OPEN DATA IMPACT CASE STUDIES

KENYA'S OPEN DUKA

Open Data for Transactional Transparency

OPEN DATA

By Andrew Young and Stefaan Verhulst[1]

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OMIDYAR NETWORK

Summary: Open Duka is a platform developed by the civil society organization the Open Institute that aims to address issues of opacity in governance in the private and public sectors, promoting corporate accountability and transparency. As a case study, it exemplifies the challenge for open data initiatives to generate sufficient awareness and use necessary to achieve impact. Open Duka provides citizens, journalists and civic activists with a tool that gives insight into the relationships, connections (and, to some extent, the dynamics) of those in and around the public arena. The platform has the ability to create and visualize relationships between different entities ranging from organizations, individuals, tenders and contracts awarded. While a diversity of setbacks have led to limited impacts to date, the platform seeks to act as a core data set to enable these stakeholders to build third-party public transparency and public accountability apps or services, by allowing them to cross reference the Open Duka data against other data sets. Some of the data that can be found on Open Duka includes information published in the *Kenya Gazette*, a weekly publication released by the Kenyan government that publishes notices of new legislation, notices required to be published by law or policy and announcements for general public information.

Dimension of Impact: Empowering Citizens – Informed Decision-making

Key Takeaways:

- Open data initiatives can be resource- and time-intensive. Cleaning data, building partnerships, tech development and other important steps can require more effort than originally planned, leading to long stretches of time before any real impacts are felt.

- Opening data is not always sufficient. Citizen engagement, outreach and training efforts – regardless of the tech capacity or data literacy of the targeted community of users – can be important drivers of use for open data platforms.

- Political and cultural changes can throw open data initiatives into upheaval, even if they do not, on the surface, seem to directly affect the project at hand. Developing an open data *platform, application or service* often requires a supportive open data *ecosystem* to reach its full potential.

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I. Context and Background

CORRUPTION IN KENYA

Corruption in Kenya is a major and by many indications worsening problem. In 2014, Transparency International ranked the country 145 (out of 175) in its annual Corruption Perceptions Index, down from 136 two years earlier.[1] Recently, an official audit found that just 1 percent of government spending was properly accounted for.[2] The average urban Kenyan pays 16 bribes a month.[3] When Barack Obama visited the country in mid-2015, he warned of a "cancer of corruption" that was blighting the nation.[4]

OPEN DATA AND TECHNOLOGY IN KENYA

Can open data – and technology more generally – offer a solution? Kenya is generally considered one of the most technologically advanced countries in Africa. As of 2014, Kenya had the fourth-highest Internet penetration rate in Africa with 21.3 million users, trailing only Nigeria, Egypt and South Africa.[5] Also as of 2014, almost 80 percent of Kenyans who owned cell phones (around three-quarters of the population) used them for mobile payments and banking.[6]

The country had an early taste of open data's potential in combating corruption in 2005. Dr. Bitange Ndemo, a lecturer on entrepreneurship and research methods at the University of Nairobi's Business School, worked with then-President Mwai Kibaki's government to uncover illicit allocation of government funds by mapping distributions of the Constituency Development Funds (CDF). CDFs were supposed to spur grassroots development and distribute resources equitably across the nation. The mapping exercise, built on previously closed data, showed that funds were heavily allocated to rich areas of the country over more deserving areas. Despite its promising results, however, this initial effort to use open data met with political opposition and was soon shut down.[7] "[The politicians] were very angry with me," Ndemo recalls, "and within a very short time, we pulled down the website."[8]

In 2011, Ndemo, by then the Permanent Secretary of Information and Communications in the government, worked with a volunteer task force of technical personnel and World Bank officials to launch a new project – the Kenyan Open Data Initiative. The centerpiece of the initiative was the Kenyan Open Data

1   https://www.transparency.org/country/#KEN
2   http://www.businessinsider.com/afp-corruption-in-kenya-worse-than-ever-says-veteran-campaigner-2015-8?IR=T
3   http://www.ucl.ac.uk/dpu-projects/drivers_urb_change/urb_governance/pdf_trans_corrupt/TI_Corruption_kenya.pdf, p. 7.
4   Loeb, Saul. "Barack Obama urges Kenya to fight corruption in government." Daily Nation. July 26, 2015. http://www.nation.co.ke/news/Fight-corruption-from-the-top-Obama/-/1056/2809526/-/2y8ovu/-/index.html
5   http://www.internetworldstats.com/stats1.htm
6   Gilpin, Lyndsey. "The world's unlikely leader in mobile payments: Kenya." TechRepublic. March 20, 2014. http://www.techrepublic.com/article/the-worlds-unlikely-leader-in-mobile-payments-kenya/
7   Mutuku, Leonida and Christine M. Mahihu. "Open Data in Developing Countries – Understanding the Impacts of Kenya Open Data Applications and Services." iHub Research. 2014. http://www.opendataresearch.org/sites/default/files/publications/ODDC%20Report%20iHub.pdf
8   GovLab Interview with Dr. Bitange Ndemo, Chairman Open Institute. September 9, 2015.

