SUSTAINABLE SANITATION SOLUTIONS IN AFRICAN CITIES STUDY
PROJECT

Case Study of Cesspool Emptiers in Dar-es-Salaam

1.0 ACCOMODATION AND OCCUPANTS

1.0.1 The Area

The study in Tanzania was carried out in 3 divisions of Dar-es-Salaam namely; Temeke, Itala and Kinondoni. A total of 106 households were interviewed.
Several parameters were used to qualify the areas where households interviewed were located.

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Quality of the area analysis
The quality of the area was analyzed using 7 parameters i.e. Planning, age of settlement, periphery, permanency, population density, income levels and legality of occupants, and all these had to be put together.
A weighting index was hence developed based on these indicators to have three broad categories- Good, fair and bad.

Parameter	*Weight*
Planned	*2*
Unplanned	*1*
Old Settlement	*1*
Recent Settlement	*2*
Central periphery	*3*
Close periphery	*2*
Far periphery	*1*
Permanent	*3*
Semi-permanent	*2*
Precarious	*1*
High density	*1*
Medium density	*2*
Low density	*3*
High income	*3*
Medium income	*2*
Low income	*1*
Legal occupation	*2*
Illegal occupation	*1*

A total was computed and then regrouped to give the good, fair and poor qualities of places.

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Physical Planning
Among the parameters was planning of the area.
Households were required to qualify the area where their households were located and TABLE 1 shows how the households perceived their respective areas.

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TABLE 1:
Planning of the area

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	Temeke		Itala		Kinondoni	
AQLTPLAN	No	%	No	%	No	%
Planned	25	65.8	0	0	35	100.0
Unplanned	13	34.2	29	100.0	0	0
Total	38	100.0	29	100.0	35	100.0

All the households interviewed in Itala reported their area to be unplanned and all households in Kinondoni were in a planned area. However, households in Temeke division reported to be located in both planned and unplanned areas at 65.8% and 34.2% respectively.

Age of settlement
The age of settlements in terms of old or new, was reported as indicated in TABLE 2.

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TABLE 2:
Age of Settlement

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	Temeke		Itala		Kinondoni	
	No	%	No	%	No	%
Old	39	100.0	29	100.0	0	0
Recent	0	0	0	0	35	100.0
Total	39	100.0	29	100.0	35	100.0

All households in both Itala and Temeke reported the age of settlement to be old while all households in Kinondoni reported to be in a Recent Settlement.
Regarding planning of areas in Dar-es-Salaam, this shows that areas in the old settlement were not planned whereas areas in the Recent Settlement are planned.

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TABLE 3:
Proximity to City Centre

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	Temeke		Itala		Kinondoni	
CQLTPERI	No	%	No	%	No	%
Close periphery	6	15.8	29	100.0	0	0
Central periphery	0	0	0	0	0	0
Far periphery	32	84.2	0	0	35	100.0
Total	38	100.0	29	100.0	35	100.0

Most households in Temeke and Kinondoni were located in the far periphery while all households interviewed in Itala were in close periphery.

TABLE 4:
Permanence

	Temeke		Itala		Kinondoni	
DQLTPERM	No	%	No	%	No	%
Permanent	36	100.0	27	100.0	33	97.1
Semi-permanent		0		0		0
Precarious		0		0	1	2.9
Total	36	100.0	27	100.0	34	100.0

All households interviewed were in permanent structures with an exception of one household in Kinondoni division, which was precarious.

Population density
Population density of an area has a lot of influence on the sanitation, therefore, respondents were asked to indicate the way they perceive population density around their homes and the results are indicated in Table 5.

TABLE 5:
Population density of the area

	Temeke		Itala		Kinondoni	
EQLTYPOP	No	%	No	%	No	%
High density	37	97.4	29	100.0	2	5.7
Medium density	0	0	0	0	28	80.0
Low density	1	2.6	0	0	5	14.3
Total	38	100.0	29	100.0	35	100.0

Most households in Temeke and Itala were located in high-density areas (noted above to be old settlement areas) and a big percentage (80%) of households in Kinondoni division were in medium densely populated areas. A small percentage 14.3% in Kinondoni and 2.6% in Temeke were in low densely populated areas.

Income levels
Households interviewed were required to provide information regarding their levels of income and classify them as High, medium or low income. Their responses are as shown in Table 6.
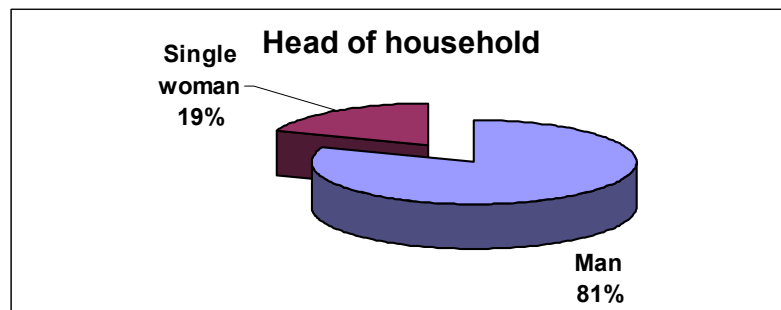
TABLE 6:
Income levels

	Temeke		Itala		Kinondoni	
FQLTINCO	No	%	No	%	No	%
High income	1	2.6	0	0	12	54.5
Medium income		0	0	0	9	40.9
Low income	37	97.4	29	100.0	1	4.5
Total	38	100.0	29	100.0	22	100.0

Results revealed that Temeke and Itala were dominated by low-income earners. However, in Kinondoni, 54.5% of the households were high-income earners and 40.9% were medium income earners with only 4.5% as low income earners.

