

PINFOLD et al.

40th WEDC International Conference, Loughborough, UK, 2017**LOCAL ACTION WITH INTERNATIONAL COOPERATION TO IMPROVE AND SUSTAIN WATER, SANITATION AND HYGIENE SERVICES****Sanitation marketing in rural Zambia:
a replicable business model***J. Pinfold (UK), A. Mungamelo, J. Ng'ambi & J. Anscombe***PAPER 2766**

This paper describes a successful sanitation marketing project implemented by Government of Zambia and UNICEF that is part of a larger sanitation programme in rural Zambia. The aim of the sanitation marketing component is to build the capacity of the private sector, such as individual artisans, to provide sanitation services that fulfil a need for stronger, longer lasting toilets at affordable prices, particularly in areas with sandy/waterlogged soils. Innovation has centered on developing substructure designs that use locally available materials keeping the costs as low as possible in order to reach a larger market segment. Introduction of large heavy mass produced products is often limited due to high transport costs for sparsely populated rural areas. At time of writing 291 "entrepreneurs" have been trained and around half have been confirmed active achieving over 1,300 sales to households and institution.

Introduction

Sanitation marketing approach uses social and commercial marketing techniques to generate householder demand, matched with adequate and appropriate supply within a supportive policy environment (Cairncross 2004; Jenkins 2010). However, although this has had some success in Asia this has not been the case for sub-Saharan Africa where successes that have been documented are mainly limited to urban or peri-urban areas.

For rural households, building a toilet is a family affair but how and what is built will vary and to a large extent depends on the local environmental and economic conditions. In this respect, there are big differences between Asia and sub-Saharan Africa as rural Asia tends to be more densely populated with a more mature local market economy. This means that there are usually a wider range of goods and services provide locally than in rural sub-Saharan Africa and consequently, the engagement of private sector in providing sanitation products and services tends to be much stronger. A good example is rural Bangladesh where for decades pour flush pans have been locally produced and widely available all over the country at affordable prices (Cairncross 2004).

There have been many attempts to initiate "Sanitation Marketing" in Africa but few have been sustainable or replicable without continual project support. One of the most common sanitation marketing intervention has been the concrete "sanplat" but this has been so associated with a hardware subsidy that many people will wait for subsidy before improving their toilet. Top down sanitation programmes that promote specific technology based on the presumptions of "outside experts" have been criticised for endorsing unsustainable and inappropriate technologies (Jenkins and Sugden 2006). There is no shortage of novel sanitation technology and concepts (e.g. ecosan) designs however, these are often "pushed" onto communities without fully understanding the market dynamics. Lack of sales are then blamed on poor access to finance for the target groups with calls for micro-credit services/revolving funds as the only solution. The "cash" economy in most rural villages tends to be rather limited and they rely more on in-kind services so many householders will collect local materials and construct toilets by themselves or with help from neighbours/relatives. Limited local manufacture also means that more "exotic" sanitation products have to be transported and transport cost in sub-Saharan Africa are usually quite high especially when compared to most of Asia.

Background

This paper describes the sanitation marketing intervention in rural Zambia that was part of a larger rural sanitation programme implemented by Government of Zambia (GoZ) and UNICEF, funded by DFID/GoZ. The sanitation marketing intervention “piggy backed” on a successful sanitation CLTS intervention that covered the over 60% of rural Zambia.

Formative research was originally conducted in Malawi and through participatory design a number of unique toilet options were developed (Cole, et al.). Rural Zambia is quite similar to rural Malawi and the toilet options were further adapted to meet the market demand.

Demand

The sanitation programme created a strong demand for toilets with over 3 million people gaining access to improved sanitation. Most of the toilets are traditional pit latrines made from locally available materials. The pit is usually rectangular with the platforms made from poles (hardwood) and clay mud. Super-structures are often constructed from burnt or unburnt brick (or mud and wattle in some cases) with grass thatched or metal roof. When well made these are “fit for purpose” but collapsing does sometimes occur in places with difficult soils (sandy/rocky/ waterlogged) or when poorly constructed.



Photograph 1. Traditional toilet

Source: J. Pinfold

“We are tired of rebuilding, we just dig and it collapses time and time again during the rainy season”
“The wood rots and then I have to find time to collect wood. The strong wood is becoming harder to find and I have to travel a long way to collect it”

Some quotes obtained during market research

As found in Malawi people complained about having to rebuild their toilets after every rainy season. Sustainability assessment study (Anscombe 2013) has indicated that most districts have some areas with difficult soils and that around 10% of toilets had collapsed. Some districts are completely covered with sandy soils and here the problem of collapsing is even worse.

