	37	12	5	100
Jalpaiguri	27	42	25	6	100
Midnapore	39	35	18	8	100
Naihatti	30	39	21	10	100

Table 5.25 : Who cleans the unit

(per cent)

Town	Municipal scavenger	Themselves	Total	Whether uses drain water for cleaning	
				Yes	No
Darjiling	93	7	100	14	86
Jalpaiguri	100	-	100	-	-
Midnapore	60	40	100	-	-
Naihatti	25	75	100	-	-
Total	69.5	30.5	100	-	-

Table 5.26 : Any cleaning material like phenoil, soap, etc. used

(per cent)

Town	Yes	No	Total
Darjiling	5	95	100
Jalpaiguri	15	85	100
Midnapore	12	88	100
Naihatti	17	83	100
Total	12.25	87.75	100

Table 5.27 : Do you pay any money for using the unit

(per cent)

Town	Yes	No	Total
Darjiling	2	98	100
Jalpaiguri	-	100	100
Midnapore	-	100	100
Naihatti	-	100	100
Total	0.5	99.5	100

CHAPTER VI

PROFILE AND PERCEPTIONS OF HOUSEHOLDS WITHOUT FACILITY

6.1 Perceptions of households without any facility

The perceptions of people without facility has been ascertained in terms of:

a) Awareness about the LCS system
b) Opinion about the present method

6.2 Household profile

The average household size varies from 5.5 in the case of Gobardanga and Naihatti to 6.4 in Jalpaiguri (Table 6.1). The Chief Wage Earners (CWE) of most households are in the age group of 30-50 years. In Naihatti even above 50 years for the CWE is significant (Table 6.3). Most CWE in the towns surveyed are self employed (100% in Midnapore), employment in the Govt. sector is significant in Jalpaiguri (40%) and Naihatti (50%). On an average 95% of the CWE work fulltime (Table 6.4).

The average household income per month ranges from Rs.609.16 in Gobardanga to Rs.800 in Naihatti (Table 6.7). In Jalpaiguri it is observed that 40% of the femeles are earners (Table 6.6).

The average expenditure was found to be between Rs.693 in Gobardanga to Rs.807 in Naihatti (Table 6.8). The major item of expenditure is food, which constitutes about 84% of the total expenditure, and the next important being on education.

6.3 Shelter profile

The households surveyed, mostly reside in non-congested area (Table 6.10). All the households reside in ground floor.

Tenure status of the households indicated that most of them are owners and only in Gobardanga tenants and others constitute 34% of the total households (Table 6.11).

The roof of most dwelling units is observed either to be thatched tiled roof or thatched with bamboo and leaves roof, only in Jalpaiguri tin roof is significant (40%) (Table 6.12).

The wall mostly is of mud type and mud with bricks variety. In Jalpaiguri all the households have either wooden or bamboo walls (Table 6.13).

The floor is mostly of mud type, in Gobardanga a significant number of households (50%) have cement plastered floor (Table 6.14).

6.4 Services

The most significant source of water supply is through community stand posts in all the towns. Piped water supply is completely absent. In Gobardanga a significant number of households (66%) have own hand pumps (Table 6.15). Water is available in most cases within a distance of 25 metres (Table 6.16). The average duration of supply through stand posts is 5.5 hours with a maximum of 9 hours supply in Naihatti (Table 6.17).

Power availability is highest in Midnapore (40%). And there is no power in any of the households surveyed in Jalpaiguri and Naihatti (Table 6.19).

6.5 Perception of households without facility

6.5.1 Awareness about the LCS system

Majority of the households are aware about the LCS system (Table 6.20). The major source of information about the LCS system is through either friends or relatives and to some extent from the municipality and ward commissioner (Table 6.21).

6.5.2 Opinion about the present method

The average distance of this facility from house varies from 75 mts in Naihatti to 177 mts in Jalpaiguri (Table 6.22). All members of the household uses this facility (Table 6.23). Most of the households are not satisfied with this method and they point out that in this facility, they lack privacy and distance also is another factor. All the households are interested in having LCS but they are not aware that the municipality constructs it free of cost upto seat level.