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Portal (https://opendata.go.ke/), the first comprehensive open data platform in sub-Saharan Africa (and the second in Africa, after Morocco's). The portal hosts over 400 data sets from across the government, including data from the national census, data pertaining to national and regional expenditure, and information on key public services such as education, health and agriculture.

Determining whether the broad Kenyan Open Data Initiative, and the Data Portal in particular, had any impact is difficult given conflicting signals. On the one hand, the portal's 44 million page views as of August 2015, for example, point to a widely used, impactful platform. Even more important than the number of page views, Linet Kwamboka, the Open Data project coordinator, announced that users have interacted with the data found on the portal – through downloads and embeds – 2.6 million times.[9]

That being said, prior to these milestones, critics questioned how well the information available on the platform was targeted to the needs of users. For example, a 2014 survey of relevant users found that approximately 50 percent of desired education data does not exist on the portal.[10] The lack of many types of potentially useful data is not surprising when considering the number of government departments that have not yet opened their data. As of 2015, four years after the portal's official launch, the site has only received data from 26 of over 83 government departments.[11]
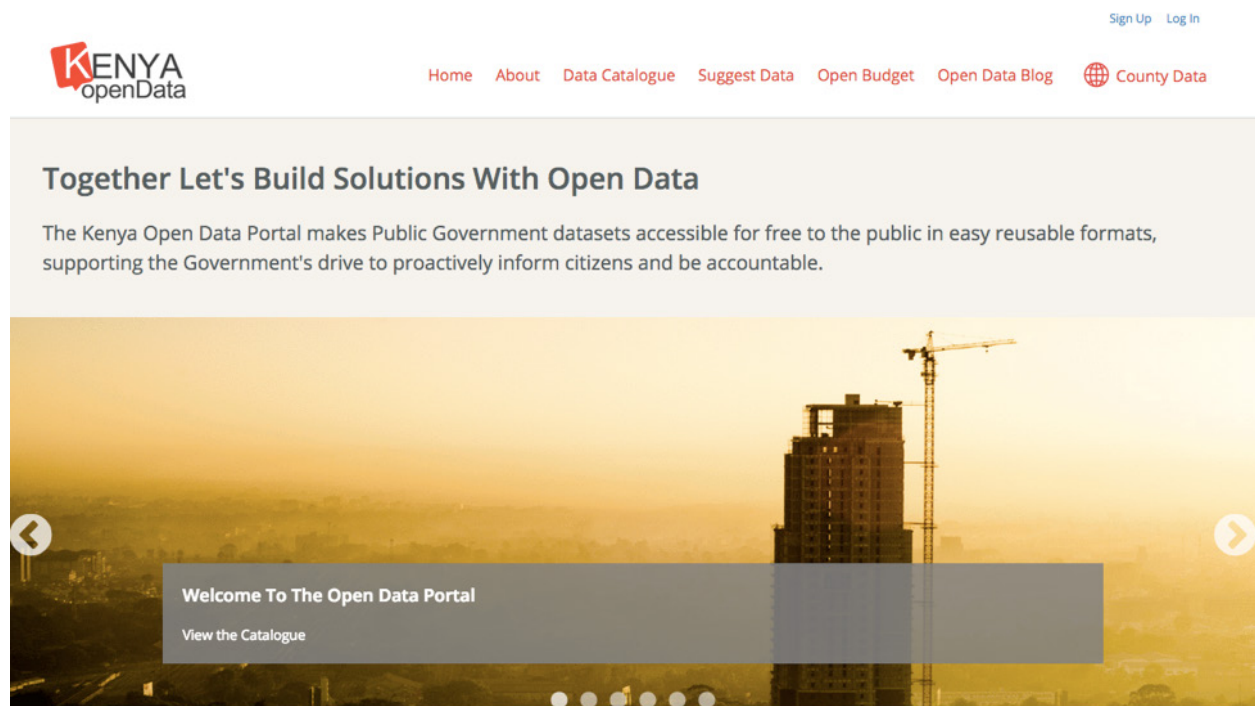

