Contents

Maps, figures, tables, boxes and photos ........................................................ vii
Acknowledgements ......................................................................................... xi

1 Introduction: Transforming innovations in Africa; explorative studies on appropriation in African societies .................................................. 1
   Jan-Bart Gewald, André Leliveld & Iva Peša

2 Who killed innovation in the Cape wine industry? The story of a stuck fermentation c. 1930-1986 ........................................... 17
   Paul Nugent

3 Entrepreneurship, colonial monetary economy and the limits of creativity: Appropriating trading stores in Northern Namibia, 1925-1980 ................................................. 39
   Gregor Dobler

4 Frugal innovation in Africa: Tracking Unilever’s washing-powder sachets ...................................................................................... 59
   Cees van Beers, Peter Knorringa & André Leliveld

5 Mobile cash for nomadic livestock keepers: The impact of the mobile phone innovation (M-Pesa) on Maasai pastoralists in Kenya ............................................................................... 79
   Marcel Rutten & Moses Mwangi

6 From Gao: Sawaba and the politics of decolonization and insurrection in the Songhay Zone of Mali and Niger (1957-1964) .................................................... 103
   Klaas van Walraven

7 From self-help group to water company: The Wandiege Community Water Supply Project (Kisumu, Kenya) ............................................. 127
   Samuel O. Owuor & Dick Foeken

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>‘It is time to start my own farm’: The unforeseen effects of two waves of resettlement on household formation in Zimbabwe</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>Marleen Dekker &amp; Bill Kinsey</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>‘Cassava is our chief’: Negotiating identity, markets and the state through cassava in Mwinilunga, Zambia</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>Iva Peša</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>The social cocktail: Weddings and the innovative mixing of competences in Botswana</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>Rijk van Dijk</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Of labradors and libraries: The transformation of innovation on a farm in Kibale, western Uganda</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>Jan-Bart Gewald</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Engine of change: A social history of the car-mechanics sector in the Horn of Africa</td>
<td>237</td>
</tr>
<tr>
<td></td>
<td>Stefano Bellucci &amp; Massimo Zaccaria</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Water innovations among the Maasai pastoralists of Kenya: The role of outside interventions in the performance of traditional shallow wells</td>
<td>257</td>
</tr>
<tr>
<td></td>
<td>Moses Mwangi &amp; Marcel Rutten</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Stealing from the railways: Blacksmiths, colonialism and innovation in Northern Nigeria</td>
<td>275</td>
</tr>
<tr>
<td></td>
<td>Shehu Tijjani Yusuf</td>
<td></td>
</tr>
</tbody>
</table>

List of authors | 297 |
From self-help group to water company: The Wandiege Community Water Supply Project (Kisumu, Kenya)\textsuperscript{1}

Samuel O. Owuor & Dick Foeken

Water services in urban Africa are generally in a bad state and low-income neighbourhoods are not usually connected to the municipal water supply and infrastructure. The Kenyan government attempted to address these problems with its Water Act of 2002 and by creating water and sewerage companies. This chapter recounts how this idea was adopted and transformed by people in the Wandiege neighbourhood of Kisumu town who improved their local water and sanitation situation by setting up their own water supply system in an innovative way.

Introduction

Water is a basic human right as it is fundamental to life and is vital for socio-economic growth and development at all levels, from the national level to that of the individual. Access to water (and sanitation)\textsuperscript{2} is a key factor in improving people’s health, economic productivity and social well-being as both social and economic activities rely heavily on the quantity and quality of the water available. Access to water is thus an

\textsuperscript{1} Comments by Moses Mwangi, André Leliveld and Iva Peša on an earlier version of this chapter are highly appreciated.

\textsuperscript{2} This chapter predominantly focuses on water but sanitation issues cannot be totally ignored.
essential component of any attempt to alleviate poverty. Yet in achieving
this target, ‘Sub-Saharan Africa remains the area of greatest concern. It
is a region of the world where, over the period 1990-2004, the number of
people without access to drinking water increased by 23%’ (WHO/Unicef
2006: 3). Moreover, the region experienced an 85% increase in its urban
population in the same period but the number of urban dwellers that had
no access to safe drinking water doubled (Ibid.).

A major reason for poor access to water services in Sub-Saharan Africa
is the inefficiency of water utilities, especially those serving urban areas.
Many systems are characterized by high water losses, inadequate revenue
to cover operating costs, dilapidated and poorly functioning infrastruc-
ture, a lack of investment, low billing and collection efficiency, chronic
water shortages, failure to meet existing demands, low coverage (espe-
cially for the urban poor) and corruption (World Bank 2004).