Table 6.1 : No. of family members per household (HH)

(per cent)

Town	<5	5-7	8-10	>10	Total	Average HH Size
Gobardanga	50	50	-	-	100	5.5
Jalpaiguri	20	60	20	-	100	6.4
Midnapore	40	40	20	-	100	6.2
Naihatti	50	50	-	-	100	5.5
Total	40	50	10	-	100	5.9

Table 6.2 : Age distribution of household

(Per cent)

Town	0-15 yrs		16-59 yrs		>59 years		Total
	Male	Female	Male	Female	Male	Female	
Gobardanga	25	12	37	19	7	-	100
Jalpaiguri	19	25	34	19	-	3	100
Midnapore	27	10	33	17	3	10	100
Naihatti	20	20	20	20	-	20	100
Total	22.75	16.75	31	18.75	2.5	8.25	100

Table 6.3 : Age of CWE

(Per cent)

Town	<30 yrs	30-50	>50 yrs	Total	Average age of CWE
Gobardanga	20	60	20	100	40
Jalpaiguri	60	40	-	100	31
Midnapore	20	80	-	100	37
Naihatti	-	50	50	100	47.5

Table 6.4 : Occupation and status of job

(Per cent)

Town	Occupation of CWE					Status of job		
	Self empl-	Govt. sector	Private sector	Others	Total	Full time	Part time	Total
Gobardanga	60	-	20	20	100	80	20	100
Jalpaiguri	40	40	20	-	100	100	-	100
Midnapore	100	-	-	-	100	100	-	100
Naihatti	50	50	-	-	100	100	-	100
Total	62.5	22.5	10	5	100	95	5	100

Table 6.5 : Education of CWE

(Per cent)

Town	Illiterate	<7th standard	8-10th class	>10th standard	Total
Gobardanga	70	-	30	-	100
Jalpaiguri	60	20	20	-	100
Midnapore	40	40	20	-	100
Naihatti	50	-	50	-	100
Total	55	15	30	-	100

Table 6.6 : No. of earners in family

(Per cent)

Town	Male	Female
Gobardanga	100	-
Jalpaiguri	100	40
Midnapore	100	-
Naihatti	100	-
Total	100	10

Table 6.7 : Household income

(Per cent)

Town	Monthly household income (Rs.)					Average HH income (Rs.)/month
	<500	500-750	750-100	>1000	Total	
Gobardanga	16	52	32	-	100	609.16
Jalpaiguri	40	-	60	-	100	885
Midnapore	-	60	40	-	100	725
Naihatti	50	-	-	50	100	800
Total	26.5	28	33	12.5	100	704.78

Table 6.8 : Expenditure of the households

Town	Expenditure on the following items/month							Total expd. (Rs.)/ month
	Food	Clothing	Rent	Electricity	Taxes	Education	Others	
Gobardanga	560	NA	-	-	-	70	63	693
Jalpaiguri	580	55	-	-	-	40	40	715
Midnapore	700	NA	-	-	-	35	45	780
Naihatti	680	45	-	-	-	42	40	807
Total	630	25	-	-	-	46.75	47	748.75

Table 6.9 : Location of Household

(Per cent)

Town	Ground floor	First floor	Second floor	Total
Gobardanga	100	-	-	100
Jalpaiguri	100	-	-	100
Midnapore	100	-	-	100
Naihatti	100	-	-	100
Total	100	-	-	100

Table 6.10 : Neighbourhood and character of the houses

(Per cent)

Town	Neighbourhood					Character		
	Slum	EWS	LIG	MIG	Total	Cong-ested	Non-congested	Total
Gobardanga	-	-	80	20	100	20	80	100
Jalpaiguri	40	-	60	-	100	-	100	100
Midnapore	-	-	100	-	100	20	80	100
Naihatti	-	-	50	50	100	-	100	100
Total	10	-	72.5	17.5	100	10	90	100

Table 6.11 : Tenure status

Per cent

Town	Tenure			Total
	Owner	Tenant	Others	
Gobardanga	66	17	17	100
Jalpaiguri	80	-	20	100
Midnapore	100	-	-	100
Naihatti	100	-	-	100
Total	86.5	4.25	9.25	100

Table 6.12 : Type of roof

(Per cent)

Town	Concrete	Thatched with tiles	Thatched with bamboo leaves	Wooden roof	Asbestos roof	Tin roof	Others	Total
Gobardanga	-	40	60	-	-	-	-	100
Jalpaiguri	-	-	60	-	-	40	-	100
Midnapore	5	40	40	-	5	-	10	100
Naihatti	-	50	50	-	-	-	-	100
Total	1.25	32.5	52.5	-	1.25	10	2.5	100