Figure 1: Kenya's Open Data Portal

9   Mutegi, Lilian. "Kenya Open Data Portal Hits 44 Million Page VIews." All Africa. August 18, 2015. http://allafrica.com/stories/201508190752.html.
10   Mutuki, Leonida, Christine M. Mahihu, Dr. Raed Sharif. "Exploratory Study on the Role and Impact of Kenyan Open Data Technology Inter-mediaries." iHub Research. April 30, 2014. http://www.opendataresearch.org/sites/default/files/publications/ODDC_Event_Handout%20.pdf.
11   Ochieng, Lilian. "Kenya: State Agencies Hold Firmly to Their Data." AllAfrica. August 19, 2015. http://allafrica.com/stories/201508200439.html.

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The political and legal climate in Kenya also remains somewhat ambiguous when it comes to open data. In 2013, President Uhuru Kenyatta was elected as the fourth president of Kenya. His Jubilee Party's election manifesto had "pledged to increase transparency in government as well as promote information-sharing within public institutions."[12] The manifesto also highlighted the importance of improved digitization of government, including "cleaning up and managing databases that will be stored in a secure and centralized location and which can be accessed and used by all ministries and branches of government ... to make government more efficient."[13]

All of this led to hopes among open data and government transparency activists. Immediately following that initial optimism, hopes began to deflate. In 2013, the Sunlight Foundation published an article on "why Kenya's open data portal is failing." Many of the reasons cited – like government's reluctance to open all potentially useful data and challenges related to the country's constitutional devolution – created similar issues for Open Duka, as discussed below. It is worth noting, however, that much has changed for the portal since 2013, and even at the time, the piece's author still expressed reasons for longer-term optimism.[14] The situation surrounding the open data portal isn't helped by the absence of a legal framework to enforce a constitutionally guaranteed freedom of information. Although the Bill of Rights includes this freedom, in fact there are no clear guidelines to guide how public bodies should make information available, what types of information should be released, and what remedies exist for violations. With that said, the surge in use of the portal – culminating in the milestones in site visits and data downloads witnessed in 2015 – is a lesson in the need for both iteration and persistence in order for open data efforts to take hold.

II. Project Description and Inception

Even as the government has launched its open data initiatives, civil society in Kenya has become increasingly active in the field. According to Jay Bhalla, director of the Open Institute, a civil society organization that works "to open up government to the citizens," the government's own open data initiative "acted as a catalyst for organizations [like the Open Institute] to begin working around open data."[15] He cites the example of Code4Kenya, which works to catalyze demand for open data by embedding fellows with data skills into African newsrooms and civic organizations, as an example, stating that it was at least in part "spun out of the fact that there was the Kenya Open Data Initiative."

Open Duka ("duka" means "shop" in Swahili) grew out of this civil society interest in open data. Launched

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12   H.E. President Uhuru Kenyatta. "The Harmonised Jubilee Coalition Manifesto." http://www.scribd.com/doc/123569244/The-Harmonised-Jubilee-Coalition-Manifesto#scribd.

13   H.E. President Uhuru Kenyatta. "The Harmonised Jubilee Coalition Manifesto." http://www.scribd.com/doc/123569244/The-Harmonised-Jubilee-Coalition-Manifesto#scribd.

14   Brown, Greg. "Why Kenya's open data portal is failing – and why it can still succeed." Sunlight Foundation. September 23, 2013. https://sunlightfoundation.com/blog/2013/09/23/why-kenyas-open-data-portal-is-failing-and-why-it-can-still-succeed/.

15   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.

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in 2014, it contains data pertaining to the relationships among Kenyan institutions, individuals and other entities with an impact on public life. The project is driven by the Open Institute in partnership with the National Council of Law Reporting, with funding from the African Technology & Transparency Initiative.

Open Duka is built on a simple principle: Its founders believe that giving citizens information that enables them to draw connections among individuals and organizations can uncover and possibly remedy many instances of corruption. Al Kags, a founding trustee of the Open Institute, notes that every time a new corruption scandal hits Kenya, citizens begin asking questions about connections. Who is connected to whom? Who owns the companies involved, and how do those individuals relate to government entities or other power players? Prior to Open Duka, he says, there was no way to uncover this type of "relational data," which can "enable citizens to make connections between people, issues, companies and public organizations."[16]

> **Open Duka's Mission Statement:** *"Providing citizens, journalists, and civic activists with a practical and easy-to-use tool to understand the ownership structure of the world they live in, demonstrating the practical applications of open information for normal citizens."*