Kenya is one of the few countries in the world where urban drinking
water coverage from improved sources actually declined between 1990 and
2004 (WHO/Unicef 2006: 15). Its urban water supply situation can best be
summarized as follows: ‘[the] water supply in Kenyan cities is highly ineq-
utable. Over 50% of the urban poor, living in slums, have no access to safe
drinking water and end up paying vastly more for municipal piped water’
(UN-Habitat 2005: 5). The Water Services Regulatory Board provides a
gloomier picture: ‘In the low-income settlements where an even major-
ity of the urban poor live, only 20 per cent of the population have access
to safe water, exposing them to relatively high tariffs charged by water
vendors’ (WASREB 2008: 1). A study carried out in Nairobi, Mombasa and
Kakamega in 2000 concluded that ‘the current water supply situation [in
these three urban centres] is dismal’ (Gulyani et al. 2005: 27) and another
study undertaken in Kenya’s three largest cities – Nairobi, Mombasa and
Kisumu – in 2006 showed similar results (Citizens Report Card 2007). A
comparison of the ‘poor’ and the ‘non-poor’ revealed that there are dis-
tinct inequities in access to mains connections, with the poor reporting
less access. The difference is particularly dramatic in Kisumu, where only
7% of the poor reported having access to mains connections, compared
to 81% of the non-poor.

Supported by western donors, the Kenyan government has made vari-
ous attempts to reform its water sector since the 1970s but the results have
been unsatisfactory.³ According to GTZ, the German donor organization,

³ For an overview, see Owuor & Foeken (2009).
this was largely due to the fact that the water departments responsible were fully controlled by the municipal authorities. Hence the 1995 decision to privatize the sector, at least partially, by creating water and sewerage companies. Although these would still to be owned by the municipalities, they were also to be fully responsible for their own finances (Onjala 2002). This reform was formalized in the Water Act 2002.

Although from a global perspective the setting up of water and sewerage companies from above may not necessarily be considered innovative, this was certainly the case in the Kenyan context. This is dealt with in more detail in the next section. What then follows is a description of how this innovation was transformed in one low-income neighbourhood in Kisumu in two major steps: (i) by creating a local water supply system that was developed, constructed and managed by the community itself; and (ii) by transforming this project into an officially registered water and sewerage company at neighbourhood level (i.e. from below).

Kenya's 2002 water reforms

Even in the 1980s as part of the structural adjustment ideology advanced by the World Bank and the International Monetary Fund (IMF), privatization was seen as the best way of getting the water sector in developing countries on its feet again. The most radical form is full privatization (divesture), when a private company becomes the owner of the infrastructure and takes full responsibility for operations, maintenance and investment. The government's role is thus reduced to one of regulation. Much more common though are various forms of public-private partnerships (see Table 7.1). Usually a distinction is made between ‘service contract’, ‘management contract’, ‘lease contract’, ‘concession contract’ and the so-called BOT type contract (Budds & McGranahan 2003; World Bank 2004; K’Akumu 2006; Kirkpatrick et al. 2006). Responsibility for service provision is shared between the public and the private sector, with differing

---

5 This model is not common and has only been adopted in England and Wales (Budds & McGranahan 2003). Nowadays full privatization as a way of reforming the water sector is seen by many as undesirable and unnecessary (Hukka & Katko 2003).
6 BOT stands for Build-Operate-Transfer, i.e. the private company is authorized to build and operate the supply system but will transfer it to the public sector after a certain period of time. Variations are the ROT (Rehabilitate-Operate-Transfer) and the BOO (Build-Own-Operate) systems. See also Akintoye & Hardcastle (2004) and Otiego (200).
levels of responsibility being delegated to the private partner depending on the type of contract.

As in other countries in Sub-Saharan Africa, achieving Kenya's socio-economic development goals is highly dependent on the availability of a good-quality and adequate water supply. The government's long-term objective is to ensure that all Kenyans have access to clean potable water and that water is available for key economic activities too (MWI 2005; Kenya 2006b). The water-sector reforms currently being implemented under the Water Act 2002 of the Laws of Kenya are designed to contribute to the realization of its long-term objective (Kenya 2002). In the Act, autonomous water and sanitation (or sewerage) companies – so-called WASCOs – are given responsibility for providing water and sanitation services within urban areas. In other words, they are the direct Water Service Providers, with the lead partners in such ventures normally being the local authorities. WASCOs operate within the jurisdiction of the Water Services Boards that are instrumental in their registration, incorporation and monitoring. The Act requires that a Water Services Board draws up a contract with a Water Service Provider in a Service Provision Agreement but the Water Services Board remains the legal owner of water and sewerage assets in their areas of jurisdiction (WASREB 2008: 2). In terms of the public-private partnerships presented in Table 7.1, the concession type of contract thus seems the most applicable in the Kenyan situation.