In Kinondoni division, all households interviewed reported to be legal occupants, which was not the case in the other two divisions. 3 out of 32 households in Temeke and 2 out of 21 in Itala reported to be illegal occupants.

1.0.2 The household

Households were asked to give their background information, this is summarized in the tables and charts below.

Most households reported to be headed by men (81%) and only a small percentage (19%) was headed by single women. However, this trend did not apply to all the divisions.

TABLE 7:
Type of building

	Temeke		Itala		Kinondoni		Total	
BUILDTYP	No	%	No	%	No	%	No	%
Semi-permanent	3	8.3	3	12.5	1	3.1	7	7.6
Permanent	32	88.9	21	87.5	31	96.9	84	91.3
Flat	1	2.8		0.0		0.0	1	1.1
Total	36	100.0	24	100.0	32	100.0	92	100.0

Most households interviewed were occupying permanent buildings (91.3%), and only 1 household was occupying a flat in Temeke division. A total of 7.6% in all the divisions were residing in semi-permanent buildings with the biggest percentage (12.5%) in Itala.

Size of rooms
Data on the size of the rooms was not reliable since some respondents gave the sizes of buildings and others the sizes of rooms, hence making it hard to compare the data.

The semi-permanent buildings had 4 rooms while the permanent buildings had 6 rooms on average and the flat had 5 rooms.

Year of settlement in town
The period of household settlement in the city was analyzed and the distribution is as shown in Table 8 below.

TABLE 8:
Period of household settlement in the city

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Before 1980	28	71.8	11	57.9	11	34.4	50	55.6
1981-1990	2	5.1	3	15.8	12	37.5	17	18.9
1991-2000	8	20.5	5	26.3	8	25.0	21	23.3
After 2000	1	2.6	0	0	1	3.1	2	2.2
Total	39	100.0	19	100.0	32	100.0	90	100.0

A big percentage (55.6%) of households settled in the city before 1980 and 23.3% settled in between 1991 and 2000. It was observed that the rate at which households were settling in the city has been reducing with time for instance in Itala division, no household moved into the city after 2000.

Year of house occupancy
Emptying of the cesspit much depends on the time the household has occupied the house and information about the period of house occupancy was provided as shown in table below.

TABLE 9:
Period of house occupancy

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Before 1980	14	48.3	3	10.7	1	2.9	18	19.8
1981-1990	4	13.8	9	32.1	6	17.6	19	20.9
1990-2000	9	31.0	12	42.9	25	73.5	46	50.5
After 2000	2	6.9	4	14.3	2	5.9	8	8.8
Total	29	100.0	28	100.0	34	100.0	91	100.0

Most households occupied their houses in between 1990 and 2000 with a biggest percentage (73.5%) in Kinondoni division. Majority of households (91.2%) in all divisions occupied the houses before 2000 with a small percentage (8.8%) occupying the houses after 2000.
Kinondoni division being a recent settlement, only one household reported to have occupied the house before 1980.

<p align="center">**TABLE 10:**
Mode of occupancy</p>

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Legal owner	29	70.7	23	76.7	31	88.6	83	78.3
Tenant	12	29.3	7	23.3	4	11.4	23	21.7
Total	41	100.0	30	100.0	35	100.0	106	100.0

About 8 out of every 10 households interviewed (78.3%) reported to be legal owners of the houses they occupy and the rest 21.7% as tenants. This trend was generally observed in the three divisions.

The data further showed a very strong relationship between the period of occupancy and the number of years the household had settled in the city ($X2=21.81$, $DF=3$, $P=0.00007$). Most legal owners of houses (62.3%) settled in the city way back before 1980, 23.2% in between 1981 and 1990 and 14.5% settled in between 1991 and 2000. No household was reported to have settled after 2000 owned a house. Majority of the tenants (52.4%) settled in the city between 1991 and 2000 and 33.3% settled in before 1980. This is further illustrated in the bar chart below.

The chart shows that among the legal owners, majority settled in the city before 1980, followed by those of 1981to1990, then 1991 to 2000 and none settled in after 2000. Majority of the tenants settled in the city between 1991 and 2000 and before 1980.

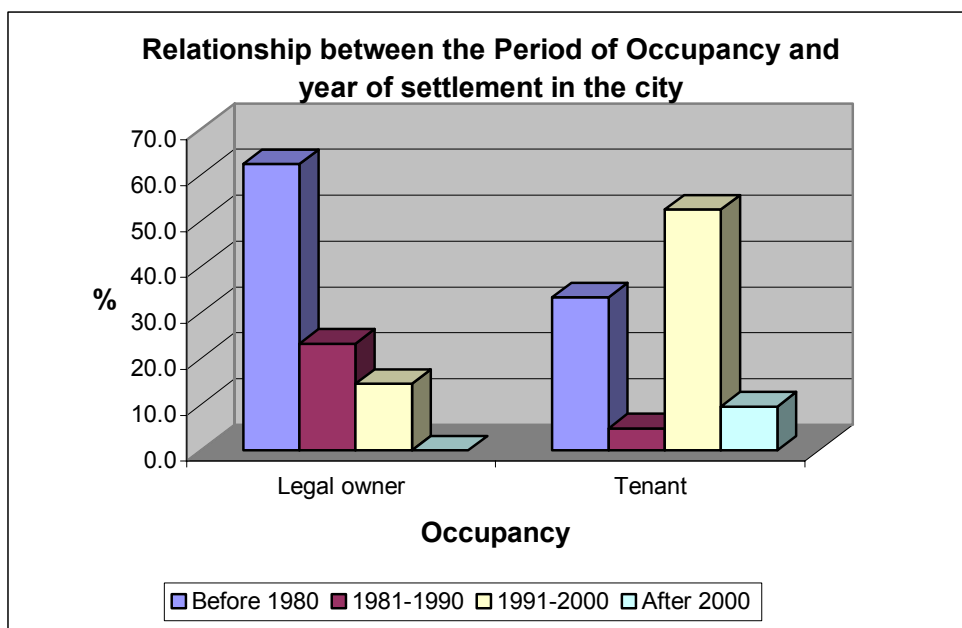Households visited showed some difference in household sizes by division as shown in the table11 below.

