The Sanitation Crisis and Social Media: Sanergy in Kenya

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In January 2015, after several stints at the U.S. Department of State and a New York communications consultancy, Medora Brown packed her bags and moved to Kenya to pursue a passion for social enterprise. She had been accepted as a communications fellow at Sanergy, a company providing modern sanitation facilities to the country’s urban slums and converting human waste into a wide variety of end products including fertilizers that improved crop yields and insect-based animal feed. In April of 2015, she was appointed communications manager, and she decided to try and make her mark at the company.

It was late December 2015, and Brown had returned to the United States for the holidays. Stopping for lunch while shopping for gifts, she was mulling ideas for one of her first major projects: creating and implementing a social media plan. Although Sanergy had begun social media forays via Facebook, Twitter, and its own blog, social media at Sanergy was still in its early stages, and the company was looking to Brown to help chart the course forward.

To make the mark she wanted to, she had to navigate a complex terrain. Brown needed to allocate limited funds and resources to the creation of content for strategically chosen platforms. “We needed to concentrate on the social media venues that gave us the best ROI,” she said. “Not just in terms of money, but also in terms of time and staff resources.”

In addition, Sanergy executives had questions about social media’s return on investment (ROI), and Brown had to develop metrics that would demonstrate social media’s effectiveness in engaging Sanergy’s diverse constituencies. And the audiences couldn’t have been more different—slum dwellers, farmers, and well-heeled global investors and donors.
Kenya’s Slums and Flying Toilets

Sanergy was the brainchild of three MBA students at the Massachusetts Institute of Technology (MIT) Sloan School of Management. David Auerbach, one of the founders, had had a strong commitment to improving sanitation conditions in the developing world. That commitment came after he encountered sanitation standards in rural regions of China’s Hunan province. While working there as an English teacher, he discovered that pit latrines were often the only option available to people needing to relieve themselves. For Auerbach, the experience was a defining moment. He saw firsthand how poor sanitation could spread deadly diseases. He vowed never to take toilets for granted again. “Going to the bathroom isn’t a popular topic that comes up at the dinner table in the West,” he said in an interview with Forbes.com. “It’s flush and forget for us. That’s not the case in much of the developing world.” In fact, in 2011 more than 2.5 billion people around the globe lacked access to decent sanitation facilities, according to the World Toilet Organization, and had to resort to rivers, roadsides, and open latrines.

The slums of Nairobi were a case in point (Figure 1). Although the country had a very high literacy rate—87.4% of adults—and rapidly growing middle class, approximately two-thirds of Nairobi’s population of 3.5 million didn’t have proper sanitation facilities. Because there was little or no plumbing in the slums, residents didn’t have toilets in their homes. Slum dwellers often had to use public toilets which were free but located on the outskirts of the area. Although public toilets were connected to sewers, they were often backed up. The other option was privately operated pay-per-use latrines, which charged a small fee but were often little more than an open hole covered with wooden slats or corrugated metal. The waste flowed directly into rivers and canals.

![Mukuru, East Nairobi](source: Sanergy)

2 Ibid.
Using public facilities could be dangerous, especially for women. According to a study by Amnesty International, many public toilets were closed at night and women often had to walk great distances putting them at risk of sexual assault and rape. Therefore, many opted for “flying toilets” — relieving themselves in a plastic bag and hurling it out the window or into a canal. “When my kids had diarrhea at night, I just gave them a plastic bag,” Lydia Kwamboka, a resident of one of Nairobi’s slums told *AFP News Service*. “[I] dumped [it] in the drainage the next morning.”

Auerbach and his co-founders Lindsay Stradley and Ani Vallabhaneni wanted to change all this. The three had met in 2009 at MIT after each had pursued both business careers and social enterprise endeavors. Auerbach, who headed Sanergy’s business development and fundraising activities, had worked for non-profits focused on social enterprise and had also been deputy chair for poverty alleviation at the Clinton Global Initiative. Stradley was responsible for Sanergy’s growth strategy. She had co-founded a charter school in New Orleans and also had held sales and marketing positions at Google. Vallabhaneni, who led Sanergy’s technical operations, had launched a number of startups and oversaw the turnaround of a chain of dialysis clinics serving low-income patients in the Philippines.