Table 7.1 Allocation of key responsibilities for private participation options in the water sector

<table>
<thead>
<tr>
<th>Service contract</th>
<th>Management contract</th>
<th>Lease</th>
<th>Concession</th>
<th>BOT type of contract</th>
<th>Divesture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset ownership</td>
<td>public</td>
<td>public</td>
<td>public</td>
<td>public/ private</td>
<td>private</td>
</tr>
<tr>
<td>Capital investment</td>
<td>public</td>
<td>public</td>
<td>public</td>
<td>private</td>
<td>private</td>
</tr>
<tr>
<td>Commercial risk</td>
<td>public</td>
<td>public</td>
<td>shared</td>
<td>private</td>
<td>private</td>
</tr>
<tr>
<td>Operations/ maintenance</td>
<td>public/private</td>
<td>private</td>
<td>private</td>
<td>private</td>
<td>private</td>
</tr>
<tr>
<td>Contract duration</td>
<td>1-2 years</td>
<td>3-5 years</td>
<td>8-15 years</td>
<td>25-30 years</td>
<td>20-30 years</td>
</tr>
</tbody>
</table>

Source: Budds & McGranahan (2003: 89)
WASCOs have to be managed commercially, which includes signing performance contracts, cost recovery and sustainability within a context of efficiency, operational and financial autonomy, accountability and strategic (but minor) investments. The key word is not privatization but commercialization: water is considered by the Kenyan government as both a social and an economic good that should be available to all Kenyans at a price that reflects its market value (cost recovery). Put differently, water services have to be managed ‘in accordance with sound business principles’ (Section 57(5)(d) of the Water Act – Kenya 2002). As Wambua (2004: 7) argues, ‘through commercialisation, the Water Act 2002 requires local authorities to form autonomous water and sewerage companies with independent Boards of Directors to provide water services and re-invest (ring-fence) water revenues in service delivery improvement’.

The government also recognizes that the poor cannot afford to pay high prices, a problem that has to be solved by offering subsidized rates. Sections 11(1) and 11(2) of the Act laid the foundation for the National Water Resources Management Strategy (NWRMS – 2006-2008) (Kenya 2006a). Its overall goal is ‘to eradicate poverty through the provision of potable water for human consumption and water for productive use’ (Ibid.: 4). In short, WASCOs are supposed to improve access to water and sanitation services for poverty reduction and sustainable development. In fact, the core mandate of the WASCOs is to provide effective, efficient, adequate and safe water to all their customers.

The Kisumu Water and Sewerage Company (KIWASCO) in the western city of Kisumu on the shore of Lake Victoria provides services over an area of 297 km$^2$ to a population of almost 400,000 (Kenya f.c.). The company was set up in 2001, i.e. prior to the 2002 Water Act, and became operational in July 2003 as a limited company after the transformation of the Water and Sewerage Department of the Kisumu Municipal Council into KIWASCO. Compared to several other Kenyan WASCOs, the company’s record so far has not been very impressive. In 2008, it produced about 18,000 m$^3$ of water daily but demand was estimated to be about 45,000 m$^3$ a day. The result has been severe water shortages. Moreover, Kisumu has one of the highest levels of unaccounted-for water in Kenya, i.e. water

---

that is provided but not paid for. When KIWASCO started its operations, the level of unaccounted-for water was 75% although this was reduced to about 62% by 2008. This (still) high level can be attributed to non-functional (static) meters, illegal connections, burst pipes and leakages.8

A large percentage of the municipality’s population is concentrated in low-income settlements, most of which are not connected to the KIWASCO water supply network. This means that only a third of the total population is served by KIWASCO’s water network. One low-income settlement that was not served was Wandiege and, in a bid to improve their water supply and sanitation situation, residents started a community water supply project, which is currently operating as a Water Service Provider like KIWASCO.

The Wandiege Community Water Supply Project: From inception to implementation9

Wandiege is part of the informal settlement known as Manyatta B on the east side of Kisumu town. Before the project, Manyatta B, a peri-urban, low-income, residential area, lacked a decent water supply system and sanitation facilities. Water used to be scarce in the area, with the only source being the nearby River Auji. Although a main KIWASCO water pipe passed near the area, it carried no water due to a lack of pressure. The only possibility for accessing KIWASCO water was to tap it from a source far away (0.5 km to a few km, depending on where people lived). This would have been a very expensive proposition for Manyatta B residents.

The sanitation situation was equally poor due to the local terrain, with its poor soils and water logging during the rainy season. Pit latrines in the area often experienced problems during periods of heavy rainfall and overflowed and/or collapsed due to their weak and shallow foundations. It was expensive for residents to build a deeper and reinforced pit latrine that could withstand the nature of the terrain.