Supply

Business model development

The sanitation programme needed a replicable and sustainable business model for sanitation marketing. The first step in doing this required understanding the market dynamics of the existing situation for constructing household toilets in rural Zambia. Evidence from field work and discussions with Community Champions (CCs) who were trained for CLTS triggering and monitoring, indicated that many households built their own toilets using locally available materials but some would hire masons to build the whole or part of the toilets or “pit diggers” to just dig the pit. Payment can be in kind, barter or cash. Except for a few rich households there were few example of any mass produced ready made products – if there were these were usually discarded/broken items serving as a toilet seat over a pit.

Consequently the business model adopted relied on building the capacity of individual local masons in providing sanitation services that provided “stronger longer lasting toilet” using locally available materials to ensure affordable prices. This also allowed flexibility in the costs of services provided so that the householder can choose to have the provider build the whole toilet or just part of the toilet (with the householder doing the rest himself – usually the superstructure).

Evolving toilet designs

The human centered toilet designs options developed in Malawi were further refined during the training workshops to suit the particular local conditions and varying local available materials and building styles. The design (illustrated in the leaflet and pictures below) features a brick corbel dome in the substructure – this use a circular pit with a collar about 1.25 m from surface, bricks (either burnt or unburnt) are laid in a ring on the collar with the short side close to the edge of the pit. Each new layer slightly overlaps that below

so that the rings get smaller and the overlap increases as they get nearer the surface resulting in a dome shape. Mud mortar (from clay) is usually sufficient but the different options covering sandy soils (corbel lining) use weak cement mortar with ferro-cement lining of pit and the corbel waterlogged with shallow pit and dome protruding from surface also use cement mortar. The basket lining option uses a traditionally made platform but with a round pit lined with a “basket” made with woven sticks wrapped in heavy duty plastic. Revisions to these designs were developed in consultation with local participant who were experienced entrepreneurs and different local ingredients for smearing toilet floor for hard smooth finish, clay backfilling for the basket design for greater durability and various super-structure designs based on local condition and availability of local materials.

Training package

The training workshops were conducted in different parts of the country and training package developed specifically catered for the ground conditions found in that location. Suitable candidates were selected by district officials in consultation with local chiefs/headmen. These were usually individual mason who already had some building experience. Community Champions (CCs) were also considered but only those who highly motivated and had already excelled in establishing ODF villages. Small businesses and professional builders were generally avoided as it was felt that this type of work might be beneath them. The training venue was selected in a central location for selected participants (usually a local school in need of extra toilets). Participants received one weeks training covering marketing skills and hands on construction of the different toilet options. Those trained received small allowance to cover costs of local accommodation and food as well as equipment including hard hat, trowel and overhauls. The same approach was repeated at different locations to cover most of the programme areas but particularly those with difficult soil conditions (sandy/rocky/waterlogged).



Photograph 2. Corbel standard

Source: J Pinfold



Photograph 3. Basket lining

Source: J Pinfold



Photograph 4. Corbel waterlogged

Source: J Pinfold



Photograph 5. Corbel waterlogged

Source: J Pinfold

Marketing support

The programme also provided marketing support in terms of “branding” where a logo and flyer were developed to assist trained “entrepreneurs” to advertise their products. There were also a number of demonstration toilets built at traditional ceremony locations to coincide with ODF Chiefdom/District celebrations.

The training workshop included a participatory session to brain storm on local appropriate marketing approaches. Given the remote rural settings usually encountered marketing was mainly by word of mouth and reputation of trained entrepreneurs within the local communities. Importance was also given to the construction of demonstration toilets in key locations such as chief’s palace and institutions such as schools, churches and clinics as the new design provided a talking point for people passing by. This was an initiative of the trained entrepreneurs and they would orient the chief or headmaster and agree to build the demonstration toilet on the understanding that they would provide free labour but local materials would be provided by the institution. Other initiative included using the community radio to advertise services and going to talk to householders whose toilet had recently collapsed. One mason even organized two “sanitation” football tournaments with the local authority and won contracts from a school and a large farm as a result of this initiative.