The three had begun thinking about Sanergy during a first-year seminar on development ventures that asked students to craft business solutions to challenges faced by one billion or more people. They wanted to see if businesses could do more to solve the sanitation problem in the developing world than governments and philanthropic organizations had been able to. After conducting research in Kenya, Auerbach and his co-founders honed the idea for Sanergy, which won MIT’s $100K business plan competition, beating 280 other submissions. The winnings provided early seed money.

The concept behind Sanergy encompassed the entire sanitation value chain, from waste removal to treatment and then to reuse (Figure 2). The Fresh Life brand, Sanergy’s non-profit arm, tackled the beginning of the value chain by providing a hygienic public toilet that could meet the needs of 50 to 100 nearby residents per day.

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4 Americ Vincent, “Peepoo Bag Offers Solution to Kenyan Slum’s ‘Flying Toilets,’” *AFP*, November 11, 2013.
Sanergy designed the pre-fabricated toilets (Figure 3), which were assembled in the company’s local workshops. The toilets were easy to maintain and relatively compact in size and could be installed in neighborhoods near homes. The toilets were equipped with toilet paper and hand-washing facilities, which were rarely, if ever, provided in other public facilities.

Franchising was the business model for the toilets. Fresh Life franchised the toilets through three distribution models: commercial, residential, and community institutions. For their commercial
Toilets, Fresh Life sought local entrepreneurs in Nairobi’s slums including kiosk and pub owners to run Fresh Life Toilets as pay-per-use facilities. The price per use was set by the franchisee. The cost to users was usually the equivalent of a few cents per use, about the same amount they paid at privately operated latrines. For residential toilets, Fresh Life partnered with landlords to offer 24-hour access to hygienic sanitation to their residents within the security of their own compounds. The cost of usage was included in rent, and the tenants collaborated to maintain and clean the toilet. Fresh Life also partnered with schools to ensure children always had a clean toilet to use. Similar to the residential model, the cost of usage was included in school fees.

The toilets cost between US $290 - US $500 depending on the type of franchise. The cost could be paid in about one year through micro-financing, which Sanergy helped provide through a partnership with Kiva, a philanthropic micro-financing organization. The company also supported franchisees with training on how to operate and market the toilet.

Becoming a Fresh Life franchisee could have a profound impact on the life of a franchisee. Esther Munyiva, a mother of six and resident of Nairobi’s Mukuru kwa Reuben slum, was one of the first and was able to borrow the money from a local women’s microfinance organization. “I love this business…it has brought me somewhere,” she told the Financial Times in 2013. “You don’t have to sleep with hunger when you have this. I’m taken seriously. I want to buy another one.”

The next step in the sanitation value chain was waste removal. Hygienically disposing of human waste in areas without plumbing was an immense challenge. Sanergy had surmounted it by putting cartridges in the toilets that could collect a day’s worth of waste and be removed by Sanergy crews to collection centers on a daily basis.

In the last link of the chain, Sanergy transported human waste from collection to processing centers where Sanergy co-composted waste with sawdust and microorganisms that eliminated pathogens. The resulting organic fertilizer, Evergrow, was sold to local farmers under Sanergy’s for-profit brand Farm Star.

**Success but Speed Bumps Ahead**

Since the company’s founding in 2011, Sanergy’s business model had proven successful, prompting the co-founders to set aggressive goals. By 2015, Fresh Life had franchised 615 toilets that served approximately 32,000 people. Sanergy wanted to increase the number of toilets to 887 by the end of 2016. By 2020, the company had set the ambitious goal of 36,000 toilets, which would serve more than half of the one million inhabitants in the Nairobi slums that Sanergy focused on (Mukuru and Mathare). The 2020 growth objective was an aggressive one considering that Fresh Life missed its growth goals in 2015.

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Farm Star sold 118 tons of fertilizer in 2015. Sanergy hoped to boost that to more than 2,000 tons annually by 2018 (the goal also included a new insect-based animal feed). This growth target was dependent on the ability of Fresh Life to make its goals.