The inception

The idea of a community water supply project in Wandiege was initiated in the fourth quarter of 2001 through a different programme at Wandiege

8 Interview with the KIWASCO Financial Manager, 13 October 2008.

9 Our thanks go to Mr Naum Mbeya Obondo (Chairman, Board of Directors, Wandiege Water and Sanitation Company Ltd) and Ms Hellen Omondi (Treasurer) and Ms Jane Akendo (Revenue Clerk) for this information.
Map 7.1  Location of Wandiege in Kisumu
Primary School that was focusing on health and development issues in Africa. In the course of achieving its objectives, the programme noted that water and sanitation were major concerns in the area and a self-help group was established. This was initially to sensitize the community to the area’s poor water and sanitation situation and the need for some sort of intervention. With the sensitization campaign, community support and technical advice from an NGO called SANA International, the idea of a community water supply project was born. The community, together with SANA, developed a proposal for a community water and sanitation project while community resource persons were identified to sensitize the local population to the proposed initiative.

Based on the vision of a society where every resident enjoys safe, clean water and appropriate sanitation facilities, the project’s objectives were to improve:

- access to safe and clean water for the residents of Manyatta B by installing 500 water outlets/connections within 3 years
- the health status of Manyatta B residents by providing appropriate sanitation facilities
- the household incomes of the residents of Manyatta B by providing affordable, safe and clean water for domestic and commercial purposes.

The folder also mentions the two strategies to be applied to accomplish these objectives: (i) community participation and involvement; and (ii) community mobilization and sensitization. These would ensure a feeling of full ownership of the project by the community.

This participatory approach led to the development of a project proposal. It was quite unique (certainly in Kenya) and very innovative because it involved not only the drilling of a borehole and the construction of a standpipe but also a whole water supply system for the locality, including storage tanks, pipelines, water kiosks and water meters, that would be independent of KIWASCO. In short, the community wanted to ‘take water to their doorsteps’. Since the borehole was to be drilled on Wandiege Primary School’s compound, the proposal also included the installation of an electricity power line to the school. Finally, the construction of a number of appropriate sanitation facilities (so-called Ecosan and Sanplats latrines) was also included.

---

10 ‘Wandiege Water and Sanitation Company Limited’ (not dated).
The proposal was submitted to the French Embassy in Nairobi and to a Dutch NGO, Cordaid, for funding. The French Embassy contributed money to fund the drilling of the borehole and the construction of a tower for water storage tanks and an office. KSh 3.5 m was still needed at this point to construct the water pipelines and water kiosks, and Cordaid was willing to contribute KSh 2 m provided that the community raised another KSh 1 m itself. The local authorities and the central government pledged KSh 200,000 and KSh 300,000, respectively.\textsuperscript{11}

Cordaid’s insistence on the community’s contribution was due to its conviction that such a community-based project would only succeed if the community (partly) owned it. This was a challenge because the community could not raise such a large amount of money immediately. To go about it, it initiated a recruitment drive of 1000 project members who would each contribute KSh 1000 as ‘shareholders’, but only about 300 shareholders were recruited. This unexpected shortfall was for various reasons. Firstly, some people felt that they should not have to pay anything since it was a donor-funded project. Secondly and despite a spirited sensitization campaign, others still showed ignorance and a lack of understanding about their role in the project and, thirdly, being a poor community, some could simply not afford the membership fee.

The community met again to look for other ways to go about this new challenge. They decided that ‘membership’ could also be through the provision of labour up to a perceived amount of KSh 1,000. Labour constituted, for instance, digging trenches for water pipes, laying pipes and constructing water kiosks. Another challenge in the initial stages was that the local authority and central government never honoured their promises. So the community sought funding from Kisumu Town East’s Constituency Development Fund (CDF),\textsuperscript{12} which gave the project KSh 500,000.

\textit{Implementation}

Implementation started in 2001 with SANA International as the executing agency. The Ministry of Water and Irrigation, together with SANA, provided technical advice and the project was completed in 2006. It included a borehole to a depth of 110 m; a pumping station; a tower with two 10,000-litre storage tanks; a small office at the bottom of the tower; a pipeline

\textsuperscript{11} At the time, US$ 1 was equal to about KSh 62 and € 1 about KSh 80.

\textsuperscript{12} CDF is a (devolved) publicly funded institution that targets development projects at the constituency level.

system of about 5 km; seven water kiosks; and 60 connections to private houses.

