SANITATION INVESTMENT TRACKER (SIT)

A step-by-step user guide

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This note provides practical guidance on how to use SIT, the Sanitation Investment Tracker. SIT is a suite of applications powered by Akvo FLOW to track investment and associated expenditure in sanitation at household level.

The SIT app consists of:

- **A data collection application for smartphones** to obtain information about on-site sanitation facilities including location, picture, technical design and associated expenditure. This user guide includes a sample survey: the survey can be modified and downloaded on surveyors' smartphones. All answers are fed into an online database.

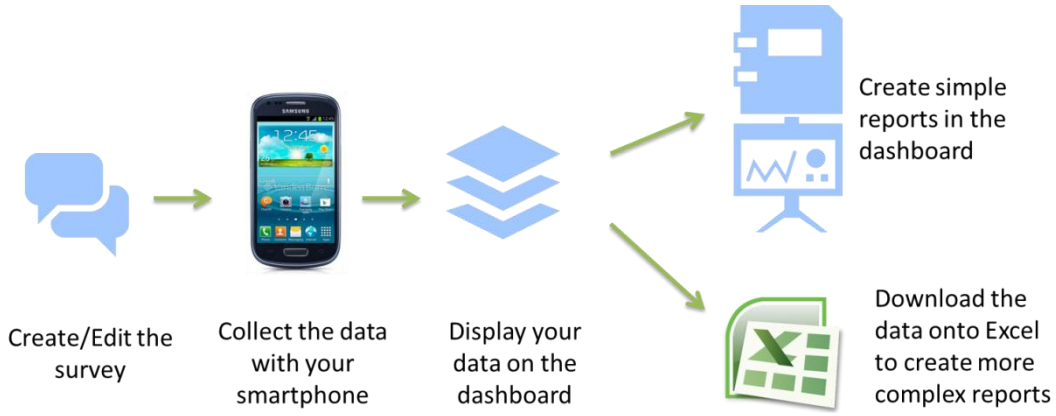
- **A web-based data analysis software**. From the central database, different reports on households' facilities and associated investments can be generated for different audiences such as governments/policy makers, programme managers, latrine emptiers or even the latrine users themselves. Data generated by the SIT data collection application can also be combined with other data sets (such as government or NGO expenditure).

The data collection survey and the analysis can be managed via the Akvo FLOW dashboard. For practical tips on using this dashboard, please refer to the Akvo FLOW supporting documentation, which can be found online on Akvo FLOW support website.

The User Guide is to be read together with ***Note 1- Sanitation Investment Tracker (SIT) - an overview***, which provides more background information on SIT, what it does, why it was developed, who can benefit from it and how.

SIT has been developed jointly by Trémolet Consulting and Akvo.org, with the support of SHARE. The Sanitation Hackathon was organized by the World Bank between December 2012 and March 2013.

Overview of the SIT Process



This guide includes:

A step-by-step guide on how to use SIT
Annex 1: the "SIT" survey with the rationale for including certain questions;
Annex 2: example of a household specific report that can be built using SIT data;
Annex 3: an aggregated report comparing results across a sample of households;
Annex 4: an example of the analytical reports of public and private expenditure on sanitation.

Step 1 - Create/ Edit the Survey

Manage the SIT survey on the Akvo FLOW Dashboard

First log into the Akvo FLOW dashboard using its Gmail login credentials.

To use Akvo FLOW you will need to have:

- Access to the **Internet**
- **Java**. To install a free version of Java go to Java Download;
- **Google earth** to view maps exported from the Dashboard. To install the free version of Google Earth, go to Google Earth Download. You can also visualize the data in Google Maps;
- **Microsoft Excel** to explore the data reports and undertake statistical analysis;
- **A Gmail account to log into Akvo FLOW.**

Register users and devices

In the **users** tab, you can register the users and set users' permissions to establish roles to the different member of your team.

To install the Akvo FLOW app on surveyors' smartphones, they will receive the APK file that needs to be downloaded via e-mail. Once the app is installed, the phone will automatically show up on the device list under the **devices** tab.

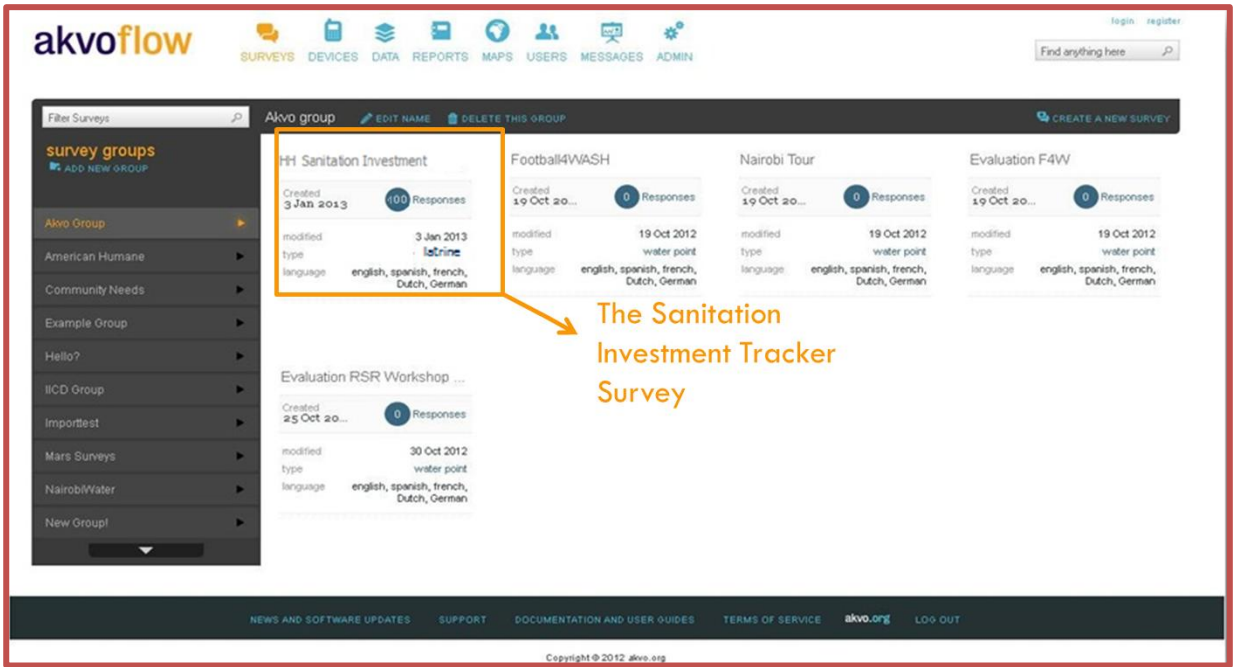
Edit the survey

Go to the **surveys** tab to manage the survey.

The **surveys** tab is build up in the following way: there is a *survey group* in which you can create several *surveys*. One *survey* can consist of several *question groups* in which different *questions* can be created.

First you need to define the survey that is going to be used. To create your survey, you can build upon the *SIT survey* which you will find in the dashboard. It covers all necessary aspects of household sanitation financing (See Annex 1).