Relationship between the Period of Occupancy and year of settlement in the city

TABLE 11:
Average number of people in a household

Division	Adults	Children	Overall
Temeke	6	5	10
Itala	3	3	6
Kinondoni	4	4	7
Overall Avg	4	4	8

The average number of people in a household is 4 in all divisions. However, Temeke division registered the highest number of people in a household with 6 adults and 5 children.

2.0 HOUSEHOLD BUDGET AND EXPENDITURE

A number of questions about household incomes and expenditures were asked to the household heads and among them are connection to DAWASA and Uganda Electricity Board.

TABLE 12:
Connection to DAWASA

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Yes	19	46.3	1	3.3	25	73.5	45	42.9
No	22	53.7	29	96.7	9	26.5	60	57.1
Total	41	100.0	30	100.0	34	100.0	105	100.0

On interviewing households whether they were connected to the DAWASA scheme, it was observed that their responses varied with the divisions in which they were located (X2=32.4, DF=2, P=0.00).
It was observed that a biggest percentage (57.1%) of households in the city was not connected to the DAWASA scheme, these were mainly households located in the unplanned and old settlement areas. However, 42.9% of the households were connected to the DAWASA scheme with the biggest percentage (73.5%) in Kinondoni.

Households connected to the DAWASA scheme were getting services for an average 21.2 hours in a day. Out of 106 households interviewed, 16 households had water tanks. Regarding these households with water tanks, 14 were in Kinondoni, 1 in Itala and 1 from Temeke division.

TABLE 13:
Source of water

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Surface h$_2$o	0	0	2	7.1	0	0	2	2.9
Private well	9	29.0	10	35.7	1	11.1	20	29.4
Neighbor	17	54.8	4	14.3	7	77.8	28	41.2
Carrier	4	12.9	3	10.7	1	11.1	8	11.8
Other	1	3.2	9	32.1	0	0	10	14.7
Total	31	100.0	28	100.0	9	100.0	68	100.0

The source of water for households was observed to be related with the division where households were located (X2=23.47, DF=8, P=0.0028). The most common source of water for the households not connected to the DAWASA services was from neighbors (41.2%), private well (29.4%) and carriers (11.8%) and this trend varied with divisions. In Temeke and Kinondoni, there were no households using surface water. A big percent (77.8%) of the households in Kinondoni division and 54.8% in Temeke were supplied by neighbours.

The connections to electricity board were found to be independent of the location of the household as shown in table 14.

TABLE 14:
Connection to Electricity Board

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Yes	31	75.6	23	76.7	33	94.3	87	82.1
No	10	24.4	7	23.3	2	5.7	19	17.9
Total	41	100.0	30	100.0	35	100.0	106	100.0

The study revealed that 82.1% of the households interviewed were connected to the TANESCO network with the highest percentage in Kinondoni (94.3%).

In order to understand more household dynamics, they were asked to indicate their estimated monthly incomes as shown in table 15 below.

TABLE 15:
Monthly household Incomes

Tanzania	Avg. Income (Tz shs)
Temeke	71,688
Itala	139,714
Kinondoni	407,790
Overall Avg.	200,387

The income estimates given by households showed a lot of variation with divisions. In Temeke, the average household there earns 71,688 TSh per month, while in Itala it is 139,714 TSh and in Kinondoni, which is a new residential area with different characteristics, an average household earns 407,790 TSh per month. On overall, the household monthly income is 200,387 TSh.

Household income can be estimated by looking at the expenditure therefore households reported their expenditure patterns on the key areas. The areas included house rent, food, transport; taxes, education etc. and the total of which was computed and the results are as indicated in Table 16.

TABLE 16:
Monthly household Expenditure

	Monthly Average expenditure
Temeke	56,920
Itala	88,538
Kinondoni	604,534
Overall Avg. expenditure	248,492

Households indicated that they spend more than they earn and that is why in some instances the average expenditures per division are higher than average incomes. However, certain sources like sale of land and animals may not be considered by the individual households as regular source of income. In Kinondoni average monthly household expenditure is 600,534 TSh, which is higher than in any other division.

3.0   DRAINAGE AND SEWERAGE

Drainage and sewerage facilities at the household level formed part of this study and the following are summaries of the responses from households.

TABLE 17:
Description of drainage facilities

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Soak pit	2	5.0	0	0.0	1	2.9	3	2.9
Pit latrine	14	35.0	9	32.1	7	20.0	30	29.1
Cesspit h_2o in bathroom	17	42.5	16	57.1	11	31.4	44	42.7
Septic tank	3	7.5	3	10.7	9	25.7	15	14.6
Pit with h_2o in bath	0	0.0	0	0.0	5	14.3	5	4.9
Flash toilet	4	10.0	0	0.0	8	22.9	12	11.7
Total	40	100.0	28	100.0	35	100.0	103	100.0