The platform does not itself seek to draw any connection; it just posts data, relying on its users' investigative skills (and serendipity) to draw out the links that underlie public life in Kenya, and that often drive corruption. As Bhalla puts it: "We're just getting all the data that is out there … and we're putting it up there for people to make their decisions. … We're just getting the data, scraping it, putting it up, and seeing what connections come up … and what stories can then be taught."[17]

Kags cites the following hypothetical example of how Open Duka might be used. Using the platform, a citizen could discover that Individual A is the director of two companies; she could then uncover the fact that Individual A's brother directs a third company, and also happens to work with a government agency; in addition, the citizen might determine that both brothers went to school with Judge C.[18] In this way, the citizen-user of Open Duka could possibly determine whether Individual A has used his connections (via the brother or the judge) to improperly benefit from government contracting, or engage in any other form of corruption.[19]

At its core, Open Duka is a platform that enables citizens to peer behind the veil of previously unknown (and unknowable) relationships that drive a variety of economic and political activities, including land purchases, tendering contracts and other regulatory decisions. When selecting a person, organization, tender, contract, court case or piece of land on the site, Open Duka provides a simple visualization of how that entity connects with others found on the platform, with additional categorized data about each entity found in the visualization displayed below. These relationships, adds Kags, "have an impact on the integrity of a country."[20]

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16   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpl.
17   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
18   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpl.
19   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpl.
20   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpl.
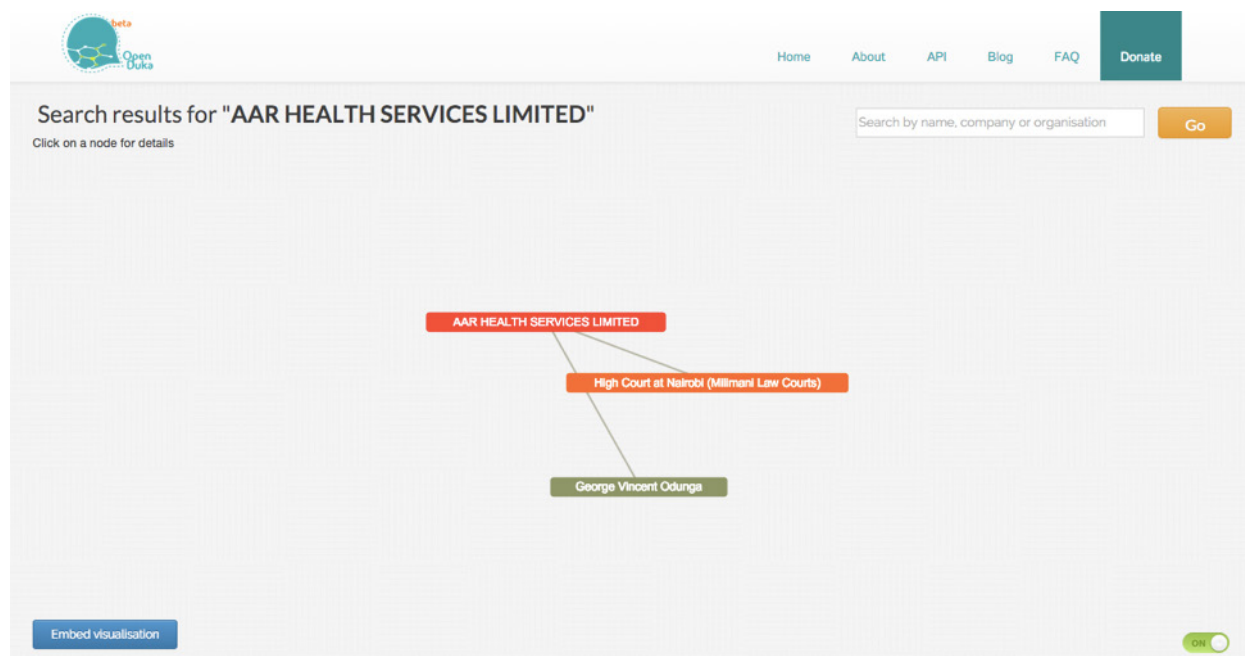
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Figure 2: Visualization of an Organization's Connections found on Open Duka

DATA SOURCES

As of August 2015, Open Duka includes information on 30,955 people, 3,832 organizations, 1,800 tenders, 226 contracts, 22,011 court cases and 4,418 pieces of land.[21] The user can search across each of these six areas from a simple search bar on the main page, or enter into the platform by clicking on one of the six categories of content, at which point she is presented with a long, searchable, alphabetical list of relevant entities.