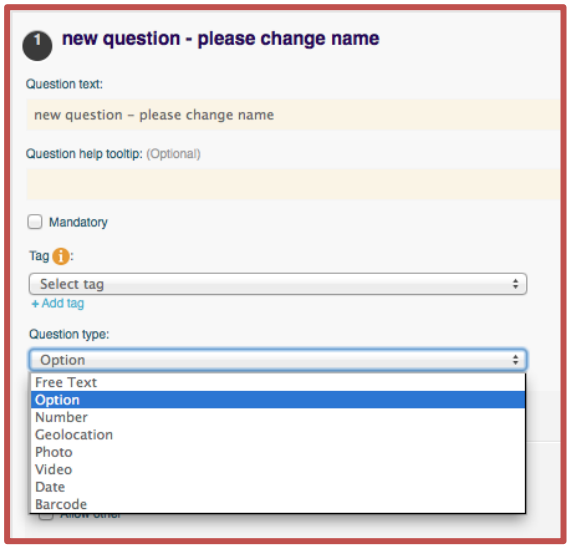
You can edit online the *SIT survey* in the dashboard. To edit the survey, go to *survey group*, select the survey you want to work in, such as SIT's survey, and click on "Edit".



You can edit the questions, create new question groups and new subsequent questions.

Eight different types of questions can be used in a survey:

1. Free text – The answer to the question is entered by the user in free text.
2. Option – The respondent can chose between several answer options proposed. For example: Yes/ No/ Maybe. You can set the number of answers allowed.
3. Number – The answer to the question needs to be a number. You can choose to allow signs or decimal signs and can also set minimum and maximum values to prevent mistyping.
4. Geo-location – It will record the latitude and longitude of the location of the phone, using its GPS.
5. Photo – It will launch the camera and instruct the surveyor to take a photo.
6. Video – It will launch the video camera and instruct the surveyor take a video. (Keep in mind that photos and videos take up a lot of memory when deciding to put in these types of questions).
7. Date – This will record the date.
8. Barcode – It will launch the barcode reader app of your phone (You will need to have download it on your smartphone before) and instruct you to scan the barcode of a facility.

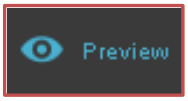


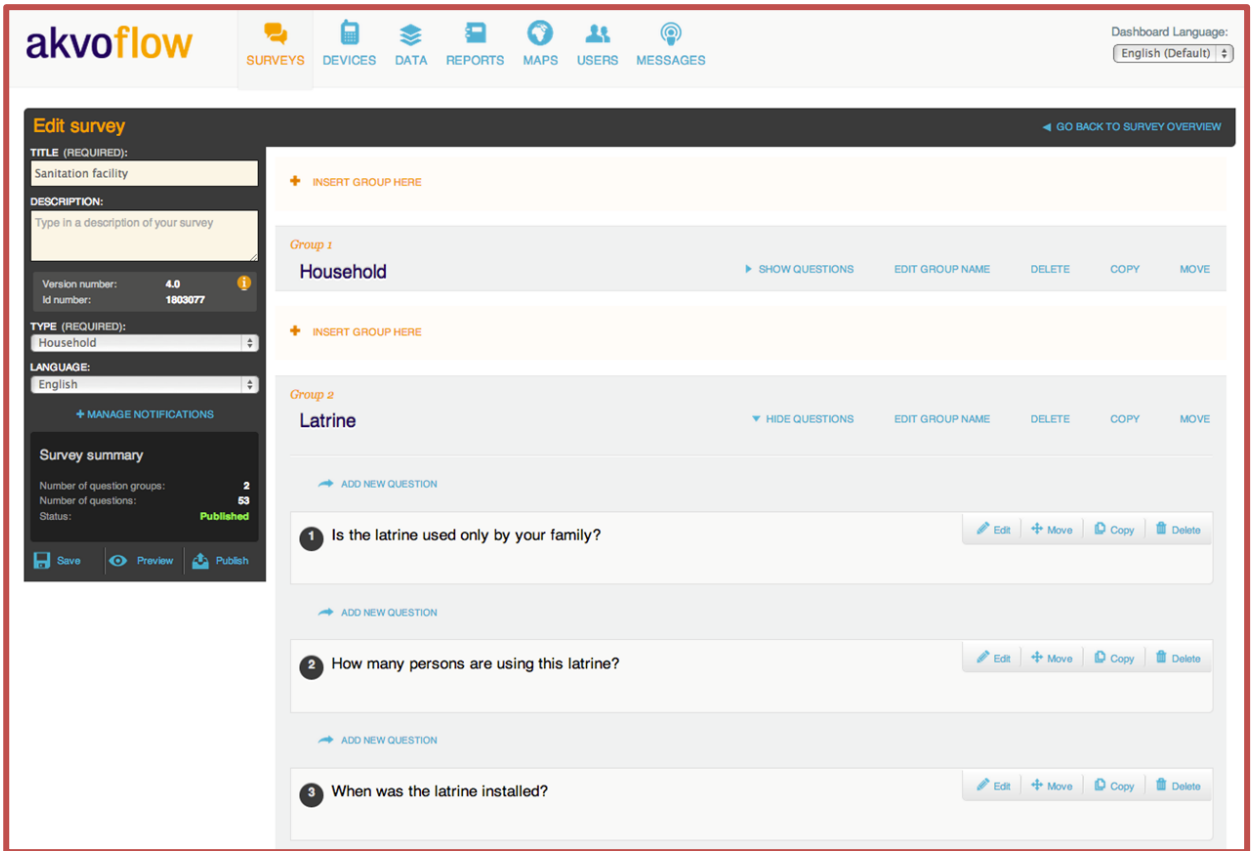
More complex surveys can include dependency trees that allow the survey to be adapted based on the answers to previous questions. The survey creation tool allows making a question dependent of the answer selected in an *option question*. This means that for instance Question 2 will only appear if a certain answer (in this case Answer B) is given to the previous Question 1. To make Question 2 dependent on the selection of Answer B to Question 2, you can click the *dependent* box and select that you only want people to answer Question 2, if they chose 'Answer B' for Question 1.

You can make a question mandatory by selecting the *mandatory* box. This means that a survey cannot be submitted without all the mandatory questions being answered.

For each question you can add a *question help tooltip*. In this text box, you can add more information on how the question should be answered.

When the survey is ready, you can use the **preview** tool to check what the survey would look like for users.





Publish the survey

Once the survey is ready, you can publish it by clicking on the **publish** button. Once published the survey is available to be assigned to your device/s.

If you want to check if your survey is published, visit the 'Message' tab.