The most common household drainage facilities used included cesspit collecting waters from the latrine and from the bathroom built on the cesspit (42.7%), pit latrine 29.1%, septic tank 14.6% and flash toilets 11.7%. Itala division didn't report any household with either a soak pit or pit with running water in the bathroom. However, they were reported to be existent in Kinondoni and Temeke divisions.
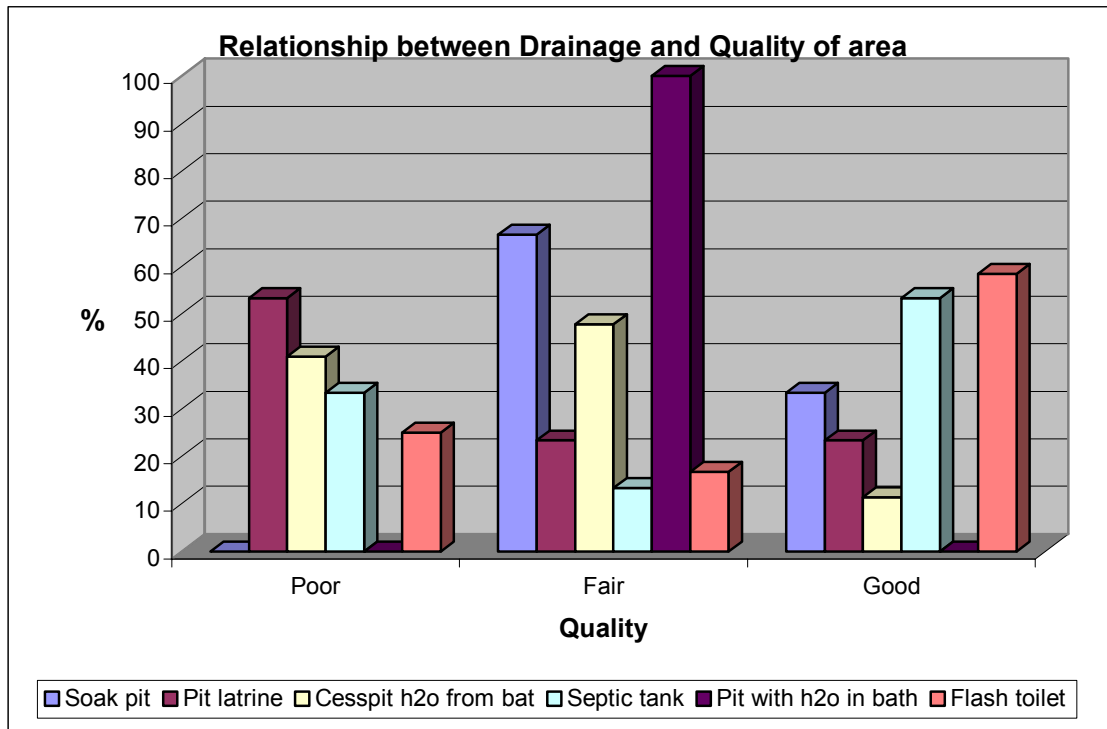
The most common drainage facilities used in poor quality areas were pit latrines, cesspits and septic tanks. Households located in fair areas use pit latrines with water in bathrooms, soak pits and cesspit with water in bathrooms and households in good areas use of flash toilets, septic tanks and soak pits as shown in the chart above.

Households with cesspits were to comment on how well these pits were constructed, and the ratings are as indicated in table 18.

TABLE 18:
How well is cesspit constructed

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Good	21	53.8	17	58.6	25	75.8	63	62.4
Fair	15	38.5	10	34.5	7	21.2	32	31.7
Precarious	3	7.7	2	6.9	1	3.0	6	5.9
Total	39	100.0	29	100.0	33	100.0	101	100.0

Most households in all divisions rated their cesspit construction to be good with the highest percentage (75.8%) in Kinondoni division. Fairly and precariously constructed cesspits were also reported in all divisions at 31.7% and 5.9% respectively.
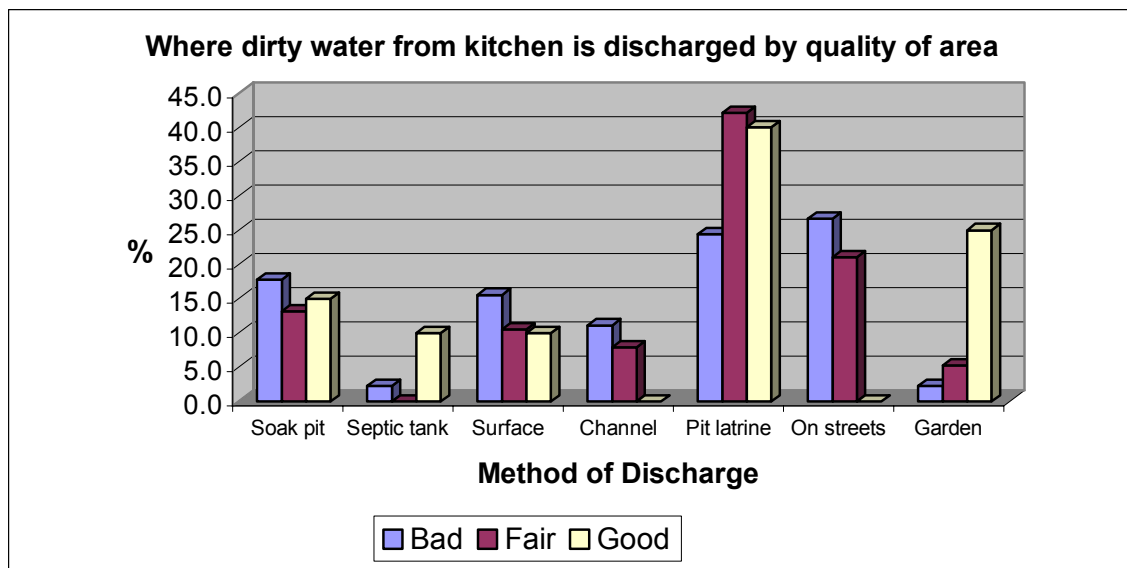
Dirty Water Discharge
Table 19 and 20 indicate the different ways through which dirty water from the kitchen and bathroom is discharged at household level.

