The solid waste collection in Nakuru, Kenya has improved

ACCELERATING WASH THROUGH AN INTEGRATED FINANCIAL APPROACH!
Introduction
This paper is one of three case studies that look at how the Diamond Business Approach used in the WASH programme 2011-2015 has resulted in functioning sanitation systems in cities. Each case study looks at another country and at one element in the sanitation system. This case study looks at the changes in waste management in Nakuru, Kenya. The second case study on the Rwenzori Region in Uganda where we analyse the improvements in faecal sludge management. The third case study highlights how options for household loans for the realisation of toilets can lead to improved access to sanitation in the coastal towns Satkhira and Bagerhatwe in Bangladesh.

What was the situation in 2011?
Nakuru town (currently falling within Nakuru West and East Sub-Counties) is the 4th largest town by population in Kenya after Nairobi, Mombasa and Kisumu. It is located some 160 Km Northwest of Nairobi city and was founded in 1904. The town is the capital of Nakuru County, with a surface area of 294.0 km². The town’s population is about 307,990 (CBS 2010) with an estimate of 75,216 households in which 60% of the population live in Low Income Areas.

Based on the standard estimation that people in low income countries generate 0.5 kg/day, the estimated waste generation rate for Nakuru town is 250 tons/day. It has a decentralized SWM model, which was introduced in 2007 (using a Public Private Partnership initiative with local waste collection business enterprises). This decentralised solid waste collection system which came in force in 2007 contributes to Nakuru County government’s local revenue collection from licenses, and provides sustainable livelihoods through job creation among local people involved in various waste collection and recovery activities in the town.

Just before 2007 the waste collection rate was only at 20%; in 2011 the collection rate was already rising but still needed to be improved and there was a need to reduce the amount of waste coming to the disposal site by improving composting.

In 2011, composting of biodegradable materials to make organic compost fertiliser took place. However, the processes were still at infancy level and run by community groups, with clear desire for a better and marketable product.

The WASH programme, active in Nakuru, decided to intervene in both the WASH and the waste sector in 2011 to help improve the lives of the people living in this small touristic town.

What happened?
By 2015, the small enterprises working in sanitation and waste management that participated in the programme claim to have doubled their income. The community groups who are composting are now working together with the environmental protection agency and as such have ensured themselves of a regular market. In addition they have added quality control to their product.

Many households in Nakuru town now are serviced by a working waste collection system, which makes living in the town much more attractive.

Overall it can be said that the waste management services in Nakuru have significantly improved and now cover nearly the whole town (95%), while an estimated 66% of all generated waste (approx. 160 tons/day) is being collected.

Financing opportunities for enterprises working in sanitation and waste management are now available, giving these enterprises the possibility to invest in their business and further improve themselves. This new opportunity has resulted in the opening of a number of accounts of enterprises working in waste and sanitation and Nasawama (Nakuru Solid Waste Management Association) an association for solid waste collectors, has done this as well. These accounts are needed as the bank expects a 20% own contribution when applying for a loan. Several requests are in process at the moment.

Some overall figures:

<table>
<thead>
<tr>
<th>Nakuru Area</th>
<th>Before project 2011</th>
<th>At end of project 2015</th>
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<tbody>
<tr>
<td>% of house-</td>
<td>Average collection</td>
<td>A total of 18,400 house-</td>
</tr>
<tr>
<td>holds serviced</td>
<td>rate of 66%</td>
<td>holds are newly serviced</td>
</tr>
<tr>
<td>by regular waste collectors</td>
<td></td>
<td>by waste collectors under the umbrella of the Association: NASAWAMA</td>
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<tr>
<td>Number of sanitation SMEs with account at bank</td>
<td>None</td>
<td>• NASAWAMA has a joint account for its members</td>
</tr>
<tr>
<td>Composting</td>
<td>Uncontrolled</td>
<td>• 2 other SMEs working in sanitation</td>
</tr>
<tr>
<td>Recycling overall</td>
<td>No figures</td>
<td>Quality control, improved technique and upcoming market.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Still no exact data available but recyclers claim to process more materials (Denchukwu Thesis 2009)</td>
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Business development for composting
Community Groups
The support for SMEs was not only on business development but also on technical issues. As such the two existing composting groups received training on Windrows technology using green...
market, farm, animal dung and household biodegradable waste respectively from Nakuru town. The Green Community Group is comprised of 15 members (7 males and 8 females).

The training has been of benefit to the trainees in that each waste SME has trained at least 5 members of their respective waste collection enterprises. In addition, they have been sensitizing their clients to waste separation at the source. Green and Sparkle group has also started composting on a small scale. Through these established links between composting groups and SMEs, waste collection SMEs will be able to sell their recovered biodegradable wastes from households to composting groups.

Composting piles, turning process in action and protective covering against weather elements

**NB:** the product is named Griincom Organic Fertilizer. In March 2016, through Nakuru WASH Programme supported by WASTE, the product was tested by Kenya Plant Health Inspectorate Services (KEPHIS) for quality assurance. KEPHIS, which is the accredited institution that carries out tests for all agricultural inputs in Kenya, found the Griincom Organic Fertilizer to be within acceptable organic fertilizers standards as spelt out by Kenya Bureau of Standards KS 2290:2011 on heavy metals and nutrients (NPK) tests. A 50kg bag sells locally at Ksh. 1,000.00 (Euros: 10.00)
The Diamond Business Model

The Diamond Business approach encourages and supports building local partnerships and cooperation with local authorities for scalable and sustainable provision of services for all.

The core stakeholders in the WASTE Diamond Business Model are the private sector and its potential clients (households, landlords, municipalities, etc.) and organisations that ought to provide an enabling business environment (financial institutions and local authorities). Other organisations, such as (local) NGOs, Universities and/or consultants, have supportive roles in the programmes. These parties only provide support services to the core stakeholders who form the corners of the diamond as shown in figure 1.