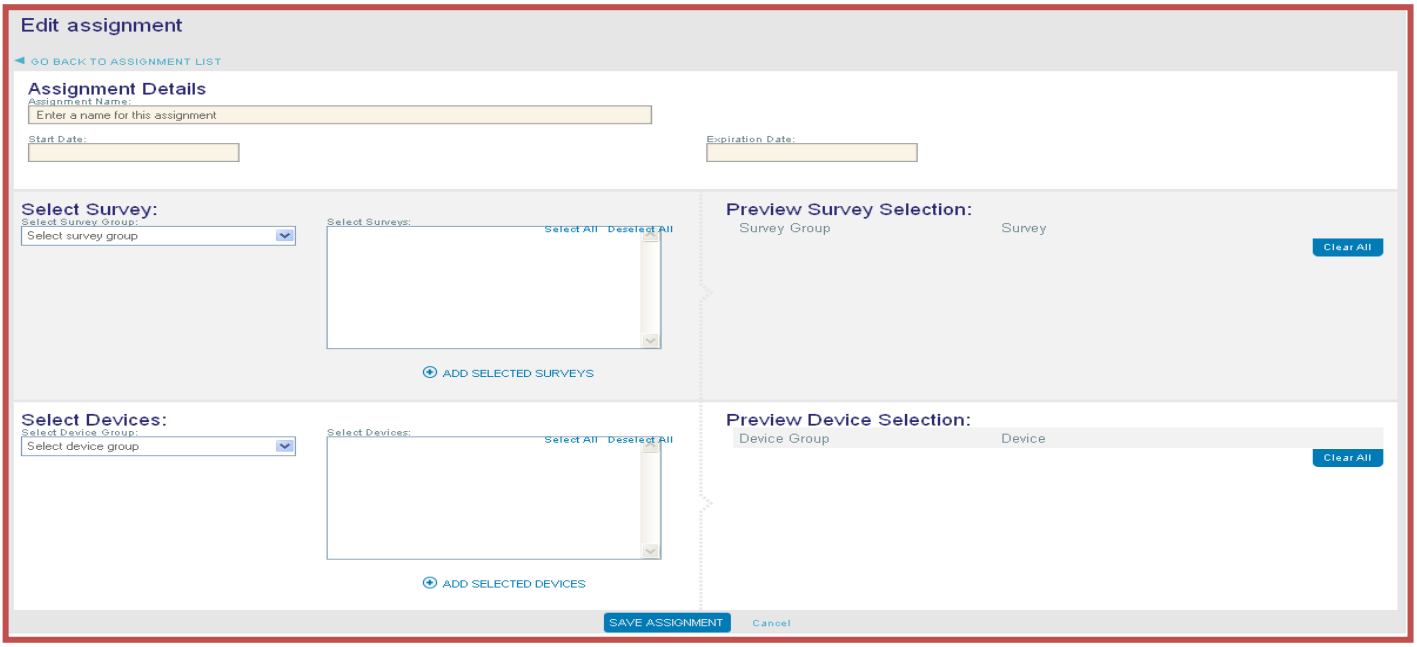
Assign the survey to a phone

In the **devices** tab you can see all the phones connected to the dashboard. Here you can make *device groups* which allow you to group devices for certain tasks/projects.

To assign the survey to devices, go to the **devices** tab and then to the **assignment list** tab and click **create new assignment**. Select the survey you wish to assign and the mobile device(s) that you want to assign it to and fill out the settings for the assignment, i.e. an assignment name and the time period for which you want the assignment to be active.

When you next open the **Field Survey** app on your smartphone in an area with connectivity, the survey will have been added. In areas of low connectivity, an alternative method is to download the survey onto a phone using the survey ID via the **download survey** function (under settings). When offline, the survey can be loaded directly onto the phone when it is connected to a computer.

When you adjust the survey, make sure to press **publish** after saving your adjustments. The survey will automatically update to the latest version on your smartphone when there is connectivity.



Step 2 - Collect data with the data collection app

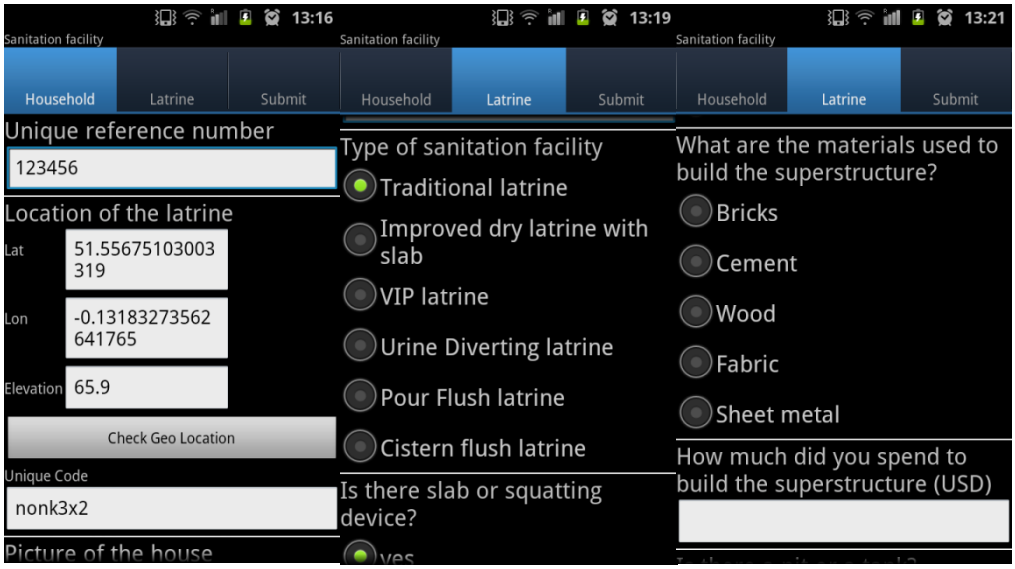
First you need to download and install the **Akvo FLOW data collection application** on your smartphone. You will receive an e-mail with the app (APK file) which, when you open it on your phone, installs automatically. The survey assigned to the device will automatically be downloaded when the app opens.

You can then record households' answers as you interview them. For each facility, the data collection application can automatically generate a Unique ID Reference Number. Alternatively, you can also enter one manually.

You will need to physically assign a number to the facility or the house, by engraving or painting it. If numbers are manually pre-created, bar codes can also be attached to the facilities.

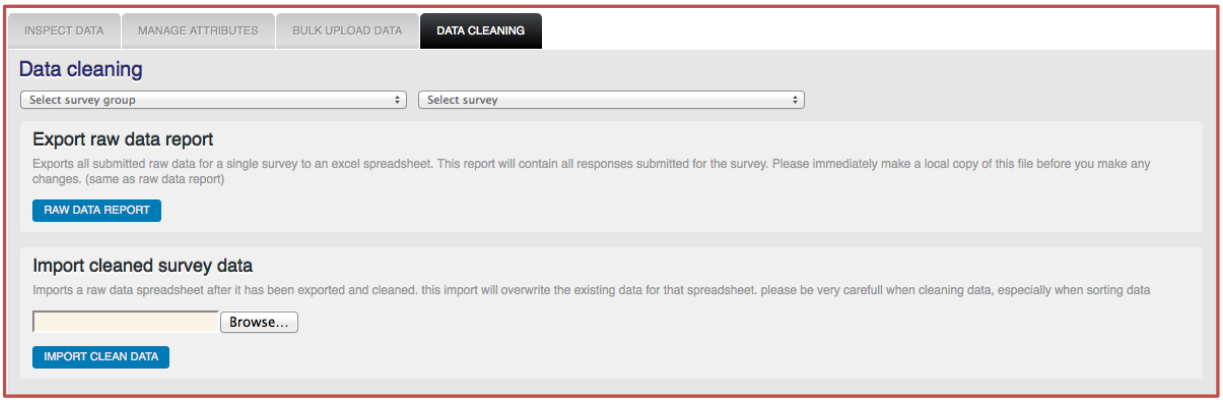
With a smartphone, you can take pictures of the sanitation facility and its owner, the house and the view from the street, which are automatically uploaded in the survey. You will need to ask the consent of the person and record it in the app before taking the picture. The geographic references of the sanitation facility can also be automatically recorded in the survey, with the GPS functionality of the phone.

