



OPEN FINANCIAL DATA

**Demand, Capacity, and
Citizen Engagement in Online
and Offline Communities**

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Contents

Acknowledgements	ii
Executive Summary	iii
Blurring Distinctions Between Publishers & Users	iii
Quantifying the Gap Between Demand & Capacity	iii
Offline Citizen Demand & Engagement	iv
Introduction	1
Key Challenges	1
Open Is Free for Use and Re-Use	1
Online Data, Offline Communities	1
Current Methods of Measuring Open Data Demand are Insufficient	2
Overview of Methodologies	2
Offline Pilots in Indonesia and Kenya	2
Methodology of the Offline Pilots	2
Information has No Value If Not Used	2
Indonesia Case Study	3
Tapping an Existing Community	3
For the Community, by the Community	4
Community-generated Poster Creation	5
Field-testing Community Posters	5
Kenya Case Study	6
Reflections on Offline Pilots	10
Nano-Surveys	11
Methodology	11
Key Findings	11
Indonesia	11
Kenya	11
Traditional Online Survey	13
Methodology	13
Key Findings	13
Conclusion	14
Annex A: Nano-Survey Data & Technology	15
Nano-Survey Questions & Response Data Tables	15
Indonesia	16
Kenya	16
Nano-Survey Technology	17
Annex B: Samples of Offline Data	18
Annex C: Contact Information	23

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Executive Summary

The World Bank Group Open Finances¹ program, with assistance from the World Bank Institute's Open Contracting program², undertook a pilot research exercise to better understand the demand for open financial data. For publishers of open data the demand for data is a particularly important issue, in which the current methods of assessment seem unsatisfactory (unique visitors, visualizations created, downloads, consumption patterns at data events, etc). Since the early stages of the open data movement, being driven largely by information supply and supplier considerations and constraints has been common practice, particularly when faced with the alternative of not opening data. Furthermore, the predominant focus on supplying data has created a dynamic in which demand-side considerations have commonly followed the supply of data. The long-term sustainability and potential impact of many open data initiatives will be greatly enhanced by, and in some cases completely dependent on, a better understanding of and response to demand.

Blurring Distinctions Between Publishers & Users

Information that is not being used ultimately has very little value. With this principle in mind, this pilot was designed to explore the link between the demand for data and its actual use beyond access. The initial scope of research sought to answer two primary questions: 1) what is the open data community doing with open financial data? and 2) what is the demand for open data among the general population? A traditional online survey was sent to the open data community. The survey results indicated that there is indeed use of open financial data (72.7% of respondents), a blurring distinction between users and suppliers of open data (78.7% of respondents identified themselves as both), and open data's growing reach around the world (responses from 30 countries).

Quantifying the Gap Between Demand & Capacity

A second web-based survey was extended to citizens in Indonesia and Kenya through an innovative nano-survey technology. The nano-survey results represent responses from a random sample of internet users. More than 1,500 and 500 completed responses³ were collected in Indonesia and Kenya respectively. 30% (Indonesia) and 34% (Kenya) of respondents reported having used public financial information. These responses are useful benchmarks of mainstream open data awareness in their respective countries.

The nano-survey data collected also allows for the quantification of the gap between demand for information and barriers to access. In Indonesia, only 27.7% of those who want public financial information indicated knowing how to access it. Similarly in Kenya, 26.1% of those who want public financial information indicated knowing how to access it. Stated another way, **62.3% of people in Indonesia and 63.9% in Kenya who want public financial information do not know how to access it.**

This project is not only about open data but also applies open access principles. As such, all data collected as part of these surveys has been published in open format and is accessible through online datasets and APIs,⁴ available for replication of all analysis and re-use in related research.

¹ <https://finances.worldbank.org>

² <http://open-contracting.org>

³ Partial responses are higher—Indonesia (n=4,400); Kenya (n=1,796)

⁴ <http://bit.ly/NanoData>

Offline Citizen Demand & Engagement

The second aspect of open data this pilot research project focused on was the potential for impact of open financial data and related activities in offline communities. How relevant would current stores of open data about specific communities be to the citizens of those offline communities? Open data by definition is an online phenomena; with 59.6% of the world's population offline in 2014⁵ and given many on-the-ground beneficiaries of development projects fall into this category, it is important for open data proponents to understand how information can go beyond the online sphere and have impact at a physical level. Furthermore, the prioritization of socially relevant and useful information can enhance the approaches of broader initiatives seeking to bring internet access and information to communities across the digital divide like Facebook's Internet.org, Google Loon, and Outernet.