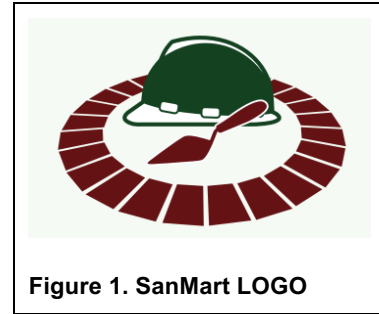


Figure 1. SanMart LOGO

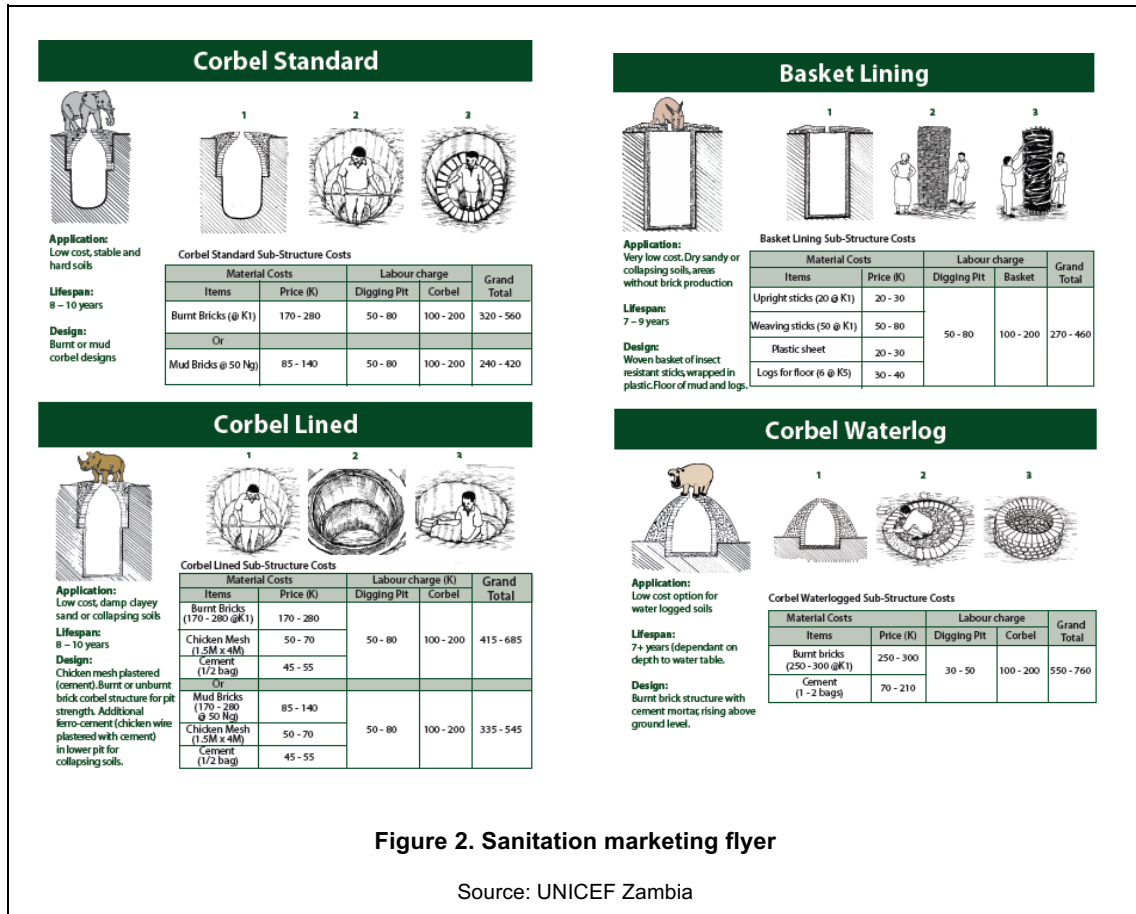


Figure 2. Sanitation marketing flyer

Source: UNICEF Zambia

Although more systematic information is needed, feedback from the trained entrepreneurs suggests that the main motivation for households purchasing these toilets was their interest in owning stronger, longer lasting toilets as in the long run this would work out cheaper than having to keep rebuilding the toilet. However, we did also hear that some were just intrigued by the new design.