Once you have completed a single survey, press **submit**. The survey will appear directly on the dashboard if the phone has connectivity, otherwise the data will be transferred the next time you launch the Field Survey app when the phone has connectivity. If there is no connectivity, survey data can also be submitted offline by connecting the phone to the computer and using the *bulk upload* option under the **data** tab.



Under the **data** tab, you can check that the data records are appearing correctly in the dashboard. You can filter the collected data by survey group, survey name and date on which the data was submitted.

Using the **inspect data** tool you can also clean the data and edit individually every survey submitted. To do more extensive cleaning, you can download the data in Excel and import it again in the dashboard under the **data cleaning** tab.



Step 3 - Analyse the data

Using the dashboard, you can visualize the data collected on a map and run various data reports.

Visualise the data collected on the Dashboard

In the reports tab, you can visualise the data collected by selecting the survey you wish to display. You can use the "Chart Builder" tool to visualise results in simple charts (pie, bars) and create simple customised reports presenting key overall indicators on the results of the survey, for example on the types of sanitation facilities households use.

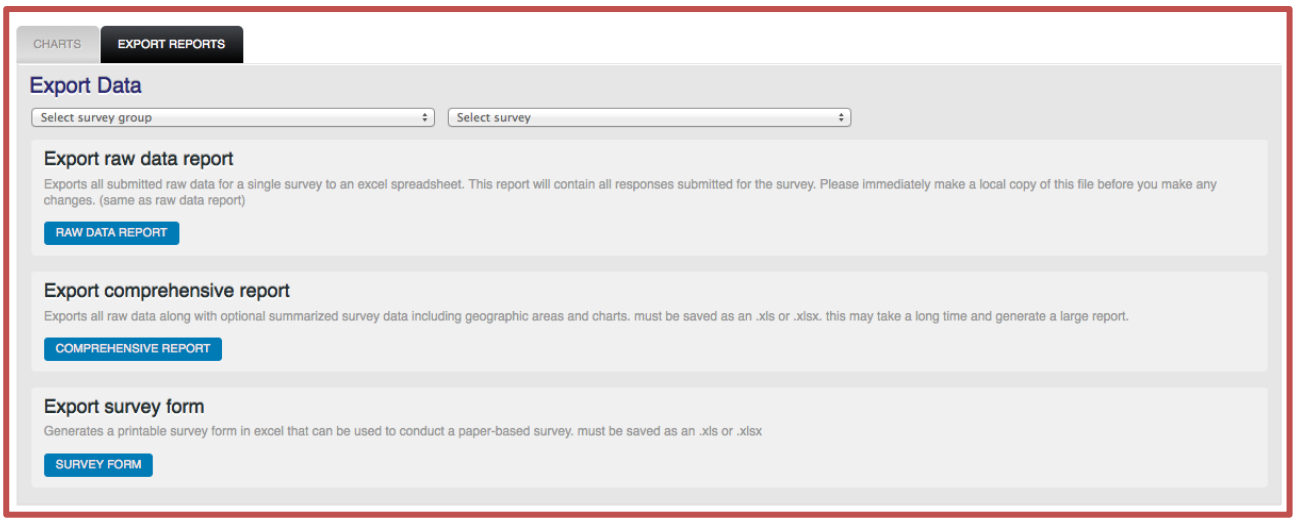
The chart builder can only show the results of *option questions*, more complex analysis can be done once the datais exported to Excel.

In the **reports** Tab, you can also export the data collected in several ways:

- *Export raw data report* function will provide you an Excel spreadsheet with all the data that has been submitted through the survey. Navigate to the *export reports* tab, choose the survey and then press **run report**.

- *Export comprehensive report* will enable you to download the comprehensive report built with the raw data along with optional summarized survey data including geographic areas and charts.

  You can also download the survey you created in Excel.



Visualise the data collected on a map

In the **maps** tab, the household facilities and associated data collected are visualised in a Google map. You can choose the country of your data collection from the dropdown list and explore your data points.

Create more complex customised reports

Downloading the data into Excel enables you to produce different reports. These reports can be either household specific (gathering all relevant information for a single household) or across the set of households included in the survey. In the Annexes, you can find different indicators and reports that can be built based on data collected through the SIT survey:

- **Annex 2** presents a household specific report. It calculates the total expenditure on sanitation of the household to build the sanitation facility and the annual expenditure to maintain and empty it.
- **Annex 3** presents an aggregated report that enables to obtain results across the sample of household. It calculates the total expenditure on sanitation across the sample. This can be allocated by type of facilities.
- **Annex 4** is an example of a formatted report, which a chart that can be built in Excel.

Annex 1 - SIT Survey

Collection of data on households expenditure on private on-site sanitation facilities

Key points to bear in mind

This survey has been designed to measure the total capital investment and associated recurrent expenditure made by an individual household on their sanitation facility.

- Questions 17-25 seek to identify the type of sanitation facility used and the different components that have been used to build the facility. They should be adapted to correspond to the type of facilities that are built in the area surveyed. This also pertains to Questions 27-30: the method to empty the sanitation facility will need to be modified to be area-specific.
- Some questions ask detailed information on who built the sanitation facility: this aims to enable programme managers to cross check the information with service providers, or to identify the programme which supported the building of the sanitation facility and measure its impact (including by collecting information on its costs through other means).

Specific comments on selected questions are provided in the right-hand column. The minimum set of questions that need to be asked to calculate the total expenditure on sanitation of the households is highlighted in red.

Questions	Comments
A. Information on the household	
1. Unique reference number	This number would be attributed by the application (or alternatively manually), but including numbers such as a number located on the slab or any other identified elements provided by a programme + the number of the house + the number of the family
2. Geo-reference of the sanitation facility	All this information is collected to ensure that the sanitation facility is identified in a unique manner and can be revisited at a later stage (for example, for the purpose of an inspection).
3. Picture of the house	
4. Picture of the sanitation facility	
5. Are you (the inhabitant) the owner of the house or renter?	
○ Owner/renter	
6. Name of the house owner	
7. Picture of the home owner if present (Ask for his consent: yes/no)	
8. Address of the owner if he rents the house	
9. If renter is ticked:	
9.1. Name of the house renter	
9.2. Picture of the home renter if present	
10. How many persons are living in your household?	
11. What is the average monthly income of your household?	To assess the affordability of sanitation, expenditure on sanitation facility will need to be compared to the household's income
B. Information on their sanitation facility	
12. Is the sanitation facility used only by your family or by other persons?	This is important to identify shared sanitation facilities and to estimate filling-up rates (for pit emptiers).
13. How many persons are using this sanitation facility?	

