

Location is everything: optimal placement of community water and sanitation services

When constructing shared facilities like water kiosks and communal toilets, it is critical to identify locations that maximise usage and thus ensure financial viability. This note describes a procedure, developed in Antananarivo, for identifying viable infrastructure locations.



Raising extra revenue by selling soap

Since 2008, WSUP and CARE have been working in the Madagascan capital Antananarivo (Tana) with the water utility JIRAMA and other actors (including the municipality and lower levels of government) to introduce water kiosks and public toilet/shower blocks in low-income communities. In initial phases of this work it became apparent that some facilities were being used much less than expected. A learning process was initiated to find out why this was happening, with the dual aim of a) identifying ways of improving usage of the facilities already built and b) developing procedures for locating future facilities more effectively.

Problems identified, lessons learned

CARE Madagascar convened focus groups of users and non-users of community facilities, and identified the following major reasons for low usage:

- **Location:** A common reason was that the location was inconvenient for the intended users (i.e. too far from house, or across a busy road).
- **Affordability:** Cost was another commonly cited reason: in fact JIRAMA's social tariff for kiosks is low (about 0.05 US cents per litre), but water from unprotected wells is free.
- **Alternative options:** Users sometimes simply preferred existing behaviours (such as use of an unprotected well, or open defecation).
- **Signposting:** Poor signposting meant that in some cases potential users did not know what services were available.

A key conclusion of this research was that user preferences need to be assessed on a "micro-local" scale, i.e. within the specific catchment area of a proposed facility. It also became clear that grouping services can make facilities more attractive: for example, sale of frequent-use products like soap or candles can attract users, and at the same time generate profit for operators, so that they keep longer opening hours.

In view of these findings, various changes were introduced (e.g. improved signposting, offering items for sale), and this substantially increased usage of some facilities. In other cases, usage remained low, basically because of inconvenient location: most facilities had been built on public land identified by the local government, with insufficient consideration of demand. So in 2010 WSUP and CARE developed a market research-type procedure for identifying viable infrastructure locations. This procedure (the Community Infrastructure Location Assessment procedure, CILA) is described overleaf. The procedure is based around rapid-assessment survey methods, making it relatively easy to implement, and suitable for adoption by local development committees. The close involvement of local government and the water utility JIRAMA means that we can be optimistic about the sustainability of this approach in Tana.

Certainly this procedure can only work where both land and piped water supply are available for communal infrastructures: but where these minimum conditions can be met, we believe approaches of this type offer powerful benefits, ensuring that communal infrastructures are genuinely valued by users and at the same time commercially viable.

“User preferences need to be assessed on a “micro-local” scale”

The CILA procedure for location assessment

This is a 7-step procedure involving **initial consultation** with local authorities to identify candidate locations; then **focus groups** with local residents and **LQAS survey**¹ of potential users to assess user preferences and demand; then **feedback consultation** with local authorities to confirm final locations; then negotiated **land tenure regularisation** carried out at the same time as detailed **technical studies**; and lastly **final validation**.

In Tana, all private locations have been sites that the owner is prepared to donate to the local government: land regularisation thus involved this transfer of ownership.

There is a strong parallel here with the experience of the WSUP/CARE team in Maputo: when identifying locations for communal facilities, it is important to resolve land issues as early as possible. The close cooperation of the local authorities is essential to minimise tenure-related and authorisation delays.

Application of the procedure

In 2009/2010 this procedure was used to identify locations for water kiosks in 4 peri-urban communes of Tana. Steps 1 and 2 initially indicated 51 potential locations (on both publicly and privately owned land), over and above the 52 existing kiosks in these areas. Full application of the procedure then confirmed demand for and viability of water kiosks in 31 of the 51 originally proposed locations. Interestingly, 26 of the 31 locations identified as viable were on private land.

Application: specific example

One of the 51 originally proposed locations was in a high-density settlement of about 200 low-income households called Ampasika Atsimo (Bemasoandro Commune), not currently served by the piped water network. Step 2 found the settlement to be flood-prone, with poor living conditions and the nearest existing water kiosk 500 m away. Of 19 householders randomly sampled in the LQAS survey, 19 reported that they would use the proposed kiosk, and 18 that they would be willing to pay the proposed tariff. This location thus clearly met the criteria for kiosk construction. The location was on land privately owned by a local resident. Land regularisation was done within 7 months of the start of the project. The technical survey specified a 400 m water network extension which has subsequently been implemented. Currently (June 2011) this kiosk is under construction.

Step 1: Needs consultation with local authorities

- Local authorities indicate possible sites for new community water service infrastructure.
- Sites are visited.

Step 2: Social feasibility study

- Information is collected on site characteristics: distance to existing service infrastructures; land tenure situation; population numbers & density; wealth level; distance to piped water network; any data on incidence of water-borne illnesses.
- A focus group is held with local residents to assess current water collection and sanitation practices and needs.

Step 3: Lot Quality Assurance Sampling (LQAS) Survey

- 19 randomly selected potential beneficiary households are surveyed on current practices and willingness-to-pay for proposed infrastructure.
- LQAS results give an indication of the number of potential users in each site's area. Sites with sufficient potential users are put forward.

Step 4: Feedback consultation with local authorities

- Agreement is sought on the number and location of proposed installations.
- Local authorities initiate land regularisation for proposed sites.

Step 5: Land regularisation

- The necessary authorisation paperwork is processed by the local authorities for the land owner.

Step 6: Technical feasibility study

- Technical specifics are confirmed (any extension of water networks, space requirements, O&M requirements).
- Environmental impacts are reviewed.

Step 7: Final validation

- Service infrastructure and location is validated.
- Final documentation is prepared.

¹ LQAS (Lot Quality Assurance Sampling) methods are based on the fact that a sample size of just 19 is sufficient to assess whether a given proportion (e.g. of householders in district A who will use a water kiosk in location X) is above or below a certain prespecified threshold.

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