NOTE 1: SANITATION INVESTMENT TRACKER (SIT)

An overview

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The Sanitation Investment Tracker (SIT) is a suite of applications that can be used to track investment (and associated expenditure) in sanitation at household level. This note introduces SIT, why it was developed, what it does, how it works, who can benefit from it and how.

Using mobile phone and web-based computer applications, SIT offers a complete solution to collect and analyse this financial information. It is powered by AkvoFLOW and uses this software to geo-localise, collect and analyse data from households.

SIT allows the user to gather better information on existing sanitation facilities and their costs directly from underserved populations in a more effective, quick and thorough manner. The data generated by SIT has the potential to support significant improvements in the monitoring and planning of WASH projects, programmes and policies.

This note presents the tool and the methodology as they were initially developed. It highlights that the information collected can be adapted to suit different situations and monitoring needs. The tool is flexible and allows programme implementers to carry out additional analysis tasks as required.

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.

Why SIT?

Households themselves are the key actors to improving the sanitation facilities available to them. However, there is no data on their individual or collective investment and recurrent expenditure in private sanitation facilities, despite the fact that it often represents a major proportion of total investment in the sanitation sector. The World Bank Africa Infrastructure Country Diagnostic report estimated that households in Sub-Saharan Africa collectively spend approximately $2.1 billion on capital investment on households latrine (equivalent to 0.3 per cent of Sub-Saharan African GDP), which is more than either domestic government or OECD donor expenditure in the water and sanitation sectors (0.2 per cent of GDP).[1]

Yet, this sizeable share of investments is not currently rigorously tracked, which creates challenges such as difficulties in estimating "value for money" of alternative approaches to supporting household investments. Data on household spending on on-site sanitation would therefore be of great use to sanitation practitioners, policy makers, donors and NGOs. The data would help them to understand how the sector is currently financed, inform the design and monitoring of programs and policies aimed at supporting low-income households in building their own latrines and provide services (such as desludging services) to households which have on-site sanitation facilities.

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[1] Banerjee, S. & Morella, E., 2011. *Africa's Water and Sanitation Infrastructure:*The World Bank.

What is SIT?

SIT provides a robust data collection and analysis method to estimate household investments and spending on sanitation, with greater accuracy, timeliness and verifiability, and lower costs of data verification and correction than traditional methods.

The core 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. The user guide provides a sample questionnaire and guidance on estimating total expenditure. The questionnaire can be modified and downloaded on surveyors' smartphones. All answers are fed into an online SIT database, with a Unique Reference Number (URN) being physically attached to each latrine when data is first collected.

- **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 be combined with other data sets (such as government or NGO expenditure).

Add-on modules will also be developed in future, to meet the needs of different programmes.

These will include:

- **A verification application for smartphones** to be used for monitoring purposes or in the context of a pay-for-results programme