Questions	Comments
14. When was the sanitation facility installed? ○ Date (Year)	Most respondents will quote prices in nominal historical terms, so the year is needed to make the necessary inflation adjustments. This information can also be used to identify maintenance/ replacement needs and plan future expenditure.
15. Who built the sanitation facility? ○ You or household members ○ Friends/neighbours/family, ○ Artisan(s), ○ NGO, ○ municipal body, ○ other (specify- enter name) 15.1. If artisan, who was the artisan who built the sanitation facility? (enter name) 15.2. If an NGO, which was the NGO who built the sanitation facility? (enter name) 15.3. If a municipal body, who was the municipal body who built the sanitation facility? (enter name) 16. Overall, how did you finance the sanitation facility? (tick appropriate answer) ○ Entirely yourself, ○ Partly yourself with the financial support of a NGO/ municipal body ○ Partly yourself with the financial support of friends/family/neighbours ○ Entirely provided for free by a NGO/ municipal body ○ Entirely provided for free by friends/family/neighbours 16.1. If provided for free or with financial support of a NGO/ municipal body: who is it? (enter name)	It is important to know who built the sanitation facility, if it was done for free or not, so as to be able to verify this information and obtain cost information from the organizations cited. This information can then be used to evaluate the effectiveness of a program intervention. The information collected at household level will have more value (i.e. it will be possible to use it more effectively) if cross- checked with information from the funders.
	Questions 17-25 will need to be adjusted depending on the circumstances and type of sanitation facility built in the surveyed area.
17. What type of facility is it? ○ Traditional latrine ○ Improved dry latrine with slab ○ VIP latrine ○ Urine Diverting latrine ○ Pour Flush latrine ○ Cistern flush latrine	It is essential to identify the type of sanitation facility that has been built, to collect cost data on each component so as to make sure the responses are comparable. The answer to question 17 will condition questions 18-25. For instance if the “cistern flush latrine” is selected, the following questions on the pit will not appear in the SIT tool.
18. Is there slab or squatting device? ○ Yes/No 18.1. If yes: what type of slab is it? ○ Square slab (sanplast) ○ Dome slab ○ Natural material ○ Other (specify) 18.2. If yes: how did you obtain the slab? ○ Bought from an artisan ○ Provided for free by friends/family/neighbours (counts for 0 in the calculation) ○ Provided for free by a NGO/municipal body (counts for 0 in the calculation)	Question 18-25 aim to list all the components of the latrine and cost them separately so as to collect more accurate data on total expenditure for building the sanitation facility. These elements may have been provided and installed by different actors, for free or for a charge. The addition of all costs components will enable to derive the total expenditure of the household to build the sanitation facility in question. At present, when materials have been provided for free or labour is free, this is counted as “0” in the calculation of the total cost. However, it would be possible to further develop the methodology by

Questions	Comments
18.3. If paid for: how much did you pay for the slab?	attributing values to this data so as to generate more reliable estimates. For example, free labour (also referred to as "sweat equity") could be valued based on wage estimates, to estimate the opportunity cost of free labour.
○ Enter number in local currency	
19. Is there a superstructure?	
○ Yes/No	
19.1. If yes: what are the materials used to build the superstructure?	
○ Bricks	
○ Cement	
○ Wood	
○ Fabric	
○ Sheet metal	
○ Other (specify)	
19.2. If yes: how did you obtain the material to build the superstructure?	
○ Bought by the household	
○ Found recycled material (counts for 0 in the calculation)	
○ Material offered by friends/family/neighbours (counts for 0 in the calculation)	
○ Material provided for free by a NGO/municipal body (counts for 0 in the calculation)	
19.3. If yes: how did you build the superstructure (workforce)?	
○ Constructed yourself/ household member	
○ Constructed by friends/family/neighbours (counts for 0 in the calculation)	
○ Constructed for free by a NGO/municipal body (counts for 0 in the calculation)	
○ Constructed by an artisan	
19.4. If you paid for the material and/or installation it: how much did you pay to build the superstructure (material +workforce)?	
○ Enter number in local currency	
20. Is there a pit or a tank?	
○ Pit/tank/none	
20.1. If pit: Is the pit reinforced?	
○ Yes/No	
20.1.1. If yes: what material was used to reinforce the pit?	
○ Cement rings/ plastic rings/ bricks/ wood/other (specify)	
20.1.2. If yes: How did you obtain the material to reinforce the pit?	
○ Bought by the household	
○ Found recycled material (counts for 0 in the calculation)	
○ Material offered by friends/family/neighbours (counts for 0 in the calculation)	
○ Material provided for free by a NGO/municipal body (counts for 0 in the calculation)	
20.1.3. If yes: how did you reinforce the pit (workforce)?	
○ yourself/ household member (counts for 0 in the calculation)	
○ for free by friends/family/neighbours (counts for 0 in the calculation)	

Questions	Comments
○ for free by a NGO/municipal body (counts for 0 in the calculation)	
○ by an artisan	
20.1.4. If you paid for the material and/or installation to reinforce the pit: how much did it cost you?	
○ Enter number in local currency	
20.2. If tank: How did you obtain the tank?	
○ Bought by the household	
○ Built with recycled materiel (counts for 0 in the calculation)	
○ Provided for free by friends/family/neighbours (counts for 0 in the calculation)	
○ Provided for free by a NGO/municipal body (counts for 0 in the calculation)	
20.3. If you paid for the tank and its installation: How much did it cost you?	
○ Enter number in local currency	
21. How did you dig the pit?	
○ Dug the pit yourself (counts for 0 in the calculation)	
○ Pit dug by for free by friends/family/neighbours (counts for 0 in the calculation)	
○ Pit dug for free by a NGO/municipal body (counts for 0 in the calculation)	
22. If paid for the pit: How much did you pay to dig the pit?	
○ Enter number in local currency per meter (depth)	
23. How many pits/tanks are there?	
○ 1/ 2	
24. What is the size of the pit/tank? (enter numbers or n/a)	
24.1. Volume (m3)	
24.2. Depth (m)	
24.3. Diameter (m)	
25. Is there a vent pipe or not?	
○ Yes/No	
25.1. If yes: how did you obtain the vent pipe?	
○ Bought by the household	
○ Built yourself with recycled material (counts for 0 in the calculation)	
○ Provided for free by friends/family/neighbours (counts for 0 in the calculation)	
○ Provided for free by a NGO/municipal body (counts for 0 in the calculation)	
25.2. If you bought the vent pipe: how much did you pay for it?	
○ Enter number in local currency	
26. If the sanitation facility is more than one year old, how much do you spend per year to keep it in state of use:	This question aims to evaluate a yearly operation and maintenance of the sanitation facility.
26.1. To repair the superstructure if damaged: Enter number in local currency	
26.2. To repair the pit if damaged: Enter number in local currency	
26.3. To clean the **sanitation facility**: Enter number in local currency	

Questions	Comments
27. How is the sanitation facility emptied or how do you plan to empty it	It is essential to identify the method used to empty the latrine, how this is done and by whom (for free or charged) to evaluate whether it entails a recurrent expenditure. Identifying the service providers can also help to cross check the information.
○ Moving the pit ○ Manual emptying ○ Mechanised emptying (trucks) ○ Connected to simplified sewers/ connected to solids-free Sewer/Conventional Gravity Sewer /other (specify)	
28. Who empties – or will empty- the sludge from the pit when it is full?	
○ yourself / a household member(counts for 0 in the calculation)	
○ friends/neighbours	
○ a local artisan (enter name)	
○ a municipal body/company (enter name)	
○ a private company (enter name)	
29. How frequently is the sanitation facility emptied?	
○ 0/1/2/3/4/5/6 times per year	
30. If you pay, how much do you pay to empty the faecal sludge?	
○ Enter number in local currency	

Annex 2 - Household reports

It might be useful to produce single-household reports using SIT data, to better understand the total cost of building and maintaining a sanitation facility for a single household. Such a report can be used, for example, in discussions with the surveyed household in order to help them understand their current spending on sanitation and put that into perspective when compared to other expenditure. Some of the data in the report is based on a single question in the survey, others are based on calculations from answers to different questions.

Key questions to calculate the total investment and recurrent expenditure on the sanitation facility are highlighted in red.