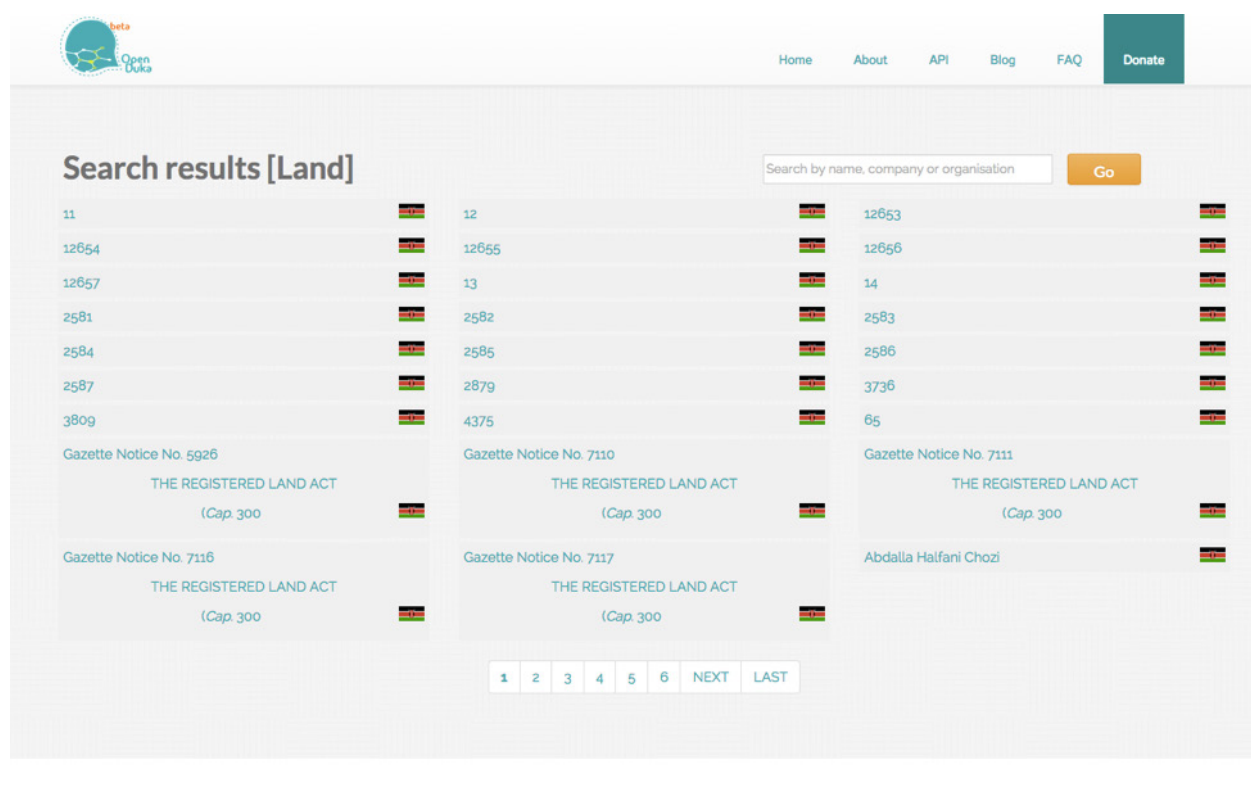21   http://www.openduka.org/

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Figure 3: Land Use Information Hub on Open Duka

Increased transparency around land records is seen as a particularly important piece of Open Duka's value proposition. The goal is to allow individuals to draw connections between land parcels (where illicit funds are often parked) and entities or individuals who might not be direct owners but nonetheless have connections to the owners of the land. In addition, Open Duka's organizers have also taken steps to include information not just on governmental stakeholders, but also private corporations. This data is often harder to access, but it is essential to drawing the necessary connections. Thus, Open Duka comprises data related, for example, to contract information, tender information and company directors (including whether the directors are involved in any court cases and whether they own land). Kags notes that Open Duka's focus expands beyond government because "if you don't know what a company, civil society organization, school, etc. is doing, you don't know what they're doing wrong and you have no way to add value."[22]

While some of this information originates from publicly available government databases, Open Duka's organizers also employ a number of additional measures to supplement the information and make their databases more comprehensive. In particular, Open Duka scrapes a considerable amount of information from the media, particularly from the *Kenyan Gazette* (which contains near-comprehensive information on land transfers and purchases). Prior to Open Duka's launch, the *Gazette* had partnered with Google to digitize all its editions; however, while the information was accessible in digital format, it was not categorized or searchable in any meaningful way. So Open Duka's organizers approached the government and asked them for access to the digital archives of the Gazette, which was then imported into the platform.