The borehole, pumping station and tower were built on the compound of Wandiege Primary School (Photo 7.1) and in return, the project provides the school with free water as well as free electricity to one of the school blocks. The kiosks were located according to the service population and a needs assessment (Photo 7.2). Three are in school compounds.\(^\text{13}\)

As for sanitation facilities, 14 eco-sanitation (Ecosan) and 91 sand-platform (Sanplat) latrines had been constructed by October 2008.\(^\text{14}\)

About a year after the completion of the project, the Wandiege Community Water Supply Project became an official WASCO – Wandiege Water and Sanitation Company Limited (or Wandiege WATSAN Ltd) – after the signing of a Service Provision Agreement with the Lake Victoria South Water Services Board. As such, it gained the same legal status as

\(^{13}\) In addition to Wandiege Primary School, these include St Brigit’s Primary School and Nyamasaria Secondary School.

\(^{14}\) Ecosan is an ecological sanitation system that recycles the nutrients in human excreta and urine for use in agriculture. Sanplat is a ‘sanitation platform’ in the form of an improved latrine slab that makes simple latrines hygienic and safe.
its ‘big brother’ KIWASCO. The company is run on a non-profit basis, with any profits made being reinvested in the infrastructure or whatever is needed by way of further development. As a result of a sound financial policy (see below), the company has been able to extend its network system and, by September 2011, another 3 km of pipeline had been laid, 148 metered connections established\(^{15}\) and a complete chlorine doser for treating the water had been installed. These connections serve a population of 10,000-15,000 residents.\(^{16}\)

All the connections are metered but instead of placing meters at the end of each subsidiary pipe, i.e. a pipe branching off from the main pipe and leading to a connection, which is common in Kenya, each meter is mounted in a so-called meter chamber at the point where the subsidiary pipe leaves the main pipe. This has two important advantages: (i) it prevents other people from illegally tapping water from the subsidiary pipe because that would mean that the person with the legal connection would have to pay for the illegal connections as well; and (ii) any burst pipe or leakage in the subsidiary pipe will be reported to the company immediately because nobody will want to pay for water s/he has not received. This means that the water supply for connected households is very reliable. And for the company, the net result is that the percentage of unaccounted-for water is extremely low.\(^{17}\) A concomitant advantage for the company is that meter reading is much easier because instead of having to go to each household, only the main pipelines have to be read.

**Operations**

The original water kiosks are operated and managed by the company and are together with the private connections the main source of income for the company. The kiosks are run by young people from the neighbourhood who are employed by the company, one of whom is also the pump operator. There is also a revenue clerk, a line patroller and a security officer who are all paid by the company. The privately-run water kiosks are

---

\(^{15}\) These connections include the original six water kiosks run by the company, 14 privately-run kiosks and two kiosks operated and managed by the church. The rest are individual connections to homes.

\(^{16}\) Figures obtained from the Chairman of the Board’s presentation at the Annual General Meeting of the Wandiege Water and Sanitation Company, 8 June 2011.

\(^{17}\) Burst pipes, leakages and illegal connections are common in Kenya and lead to very high percentages of unaccounted-for water and hence huge losses for WASCOs. See the above-mentioned example of Kisumu/KIWASCO.
supposed to achieve one of the project’s objectives of alleviating poverty in the community through income-generating activities. They are a water point and a place where people come to buy water, and some have a tank to store water for when there is no running water from the pipe.

According to the Chairman of the Board of Directors, connection and consumption charges are ‘very affordable’ and ‘the lowest’ in the area. Both tariffs are based on the project’s primary principle of affordability and poverty alleviation, i.e. the tariff should be as affordable as possible while the members in the water business could make a ‘socially acceptable’ profit even if they employ staff to work in their business. In addition, the lower connection and consumption charges are a way of encouraging more connections to increase the company’s revenue.

According to the Chairman of the Board of Directors, connection and consumption charges are ‘very affordable’ and ‘the lowest’ in the area. Both tariffs are based on the project’s primary principle of affordability and poverty alleviation. In addition, the lower connection and consumption charges are a way of encouraging more connections to increase the company’s revenue.

In May 2011, connection costs went up by 22% for kiosks and by 40% for individuals. Consumption costs for individuals and institutions increased by KSh 5 per cubic metre, which means that the rise was higher as their consumption was lower, ranging from about 20% for ‘low’ consumers to 10% for ‘high’ consumers. Kiosks were charged about 26% more by the company. These price increases were inevitable because of increasing operational costs, such as wages, maintenance costs and especially the cost of electricity.