No.	Indicators	From which question of the survey is it calculated?
1	Unique reference number	1
2	Geo-reference of the sanitation facility	2
3	Picture of the house	3
4	Picture of the sanitation facility	4
5	Occupation status	5
6	Name of the house owner	6
7	Picture of the home owner	7
8	Address of the owner if house is rented	8
9	Name of the house renter (if applicable)	9.1
10	Picture of the home renter if present (if applicable)	9.2
11	Number of persons living in the household	10
12	Average monthly income of the household	11
13	Sanitation facility used by?	12
14	Number of persons using the sanitation facility of the household	13
15	Date of installation of the sanitation facility	14
16	Person(s) who built the sanitation facility	15
17	Name of the person who built the sanitation facility	15.1, 15.2, 15.3
18	Financing mean of the sanitation facility	16
19	Name of the person(s) who provided financial support	16.1
20	Type of household sanitation facility	17
21	Presence of a slab or squatting device	18
22	Type of slab/ squatting device	18.1
23	Practical mean of provision of the slab/squatting device	18.2
24	Cost of the slab/squatting device	18.3
25	Presence of a superstructure	19
26	Materials used to build the superstructure	19.1
27	Practical mean of provision of the material	19.2
28	Superstructure constructed by?	19.3
29	Cost of building the superstructure	19.4
30	Presence of a pit/tank	20
31	Type of pit (reinforced and not reinforced) or a tank	20.1
32	Material used to reinforce a sanitation facility	20.1.1
33	Practical mean of provision of the material to reinforce the pit	20.1.2

No.	Indicators	From which question of the survey is it calculated?
34	Practical mean of construction of the reinforced pit	20.1.3
35	Cost of reinforcing the pit	20.1.4
36	Practical mean of a provision of the tank	20.2
37	Cost of installing a tank	20.3
38	Practical mean of digging the pit	21
39	Cost of digging the pit	22
40	Number of pit/tanks	23
41	Volume of the pit	24.1
42	Depth of the pit	24.2
43	Diameter of the pit	24.3
44	Presence of a vent pipe	25
45	Practical mean of provision of the vent pipe	25.1
46	Cost of the vent pipe	25.2
47	Yearly expenditure to repair the superstructure	26.1
48	Yearly expenditure to repair the pit	26.2
49	Yearly expenditure to clean the sanitation facility	26.3
50	Method used to empty the pit	27
51	Person/organisation who empties the pit/tank	28
52	Name of the person/organisation who empties the pit/tank	28
53	Frequency of emptying the pit/tank per year	29
54	Cost of emptying the pit/tank	30
55	**Total expenditure to build the sanitation facility**	Σ(18.3+19.4+(20.1.4+20.3+22)*23+25.2)
56	**Total yearly expenditure to maintain the sanitation facility**	Σ(26.1+26.2+26.3)
57	**Total yearly expenditure to empty the sanitation facility**	30*29
58	Construction cost of the sanitation facility as a percentage of household's yearly income	
59	Cost of maintaining the sanitation facility as a percentage of household's yearly income	

Annex 3 - Aggregated reports (from household reports)

Aggregate reports across the dataset will be needed to provide a comprehensive picture for the purpose of data analysis.

Number	Indicators	Format of results	From which question of the household level report is it calculated?
	Background data		
1	Total number of household surveyed	Number	1
2	% of renters among household surveyed	Number	5
3	Average number of persons in a household	Number	Average 11
4	Average monthly income of a household	Number	Average 12
5	Average number of persons using the sanitation facility of a household	Number	Average 13
6	Total number of persons that have a sanitation facility at home	Number	Σ13
7	Average age of household sanitation facilities	Number	Average 15
8	Who build household sanitation facilities? % of households building their sanitation facilities by themselves, by friends, by artisans , NGOs etc.	Pie chart	16
9	Name of organisations building sanitation facilities	Text	17
10	How do household finance their sanitation facilities? % of households financing the sanitation facilities entirely themselves, partly themselves, with financial or in-kind support from a NGO/municipality?	Pie chart	18
11	Name of Organisations supporting the construction of household sanitation facilities	Text	19
	Construction of sanitation facilities		
12	Distribution of type of households' sanitation facilities: % of household using each type of sanitation facility	Pie chart	20
13	Distribution of sanitation facilities equipped with a slab or squatting device, with an allocation per type of slab used (%)	Pie chart	21,22
14	Distribution of sanitation facilities equipped with a superstructure, with an allocation per type of material used to build it (%)	Pie chart	25,26
15	Distribution of sanitation facilities equipped with a pit (reinforced and not reinforced) or a tank (%)	Pie chart	30,31
16	Distribution of type of material used to reinforce the pit (%)	Pie chart	32
17	% of sanitation facilities equipped with a vent pipe	Pie chart	44
18	Distribution of practical means to obtain a slab/squatting device (%)	Pie chart	23
19	Distribution of practical means to obtain the material for the superstructure (%)	Pie chart	27
20	Distribution of practical means to construct the superstructure (%)	Pie chart	28
21	Distribution of practical means to obtain the material to reinforce the pit	Pie chart	33
22	Distribution of practical means to construct the reinforced pit	Pie chart	34
23	Distribution of practical means to install the tank	Pie chart	36
24	Distribution of practical means to dig the pit	Pie chart	38
25	Distribution of practical means to obtain a vent pipe	Pie chart	45
26	**Total households' expenditure to build a sanitation facility**	Number	Σ55

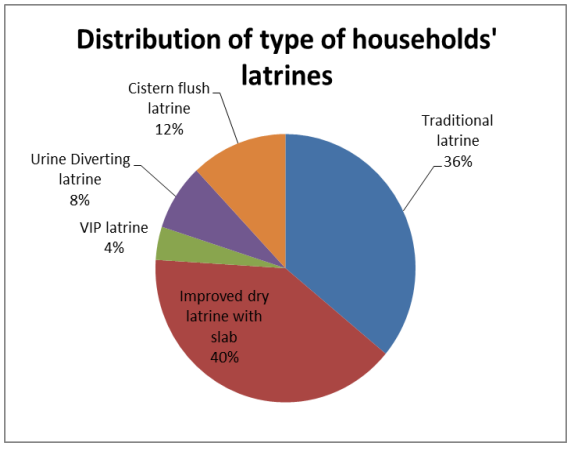
Number	Indicators	Format of results	From which
27	**Total yearly expenditure to maintain the sanitation facility (repair superstructure and pit, clean the sanitation facility)**	Number	Σ59
28	Average volume of a pit	Number	41
29	Average cost of a slab/squatting device	Number	Average 24
30	Average cost of building a superstructure	Number	Average 29, weighted by 23
31	Average cost of reinforcing a pit	Number	Average 35, weighted by 25
32	Average cost of installing a tank	Number	Average 37
33	Average cost of digging a pit	Number	Average [39(cost per meter)*42 (depth of the pit)]
34	Average cost of a vent pipe	Number	Average 46
35	**Average total cost of constructing a sanitation facility for households (by type of sanitation facilities)**	Number	Average 55, weighted by 17
36	**Average yearly expenditure of households to maintain their sanitation facility (by type of sanitation facilities)**	Number	Average 56, by 17
37	**Variance of total cost of constructing a sanitation facility for households (by type of sanitation facilities)**	Number	Variance 55, weighted by 17
38	**Variance of households' yearly expenditure to maintain their sanitation facility (by type of sanitation facilities)**	Number	Variance 56, by 17
39	**Distribution of households according to their expenditure to build their sanitation facilities (by type of sanitation facilities and for all)**	Bar graph	55, weighted by 17
40	**Distribution of households according to their yearly expenditure to maintain their sanitation facility (by type of sanitation facilities and for all)**	Bar graph	56, by 17
	Emptying of sanitation facilities		
41	Distribution of methods used by household to empty their pit/tank (%)	Pie chart	50
42	Distribution of person/organisation called upon by household to empty their pit/tank (%)	Pie chart	51
43	Name of organisations emptying households' pit sanitation facilities/tank	text	52
44	**Total households' yearly expenditure to empty their pit/tank**	**Number**	**Σ57**
45	Average frequency of pit emptying	Number	Average 53
46	**Average total yearly cost born by household to empty their pit/tank**	Number	Average 57
47	**Variance of total yearly cost born by household to empty their pit/tank**	Number	Variance 57
48	**Distribution of households according to their total yearly expenditure to empty their pit/tank**	Bar graph	57
	Affordability analysis		
49	Average cost to construct a sanitation facility as a percentage of a household's yearly income	Number	Average 58
50	Average operations and maintenance costs of the sanitation facility as a percentage of a household's yearly income	Number	Average 59
51	Variance of the cost to construct a sanitation facility as a percentage of a household's yearly income	Number	Variance 58
52	Variance of the operations and maintenance costs of the sanitation facility as a percentage of a household's yearly income	Number	Variance 59