Much operational open data (financial in particular) is often cited as being too complex or difficult to understand. To test this commonly held sentiment, the project also included field pilots taking open financial data offline for interaction with two local communities in Indonesia and Kenya. These locations were selected because both countries are implementing open data initiatives, have aid-funded development projects for which data is available, and have active civil society and community networks at the local level. While only reflective of the field experience with two local groups, a significant majority of the participants in the pilots were not aware of the "open" information shared with them. This was particularly surprising as much of the project data was already publicly available in a variety of digital and offline formats. Such findings highlight that data that is publicly available in open format (legally and technically open) is not necessarily data that is practically open; more must be done, beyond disclosure, to ensure that data is disseminated at the grassroots level and used more widely.

Local groups that participated in the pilot proved to be very adept in understanding and communicating financial data relevant to their respective communities. As expected, there was widespread awareness of projects taking place in the community, and the addition of relevant data into that context generated robust feedback and interaction. Through a discussion session and an exercise involving the creation and sharing of community-generated content (posters and radio spots), many participants went through a rapid transformation from passive consumers (in many cases previously non-consumers) of information to active sharers of information. With location as the sole filter, the pilot's fieldwork helped confirm the value of open data in offline contexts and issues a clear challenge to employ more scalable methods and innovative activities to drive relevant open data to the most local levels.

Both the survey data collected and documentation of fieldwork offers insights into the current demand for open financial data and a glimpse into the future of largely untapped demand in offline communities. As a collective "open" community, how we measure, articulate, and respond to the demand for information is a crucial step to fulfilling open data's great promise.

⁵ Internet Telecommunication Union, ICT Facts & Figures 2014, <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>



Introduction

Conventional methods of measuring and gauging activity around open data⁶ seem incomplete and unsatisfying, and are mostly focused on online interaction. Unearthing additional elements and exploring the measurement of demand further would help increase understanding, inform the continued practical growth of open data efforts and activities, and hopefully result in more relevant, accessible, and widely-used data. Data that is more widely used is more likely to serve as the foundation for positive reforms and changes at the local level.

There is growing potential and evidence of citizens using open data in interacting with local officials and development professionals to help monitor and improve the delivery and efficiency of public goods and services. Open financial data whether it is financing, budgeting, spending, or procurement information is a logical and fertile entry point for this type of citizen-driven accountability.

However, just making data available does not ensure that its potential impact is fulfilled. Furthermore, the gains offered by new information and technologies are not always evenly distributed. Key questions remain: How can we ensure that open data doesn't simply further entitle and amplify the voices of those who are already empowered? How can open data be useful to those who are directly impacted by development work on the ground? Does the data that fuels open data make sense and resonate in communities across the digital divide?

While much has been done around what information organizations can publish, much more can be done on identifying and targeting what different users might need and want. Many open data initiatives have been started as supply-driven efforts seeking to increase transparency and leverage new information dissemination technologies. While all efforts to make more data available in open formats are valuable, being supply-driven should not be the only way forward and is arguably not a truly sustainable approach; a genuinely demand-driven approach would allow data

providers to be more responsive and proactive to the data needs of users. Supply and demand of data should not be ordered one after the other, but should inform each other at all times in an iterative loop. But first, demand, both online and offline, must be better understood and accounted for in order to ensure that data is as valuable as it can be and that it can have as much as possible impact at the local level.

Key Challenges

Open Is Free for Use and Re-Use

The very nature and spirit of open data presents a practical challenge to conducting research into open data. Because people can typically access open data without registration, and use it without attribution (when requirements exist, they are rarely enforced) it has been a challenge to understand who is using data, what is in demand, and how it is being used. The occasional link-back offers anecdotes, but it's difficult to grasp how far and to what ends open data travels. While access to data should remain free and have the least possible barriers for use and re-use, this nonetheless presents challenges to gauging demand and the ultimate impact of data.

Online Data, Offline Communities

Another challenge for open data initiatives is that while many efforts exist online, estimates suggest a projected 59.6% of the world's population is offline in 2014. Even in contexts where the availability of internet is less of an issue, lack of use or capacity can also be an issue. For example, a recent poll suggests one-fifth of adults in the United States⁷ do not access the internet at home, work, or school.⁸ The digital gap between offline and online populations presents a key challenge to understanding the demand for open data and its potential impact. Understanding what information is relevant at the ground level in offline communities is important to unlocking the full potential of open data.