### Table 7.2

Connection charges as of May 2011 (in KSh)¹⁸

<table>
<thead>
<tr>
<th>Type of costs</th>
<th>Type of connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Individual</td>
</tr>
<tr>
<td>Deposit</td>
<td>200</td>
</tr>
<tr>
<td>Connection</td>
<td>1,500</td>
</tr>
<tr>
<td>Meter rent</td>
<td>1,250</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>3,050</td>
</tr>
</tbody>
</table>

*Source: Wandiege Company Office (September 2011)*

¹⁸ In September 2011, KSh 100 was equal to about € 1 or US$ 1.3.
The Wandiege Community Water Supply Project

Table 7.3  Charges for water consumed as of May 2011 (in KSh)

<table>
<thead>
<tr>
<th>Amount consumed</th>
<th>Type of use</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual</td>
<td>Institution</td>
<td>Kiosk</td>
<td></td>
</tr>
<tr>
<td>0-6 m³</td>
<td>250*</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-20 m³</td>
<td>30</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-40 m³</td>
<td>35</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41-60 m³</td>
<td>50</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 60 m³</td>
<td>55</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-180 m³</td>
<td></td>
<td></td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>181-250 m³</td>
<td></td>
<td></td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Over 250 m³</td>
<td></td>
<td></td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

* Flat rate

Source: Wandiege Company office (September 2011)

The price of water for individual consumers from a water kiosk is set by the company. Originally this was KSh 1 for a 20-litre jerry can but the price increased to KSh 2 in May 2011. Compared to prices in, for instance, nearby Homa Bay town where a jerry can of water costs KSh 3 to KSh 5, this is still relatively low. And despite the increase of 26% that the kiosk holders have had to pay to the company, selling water is still profitable. For instance, a kiosk holder in the highest consumption category pays the company KSh 50 for one cubic metre but receives twice this amount from his clients.

Figure 7.1 presents the financial results for the years 2007 to 2011. The first two years show a modest profit of KSh 67,000 and KSh 55,000 respectively. The following two years, the company did better, given the increase of 48% in 2009 over the previous year. As expenditure rose less quickly, the net profit grew more than six-fold. The net profit in 2010 was slightly less than in 2009 – because expenditure rose more than income – but increased again in 2011. On the whole, the figures in Figure 7.1 suggest a sound financial policy.

19 Authors’ own observations, September 2011.

20 Critics have, however, warned that these positive results would be totally insufficient to restore the whole system if it were to break down due to some major eventual-ity. According to them, the project’s philosophy is still too much ‘self-help’ and ‘non-profit’ and too little ‘business’ (Information from Moses Mwangi, personal written communication).
Management

All paid-up and registered members of the project are shareholders in the Water Company. These individuals and institutions are represented by an elected Board of Directors (hereafter referred to as the Board). The eleven-member Board consists of a Chairman, Secretary, Treasurer, representatives from both SANA International and Wandiege Primary School and five other members. Its role is to represent the shareholders in all aspects of decision-making; negotiate on behalf of the Company; decide on policies; look after employees’ welfare; and act as a Management Team (as none was previously in place). More often than not, the Board takes decisions on behalf of the shareholders, who are normally briefed at the Annual General Meeting on all the decisions taken on their behalf. However, if shareholders have to be consulted, a Special General Meeting is called.

Board members do not earn a salary and are totally committed to the welfare of the members and the community. However, they do receive KSh 500 for attending board meetings and are given lunch at official functions. This practice was started recently to show appreciation for the Board’s commitment to the project.

The Wandiege community works with a number of task forces to coordinate issues of common interest with the community. Water and sanitation, solid-waste management and education are examples of existing task forces and the community has also formed a larger Wandiege Residents’ Association. All of these are off-shoots of the water project.

Source: Wandiege Company Office (September 2011 & May 2012)

Figure 7.1 Financial overview, 2007-2011 (in KSh)
The success of the Wandiege project

A success story, but with inherent challenges

Since its inception in September 2011, the Wandiege project has developed and expanded in various ways. Firstly, it has been transformed from a community water supply project into a water company in the category of community water service provider. Wandiege Water Company is now recognized by Lake Victoria South Water Services Board through a Service Provision Agreement as stipulated in the Water Act 2002. Secondly, the area it covers has expanded from its initial focus on Manyatta B sub-location to parts of a neighbouring sub-location (Kasule) where the demand for water is equally high. Thirdly, the number of connections has increased to almost 150 and there is still more demand for connections. With more connections, revenue more than doubled in the period between 2007 and 2010 and net profits increased almost five-fold. Fourthly, the company has been able to take on a permanent workforce of nine persons, install an automatic water pump and chlorine doser, and implement a simple but accountable and efficient meter-reading, billing, revenue-collection and record-keeping system. And finally, the provision of good sanitation facilities has resulted in a marked reduction in the number of cases of water-borne diseases reported in the area.21