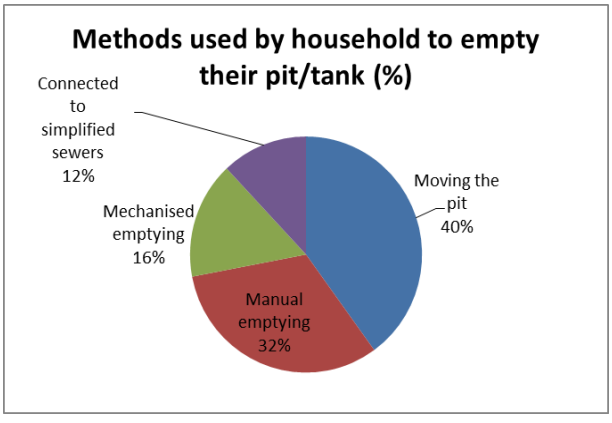
Annex 4. Example of analytical reports (combining SIT data with other data set)

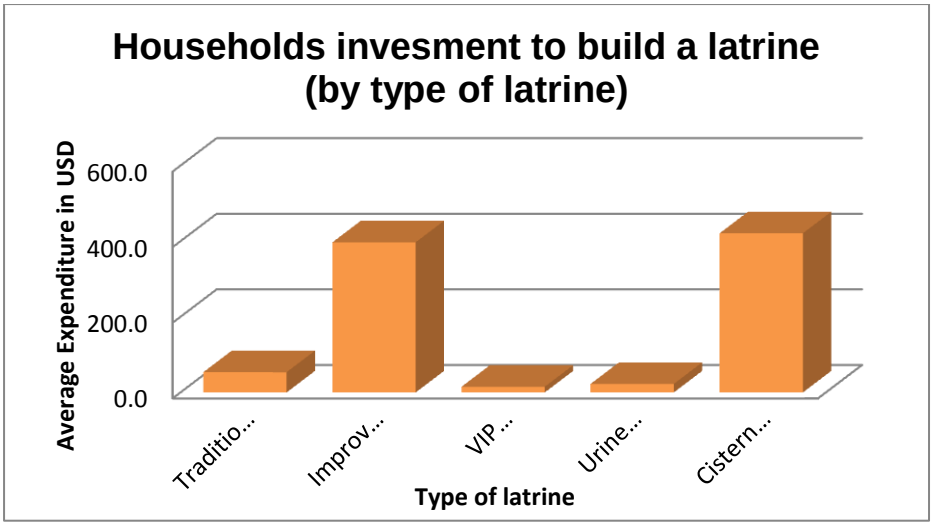
This report is based on a limited dataset collected during testing in Monrovia (Liberia) in February 2013 combined with hypothetical data. The principal objective of the report below is to show the types of graphs that could be produced based on SIT data, for analysis of public and household-level spending on sanitation.

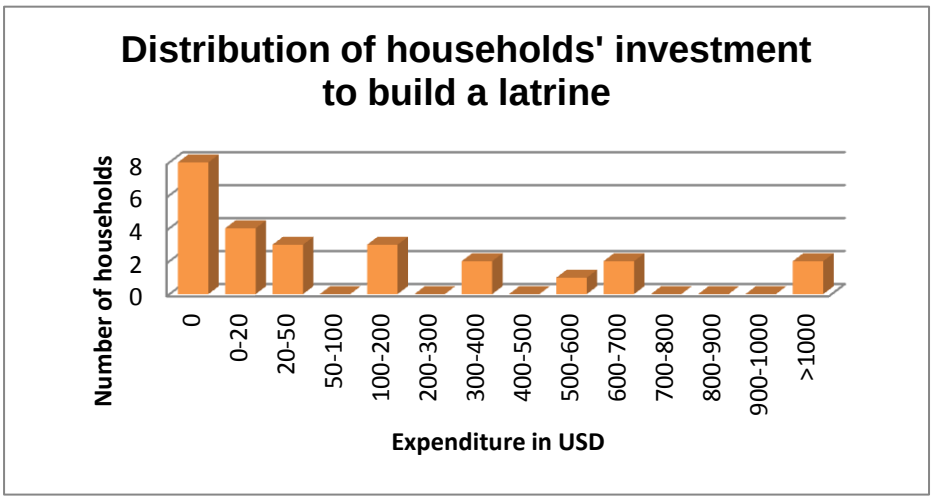
Household Investment in Sanitation Survey Report – 14/02/2013, Monrovia, Liberia

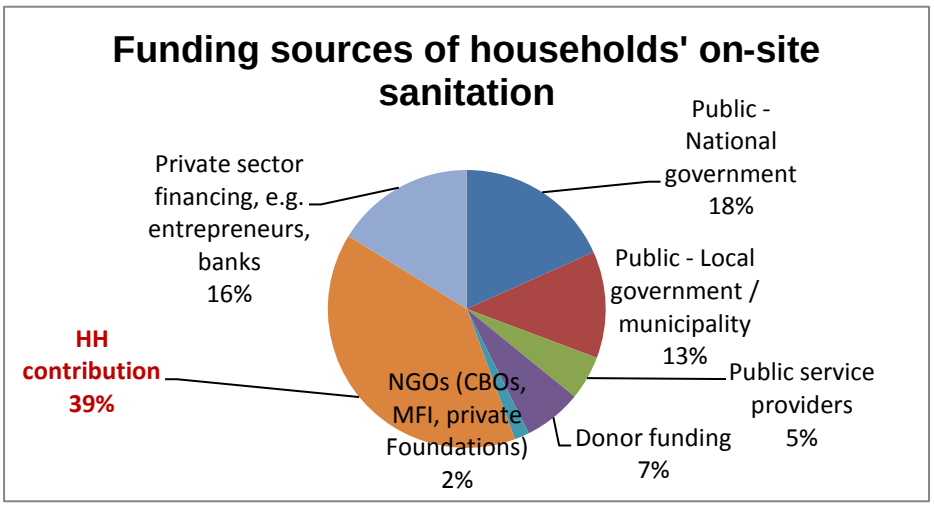
Total number of household surveyed	250
% of renters among household surveyed	48%
Average number of persons in a household	8.6
Average monthly income of a household (in USD)	181.28
Average number of persons using the sanitation facility of a household	21.16
Total number of persons using households sanitation facilities among surveyed households	529
Total households' expenditure to build a sanitation facility across surveyed households	5776
Average households' expenditure to build a sanitation facility across surveyed households	231.04
Standard Deviation households' expenditure to build a sanitation facility across surveyed households	366.30
Median households' expenditure to build a sanitation facility across surveyed households	20.00
Total households' expenditure to build a sanitation facility across surveyed households in USD	1586
Average households' expenditure to build a sanitation facility across surveyed households	63.44
Standard Deviation households' expenditure to build a sanitation facility across surveyed households	95.06
Median households' expenditure to build a sanitation facility across surveyed households in USD	21.00