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22   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpl.

Despite Open Duka's ingenuity in sourcing data from nonobvious sources, the project has in general struggled to cope with the insufficiency of available data. This lack of data is not unique to Kenya, however. Improvements to transparency regarding the beneficial ownership of legal entities – i.e., business owners, shareholders and senior managing officials – was a high-level principle arising from the 2014 G20 Summit in Australia, in the interest of "preventing the misuse of these entities for illicit purposes such as corruption, tax evasion and money laundering."[23] Despite official governmental enthusiasm for releasing data, its organizers say, the reality is often quite different. Bhalla cites the case of the Ministry of Lands, where much information still remains inaccessible due to stonewalling or vested interests, even though it is more or less completely digitized. The same is true of many other departments. As he puts it: "When you're doing anything around government transparency and accountability, the doors often get shut to people trying to get the data."[24]

23   "G20 High-Level Principles on Beneficial Ownership Transparency." G20.org. December 2014. https://g20.org/wp-content/up-
        loads/2014/12/g20_high-level_principles_beneficial_ownership_transparency.pdf
24   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.

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III. Impact

INTENDED BENEFICIARIES

AVERAGE CITIZENS	Provides citizens with the ability to recognize and avoid potentially corrupt dealings in areas like contracts, land purchases.
MEDIA AND RESEARCH COMMUNITY	Uncovers connections between stakeholders and power players in the country to help in the identification of corruption or conflicts of interest. Enables large-scale analyses of data found on the platform to uncover high-level insights.
DEVELOPERS AND CIVIC ACTIVISTS AND RESEARCHERS	An API enables interested parties to incorporate Open Duka's data into other applications focused on transparency and accountability in the public and private sectors.

Despite considerable promise and excitement about the potential of Open Duka, its impact has in fact been quite limited to date. No systematic study has been done of the project's impact, and the success stories that do exist have been largely anecdotal (Bhalla, for instance, refers to the "the odd success story" where "some person managed to figure out that someone was trying to con him with selling a piece of land, for example, and he managed to use Open Duka as the platform to find out that this guy is the fraudster"[25]). Bhalla also notes that the media has benefitted from the platform, but establishing direct ties between news pieces on corruption and journalists' use of Open Duka is a challenge (and, as of 2015, the site does not offer any illustrative examples of such uses). Ndemo believes that more effort needs to be expended to improve the media's data literacy and capacity to create impacts as infomediaries for the public. Rather than focusing on providing sensationalistic headlines, there should be a greater focus in the media on, "[doing] the analysis that can help people understand to make decisions. … The media does not just have to look at headlines, they must synthesize the data and make it much simpler, and to do that, we need to do a lot of capacity-building on data science, data visualization."[26]

Open Duka's limited success can in large part be attributed to the many challenges the project has encountered since its launch, notably the difficulty of sourcing data and the obstacles raised by a recent move to devolve governmental authority (explained further below).

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25   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
26   GovLab Interview with Dr. Bitange Ndemo, Chairman Open Institute. September 9, 2015.

SEEDING THE NOTION OF OPENNESS

As it stands, much of Open Duka's impact has been less related to its specific purpose, and more general – i.e., spreading the idea of openness and accountability across sectors. For instance, ONE and the Accountability Lab, civil society organizations focused on combatting poverty and corruption, present Honesty Oscars that honor "the creative work of activists and organizations that fight global corruption." In 2015, Open Duka won the "Best Special Effects Oscar" based on how it "provides citizens, journalists and civic activists with a practical and easy-to-use tool to help them understand the ownership structure of the world they live in."

The awards citation went on to say that Open Duka "helps demonstrate the practical application of open information for citizens around the world."[27]

IV. Challenges

As noted, Open Duka has faced considerable hurdles in its efforts to use data to draw connections and reduce corruption. This section discusses some of the most important challenges.

GOVERNMENT DEVOLUTION

In 2010, the Kenyan government devolved a number of powers (including key financial authority) to its 47 counties. While this devolution was championed as a way to empower local communities and spur grassroots development, it also created a number of difficulties for open data advocates. Bhalla, for instance, notes the complexity of now having to convince government representatives about the benefits of transparency not just in one jurisdiction (i.e., at the federal level), but in 47. And while the Open Institute is trying to work with each of these counties, he also notes that many of the regional governors (and other officials) are struggling to cope with the responsibilities of their new authority. Perhaps not surprisingly, when faced with essentially building a local government from scratch, open data simply isn't a high priority. However, as described below, though the government devolution process created significant hurdles for Open Duka and open data projects more generally, it is also providing new opportunities for building counties' data capacity to internal and public benefit.