During the same period, the company experienced a number of challenges. Firstly, putting water pipes through people’s homes and acquiring land on which to erect water kiosks is difficult because land tenure in Wandiege is freehold. This has required sensitivity and lengthy negotiations. Secondly, there have been cases of theft and vandalism of pipelines and meters that have caused unaccounted-for water and replacement costs. The theft and vandalism are suspected to be the work of competitors (such as water vendors) who are not happy with the company’s success and rapid expansion. Water vendors are apparently not seeing the high profits they used to enjoy when there was a lack of water before Wandiege’s intervention. Thirdly, local politics has occasionally impacted negatively

21 There are no official figures to confirm this but it can be deduced from the fieldwork findings of two Masters students in November 2009 (Chung 2011; Mutune 2012). Incidences of water-borne diseases in households in Wandiege were half the number of those in an area without any water supply intervention, namely Bandani, which is comparable to the situation in Wandiege before the project started. In addition, most of the respondents in Wandiege indicated that the number of cases of water-borne diseases had declined as a result of the project (Mutune 2012).
on the company’s intended operations. For example, a local bank, which had agreed to provide the company with a loan in 2010, pulled out after it emerged that the government intended to take over the project. Some politicians argued that the project was donor-funded and was therefore a government project. Being a registered community water service provider recognized by Lake Victoria South Water Services Board seems to have resolved this misconception. Other challenges include frequent interruptions in power supplies, the occasional non-payment of water bills, and unhealthy suspicion and competition from KIWASCO, NGOs, other residents’ associations, community development associations and self-help groups.

Despite the challenges the company has been facing, the project is generally seen as having been a success. This is, for instance, shown by the fact that it is acting as ‘a learning centre for other organizations and students from higher-learning institutions, nationally and internationally’.22

The sustainability of the project

The company is working on further improvements and extensions to fully realize its objectives and vision of a society where every resident enjoys safe, clean water and appropriate sanitation facilities. For example, a piece of land has been acquired for the construction of a bigger office and a higher-capacity storage tank to ensure that there is always a constant water flow even if there is a power blackout or a drop in pressure. By September 2011, two-thirds of the land costs (totalling KSh 600,000) had been paid. Moreover, with the help of SANA International, a loan of almost KSh 7 m was obtained from Cordaid to extend the pipe system by another 3 km, construct a storage tank and five new meter chambers and install 55 new water meters.

There are various plans for the (near) future:

- The company intends to negotiate with KIWASCO for an alternative source of water through KIWASCO’s Delegated Management Model.23

22 Quoted from the Chairman of the Board’s presentation at the Annual General Meeting of the Wandiege Water and Sanitation Company, 8 June 2011.

23 The Delegated Management Model (DMM) was a KIWASCO initiative implemented in an informal settlement called Nyalenda. KIWASCO links an area to one of its main water pipelines (by means of one or more subsidiary pipelines) but management of the sub-system is in the hands of a Master Operator who is a representative of the community but paid by KIWASCO. This is supposed to create more responsibility among the residents.
The advantage for Wandiege Company would be that if there is a serious problem with their water supply system, they could access KIWASCO water on a temporary basis.

- Since the system is dependent on the provision of external electricity, the company hopes to develop its own alternative source of power.
- The management structure will be transformed. The eleven-member Board currently takes all the decisions but the idea is to create a Management Team that would report to the Board. The company is also planning to engage semi-autonomous professional operators.
- Acquiring a computer to automate their management and office operations would allow bills to be paid directly into the company’s bank account.

The future and sustainability of the project will depend to a large extent on how the community nurtures and enhances the factors that have contributed to its success, namely, strong community participation, the commitment of members, ownership of the project and the delicate balance between business principles and access to safe and affordable water. There is no doubt that these should be coupled with appropriate and sustainable sources of energy, alternative sources of water, innovative management, operations and maintenance, and continued partnership with KIWASCO.

Conclusions: Innovation and transformation

Referring to the public-private partnerships outlined in Table 7.1, the Wandiege project is not easy to position. The major difference between the categories in the table and the Wandiege case is that the former are created top-down and the latter bottom-up. In this sense, the Wandiege project can be seen as an innovative way of setting up a specific type of public-private partnership in the water and sanitation sector. Despite being a WASCO, Wandiege WATSAN does not, like KIWASCO, fit in the concession type of construction because it owns all its assets. Nor is it a true BOT type either because it does not intend any transfer to the public community for their own water supply, while KIWASCO hopes to reduce the number of illegal connections, the high percentage of uncounted-for water and ‘spaghettization’ (large numbers of flexible pipes illegally connected to the company’s system). See also World Bank (2009).
sector in the (near) future. The various options shown in Table 7.1 all relate to existing urban-wide, public water providers that have entered into some kind of public-private partnership. The case of Wandiege does not appear in the table so in this sense it is innovative in itself. Legally, it is a private company that owns its assets, invests the capital, takes commercial risks and takes care of the operations and maintenance. Yet it is not a case of divestiture because it did not take over something that already existed. Moreover, the project is very localized, which is different from the types of public-private partnership shown in Table 7.1.