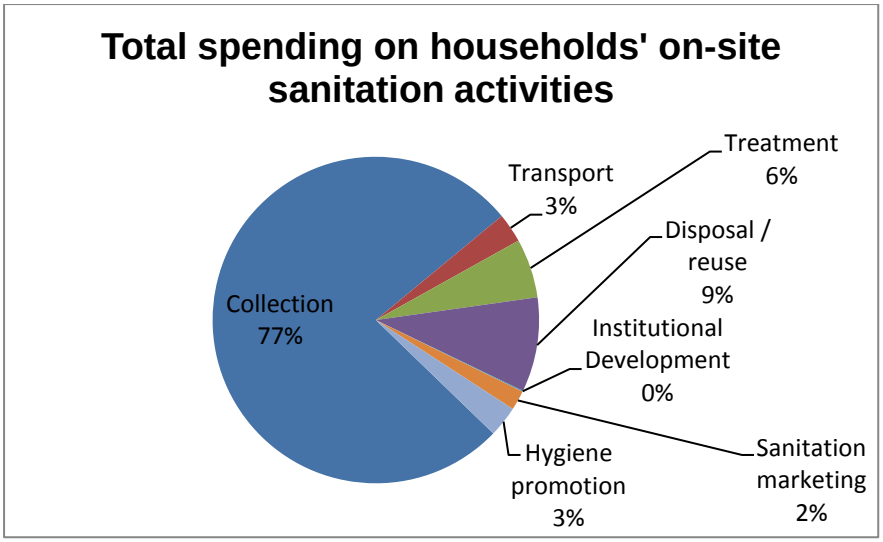


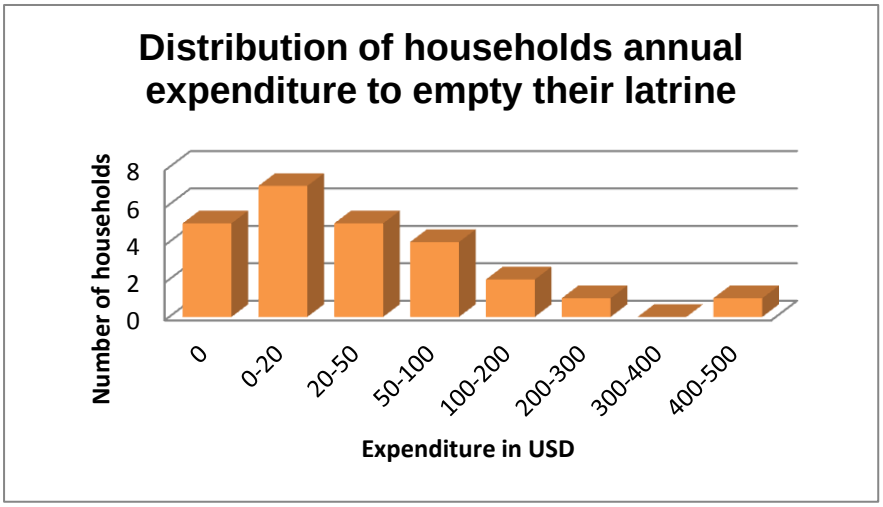


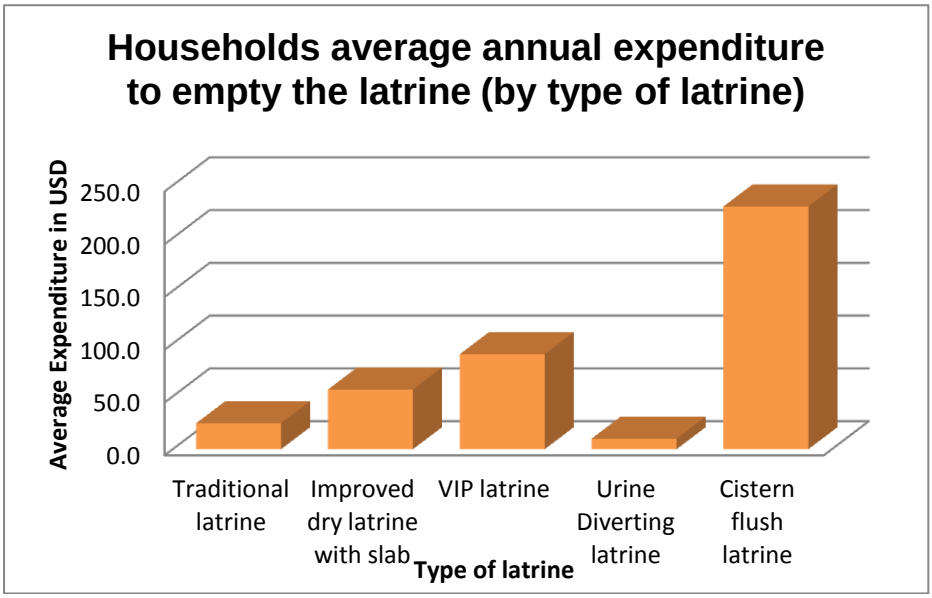

Households invesment to build a latrine (by type of latrine)
Average Expenditure in USD
600.0
400.0
200.0
0.0
Traditio...
Improv...
VIP ...
Urine...
Cistern...
Type of latrine


Distribution of households' investment to build a latrine
Number of households
8
6
4
2
0
0
0-20
20-50
50-100
100-200
200-300
300-400
400-500
500-600
600-700
700-800
800-900
900-1000
>1000
Expenditure in USD


Funding sources of households' on-site sanitation
Public - National government 18%
Public - Local government / municipality 13%
Public service providers 5%
Donor funding 7%
NGOs (CBOs, MFI, private Foundations) 2%
HH contribution 39%
Private sector financing, e.g. entrepreneurs, banks 16%


Total spending on households' on-site sanitation activities
Treatment 6%
Transport 3%
Disposal / reuse 9%
Collection 77%
Institutional Development 0%
Hygiene promotion 3%
Sanitation marketing 2%


Distribution of households annual expenditure to empty their latrine
Number of households
8
6
4
2
0
0
0-20
20-50
50-100
100-200
200-300
300-400
400-500
Expenditure in USD


Households average annual expenditure to empty the latrine (by type of latrine)
Average Expenditure in USD
250.0
200.0
150.0
100.0
50.0
0.0
Traditional latrine
Improved dry latrine with slab
VIP latrine
Urine Diverting latrine
Cistern flush latrine
Type of latrine