Table 6.13 : Type of wall

(per cent)

Town	Brick with cement mortar	brick with mud	Stone wall	Mud wall	Wooden or bamboo wall	Others	Total
Gobardanga	-	20	-	50	30	-	100
Jalpaiguri	-	-	-	-	100	-	100
Midnapore	-	20	-	80	-	-	100
Naihatti	-	40	-	60	-	-	100
Total	-	20	-	47.5	32.5	-	100

Table 6.14 : Type of floor

(Per cent)

Town	Mosaic plastered	Stone slabs	Cement plastered	Mud floor	Wooden floor	Others	Total
Gobardanga	-	-	50	50	-	-	100
Jalpaiguri	-	-	-	100	-	-	100
Midnapore	-	-	-	100	-	-	100
Naihatti	-	-	-	100	-	-	100
Total	-	-	12.5	87.5	-	-	100

Table 6.15 : Source of water

(Per cent)

Town	Stand post	Hand pump (comm-unity)	Hand pump (own)	Well (comm-unity)	Well (own)	Piped	Others	Total
Gobardanga	-	17	66	17	-	-	-	100
Jalpaiguri	60	-	-	20	20	-	-	100
Midnapore	100	-	-	-	-	-	-	100
Naihatti	100	-	-	-	-	-	-	100
Total	55	9.25	16.5	14.25	5	-	-	100

Table 6.16 : Distance to the water source

(per cent)

Town	<5	5-10	11-20	>20	Total	Average distance of water source
Gobardanga	16	16	18	52	100	20.24
Jalpaiguri	-	20	20	60	100	22.8
Midnapore	20	20	-	60	100	20.80
Naihatti	-	-	50	50	100	23.00
Total	9	14	21.5	55.5	100	21.66

Table 6.17 : Duration of water supply

Town	Average durtion of supply (hours)	
	Piped	Standpost
Gobardanga	-	4
Jalpaiguri	-	5
Midnapore	-	4
Naihatti	-	8
Total	-	55

Table 6.18 : Water consumption per HH (in lts.)

Town	Average consumption per day per HH (litres)					
	Drinking	Cooking	Bathing	Toilet	Others	Total
Gobardanga	43	58	133	73	20	328
Jalpaiguri	36	39	43	20	15	153
Midnapore	45	49	65	28	120	307
Naihatti	42	44	105	35	30	256
Total	41.5	47.75	86.5	39	46.25	281

Table 6.19 : Power availability

(Per cent)

Town	Availability of power		Total
	Yes	No	
Gobardanga	20	80	100
Jalpaiguri	-	100	100
Midnapore	40	60	100
Naihatti	-	100	100
Total	15	85	100

Table 6.20 : Whether aware of LCS

(per cent)

Town	Yes	No	Total
Gobardanga	50	50	100
Jalpaiguri	60	40	100
Midnapore	80	20	100
Naihatti	100	-	100
Total	72.5	27.5	100

Table 6.21 : Source of information about LCS

(Per cent)

Town	Source of information					
	Municipality	Ward commissioner	Friends & relatives	Hand bill, wall poster	Others	Total
Gobardanga	-	-	100	-	-	100
Jalpaiguri	25	-	75	-	-	100
Midnapore	25	25	50	-	-	100
Naihatti	25	-	75	-	-	100
Total	18.75	6.25	75	-	-	100

Table 6.22 : Average distance of this facility from house (in mts.)

Town	Distance of facility (Mts)
Gobardanga	118
Jalpaiguri	177
Midnapore	80
Naihatti	75
Total	114.5

Table 6.23 : Whether all members use this facility

(Per cent)

Town	Yes	No	Total
Gobardanga	100	-	100
Jalpaiguri	100	-	100
Midnapore	100	-	100
Naihatti	100	-	100
Total	100	-	100

Table 6.24 : Whether interested in having LCS unit

(Per cent)

Town	Yes	No	Total
Gobardanga	100	-	100
Jalpaiguri	100	-	100
Midnapore	100	-	100
Naihatti	100	-	100
Total	100	-	100

CHAPTER VII

PERCEPTIONS OF OFFICIALS AND CONTRACTORS

7.1 Officials view on LCS

Officials views were ascertained in terms of:

a) Unit costs
b) Contracting procedure
c) Finances
d) Administrative aspects and
e) Problems

The programme in most towns has been successful and wherever it is below average it is generally due to unit costs and physical constraints.