TABLE 19:
How dirty water from kitchen is discharged

	Temeke		Itala		Kinondoni		Total	
KITH$_2$O	No	%	No	%	No	%	No	%
Soak pit	4	10.0	5	16.7	7	21.2	16	15.5
Septic tank	1	2.5		0.0	2	6.1	3	2.9
Surface	3	7.5	5	16.7	5	15.2	13	12.6
Channel	2	5.0	4	13.3	2	6.1	8	7.8
Pit latrine	17	42.5	6	20.0	12	36.4	35	34.0
On streets	11	27.5	9	30.0		0.0	20	19.4
Garden	2	5.0	1	3.3	5	15.2	8	7.8
Total	40	100.0	30	100.0	33	100.0	103	100.0

Most households interviewed use pit latrines to discharge dirty water from the kitchen (34.0%), streets (19.4%) and soak pits (15.5%). Other ways through which dirty water is discharged include surface (12.6%), channels (7.8%) and others use gardens. There was no strong relationship between the method of discharge of this dirty water and the division where the households were located.

A relationship was established between quality of the area and method of discharging dirty water from kitchen (X2=24.71, DF=12, P=0.0162);

- o The use of soak pits was generally low and did not vary significantly with quality of area.
- o Septic tanks were highly used by households located in good quality areas.
- o The surface and channels were mainly used by households in poor quality areas and none used the method in good quality areas.
- o Pit latrines were used more so by households in good and fair quality area households than those in poor areas.
- o The streets were more commonly used by households in poor area and to some extent by those in fair areas, while gardens were more used by those in good areas.

TABLE 20:
How dirty water from Bathroom is discharged

BATHH2O	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Soak pit	4	10.3	11	37.9	8	22.9	23	22.3
Septic tank	0	0	0	0	2	5.7	2	1.9
Surface	7	17.9	1	3.4	5	14.3	13	12.6
Channel	2	5.1	0	0	1	2.9	3	2.9
Pit latrine	26	66.7	17	58.6	19	54.3	62	60.2
Total	39	100.0	29	100.0	35	100.0	103	100.0

Water from bathrooms was mainly discharged into pit latrines (60.2%) and soak pits (22.3%). Other methods of discharge were surface (12.6%), channels (2.9%) and septic tanks (1.9%). There were no septic tanks reported in Temeke and Itala divisions and no channels in Itala.

Where dirty water from bathroom is discahrged by quality of area
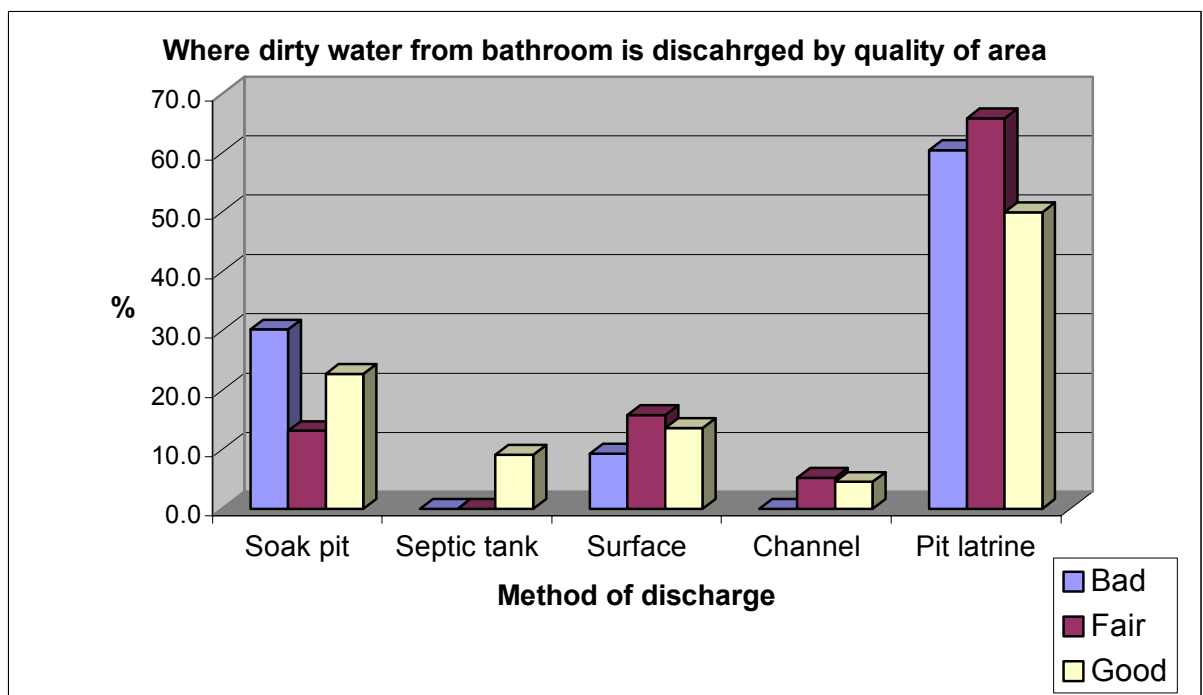
Households that used septic tanks were mainly those in bad and good quality areas. Septic tanks though used by few households were mainly in good quality areas. The data did not show any strong relationship with quality of the area where households are located ($X2=13.4$, $DF=8$, $P=0.097$).