DATA QUALITY AND AVAILABILITY

As noted, the broader political and legal climate around open data in Kenya is not fully encouraging or

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27   Walker, Emily. "And the Honesty Oscars go to…" One.org. February 23, 2015. http://www.one.org/us/2015/02/23/and-the-honesty-os-cars-go-to/.

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supportive. Many government departments have yet to fully release their data, and even when they do, the quality of the data can be subpar. When browsing Open Duka's database, the data quality challenge can be evident – with some entries having two-letter or confusing titles scraped from the *Kenyan Gazette*.

In addition, Ndemo points out that many government officers resist releasing data in a timely manner, thus reducing the timeliness and relevance of the information. He cites the case of government's national statistic officers, who "tend to think that they need to collect the data, [and] curate it before they can give it." He goes on: "The statisticians have not come to terms that there are other people who can handle data. They just think this is our data, and these are computer geeks [in the open data community] who are interfering with the processes."[28] Such "data hoarding" by government officers makes it very difficult for a project like Open Duka to achieve the scale it requires.

PUBLIC TRUST AND EXPECTATIONS

A final challenge is posed by a general lack of public interest in open data, and even a sense of disenchantment. Over the years, Kenya has seen no shortage of attempts to improve public life and the quality of governance. There have also been several anti-corruption efforts before Open Duka. Many of these efforts have been sponsored by foreign donor entities, and have been accompanied by considerable hype. Few of them have made much of a dent.

According to Bhalla, this creates a sense of disenchantment and distrust among the population. "It's gotten to a stage where even if there is something useful that works, there's a lot of distrust," he says. So Open Duka's task – and challenge – is not only to prove that it is useful on its own terms, but also to distance itself from previous, failed attempts to improve public life.

More generally, there is concern that the lack of public confidence in open data could lower the pressure on governments to release data, thus creating a vicious cycle and undermining the sector as a whole. Ndemo speaks about the dangers of public disenchantment and a lack of demand for open data. "We must create interest," he says. "We must create the demand for data. If we can't create that demand, even if government were to release it, it would make no sense at all."[29] He goes on to speak about the need to increase public awareness and educate the public about the potential of open data.

28   GovLab Interview with Dr. Bitange Ndemo, Chairman Open Institute. September 9, 2015.
29   GovLab Interview with Dr. Bitange Ndemo, Chairman Open Institute. September 9, 2015.

V. Looking Forward

Overall, Open Duka's organizers say that the project has been far more resource-intensive and time-consuming than they had originally anticipated. Among other things, organizers underestimated the difficulty of sourcing data, of government resistance, and of convincing a somewhat disenchanted population to use it. While the project was initiated in 2013, Bhalla notes that it was not until early 2015 that, on the technical side, "we got the platform to where we wanted it to be."[30]

Today, the project's organizers are focused on the future, with a number of streams of activity in the works that are focused on turning optimism and initial excitement into the type of real-world impacts that have eluded the platform to date. The task at hand for the team behind the project is to learn from the challenges mentioned above and iterate quickly and strategically – despite continued outside challenges and resource strains. Thankfully, the Open Duka team recognizes this need, noting on the site that, "Open Duka is a work in progress (and a labour of love) for us and we shall continue to add new features and data."[31]

One encouraging development for the Kenyan open data ecosystem more broadly is the planned launch of Version 2.0 of the Kenyan Open Data Portal, which, among other things, is designed to help users "find the location of donor- and government-funded projects in their community as well as the stage of execution."[32]

OPEN COUNTY PROGRAM

The central expansion of Open Duka currently under development is the Open County Program. Under this program, designed to ease some of the challenges that have arisen from devolution, the team is working with new county governments to build their data capacity and push forward citizen engagement opportunities. Overall, the team is seeking to create new areas for coordination between county governments, NGOs, community media and community stakeholders.[33]

This effort will not only give counties the capacity to govern better, but will also, in theory, directly benefit Open Duka. By building technical capacity for counties, Open Duka will gain access to constantly updated and uploaded supply-side data of sound quality. On the demand side, engaging with outside stakeholders will help the Open Institute gain a diversity of feedback to guide future development. This marriage of supply and demand represents a promising next step. But, Bhalla notes: "[It is] very resource-intensive."[34]

There are currently a few counties in which Open Duka is piloting this new project. So far results have been encouraging. Bhalla notes that through the Open County Project, "Data gets released and now we're able to embed that data in Open Duka at a very granular level. And at a level that now impacts people on that ground."[35] Moreover, given Open Duka's relatively simple underlying code, counties will

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30   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
31   http://www.openduka.org/
32   Mutegi, Lilian. "Kenya Open Data Portal Hits 44 Million Page Views." All Africa. August 18, 2015. http://allafrica.com/stories/201508190752.html.
33   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
34   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
35   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.