- **A reporting application** (via sms or phone call) for households to provide updates on latrines that have already been tagged
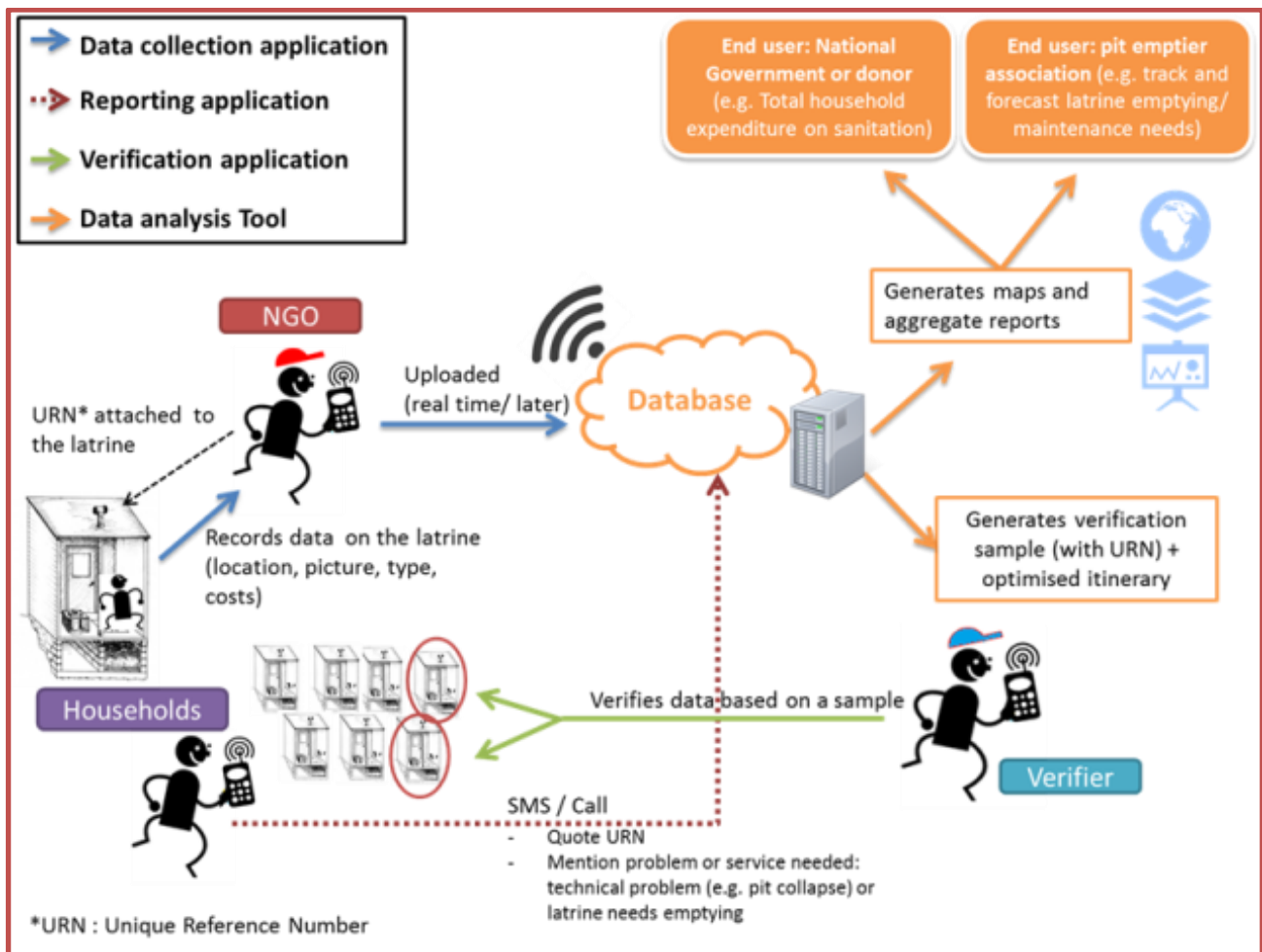
How does SIT work?

We provide a brief explanation of how it works, as shown also on Figure 1 below. Users should refer to the full SIT user guide for further details.

Collect data from households. A surveyor from NGOs, governments or service providers (the man with a red cap in Figure 1) uses the data collection app downloaded on his/her smartphone to collect data in the field from households on their expenditure on their sanitation facilities. For each facility, the app automatically generates a Unique ID Reference Number (URN) which is tagged on the facility (this can be a number engraved on the latrine or a barcode). The latrine is geo-tagged and pictures of the latrine and its owner are uploaded with the ID number on the smartphone.

Analyse the data. The data collected is then centralised in a database managed by the programme manager. A web-based platform enables to manage the data analysis and produce reports in several formats. Facilities can be located on a map. It also allows building simple charts that appear systematically on a monitoring dashboard, presenting key indicators, such as aggregated expenditure. The entire dataset can be exported onto excel, to produce more complex and customised data analysis. All reports can be customised depending on the different needs of programme managers.

Figure 1. SIT: How does it work?

In addition, two "add-on" modules (to be developed) would enable performing the following steps:

Verify the data. Through the data collection app, service providers will collect data on latrines built in order to claim the results-based payment. The Verification Agent will then use SIT's verification application to certify the existence of such latrines and report on their ongoing usage. From the list of latrines previously recorded and presented by the service provider for verification, the verification app will generate a random sample of households to certify their latrine and will propose to the Verification Agent (with the blue cap) an optimised itinerary to visit the households. It will also indicate the localisation of the pre-recorded households on a navigation map. During the visit, the Verification Agent will be able to upload on his/her smartphone the previous reports of the facilities to check. Finally, the Agents will fill in the verification questionnaire in the app, and the answers will be uploaded to the central database and automatically linked with the previous records thanks to the Unique Reference Number.