Sharing of Cesspit
Households that reported to be sharing cesspits with other households totaled to 38 i.e. 23 in Temeke, 11 in Itala and 4 in Kinondoni.
In Temeke division, each household reported that they were each sharing one cesspit with 6 households, in Itala each household was sharing one cesspit with 5 households and in Kinondoni, each household was sharing one cesspit with 7 households.

**Households that share cesspit by quality of area**
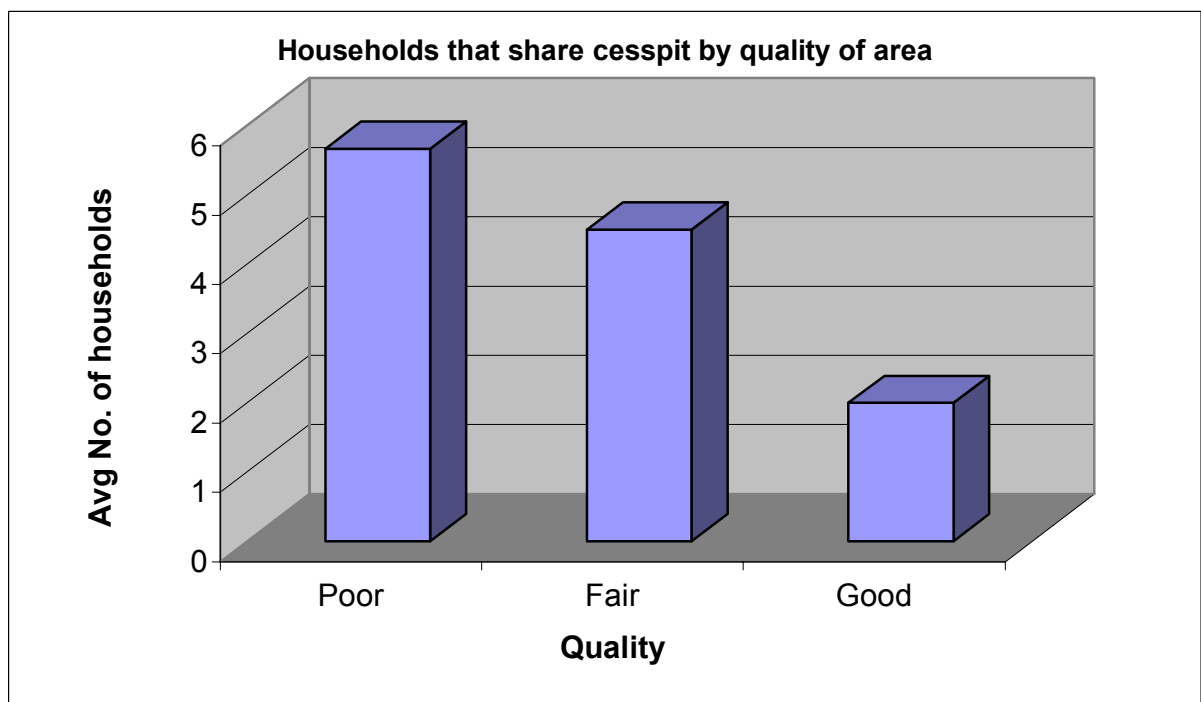
The ANOVA showed that average number of households sharing cesspits was varying with quality of the area. Households from poor quality areas were found to be sharing the cesspits with more families than those from fair and good quality areas (F ratio =1.385, F prob. =0.2649).

TABLE 21:
Distance of pit latrine /soak pit from the house

	how far is pit (m)	Volume of pit (m^3)
Temeke	4.26	36.41
Itala	2.98	31.92
Kinondoni	4.70	44.20

Cesspits in Itala were observed to be closer (2.98 m) to the main house than in the other divisions of Temeke and Kinondoni.

**Average distance of pit from the house by quality of area**
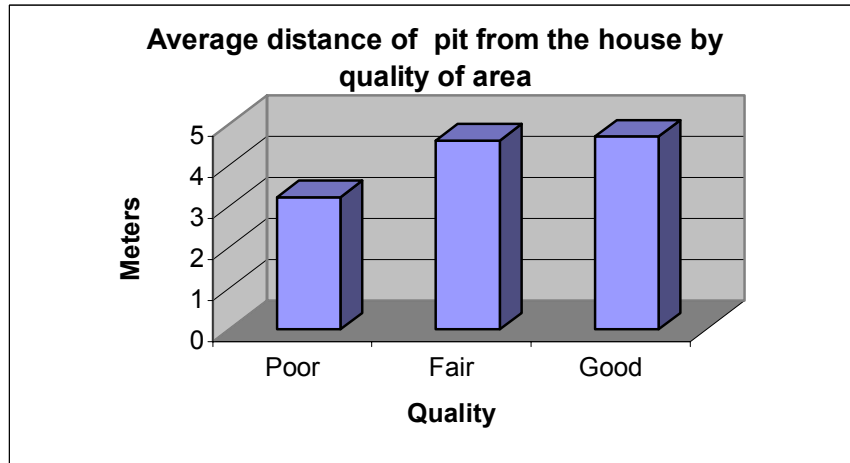
The data also showed a strong relationship between the quality of the area and the distance where cesspits were constructed (F ratio =3.478, F prob. 0.0352). Households in poor quality areas had cesspits constructed nearer to houses than those in fair and good quality areas.

TABLE 22:
Volume of the pit in Cubic meters

	Volume of pit (m^3)
Temeke	36.41
Itala	31.92
Kinondoni	44.20

The average volume of cesspits in Temeke, Itala and Kinondoni was 36.41 m^3, 31.92 m^3 and 44.2 m^3 respectively.