⁶ Increased transparency in budgets and contracts has been seen as important for accountable and efficient use of public resources for the last 20 years; groups like the World Bank, Open Budget Partnership, Transparency International, and Publish What You Fund have advocated for greater access to information. The open data movement builds on the call for access to information by pushing for machine-readable data. There has been significant growth in the supply and availability of data over recent years—particularly aid data from aid agencies and also from government funds (e.g. CDF in Kenya), budgets, and spending.

⁷ Ages 18 and older

⁸ Pew Internet & American Life Project, May 2013 update [http://www.pewinternet.org/Static-Pages/Trend-Data-\(Adults\)/Internet-Adoption.aspx](http://www.pewinternet.org/Static-Pages/Trend-Data-(Adults)/Internet-Adoption.aspx)

Current Methods of Measuring Open Data Demand are Insufficient

Tracking page views, downloads, and API calls⁹ are a few current ways to measure and quantify demand; however, those methods don't reveal enough about how data is used or what data users want but are unable to find. The same would apply for assessing the demand for information that does not currently exist or has yet to be made available. Tracking social media chatter and ripples also offer insights into the reach of open data, particularly on the awareness front, but ultimately social media-based methodologies cannot provide a comprehensive understanding of demand. Efforts like the World Bank's Open Government Data Toolkit¹⁰ look at measuring and increasing the demand for data by looking at data consumption from demand-side actors in events such as hackathons, bootcamps, and media workshops. Additionally, the Open Data Readiness Assessment Tool¹¹ uses interviews to assess qualitative insight about data demand and engagement within civil society, the private sector, and governments. Yet, many gaps still remain in identifying and implementing methodologies that can provide a more comprehensive, representative measurement of demand, both for data that has been already been published as well as for data that has yet to be published. These gaps are particularly wide when measuring demand for open data in offline environments.

Overview of Methodologies

This project was designed to explore the demand for open data through two different tracks: 1) online surveys (nano-surveys and a traditional online survey) and, 2) offline pilots in Indonesia and Kenya. The project applied new methodologies to better measure demand for open data and identify use cases with a focus on financial data. The use of open data, beyond access or awareness, to advance positive outcomes is how this project defines demand.

⁹ Deloitte Analytics Briefing Note: Open Growth—stimulating demand for open data in the UK (2012) <http://www.deloitte.com/assets/Dcom-UnitedKingdom/Local%20Assets/Documents/Market%20insights/Deloitte%20Analytics/uk-da-open-growth.pdf>

¹⁰ World Bank Open Data Toolkit: Demand and Engagement <http://data.worldbank.org/about/open-government-data-toolkit/demand-for-od-engagement-tools>

¹¹ World Bank Open Data Readiness Assessment Tool <http://data.worldbank.org/about/open-government-data-toolkit/readiness-assessment-tool>

Understanding this type of demand for financial data has significant implications for aid transparency and open development, especially for development organizations and governments at various stages of publishing open data or strategizing the release of open data. For example, one of the early lessons from the World Bank Group Open Finances program's experience is that procurement data is more readily consumed compared to other types of financial data. Is this experience and other lessons learned just anecdotal observations, or can they be confirmed by additional evidence? The project sought to help ground the experience of individual data providers and users within the larger frame of understanding demand for open data.

Offline Pilots in Indonesia and Kenya

Methodology of the Offline Pilots

The offline pilots were designed to gauge demand for data in offline communities where development projects are being implemented and data about those projects is already publicly available. Relevant open financial data was filtered only by location, translated, and physically printed on paper for the selected communities.¹² Participants were first presented with the data (most were unaware of or were unfamiliar with it) and asked to share preferences about information (including type and preferred methods of dissemination). After gaining an understanding of the data, citizens participated in a "community-generated content" exercise focused on repurposing data into posters or radio ads that could be shared with other members of their respective communities. In order to test the effectiveness of the process, the resulting products from the exercise were shared with other community members who were not part of the original group of participants.

Information has No Value If Not Used

The idea that information's value and demand is tied to actual use guided the project's attempt to better understand the potential impact of open financial data, particularly in offline environments. While a significant portion of open data activities takes place online, 59.6% of people around the world live without the internet and lack consistent access to tools, resources, and repositories that exist only in digital form. Despite these constraints, open data has the potential for positive and significant transformational impact in all spheres,

¹² See Annex B for samples of offline data

not just for communities that are most connected. How would open financial data fare offline? Would the financial information governments and development organizations disclose resonate in communities across the digital divide?