Progress so far

Although it takes time to introduce a completely new technology and not all trained entrepreneurs are active, the feedback so far has been very encouraging. Follow up visits made to trained “entrepreneurs” have been mainly to collect information on progress and challenges. However, this is a challenge in itself as most live in remote places with limited mobile network coverage. Thus figures presented here are conservative but out of 291 people trained about half are confirmed active with totals sales of over 1,300 (mostly to households but also institutions such as local schools and clinics). The most popular toilet option being the “corbel standard” closely followed by the “basket lining” option.

The workshop trainings only started mid 2014 and sales have increased exponentially since then. This suggests that the business model is sustainable in terms of pricing, placement and enabling environment.

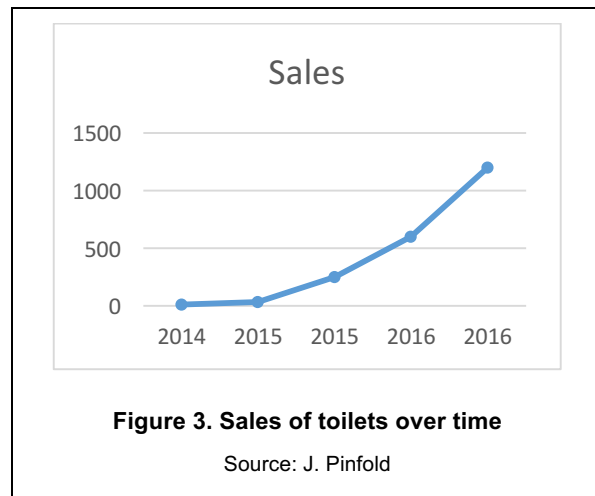


Figure 3. Sales of toilets over time

Source: J. Pinfold

Discussion

One of the main challenges facing large scale sanitation marketing programmes is the quality control of construction process particularly in rural settings. The business transaction is a private affair between householder (or institution) and trained entrepreneur so there is not a lot that can be done given the remoteness of some of the locations. Fortunately, the designs are quite robust and to date there has not been any adverse publicity to tarnish the reputation of the “branded” products.

One measure that has been introduced to help address quality control has been an accreditation system whereby “Master builder” are recognized when they have sold at least 5 toilets with at least two different designs while “Grand Master builders” must have sold at least 20 toilets with all design options include and have trained others. Currently there are 53 Master builders and 5 Grand Masters. Grand Masters are also included as trainers during sanitation marketing training workshops and this adds to their recognition and provides an inspiration to the trainees.

The training is being institutionalized through Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) where it is being developed as a short skills training course. It has also been included as part of the national Community Health Assistants (CHA) training curriculum and an exhibition center of sanitation marketing options was constructed by the students, supervised by selected “Grand Masters”, at Mwachisompola.

There has been some unexpected replication of the business model as well via;

- Some Grand Masters and Master builders, on their own initiative, taking on and sharing skills with apprentices (some of whom have now become Master builders)
- The manager of a Youth Training Centre (in Samfya) being so impressed by the training he received that he included this as one of the skills courses they offer, again using Grand Masters to help provide the training.

The corbel design has also been adapted to provide a low-cost toilet option for schools. After long deliberations with the Ministry of Education a design has finally been accepted for community schools and comes in at quarter of the cost of standard school toilet design. Around 4,000 of these low-cost toilets have been constructed in over 1,000 local schools and although this is fully subsidized many more masons have been trained in areas where the programme is supporting school WASH.



Photograph 6. Low-cost school toilet

Source: J Anscombe



Photograph 7. Washing facilities

Source: J. Anscombe

Conclusion

Although there has been some support from UNICEF to trained “entrepreneurs” mainly in the form of a few tools and overalls during the training. More recently it was decided to provide bicycles to high performers but there were delays in delivering these and by the end of 2016 most had still not been delivered. CCs already received bicycles for CLTS triggering and monitoring but most of those trained were new to the programme. The sales momentum is gathering pace and the business model has now firmly taken root. Even if all support removed the indications are that it will continue to grow as word gets out about the toilet options, demand increases and more “entrepreneurs” become skilled through the apprenticeship approach. The main issue challenge to the successful scale up is quality control which become more difficult as number of entrepreneurs grow. The accreditation system is being rolled out but it is still going to be challenging to keep track with toilets being constructed over such a vast areas.



Photograph 8. Testing the product

Source: J Pinfold



Photograph 9. Testing the product

Source: J. Pinfold

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