The per unit cost of a 10 user LCS is estimated between Rs.2300 to Rs.2400 (upto seat level). The directorate provides cement and pan and deducts the amount from the cost. As far as LCS under MDP is concerned the per unit cost is Rs.3000 including super structure. It has been observed that generally contingencies are not used nor is dry design supervision charges collected.

The contractors selection is normally based on least bid method, but in Naihatti it has been observed that if all contractors agree to execute work on the least cost quoted, then the work is distributed among them. On an average 12-15 contractors execute LCS work. The tenders are normally floated in terms of number of units in a ward.

Finances are generally available, unless reappropriated, but officials admit that it takes 2-3 months for release of payment to the contractors. In case of schemes like IDSMT it has been observed that due to non-release of funds, the finances allocated for another component is diverted to LCS work to achieve the target.

The major administrative tasks of officials is in

a) Selection of beneficiaries
b) Tendering, supervision, and
c) Preparation of bills for payment

The selection of beneficiaries is normally done by the ward commissioner on a first come first serve basis. It has been observed that there are instances wherein need and economic considerations have been given importance in selection of beneficiaries. Other considerations include availability of space and proximity to the elected official of the ward.

Tendering is done on the basis of number of units to be constructed and distribution of work is based on least cost. Normally supervision is done while the foundation is being laid. This is done at random, as officials feel; that non-laying of foundation for pits could save as much as Rs.500 for the contractors. On completion, bills are prepared and passed for payment only if a certificate is prpduced by the contractor from the household countersigned by the commissioner or his staff regarding work quality. Bills are delayed, but if it is a large work of more than 50 units, payments are made (subject to funds) after completion of every 10 units.

The problems with the programme, apart from finance is also due to lack of space especially in bustees, water intrusion in low lying areas and limited coentruction time.

Financial problems have been more accute in certain centrally sponsored schemes like IDSMT, as well as GAP, which prevents achievement of targets.

Space is another major constraint as the pit and seat needs a minimum of 1.5 - 2 sq.m. if the design is to be adhered to and in most local bodies it has been observed that lack of space has led to the pits being closer in most cases.

The settlements in most parts of Bengal is that developments are around tanks and in such areas construction is impossible due to water intrusion.

Rainfall is another constrianing factor in achievement of LCS target. Officials indicated that the effective construction period is of about 5 months as work is not undertaken during monsoon and pooja period. During this period the maximum units they can construct is around 800 numbers.

Suggestions

Officials feel that unit costs need to be revised; for example an official in Jalpaiguri pointed out that the government of India still follows a rate which is 50% of the current rate while releasing funds. MED officials feel that generally they are not aware of how state funds are used as they are no way informed of how the ULB uses it. Necessity of monitoring is felt in this regard as progress report is submitted only when any agency sends the request.

Local level MED officials feel that they also need to control the release of funds, as this is the only way they can ensure quality of work from the contractors. Currently it is with the local body. MED has approval powers only.

Usage of latrines especially non-MDP depends on household investment in superstructure. Though most households have invested in superstructure, there are a few households who have not invested due to lack of finance. Even the least cost material costs Rs.400. It is felt that only households who have the capability to invest on superstructure should be provided on a priority basis. It has been observed that there are latrines which have been constructed over 2 years back lying unused.

Manpower to implement the programme is another important component. In most local bodies, it has been found that only one overseer is assigned for LCS works. If a higher percentage of conversion is to be achieved then manpower will have to be increased. The capability of construction units per year is around 600.

7.2 Views of contractor

The contractors opinion was ascertained on the following aspects:

a) Awareness of procedures
b) Cost ceiling
c) Administrative and financial issues
d) Problems and
e) Suggestions

Most contractors surveyed have been involved in cosntruction of LCS unit since the inception of LCS programme in the towns. Though not skilled they have acquired skill with assistance from officials. The contractors apart from undertaking LCS, also undertake regular construction work on behalf of the local body.

The contractors normally spend 5 to 10 days in installing a LCS system and the work is generally subcontracted on a piece rate basis. The contractors surveyed have on average constructed 100-125 units in the towns selected as part of the survey.