Indonesia Case Study

Gede Darmawan and Gede Sudiadnya live in the village of Desa Ban in Indonesia. These two young men were a part of a story of transformation, one that saw them turn from passive receivers of information to active engagers. It was a remarkable display of the potential power of open financial data.

A pilot was designed for and conducted at the *kecamatan* (village) level in Indonesia. The research team went to the village of Desa Ban to explore these questions and how to realize open data's potential in environments where interactions between citizens and "data" primarily take place offline. Desa Ban was selected because of the offline criteria, the presence of a variety of local development projects, available information about those projects, and an existing network of contacts at the village level. Within the village of Desa Ban, the team worked in two sub-villages: Dusun Ban (population 983) and Dusun Panek (population 737)¹³.

¹³ Population statistics from Desa Ban local government office.



Gede Darmawan (age 17) and Gede Sudiadnya (age 22)

Tapping an Existing Community

Mobilizing the community in Desa Ban by working with existing groups was essential to the success of the pilot. Thanks to in-country partner Kopernik, the research team was able to connect with a variety of groups in the village including the *Pembinaan Kesejahteraan Keluarga* (women's group), the *Sekaa Teruna Teruni* (Balinese community youth group), and the *banjar* (a traditional village men's group). More than fifty community members gathered on May 26 and June 15, 2013 to discuss and share ideas about local development projects taking place in their communities, utilizing available information about those projects.

In order to encourage free and open discussion, the team split participants by gender. Facilitators shared information about a road, kindergarten, women's savings and loans program, water, and irrigation projects. Each group was asked how and what information should be shared. Conducted in Bahasa and Balinese, the group engaged in lively discussions



Information Board: one of the current methods of sharing information about projects

Community members in Desa Ban gather for a meeting.



on community priorities, assessed existing information and its potential use (including fields like project description, total budget, community fund allocation, number of beneficiaries), and participated in interactive ranking exercises.

For the Community, by the Community

For open data to have the greatest impact in offline communities like Desa Ban, it is not enough for the information to just be “out there” and disseminated through usual channels, which are inherently along and through existing power structures and dynamics. Access to information is just the start. Real impact can only come from more inclusive and interactive methods and means of communication and participation. This can help transform citizens from passive consumers (or non-consumers) of information to active sharers of information in their communities. Upon completion of

the initial session that helped participants think about the way information is currently being shared, a “community-generated products” exercise was conducted. Community members prioritized projects, identified data elements of importance, and further translated the content into posters to help explain the impacts of the projects and relevant data in their communities.

The exercise was quite successful overall, helping identify and understand what information contained in the data shared was most important to the community members in Desa Ban. The exercise also encouraged the community to think critically about existing data and how it could impact their everyday lives. As a publisher of open data, the research team was keen for the “theory” of open data to literally “meet the road,” which delightfully included the visualization of open data pertaining to a local road project.

Men’s group discusses local projects and financial data.



Women’s group shares ideas on potential use of financial data.



Community-generated Poster Creation

With the help of a local Indonesian artist, youth in Desa Ban designed and created graphic posters to share the information they had been discussing with other members of the community. It was very exciting to see village youth develop their ideas and continue to work on their posters well beyond the scheduled session time into the evening.

Field-testing Community Posters

For participants to truly become actively engaged with data, it was important that they have an opportunity to share their posters with others in the community. The research team hoped that participants would be excited about their posters and be able to effectively share their findings with others. But hope is not a strategy, and the team needed a live field-test.

After consultation with the community, it was decided that the best place to “test” these posters would be the local market, which opens every third day in Desa Ban. As the hub of commerce and activity for many surrounding villages, the market was a natural meeting place. In order to accommodate patrons who travel miles of mountainous terrain to reach the market, it opens around 3:00 AM. Similar to the way the team connected with existing community groups and structures rather than create a new group, a natural gathering place was chosen as the site of this engagement exercise.

Gede Darmawan and Gede Sudiadnya, who had both participated in the previous session, volunteered to bring their



An artist helps visualize data through a poster.

posters to the market. Seventeen-year-old Gede Darmawan was not planning to attend the community meeting but had been encouraged by his uncle to do so. By the end of the sessions, he was so enthusiastic about the data and creating his poster that Gede agreed to come to the market the following morning at 3:00 AM to share this information with others members of his community.

Just two days earlier, neither had been exposed to or interacted with the information that they were sharing and discussing in the market. This process of creating and sharing materials catalyzed a rapid transformation from passive receivers of information to active engagers.



Community-generated posters are shared at a local market.