A programme using the Diamond Business approach organises a (preferably local) support structure around the core stakeholders which ensures unbroken possibility to enhance the capacity of the core-stakeholders when required. Organisations like local NGOs and consultants have facilitating and supportive roles.

In order to increase the chances for building a system that sustains itself, the Diamond Business Approach is based on the following principles:

- a. responsible core-stakeholders have to assume their roles right from the start,
- b. needed resources (funds, people, etc.) ought to be mobilized locally including funds for operation, maintenance and capital investments to nurture sustainability,
- c. no income groups are exempted from support though there is always a focus on the poorest income groups,
- d. the interventions always involve all system components from generation to reuse and all steps in between (in the value chain),
- e. the private sector is believed to be the catalyst for upscaling service provision that make sustainable business sense for the local investors
- f. Investing more in making systems work for sustainable services provision rather than investing in hardware.
In Nakuru the Business Diamond Model was used to come to a set of activities aiming at the different actors to accomplish one goal: to give small enterprises the opportunity to do their work and provide their clients with a good service.

The following table explains how the principal objectives are initiated and how the stakeholders each acquire their role in solid waste management:

<table>
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<tr>
<th>Stakeholder</th>
<th>Activities undertaken by the supporting organisations</th>
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<tr>
<td>Small enterprises that collected waste or were active in material recovery and recycling received support in their waste business, both technical and business development. (26 garbage collection SMEs, 3 SMEs dealing with material recovery plastics, waste paper stream, and bio-degradable waste composting). Additionally, they received awareness consultations on compliance to SWM regulations with solid waste SMEs, Department of Environment in Nakuru County Government, landlords and tenants.</td>
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<td>The project worked with the K-Rep Bank to promote community based investment savings schemes for WASH and waste management services. In addition, sanitation financing for landlords and house owners became part of the portfolio of K-REP Bank.</td>
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<td>The municipality was supported with the formulation of the Environmental Conservation and Management Bill 2015. Particularly, Section four of the Bill is very supportive of Integrated Sustainable Waste Management (ISWM) framework developed by WASTE and accepted globally. The bill highly supports circular economy in waste management through material reuse and recycling concepts.</td>
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<td>The households were reached with awareness campaigns on embracing good hygiene practices through Urban Community Led Total Sanitation (UCLTS) approach that aims at attaining total environmental sanitation status within the settlements. The households also received information on compliance to Solid waste management (SWM) regulations. The campaigns were mostly done by the NGOs involved in the project. An interesting element here is that the enterprises themselves also were active in awareness raising as they had been trained on how to approach and explain to their clients how to separate waste in their own homes. Landlords and house owners also received information on the options to apply for sanitation financing.</td>
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Putting the diamond in place in Nakuru bore its fruits.

The diamond approach has resulted in an improved and still expanding solid waste management collection and recycling in the urban area of Nakuru town. Although some additional support will be needed for a few years, Practical Action sees that processes are increasingly taking place without interference from them as supporting organisation. It is accelerating.

The County of Nakuru has also noticed this and is interested in using the same approach in other towns in the County of Nakuru. The Wash Alliance Kenya is now proposing to do this for the next phase of the WASH Programme.

By bringing the activities to a regional scale, the WAK (Wash Alliance Kenya) expects to be able to accelerate the improvement of solid waste management services. Given the good coverage reached within Nakuru town, the County Government of Nakuru, via the Directorate of Environment Natural Resources and Energy (ENRE), has resolved to scale up the decentralised SWM model to cover all major urban centres in the County. The process is ongoing and new waste collectors for those new towns (approximately 5) are being selected in readiness for licensing for the service provision. Nakuru WASH Programme is facilitating the County Government in this scale up process (supportive laws formulations, capacity building of new waste collection enterprises, linkage for investment financing, to mention but a few activities).

Explanation Acceleration

Defined in physics, acceleration is the rate of change of velocity of an object. An object’s acceleration is the net result of any and all forces acting on the object, as described by Newton’s Second Law. Translated to the WASH achievements acceleration can be depicted as in the following diagram.

In the beginning of a programme using the Diamond Business Approach the access to the sanitation facilities will not rise much, some pilot projects might happen, but in the meantime systems are set in place, businesses learn how to improve their work, governments start planning more effectively and the households start wanting to have a proper working sanitation service, toilets or solid waste management services. When the systems are in place the access can start growing and it will be growing by its own, even when the project ends.

To achieve the ambitious goal, the Kenya WASH Alliance contributes to a shift from hardware-construction towards WASH and SWM Sector development and focusing on a facilitation role to ensure an enabling environment and improving functioning of systems. The Alliance trains WASH and SWM businesses and financial institutions to build functioning WASH markets and works closely with governments to create a supportive environment for the provision of water and sanitation. The Alliance also empowers and organises citizens so that they are able to demand and pay for sustainable WASH and SWM services and practice healthy behaviour. “When these stakeholders work effectively together, the systems take over, making external subsidies redundant over time and accelerating access to safe sanitation for a growing urban population,” says Tobias Omufwoko, Country Coordinator of WASH Alliance Kenya.

Drivers for acceleration:

In conclusion, we can state that this particular case study of solid waste management in Kenya identifies the following drivers for acceleration:

- Well-functioning cooperation with the private sector that offers a variety of WASH services and setting up of distribution channels to reach out to new areas
- Local demand and citizens who are willing to pay for WASH services
- Effective multi-stakeholder techniques for lobbying the government and a mobilised community
- Diversified funding base to attract more finance from different resources
- Increased efficiency by using standard proven approaches and products, and innovations geared towards lowering costs