The contractors apart from construction also publicise the system, by explaining its utility to the households who enquire when construction is on. The contractors feel that the programme has been successful, but indicated that the major problem with the programme is the unit cost as the margin is very low. This is more so when cement and pan is supplied by the local body. The margin according to them works out to be around Rs.125 if all goes well else there are times when it is a loss. The case of hill towns is worse because the cost of brick is higher than the plains. The estimate according to the contractors does not include transport costs even with the towns which is significant. Availability of water during construction is another problem. This low margin is one reason why contractors in Midnapore had not submitted tender documents. This has forced the MED to execute the work partly and the general body of the municipality decided to raise cost by 4.99% to attract contractors.

The procedures are similar to any other contracting work and the payment is also similar. The payment is subjected to availability of funds and there are instances of delay of 2-3 months. They also indicated that banks do not provide credit facilities. However, they have been given advance especially when the number of units constructed are more than 100.

The contractors problems largely pertains to profit margin and payment problems. They do come across problems like households demanding for modification of pit and sealing the honeycomb structure and demand for larger pits, etc. but manage to convince the households or solve it with official intervention. Most contractors indicated of instances wherein they had converted round pits to square pits.

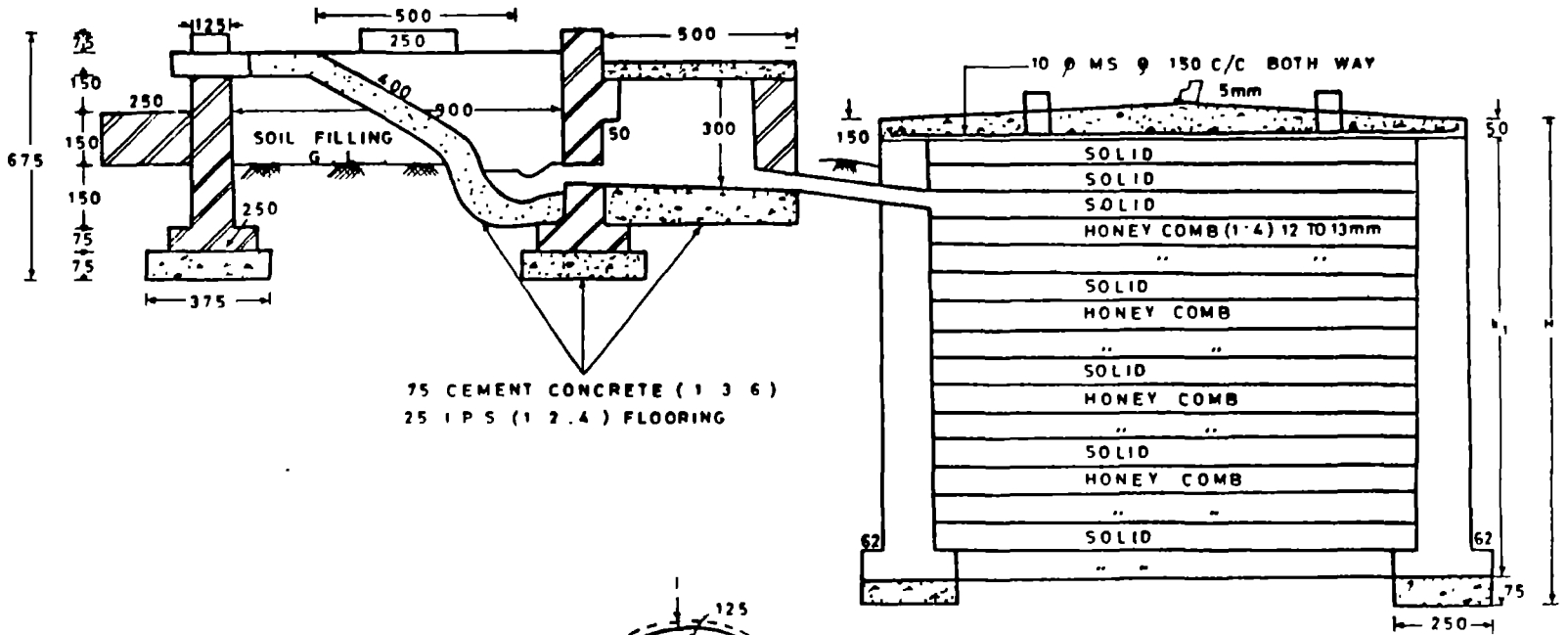
The contractors feel that unless provision is made for construction of superstructure, the investment is likely to lie waste for sometime. They also insist on design flexibility especially in areas where space is a constraint. They also suggest that feasibility of placing pits beneath the seat needs to be examined. Unit cost is their main concern and feel that without a larger margin it would be difficult to sustain. Currently they are undertaking this programme as a good will measure and manage to make profit in the labour component.