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be able to host individual iterations of the platform, meaning that county-level data will feed into the central Open Duka platform, but could also provide the backbone of more granular, regional versions of the tool. Bhalla believes that once Open Duka reaches this level of granularity, "the chance of impact will be much, much higher."[36]

TRACKING METRICS OF SUCCESS

While there has been little evidence of impact to date around Open Duka, the development and implementation of concrete metrics is in the works. Bhalla notes that, "we don't look at page views as a metric."[37] Rather, the Open Institute is focusing on three types of metrics built around three different user groups:

1. By tracking application programming interface (API) calls, the Open Institute will be able to ascertain whether *developers and civic activists* are actually making use of the data on the site to build applications, or if *researchers* or other parties are accessing the data in bulk to perform targeted analyses.[38]

2. Focusing on the number of embeds of visualizations created through Open Duka, on the other hand, will help to assess the site's usefulness to the *media*. Since it is unlikely that each and every instance of a journalist using Open Duka to find information for a story will be credited, tracking the number of direct embeds of visualizations created on the site will help to gain a better understanding of its use in the media.[39]

3. Finally, the Open Duka team will begin tracking the number of external requests for additional data to be added to the platform. This can provide an indication of *citizen use and engagement*. Such requests, says Bhalla, will show "people have used the platform and they're not finding what they're looking for."[40]

MAKING THE PLATFORM MORE ACCESSIBLE

While Kenya is generally considered a leader in Internet penetration in Africa, many citizens may nonetheless remain excluded from platforms like Open Duka. In particular, citizens in rural areas, and those from otherwise underprivileged backgrounds, generally remain on the wrong side of the digital divide.

Recognizing that the usefulness of its tool is directly related to the extent it is used, the Open Institute is working on a number of measures to improve access. For example, an SMS-based solution is in the works, and Bhalla speaks of the potential of a version of Open Duka that would allow, for instance, a citizen considering a real estate purchase to quickly send a text message to the platform to gain access to all legal proceedings against the seller.[41] Ndemo, too, speaks of the potential of a mobile-based

36   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
37   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
38   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
39   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
40   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.
41   GovLab Interview with Jay Bhalla, Executive Director of the Open Institute Trust. August 12, 2015.

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solution. "You cannot underestimate the ubiquity of the mobile," he says. "I think everything is going to be on the mobile platform. … We need to focus, that we leverage on the mobile platform on many services to the citizens."[42]

EXPANSION TO OTHER COUNTRIES

Finally, although there is much work to be done in order to make Open Duka as useful as possible in Kenya, the Open Institute still has an eye on broader regional expansion. Kags notes that a bigger goal for the project is to bring Open Duka to Uganda, Tanzania, Nigeria and beyond. This goal is not only based on the belief that a good idea should spread to other contexts, but also on a recognition that a Kenyan might look to buy land in Tanzania, or a Nigerian might be interested in opening a business in Uganda. Developing a cross-border means for citizens to assess the relational factors and potential areas of corruption before making major decisions could result in major benefits across the region.[43] Of course, optimizing the platform for Kenya and increasing the on-the-ground impacts of Open Duka there will be essential for the idea to take hold in other countries.

Open Duka represents a first step toward addressing a real and complex problem in Kenya. While the platform has had relatively limited impact to date, in many ways this is the result of unexpected political and administrative hurdles (combined, perhaps, with an underestimation of the time and resources required to build such an ambitious platform). Ultimately, the founders of Open Duka are coming up against the reality that creating an open data *platform* requires a supportive open data *ecosystem*. Ultimately, this may prove to be the largest (or at least the very first) impact and contribution of Open Duka: In pushing against the limits and challenges of open data in Kenya, it is laying the foundations for future success, both for itself and for others.

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42   GovLab Interview with Dr. Bitange Ndemo, Chairman Open Institute. September 9, 2015.
43   GovLab Interview with Al Kags, Founder Open Institute. March 4, 2014. https://www.youtube.com/watch?v=GYfovn5TQpI.