

## Using water kiosk revenues to cross-finance environmental hygiene: Tana's RF2 model

In the search for scalable models of urban sanitation and environmental hygiene, sustainable finance is key. In the Madagascan capital Antananarivo (Tana), community groups are using revenues from water kiosks and other local sources to finance a drainage canal cleaning programme, critical to public health.

### Tana's drainage network

The poorest districts of central Tana are mostly low-lying and flood-prone. There is a network of open canals for drainage of stormwater and wastewater originating from septic tanks, latrines and open defecation, and regular cleaning of these canals – particularly to remove accumulated solid waste – is essential. Of course, open sewers are a suboptimal solution for urban sanitation: but if they exist it is essential to keep them freely flowing.

### RF2: integrated community-level WASH management

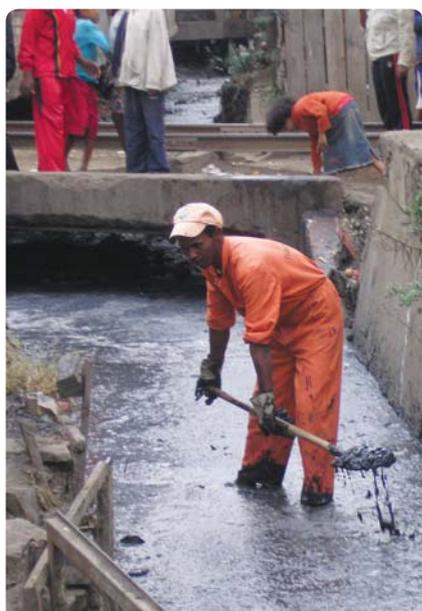
Since 2003, CARE Madagascar and Tana's Municipal Hygiene Office (BMH) have been working with other stakeholders to establish community-level organisations for water and sanitation management, notably Water User Associations (WUAs) that operate water kiosks in low-income communities. Since 2009, WSUP in partnership with CARE and BMH has been supporting start-up of community groups called RF2s (*Rafitra Fikojana ny Rano sy ny Fahadiovana*). Within each district (*fokontany*), the RF2 committee's mission is to coordinate community management of water, sanitation and hygiene.

A key initial focus has been to clean a drainage canal that runs through 8 low-income fokontanys in central Tana. During an initial phase, WSUP provided tools (shovels, wheelbarrows, etc.) and funds to employ community members as day labourers. A total of 5 km of canal was cleared during this phase.

As of late 2010, BMH is autonomously extending the RF2-led canal cleaning model throughout low-income fokontanys of central Tana (the CUA area). Furthermore, in all 8 fokontanys included in the pilot phase, canal cleaning is now continuing without donor support, using revenues from WUA-operated water kiosks and other sources, as detailed overleaf. The fact that the 8 fokontanys are crossed by the same canal means that they are incentivised to cooperate with each other.

### Wider lessons?

Tana's RF2 system is a promising model for municipality-led community management of sanitation and hygiene services. The use of water revenues to cross-finance sanitation is of particular interest, and in line with the current Malagasy Water Code (Law 98-029). As further discussed overleaf, WSUP believes that approaches of this general type have excellent potential for application in other cities.



Clearing a drainage canal

A typical WUA supplies water to about 500-1000 people

Typical annual surplus revenue, per WUA: US\$540

Typical annual cost of canal cleaning, per WUA: US\$95

How much has it cost to set up WUAs in central Tana?  
About US\$ 806 per 1000 people (including all management/training costs since 2003)

# The RF2 model revenue/expenditure details

As noted, in the 8 fokontany in which this model was set up with WSUP support, RF2 committees are now continuing the canal cleaning activity *without* external support, using revenues from WUAs and other sources. [In central Tana, each WUA operates a single facility: typically a water kiosk, though in some cases a laundry block or public toilet.] The following table summarises current monthly incomes and expenditures of 3 of the 8 fokontany-level RF2 committees.