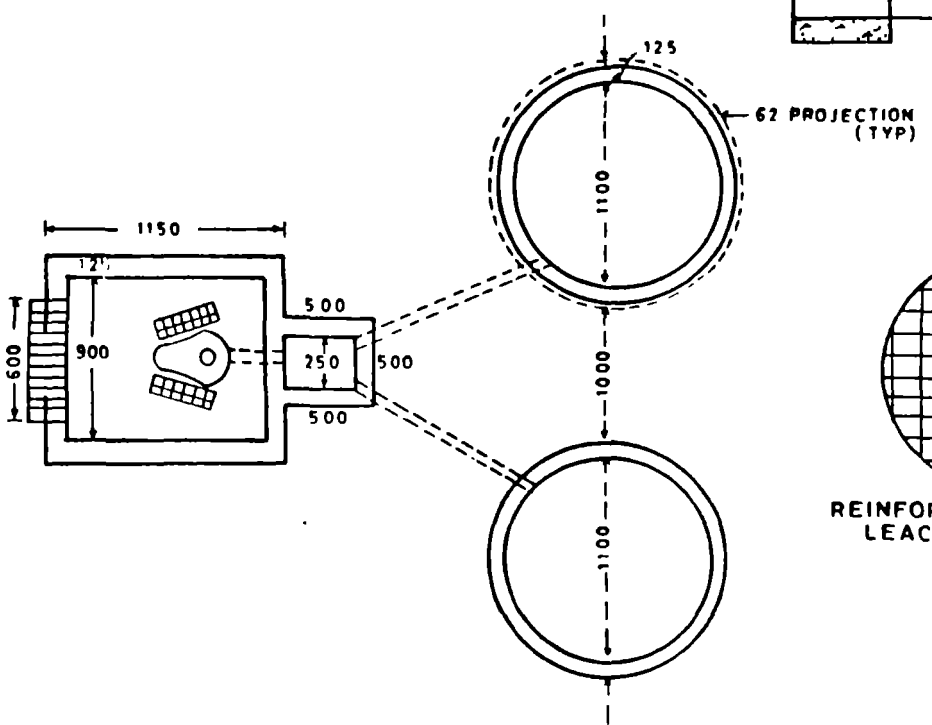
7.3 Liberation of scavengers

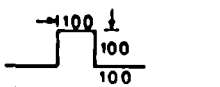
An important objective of LCS is in libertion of scavengers. In most towns scavengers have been inducted into the street cleaning operations of the municipality. Shantipur is one town where training was provided in trades like Brush making, carpentry, welding, pottery, etc. Despite such training, facilities have not been created in their sustenance. A few scavengers interviewed indicated that the training lacked interest and were frequently assigned jobs like fetching tea, etc. They were not provided any loan despite applying two years back. Despite such drawbacks the scavengers feel that street cleaning is better than scavenging. They also indicated that training without adequate support will not be of use.

Officials in towns where there has been no rehabilitation point out that inadequacy of funds as a reason for non-provision of an alternative to scavenging. They also point out that most scavengers fear that they will lose their job if they accept an alternative trade.

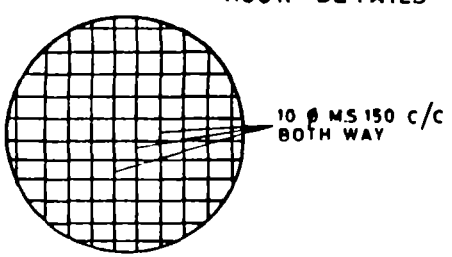
DESIGN DETAILS OF L.C.S.UNIT







HOOK DETAILS



REINFORCEMENT DETAILS OF LEACH PIT COVER

Note - 10 Users
Inside dia. = 1100
Outside dia = 1350
Depth of honey comb brick work = 1380
Depth of solid brick work = 300
Depth of excavation = 1680