Receive self-reported data from households. This application will enable households (on the bottom left-hand corner on Figure 1) who have facilities that have already been tagged to send data by SMS, using the latrine's Unique Reference Number to provide on-going information on their expenditure or on the maintenance needs of the latrine (including emptying). This can also be done with a phone call. Such information would be precious to maintain the database up to date and in effect develop a customer management tool for service providers such as masons or pit latrine emptiers. Households may need to be incentivised to self-report: this could be done with a voucher to obtain a discount on a cesspit emptying service or some mobile airtime.

Who can use SIT?

The main intended users of the basic SIT tools are programme implementers, but add-on features can also be used by consumers or service providers. Users can adapt the questionnaire for collecting information and customise the data analysis tool so that it suits their own situation and monitoring needs. These applications can also be combined in different ways depending on the context and functionalities needed and who might use the tools.

SIT can be used by a wide range of actors in specific sanitation projects with multiple objectives:

- **Governments and donors, for data monitoring and analysis:**
    - To track how much households are investing in on-site sanitation and for what type of facilities;
    - To support low-income households in building their own latrines and design financing strategies;
    - To evaluate the effectiveness of sanitation programmes and their associated financial strategies and provide evidence on the extent to which programmes have had a positive impact on household investment;
    - To track financing to the water and sanitation sector as a whole (for example in the context of the UN Water GLAAS TrackFin initiative which is aiming to improve tracking of financing to WASH).

- **Programme managers – for evaluation and independent verification** in the context of Output-Based Aid sanitation programmes. SIT can facilitate and accelerate the often cumbersome process of verification procedure and payments to the service providers. Programme managers will also be able to obtain regular data reports to evaluate the cost-effectiveness of their programmes in terms of number of latrines built by the households and households' financial contributions for initial investment and maintenance.

- **Sanitation service providers to understand the size of the market and potential needs.** SIT can help providers such as latrine builders and emptiers to build a "customer database", which is a critical tool for delivering sanitation services. They could collect information via a specially built dashboard to better manage their customer relationships and build their businesses by understanding understand their customer needs and help them plan their work in a more efficient manner.

Although it is initially focused on individual sanitation facilities, the app could also be adapted in the future to track investment into community toilets.

Next steps

We are exploring the use of SIT for the following sanitation programmes:

- In Ghana, AkvoFLOW is being used to carry out a baseline data collection for the € 170 million Ghana-Netherlands Water and Sanitation and Hygiene Program that is under preparation. The programme includes a sanitation microfinance component. Collection of data on household investment in on-site sanitation is part of the baseline and ongoing monitoring and evaluation of the programme.

- In Ghana, SIT is likely to be used in the context of the evaluation of the SAWiSTRA programme, a €92 million programme funded by the European Investment Bank, the Agence Française de Développement, the European Union and the Bill and Melinda Gates Foundation. The programme will operate in four regions of Ghana and support households to build their own facilities through a mix of interventions, including CLTS, sanitation marketing, facilitated access to finance and incentive payments to communities. This programme will be rigorously evaluated

through an RCT. SIT is likely to be used in the context of this evaluation, to assess the effectiveness of alternative packages of intervention to promote sanitation adoption.

- In Tanzania, SHARE and WaterAid are implementing a programme to support and research the development of sanitation microfinance at household level. SIT will be used to assess the impact of the program on household investment in sanitation.

Updates on the development of these projects can be found on our websites: tremolet.com and akvo.org.

Contacts and useful links

If you are interested in using SIT and want to know more, you can contact Marie-Alix Prat (marie-alix@tremolet.com) or Sophie Trémolet (sophie@tremolet.com).

This note can be read in conjunction with:
Note 2: Sanitation apps: a brief overview of possibilities
SIT user guide

See an introduction to, including presentation videos

Sanitation Hackathon and hackathome competitions
http://www.sanitationhackathon.org/
http://sanitation.hackathome.com/