Sanergy was hoping that social media could help improve its sales and marketing and maximize the returns on those investments. To meet those expectations, Brown had to determine how social media could best support the business goals of each of Sanergy’s brands. She also had to craft a content strategy for each audience and measure social media’s effectiveness in helping Sanergy achieve business outcomes. Equally important, she had to find out how the organization’s various constituencies used social media and which platforms Sanergy should focus on to reach and engage them.

**Technology and Social Media in Kenya**

Kenya was known as “Silicon Savannah,” a playful epithet that combined “silicon” from Silicon Valley with “savannah” referring to the country’s famous grasslands. Kenya’s technology service sector had grown from $15.8 million in 2002 to more than $400 million in 2013. As a high-tech hub in Africa, it was second only to South Africa.

A rapidly growing middle class eager to consume technology products was fueling much of the technology sector’s growth. Kenya’s middle class stood at about 45% of the country’s population of 47.6 million in 2014. The middle class was expected to grow by 5% per year, and Kenya was projected to be a middle-income nation by 2030—a feat that Christine Lagarde, managing director of the International Monetary Fund called “nothing short of remarkable.”

A 2014 briefing by the Brookings Institution credited a strong private sector, market-friendly policies, and investment in infrastructure, including roads, ports, and airports for the country’s impressive economic growth. The World Bank projected that the country’s annual GDP growth would average more than 6% through 2030, making it the highest in sub-Saharan Africa.

**Internet Access and Mobile Phones Rise with the Middle Class**

More and more Kenyans plugged into the Internet as middle-class prosperity grew. Between 2011 and 2014, the number of Kenyan’s accessing the Internet grew from approximately 10 million to 26.1

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12 Ibid.


million,\textsuperscript{16} 55\% of the population. According to the Communication Authority of Kenya, data promotions by service providers were behind the growth, and telecommunication companies were expanding their networks to attract more users.\textsuperscript{17}

Mobile phone ownership had also surged in light of the fact that most of Africa had skipped the landline telephony stage. In 2014, mobile phone penetration in Kenya topped 82\%, one of the highest in the world.\textsuperscript{18} (Figure 4) However, because of their cost, smartphones represented only a small percentage. But smartphone prices were coming down, making them the fastest growing segment of Kenya’s mobile phone market. In the first quarter of 2015, smartphone sales accounted for more than 50\% of the 3.1 million mobile phones sold during the quarter.\textsuperscript{19}

\textbf{Figure 4} \hspace{1cm} \textbf{Cell Phone Ownership in Africa, 2002-2014}

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\end{center}


Because most Africans had basic phones, few were using mobile phones to access social networks and used computers instead. Mobile phones were used primarily to send texts and take pictures or video (Figure 5).

\begin{itemize}
\item \textsuperscript{17} Ibid.
\item \textsuperscript{18} “Cell Phones in Africa: Communication Lifeline,” \textit{Pew Research Center}, April 15, 2015.
\item \textsuperscript{19} Franklin Sunday, “Smartphones Dominate Kenya’s Mobile Phone Sales,” \textit{Standard Media}, June 3, 2015.
\end{itemize}
A majority of Kenyans, however, also used mobile phones for banking services, especially cashless transactions. A 2012 article in *The Economist* pointed out that it was easier to use a mobile phone to pay a cab fare in Nairobi than in New York.\(^\text{20}\)

Mobile payment service M-Pesa had become the standard bearer. Prior to the availability of mobile banking, Kenyans had to travel long distances—a 50-mile trek wasn’t uncommon—to access a bank and its services. With M-Pesa, launched by Vodafone for Safaricom, Kenya’s leading mobile phone provider, customers could deposit money into an account at any of more than 65,000 Safari.com locations and then transfer the money to someone via a text message. Because it was easy to use and mobile phone penetration was so high, about 25% of the country’s GDP flowed through the service, and Kenyans used it to pay for everything from transportation to rent.\(^\text{21}\)

**Social Media Started to Ride the Tech Wave**

The use of social media was rising with the growth of technology although penetration was small compared to the population with Internet access. According to Ventures Africa, about 10% of the Kenyan population engaged with social media on a daily basis.\(^\text{22}\) Facebook had the most users, estimated at more than four million in 2014. More than 60% of its users were between the ages of 18-34. Twitter followed with nearly two million users, but only about 700,000 were active in any given month. LinkedIn placed third with about one million Kenyans using its platform.\(^\text{23}\)