DIMENSIONS IN MM

Estimate for the construction of low cost pour flush sanitary latrine (10 user

Sr. No.	Item	Rate	Quantity required	Amount (Rs.)	% of the total unit cost
1.	Earth work in excavation of foundation trenches in all sorts of soils including levelling, dressing and ramming the bottom complete	Rs.6.20/m^3	5.65 m^3	35.03	1.4
2.	Cement concrete (1:2:4) with 20 mm down graded barrel	Rs.671.70/m^3	0.20 m^3	134.34	5.6
3.	Cement concrete (6:3:1) with 30 mm down graded shingles	Rs.523.70/m^3	0.40 m^3	209.48	8.7
4.	Earth filling in foundation trenches and plinth with earth obtained from trenches and with carried sandy soil for plinth	Rs.5.00/m^3	1.35 m^3	6.75	0.3
5.	Brick work (1:4) 125 mm thick with cement mortar	Rs.78.00/m^3	16.20 m^3	1263.6	52.5
6.	Brick work in cement mortar (1:4) 150 mm thick in foundation and plinth	Rs.543.95/m^3	0.30 m^3	163.18	6.8
	Plaster (to wall, floor, ceiling, etc.) with sand and cement mortar, including rounding off corners or chamfering corners as directed and raking out joints or roughning of concrete surface, with (4:1) cement mortar	Rs.10.60/m^2	5.66 m^2	59.99	2.5
8.	Neat cement punning to wall & dado complete	Rs.3.70/m^2	4.50 m^2	16.65	0.7
9	Hire & labour charges for hard wood shuttering and centering for concrete slab, beams column, lintels (st. or curved), fitting in position and striking out after completion of work in ground floor, where staging is not necessary - 25 mm thick shuttering	Rs.15.6/m^2	4.30 m^2	67.08	2.8
10.	Fibre glass water closet with P-Trap including supply fitting and fixing complete including filling the joints with cement and jute gasket paste. (Rs.96 plus labour Rs.12 = Rs.108/-).	Rs.108/unit	One unit	108.00	4.5
11.	75 mm dia AC pipe fixing in proper slope including supplying all materials	Rs.36.30/mt	4 mts.	145.20	6
	Reinforcement for reinforced concrete work in all sorts of structure including distribution bars stirrups, bindrs, etc. including supply of rods, initial straightening and removal of loose, rust and binding to correct shape, placing in 16 guage black annealed wire every intersection, complete as per drawing and direction for steel	Rs.8.00/kg	15 kg	120.00	5
13.	Flush painting in masonry wall in cement mortar (4:1) including racking out joints	Rs.4.70/m^2	12 m	56.40	2.3
14.	Grey artificial stone in floor, dado, staircase, etc. with cement concrete (4:2:1) laid in panels as directed with 6.5 mm thick skinning and smooth finished at top made up with neat cement including rounding off corners	Rs.28.00/m^2	0.77 m^2	21.56	0.89
	Total cost			Rs.2407.26	

TECHNICAL SURVEY

In order to ascertain the quality of construction with respect to the standard of materials used and whether the dimensional specifications of the L.C.S. design were strictly adhered to or not, a L.C.S. unit under construction in Midnapore was thoroughly investigated.

The L.C.S. unit investigated was in its 7th day of construction. The state of it at that time was, 2 leach pits dug and brick lining finished, 2 slabs of R.C.C. cast and are getting cured to be put as pit covers. The findings of the Technical survey are as follows:

1. Depth of fit : 130 cm
2. Inner dia : 114 cm
3. Slab thickness : 7 cm
4. Reinforcement Bars: 8 mm Dia & fiarly good quality
5. Cement quality : Fair
6. Aggregate quality : Poor
7. Cement mortar : Poor strength (sand mix is more)
8. Bricks : Weight is more, few voids, and broken when dropped from a height of 3.1/2 feet, implying poor quality.

9. Honey comb structure of pits

10. Distance between : 30 cm (edge to edge)
    2 pits

11. Distance from the: 75 cm
    edge of seat level
    to pits edge

12. Workmanship : Fairly good

13. Spacing of honey : 8 cms
    combing

14. Upper fair courses: Fairly good quality
    of leach pit
    (brick work, solid
    construction, not
    honey comb)

15. Distance from well: 13 mt
    in the compound

16. Dia of well : 2 mt

17. Depth of water : 6 mts
    level from ground : 7.5 mts (summer)

18. Brick lining for about 2 mts below ground level in the well is observed