Fokontany (Population) [Canal length]	Sources of RF2 revenue (ariary: 1000 ariary ≈ US\$0.50)			Cleaning cost (no. employees)	RF2 income - costs	% WUA revenue used (total WUA revenues) <sup>4</sup>
	WUAs (no. WUAs) <sup>1</sup>	Hholders <sup>2</sup>	Other sources (source) <sup>3</sup>			
<b>Tsaramasay</b> (7112) [495 m]	8,000 (5 WUAs)	11,400	10,000 (LS)	30,000 (2)	-600	2.8% (412,000)
<b>Faami</b> (15534) [1515 m]	135,000 (4 WUAs)	99,000	0 (none)	160,000 (4)	+74,000	23.7% (569,000)
<b>Antohomadinika IIIF</b> (10523) [450 m]	50,000 (4 WUAs)	0	10,000 (FK)	60,000 (2)	0	66.7% (75,000)
<b>AVERAGES<sup>5</sup></b>	<b>44,000</b> <b>(4.4)</b>	<b>20,000</b>	<b>15,000</b>	<b>68,000</b> <b>(2.3)</b>	<b>+17,000</b>	<b>16.3%</b> <b>(389,000)</b>

<sup>1</sup> Total contribution from WUAs to that fokontany's RF2 committee, and number of nominally participating WUAs.

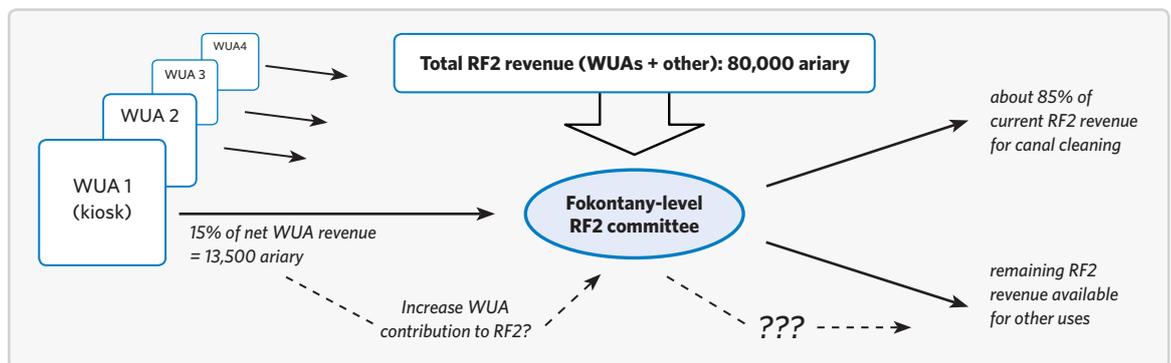
<sup>2</sup> These are total household contributions; we have no data on how many households are paying.

<sup>3</sup> Other sources include local schools (LS) and the fokontany (FK), and in other cases local businesses.

<sup>4</sup> Total net revenues (after costs) of all participating WUAs, and proportion of this total that is currently contributed to the RF2 committee.

<sup>5</sup> These are average values for all 8 RF2s, not just the 3 shown here.

So a typical RF2 model (approximate figures based on the above data) might be as follows:



## Extension, scale-up, wider applicability

The RF2 model is currently being scaled up by BMH throughout low-income districts of central Tana. The financial data shown above suggest that the model is potentially sustainable, since water kiosk revenues and other income sources are fully sufficient to cover canal cleaning costs (mainly labour costs). Water kiosks are currently earning sufficient revenue to potentially support other types of sanitation improvement as well (e.g. construction of communal sanitation facilities, or solid waste management, which is of course linked to drainage canal management).

Two areas of concern need to be addressed. First, it needs

to be confirmed that clearance workers are sufficiently protected from the health risks of the canal sludge, and that clearance procedures are acceptable in terms of public health. Second, continued institutional and community commitment is essential to ensure that different participants contribute funds to RF2s, and that water kiosk revenues are well managed.

We certainly believe that models of this type, using community-managed water kiosk revenues to fund sanitation improvements and maintenance, are widely applicable in high-density low-income communities worldwide. Please contact WSUP for further information.

**Credits:** This Practice Note was researched and written by Julie Ranaivo and Guy Norman, with important review inputs from Helen Pankhurst, Sylvie Ramanantsoa, Patricia Schelle, Kevin Tayler and the CARE/WSUP Tana team. Coordination: Gemma Bastin. Design: AlexMusson.com. Version 1, February 2011.