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The rise of social media in Kenya began with political bloggers and citizen journalists. A major impetus was a government imposed five-day news blackout in the wake of fierce riots in response to allegations that the 2007 national elections had been rigged. The blackout spurred the creation of some of the first blogs in Kenya, and many people turned to them for information. The 2013 national elections went smoothly, but the country’s major media were accused of meeting the needs of advertisers and important government officials. Journalists acknowledged their self-censorship, which spawned more politically-oriented blogs and social media discussions.

The rise of politically-oriented social media had caught the attention of businesses and prompted some to develop a social media presence. In 2015, a number of Kenyan companies looked to social media to provide customer service and product information. Businesses active in social media included OLX Kenya (an online sales platform similar to eBay), Samsung Kenya, Equity Bank, and telecommunications provider Airtel.

Airtel had more than 10,000 Twitter followers and more than 100,000 Facebook fans and was named the top social media brand in Kenya in 2015 by the African Brand Index. It was also recognized by the analytics consultancy Socialbakers as a best practice example of serving customers online. The distinction went to companies that answered 65% or more of customer questions via Facebook and/or Twitter.

The use of social media as a marketing tool was also on the rise. As more Kenyans took to the Internet, companies contracted with social network influencers to promote their products and brands. Blogging had become a means for young Kenyans to make a living, and many sought their fortunes by writing about technology, fashion, health, and the environment. However, it was not yet standard practice for bloggers and social media influencers to disclose their commercial relationships regarding the products and services they wrote about. A number of watchdogs were following these commercial relationships and publicizing them when the relationships weren’t disclosed. Kenyan culture placed a premium on trust. Undisclosed commercial relationships could easily damage a brand.

Kenya’s farmers were also becoming active social media users. Joseph Macharia, an agricultural entrepreneur, had become known as the “Facebook Farmer.” Taking advantage of Facebook’s Internet.org, which offered free access to basic Internet services including Facebook, Macharia had created a Facebook page (www.facebook.com/mkulima.young) for farmers to discuss techniques.

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25 Ibid.
26 Ibid.
crop varieties, soil productivity, and seasonal yields. The page garnered more than 25,000 followers in less than a year.\textsuperscript{30} In addition, Kenya had three other Facebook groups focused on farming with more than 10,000 followers each.\textsuperscript{31}

Because of limited accessibility to computers and smartphones, slum dwellers were not heavy users of social media. Facebook was the dominant platform. To access Facebook, residents typically had to rent computer time in a cyber café. Since they had to pay for twenty minutes or more, which could be costly, slum residents went online only occasionally and used social media for very practical matters such as seeking employment or asking overseas relatives for financial help.\textsuperscript{32} “People living in slums went to Facebook like they went to the grocery store,” said Brown. “They weren’t scrolling through people’s baby pictures. They were very focused and directed in what they did.” Franchisees were also not big users of Facebook, according to Brown. Only about a dozen of Fresh Life’s 320 franchisees had Facebook profiles.

Despite the growth of technology, questions still lingered for Brown and Sanergy. Would social media be widely adopted by slum dwellers? How would Kenyan farmers use social media? Would Sanergy be able to use social media to manage relationships at scale?

**Making Sanergy Social**

Sanergy was still at the early stages of leveraging social media. Each of its three brands—Fresh Life, Farm Star, and Sanergy corporate (for fundraising and investors)—had its own Facebook page, and Farm Star had begun using Facebook to generate and cultivate leads and WhatsApp to engage with farmers using Evergrow. In addition, Sanergy was starting to use Twitter and Instagram and had more followers on Twitter than it did on Facebook. The corporate brand also had an established blog and topics ranged from company news to stories about the environment and Kenyan government policies. Determining the best strategic use of each of these platforms was a key task for Brown.