The chart above indicates a strong relationship between the volume of cesspits and the quality of area where the households were located (F. ratio =7.809, F prob. 0.0008). The households in good quality areas as shown on the chart above had bigger volumes than

Volume of pit in Cubic Meters by Quality of area
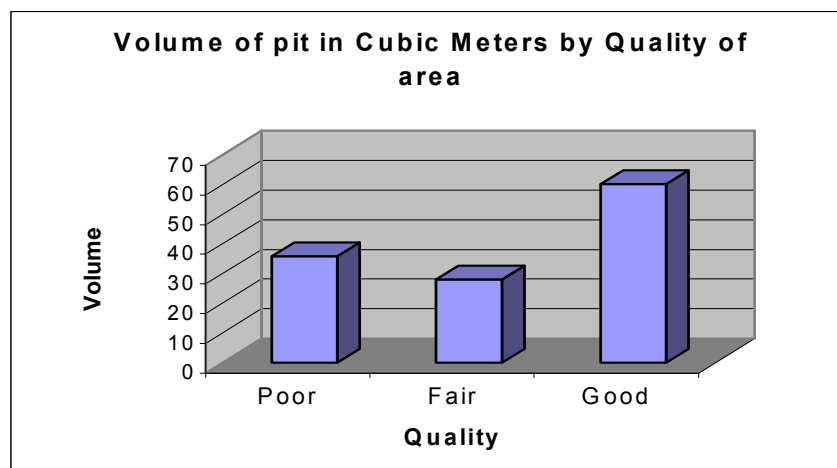
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4.0   RELATIONSHIP WITH CESSPOOL EMPTYING COMPANIES

Households were interviewed on their relationship with cesspool emptying companies and the methods employed to empty their cesspits. The following are some of the responses on how they empty their cesspits.

TABLE 23:
Method employed to empty cesspit

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Manually	11	44.0	16	80.0	7	31.8	34	50.7
By truck	14	56.0	2	10.0	13	59.1	29	43.3
Left free	0	0.0	1	5.0	1	4.5	2	3.0
Others	0	0.0	1	5.0	1	4.5	2	3.0
Total	25	100.0	20	100.0	22	100.0	67	100.0

Most cesspits were reported to be emptied manually (50.7%) and by truck (43.3%) with a small percentage of households (3%) leaving them free.
The use of manual method was most common in Itala (80%) and Temeke (44.0%) while the use of trucks was common in Kinondoni (59.1%) and Temeke (56.0%).

Other than the method used to empty the cesspit, it was also deemed necessary to find out who actually does the emptying, and this is illustrated in Table 24.

TABLE 24:
Who empties the cesspit

	Temeke		Itala		Kinondoni		Total	
WHOEMPTS	No	%	No	%	No	%	No	%
Member of family	2	9.1	1	6.3	5	31.3	8	14.8
Artisan-manually	8	36.4	6	37.5	1	6.3	15	27.8
Company	7	31.8	4	25.0	1	6.3	12	22.2
City truck	4	18.2	2	12.5	9	56.3	15	27.8
DAWASA truck	1	4.5	3	18.8	0	0	4	7.4
Total	22	100.0	16	100.0	16	100.0	54	100.0

The work of emptying the cesspits was mainly done by artisans-manually (27.8%), city trucks (27.8%), company (22.2%) and a member of the family (14.8%). However, a truck belonging to DAWASA was not commonly used by households for instance in Kinondoni, no household reported to have used one.

Responsibility of paying
Different ways of meeting the emptying costs were as shown in table 25 below;

TABLE 25:
Responsibility of paying for the cesspit emptier

PAYCESS	Temeke No	Temeke %	Itala No	Itala %	Kinondoni No	Kinondoni %	Total No	Total %
Tenants- rent	1	4.2		0.0	1	4.0	2	2.9
Tenants-paid separately	20	83.3	17	85.0	24	96.0	61	88.4
Landlord	3	12.5	3	15.0		0.0	6	8.7
Total	24	100.0	20	100.0	25	100.0	69	100.0

The costs of emptying the cesspit were mainly met by the tenants separate from rent cost (88.4%). 8.7% of households reported that landlords were meeting the cost and 2.9% of households reported that the cost was included in the rent. al charges.

Where is sewerage burried/discharged

Behind latrine 45%

Covered by soil 55%
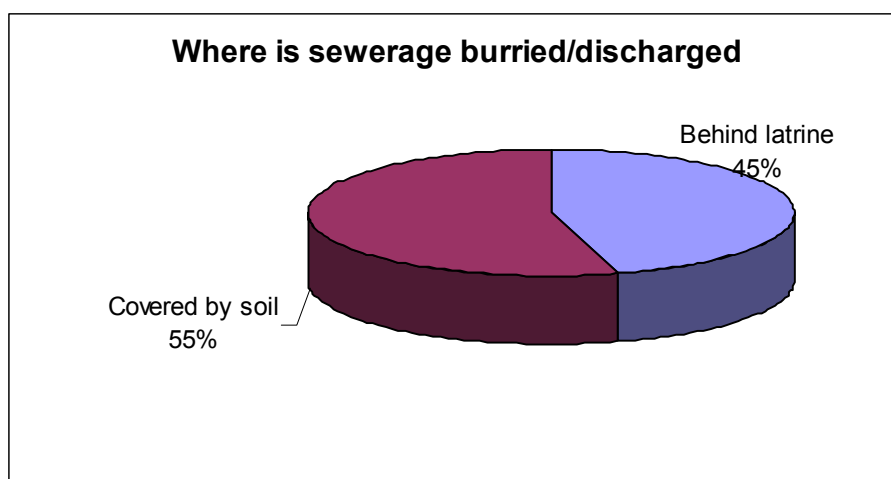
Most households without cesspits buried the sewerage by covering it with soil (55%) and 45% of the households buried it behind pit latrines.