While the Wandiege community water project can be regarded as having transformed a Kenyan innovation, the project is in fact quite unique and innovative in its own right. First of all, it is much more than a donor-funded borehole and standpipe, and involves a whole water supply infrastructure. Secondly, some technical innovations have been realized, one example being the meter chambers. Thirdly, on the one hand the management is a kind of collectivity while on the other the project contains an element of privatization because people buy water at market prices. However, solidarity can be found in the price differentiation and the way water is accessed (pump, individual connections) by various types of customers and the way of ensuring that more vulnerable groups also have access to water. Fourthly, despite the initial and then subsequent challenges, the project owes its success to a number of favourable factors: (i) the Water Act 2002 that supports such initiatives; (ii) community involvement at all stages of the project from conception to implementation; (ii) the project is owned, co-implemented and managed by the community, including committed shareholders and a Board of Directors; (iv) profits are reinvested to improve and expand the water supply to the community; and (v) the continued support and commitment from SANA International and other well-wishers.

The Wandiege project has resulted in several (other) transformations. The most obvious is the improvement in water provision to the local people. Secondly, it has created employment for young people from the neighbourhood. Thirdly, the project has strengthened community feeling in the area in social terms, which started with the first sensitization campaign and culminated in the creation of several task forces and a residents’ association. Fourthly, it created empowerment in the area due to capacity

---

24 A possible deal for the company with KIWASCO would be an example of a BOT type of public-private partnership.
building and the community-based ownership and management of the
project/company. And finally, a sense of pride has developed: people see
it as ‘their project’, a project that is recognized as an official company and
visited by large numbers of interested people, even from abroad.

Whether the project and the ensuing company are a solution to the
enormous water (and sanitation) problems that exist in Africa is dif-
ficult to say. It is doubtful whether such a project would succeed on a
much larger scale. Only on a relatively localized scale can a community
be effectively involved and have a feeling of ownership. Moreover, for a
project like this to succeed, it needs at least one more favourable condi-
tion, namely a group of people with dedication, patience, perseverance,
diplomatic skills and persuasive qualities, but there is no reason to believe
that such groups could not be created elsewhere too. And even among its
critics, there is broad consensus that the Wandiege Water Supply Project
has not only contributed to the well-being of the local community but
that it also showcases ‘the country in terms of improving access to water
through community involvement’.25

Postscript

On a short visit to Wandiege in May 2012 it was noted that some of the
above-mentioned plans for the future had already been realized and/or
were under construction. Four new community kiosks had been con-
structed; the tract of land for the construction of a new water reservoir
and a bigger office had been bought with the company’s own money (for
KSh 600,000); and the new water tower with a 75,000-litre capacity had
been built and connected to the KIWASCO water supply system (Photo
7.3). KIWASCO water flows twice a week (on Wednesdays and Satur-
days) to fill the tank and is then distributed to the Wandiege customers.
Although the tank is big, it empties within two hours ‘because there is a
high demand for water’.26 The KIWASCO pipeline is connected with the
Wandiege system at a junction, which is an improvement because the
quality of KIWASCO water is somewhat better as Wandiege water can be
a bit saline: ‘people drink it, but not for tea’;27 and if one of the systems
does not function, the other can serve as a fall-back option. The price
people pay for KIWASCO water is the same as for Wandiege water: KSh

25 Moses Mwangi, personal written communication.
26 Mr Naum Mbeya Obondo, personal communication, 22 May 2012.
27 Ibid.
2 per 20 litres. The company negotiated a reduced price with KIWASCO to ensure some profit.

A two-storey building was under construction on the same plot (Photo 7.3). A sanitation block is being constructed with two separate sections (one for men and one for women), each with four toilets and three showers. Urine and faeces are collected in a ‘dome’ underneath, where biogas will be produced. The gas will be used for cooking. At first it will be available around the building but small pipes are possibly be laid in the future to houses at up to a maximum of 100 m from the installation. The whole system depends on the number of people who use the sanitation facility and, to attract more people, the idea is that a small market could be created on the company’s plot. Both the water tower and the building have been paid for with a loan from Cordaid (through SANA International).

Finally, on the negative side, a number of the meter chambers (Photo 7.4) have been stolen. Since the people responsible have not been traced, the company was forced to revert to the old system and install meters at the end of the line in the compounds of connected households. Only those chambers that were secured (like the two in the school compound) were able to remain.
References