She also wanted to develop an efficient way to create a steady flow of content. With a five-person team responsible for nearly all of Sanergy’s communications, Brown was hoping that the content produced by the communications team for Sanergy’s corporate blog could be adapted by the company’s other brands to feed their social media outreach. “Our blog could be the main content repository,” said Brown. “Anchoring our social media outreach on our blog would allow us to be more thoughtful about the content that our brands would put out there.”


Brown also wanted to measure the business impact of Sanergy’s social media efforts and show how they supported business outcomes. To address these challenges and create her strategy, Brown needed to understand the business objectives of each brand and assess how social media could help achieve them.

**Fresh Life**

As a franchiser, Fresh Life had to reach two audiences: entrepreneurs who bought the toilets, and the customers who used them. “We start by finding entrepreneurs and helping them understand the business opportunity,” said Joseph Githinji, who was responsible for Fresh Life branding and marketing. “But we also have to help generate demand by creating awareness of the new toilet and getting people to use it.”

Recruiting entrepreneurs was not easy. Personal contact was very important and the sale was complicated. Sanergy targeted people that had some business experience and had to clearly show how Fresh Life toilets were different from existing facilities. They also had to convince potential franchisees, who were mostly unfamiliar with the concept, that investing in a Fresh Life toilet was a sound idea. To support its sales staff, Fresh Life provided marketing collateral, including posters, flyers, and brochures. Sanergy also sponsored events for potential franchisees and provided basic training in accounting and marketing. Sanergy was also a heavy user of SMS. Going door-to-door, franchisees would acquire potential customers’ phone numbers and Sanergy would invite them to events demonstrating the toilet and its benefits. A personal touch was key. “Kenyans build trust in person,” said Githinji. “Events and recommendations from friends, relatives, or neighbors are the best ways to promote our brand and get people to use the toilets.”

Generating consumer demand was no easy task either. Kenyan slum inhabitants were like many consumers and often resisted something new even if current options didn’t fully meet their needs. “Any new product requires changing customer behavior,” said Githinji. “Toilets were no exception.” Franchisees often had to go door-to-door to introduce the Fresh Life concept, and Sanergy supported these efforts by holding local events and offering customer promotions such as free uses for first-time customers. The company did find that once a customer was comfortable with the toilet, they typically became a regular user. But getting them to try it in the first place was often no small effort.

Because slum dwellers and business people were not regular social media users, Fresh Life hadn’t invested much in social media. And co-founder Auerbach wondered how powerful it would be in selling the franchise opportunity: “We’re not sure that social media can create the type of trust needed to get people to launch a new business.”

**Farm Star**

Farm Star’s primary product was Evergrow, an organic fertilizer made from waste collected from Fresh Life toilets. Evergrow was designed as both a stand-alone fertilizer and as an add-on product to
be used in conjunction with inorganic fertilizer which was the mainstay of Kenyan farms. “Most Kenyans aren’t focused on organic farming,” said Alexei Bezborodov, head of end product sales. “There isn’t strong local demand and the export market for organic products is tough.”

Although less expensive than organic fertilizers, Bezborodov pointed out that inorganic fertilizers reduced crop yields over time. They pumped a great deal of phosphorous into the soil, which drove down pH levels and locked up nutrients needed by the crops.

To address the problem, Kenyan farmers augmented inorganic fertilizer with organic material such as manure. Manure was inexpensive but was often used before it was fully decomposed. The decomposition process would consume many important nutrients in the soil, negating its value.

Many Kenyan farmers weren’t aware of the decomposition issues related to manure. Sanergy had to show them that although Evergrow was more expensive, it was much more effective than manure. Evergrow was priced comparably to other organic fertilizers, between $175 and $400 per acre. But manure could cost as little as $20 an acre if it didn’t have to be transported great distances.

To prove the value of Evergrow to farmers, Farm Star’s sales efforts focused on selling trials. The trials, which covered a half or full hectare (approximately 2.5 to 5 acres), consistently improved crop yields by anywhere from 30% to 100% in a single growing season. Nonetheless, farmers saw Evergrow as a nice-to-have product that they didn’t need to use all the time. “We have to change behavior,” said Bezborodov. “We have to show farmers that it works and is worth the investment to use it regularly.”