TABLE 26:
Cost of emptying the cesspit

Division	Minimum cost	Maximum cost	Average cost
Temeke	21,400	42,444	27,083
Itala	20,067	27,375	22,588
Kinondoni	18,958	30,000	33,971
Mean	19,944	31,556	28,100

The average minimum cost of emptying the cesspit ranged from 18,958/= (in Kinondoni) to 21,400 (in Temeke) and average maximum cost ranged from 27,375/= (in Itala) to 42,444/= (in Temeke). The average cost indicated by households was about 28,100 with the highest recorded in Kinondoni and lowest in Itala.

This is further clarified by the fact that Kinondoni has a high percentage of high income earners.

Variation of costs with season
The cost of emptying the cesspits was also investigated to find out the costs varied with the seasons i.e. dry and wet seasons and the results are as indicated in table 27 below.

TABLE 27:
Seasonal costs

Division	Dry cost	Rainy cost	Last emptying cost
Temeke	28,600	32,167	32,047
Itala	14,000	24,462	20,588
Kinondoni	20,833	30,500	24,583
Mean	19,536	28,290	26,016

It was reported in all divisions that the cost of emptying a cesspit in a rainy season was higher than the cost in a dry season. When households were asked the amount of money paid for the last emptying, households in Temeke had paid more than any other division.

TABLE 24:
Times emptying cesspit

Division	Times empty per year	Times empty last year
Temeke	1.31	1.40
Itala	1.46	1.00
Knondoni	2.14	2.76
Mean	1.75	2.10

Most households interviewed reported that they empty cesspits about twice a year apart from Temeke. And last year, households that answered the question indicated that they emptied their cesspits about two times save Itala and Temeke.

TABLE 25:
How did households get to know about cesspool emptying company

|	Temeke		Itala		Knondoni		Total	
	No	%	No	%	No	%	No	%
Neighbors	3	37.5	8	80	14	82.35	25	71.43
Landlord	2	25	1	10		0	3	8.571
Others	3	37.5	1	10	3	17.65	7	20
Total	8	100	10	100	17	100	35	100

Neighbors were reported to be passing on information about cesspool emptying companies more than any other source (71.43%), while other households used other sources (20%) and landlords (8.6%). The trend was observed to be the same in all divisions.

Since the study was also interested in getting the full details of how the public gets in touch with these companies, the households response in Table 26 below shows the exact means of contacting the cesspool emptying company by the house holds. It should be noted however, that they did not vary with the division where the household is located.

Table 26:
Method of contacting the company

CONTCESS	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Phone	1	11.1	0	0	5	38.5	6	20
Middlemen	1	11.1	4	50	7	53.9	12	40
Other	7	77.8	4	50	1	7.7	11	36.7
Total	9	100	8	100	13	100	30	100

A big percentage of the households contacted the companies using middlemen (40%), phones (20%) and other means (36.7%).
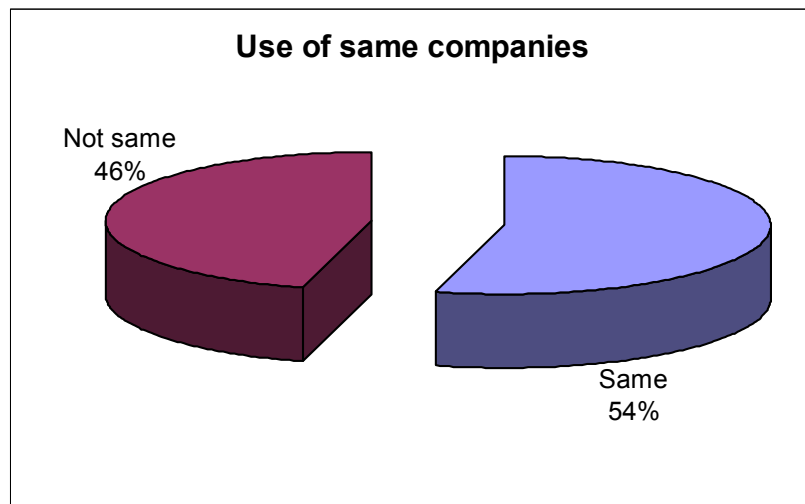
The number of households using the same companies was not significantly different from those that keep alternating the companies as seen from the chart above. However, the percentage of households using the same company was higher in Kinondoni than in Itala and Temeke divisions.

TABLE 27:
Reasons for using the same company

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Come quickly	1	100	2	50	5	33.3	8	40
Low price	0	0	1	25	9	60	10	50
Good experience	0	0	1	25	1	6.7	2	10
Total	1	100	4	100	15	100	20	100

The reasons were mainly that these companies come quickly and that their prices are low. A small percentage of the households reported that these companies had good experience.

Table 28 shows the levels of satisfaction with the services rendered by the companies as they empty the cesspits.

TABLE 28:
Level of satisfaction

	Temeke		Itala		Kinondoni		Total	
	No	%	No	%	No	%	No	%
Very satisfied	3	50	4	66.7	14	77.8	21	70
A bit Satisfied	2	33.3	1	16.7	3	16.7	6	20
Not satisfied	1	16.7	1	16.7	1	5.6	3	10
Total	6	100	6	100	18	100	30	100

Most respondents reported that they were very satisfied with the services rendered to them by the companies (70%) while only 10% were not satisfied at all.

In all divisions, it was reported that no one has ever paid a fine to the urban authorities for the sewerage.