Kenya Case Study

Wote, Makueni County, Kenya—Members of a community have gathered at a local meeting place to interact with financial project data about their respective towns and the surrounding area.

A local civil society leader serving as a facilitator for the session asks the group, “Who here has seen this information before?”

Two hands go up—those of a local community development council member and a local government official.

“Who here would like to see more of this type of information?”

All of the hands in the room go up.

Immediately following the activities in Indonesia, an offline pilot was conducted in the town of Wote (population 56,419¹⁴) in Makueni County, Kenya. The local community was engaged through sharing information about development projects taking place in their town to better understand the demand for open financial data. The group was comprised of farmers, traders, artisans, students, NGO workers, and local government officials and administrators. Information found on opendata.go.ke and finances.worldbank.org was filtered only by location for the community in Wote, translated, and

¹⁴ Kenya National Bureau of Statistics



Community members in Wote look over data.

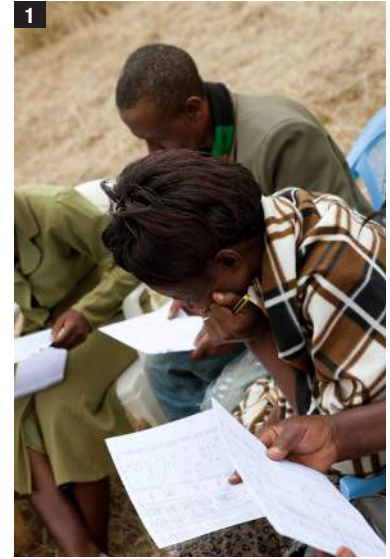
provided on sheets of paper for discussion and feedback. As expected, there was a lot of knowledge about projects in the community, but the information provided including fields like budget, funding allocation, official project status, yearly breakdowns of commitments and expenditures, suppliers, contract award amounts, and contract descriptions were all new bits of information. The community engaged in a robust discussion on the projects taking place and the respective status of those activities and results yielded.

Open financial data and contracting data¹⁵ (often cited as complex and difficult to understand) was readily processed and understood by citizens at the local level, and there was great interest in seeing contract award information for local projects. Availing and combining the two sets of information

¹⁵ Open data on contracts (fields of a particular contract) with project locations close to the community. Community level projects data was also provided. See Annex B for offline data samples.

Residents of Wote indicate their interest in seeing more data about their community.





1. Discussing and analyzing project and procurement data as a group; 2. A community leader shares thoughts about a project; 3. Visualizing data on a poster; 4. Putting the finishing touches on a community-generated poster; 5. Sharing the poster with the group.



Short audio spots were recorded to disseminate information through local radio.

would be extremely helpful in empowering the local community, and there would certainly be feedback generated on projects and financial data that could increase accountability and impact.

Energized and encouraged by the experience of local youth in Indonesia generating posters and sharing information with their communities, the “community-generated content” exercise was extended to the entire group of participants in Wote. Participants spent the afternoon discussing projects and elements of information to highlight, recorded 30-second radio spots, and created an array of posters on projects of importance to them. Community members chose both projects that had been completed on-time and providing positive benefits to the community as well as those that did not meet expectations.

Like in Indonesia, volunteers took community-generated posters to a local market the following day, where the creators of the posters explained and shared their work with vendors and residents. A large number of interactions took place in and around the market. There was plenty of feedback about the projects themselves and about the channels and processes of communicating this feedback to local officials for action. One market vendor lamented the process could take up to two years and required extensive dealings with the local court system. While not the focus of this particular project, it is important to acknowledge and highlight the importance of work that is being done to bolster legal systems and policies to better streamline existing processes and channels to take action on the type of feedback that may be generated through open development data engagement.

A local Kenyan radio station expressed interest in airing the radio spots conceptualized and recorded by community representatives. Listeners were to be encouraged to send SMS texts back to the station if they had any additional feedback to share about the projects.

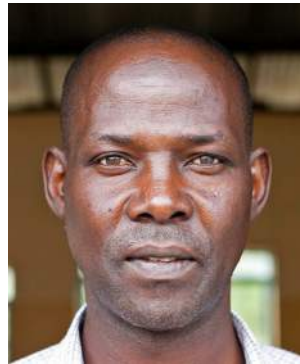
The experience excited participants, and local civil society leaders were eager to continue these types of activities with their constituents and communities. The research team was also encouraged and challenged by the interactions that unfolded. While witnessing open data’s transformational power was an energizing experience, the long-term sustainability of such activities can only be maintained and local impact can only be realized through more and smarter community-driven efforts.