To change behavior, Farm Star was starting to use consultative selling to raise awareness of the advantage of organic fertilizer over manure. Looking to the example of SunCulture, a Kenyan dripless irrigation company that successfully used social media to make its case to local farmers, Bezborodov believed that social media could play a major role in Sanergy’s consultative selling strategy, providing it with new leads. At the time, sales representatives working with local farm supply stores, local Ministry of Agriculture agents, and referrals from existing customers generated most of Farm Star leads in person.

Starting in the fall of 2015, however, Farm Star had been posting content to its Facebook page. Farmers that had had success with Evergrow were sharing their experiences. The early results were promising. Through Facebook, Farm Star had developed several dozen leads at a cost of about $2 each (based on 50 responses to a $100 Facebook ad). Factoring in a sales person’s time to follow up, the costs were about $7 per lead. Although Farm Star hadn’t calculated the cost of leads developed in person, Bezborodov was confident that the cost of leads generated through social media was considerably less. It was also too early in the sales process to know what percentage of social media generated leads would convert to sales.
Later in 2015, Farm Star began testing Facebook’s WhatsApp, a messaging application that let users send texts, chat and share media to individuals and groups. According to Bezborodov, WhatsApp was becoming increasingly popular with Kenyan farmers and could help further Farm Star’s consultative selling efforts by connecting local farmers and allowing them to share their experiences with Evergrow. Farm Star had also developed a partnership with Arifu, an online learning platform, to provide helpful content via SMS to support each stage of the customer’s journey.

Sanergy Corporate

Although Sanergy had to raise capital from the investment community, fundraising for Fresh Life was also an imperative. Fresh Life was a non-profit entity and wasn’t projected to be self-sustaining for several years. Sanergy, which kept the finances of Fresh Life and Farm Star separate, needed to raise enough money to cover Fresh Life’s annual operating expenses and R&D from private donors. Since Fresh Life’s mission was to provide hygienic sanitation, it was a good fit with many philanthropic organizations. Equally important, Sanergy needed to assure that Fresh Life could supply waste at sufficiently high volumes to prove the market viability of its Farm Star products.

Because of its hybrid structure, Sanergy was reluctant to launch a retail fundraising operation for Fresh Life using media such as television, direct mail, and online grass roots efforts. A large retail fundraising effort would require positioning Sanergy as a charity instead of a social enterprise. In addition, Sanergy’s leaders worried that the messages it had developed for face-to-face fundraising wouldn’t translate well to mass appeals. Thus, Sanergy’s strategy was to focus on foundations and large donors, and it needed to build a stronger presence among them.

When it was founded, the company received a great deal of media coverage in the United States and Europe, which raised its profile. By the end of 2015, however, the media attention was tapering off. Allyson Burns, a communications executive at the Case Foundation (a Sanergy funder) and member of Sanergy’s advisory board, believed it was time for the company to expand its media coverage. “There is a growing set of people who understand that systemic change through the full value chain approach takes both investment and philanthropic capital,” she said. “There are publications and venues that would be very interested in what Sanergy is doing and learning.”

Sanergy had been using its corporate blog, email campaigns, and speaking engagements to keep funders, investors, and stakeholders apprised of its activities. Burns felt that Sanergy should go farther and develop a thought leadership program that targeted specific stories to media reaching funding communities. Successful thought leadership efforts could help Auerbach, who was in charge of fundraising. He targeted new prospects through personal connections and professional networks. Although he saw the value of publishing and speaking, he had his doubts about social media’s ability to play a major role in connecting him with potential funders. “We have a lot of investors who
introduce us to other investors and help find funders willing to give $100,000 or more,” he said. “I haven’t found social media to be an effective tool for that.”

Conclusion

As Brown ate her lunch while holiday shopping, she couldn’t help but notice the frenzied use of smartphones and social media and how much they had come to dominate life in the United States. But she also wondered how social media would develop in Kenya. Would Kenya’s cultural values of trust and personal contact translate well to social media? Would companies be able to build sufficient trust with prospects through social media or would its use be limited to transactional relationships such as customer service? And what role might social media play in luring new funders and getting them to open their checkbooks? The answers to these questions all played into the strategy she had to develop upon her return.