Posters were taken to a local market, where a number of conversations about projects in the community were generated.





The entire process and experience excited participants, and local leaders were eager to continue these types of activities with their constituents and communities.



Reflections on Offline Pilots

There are many encouraging signs that open development data, particularly financial data, is readily usable when filtered, translated, and taken offline. A common knock against financial and contracting data is that it is too complex or complicated for the average person to understand and process; however, this did not appear to be the case at the village level in Indonesia or Kenya. When asked to rank types of development information, participants in Desa Ban indicated budget allocation, project objectives, the project selection process, budget monitoring (projected budgets vs. expenditures), and procurement as priorities. The experience also appears to confirm that the value of financial and contracts information comes from its ties to specific activities and links to existing community priorities. Similar to notions of leveraging community as opposed to building community, it is not just about creating linkages but discovering and connecting with existing priorities.

The development information that fuels open data platforms has great potential—but it may not reach the local level at desired speeds and volumes. While just single locations in two countries, a majority of community members were not aware of the information presented. A cut of data the research team in Indonesia was actually already available on the village information board, though dated and clearly not widely viewed. Even in the Desa Ban sub-village, which is located directly next to the village information board, the board went largely unnoticed. Despite these information bottlenecks along existing power structures and channels, there was of course widespread knowledge about the projects themselves well before engagement sessions were conducted. However, the sessions introduced new information and helped facilitate meaningful feedback and discussion. If the value of data is defined by its use and potential for impact, much of open development data's value will remain closer to the ground and rely on broader and more inclusive dissemination and engagement.

Others of course also grapple with this dynamic and have sought to bridge the offline-online divide in creative ways. An interesting example of offline feedback being captured and returned online is the “Offline Facebook Wall”¹⁶ in Maputo, Mozambique. Citizens are encouraged to share thoughts and complaints on a physical wall outside the Verdade Journal. The newspaper takes content back to the Citizen's Reporter¹⁷ section of its website for further engagement and discussion with other readers.

In a similar vein, the “Daily Talk” chalkboard in Liberia offers another example of applying a low-tech communication approach in order to practically share information with citizens about government services while internet access continues to expand.¹⁸

The universal availability, reliability, and affordability of the internet will certainly assist in countering these dynamics to further unlock the potential of open data. At that point, open data has a realistic chance of equalizing and disrupting existing channels of information dissemination and their underlying power structures. Projects like Facebook's Internet.org, Google Loon¹⁹, and O3b²⁰ (other 3 billion) seeking to expedite the availability of the internet to the emerging world offer hope and a glimpse into a more connected future along with interim offline aspirations like Dropbox's quest to make every app work offline.²¹ At the same time, leveraging libraries, communities, and hubs people are already accustomed to going to for information is a practical way to prioritize the spread and use of open data.

It is critical to consider how to best distribute information to the local level and prioritize the release of information for offline settings, while remaining optimistic for projects listed above to have major breakthroughs. Mobile technology certainly offers a more than potent interim solution—RuaiSMS²² a project that collects feedback from farmers in rural Indonesia via mobile phones and channels SMS reports to news agencies is an example. There appears to be much room to better link data providers and feedback collectors to increase the value of their respective activities. Integrating open data into traditional sources and channels of information will be an ongoing challenge.

Open financial data is not only relevant but can be readily understood and consumed in offline communities. It has great potential to break down information silos and empower non-traditional actors. The methodology of encouraging community-generated content and subsequent sharing of that material is also an especially promising development that the research team hopes will be tested in more locations and contexts.

¹⁶ <http://thisbigcity.net/forget-your-facebook-wall-maputo-citizens-feedback-on-an-actual-wall/>

¹⁷ http://www.verdade.co.mz/cidadaoreporter/?lang=pt_MZ

¹⁸ <https://www.globalintegrity.org/posts/liberia-low-tech-billboards/>

¹⁹ <http://mashable.com/2013/06/15/google-balloons/>

²⁰ <http://gigaom.com/2010/11/29/google-backed-o3b-satellite-venture-gets-funding-for-liftoff/>

²¹ <http://techcrunch.com/2013/07/09/it-shouldnt-matter-if-youre-off-or-on/>

²² <http://ijnet.org/stories/how-farmers-use-text-messages-report-news-rural-indonesia>

Nano-Surveys

Methodology

To complement information being collected offline, a nano-survey was designed and implemented to capture the demand for open financial data. Nano-survey technology²³ intercepts faulty URLs entered by a web user in their browser. When this web traffic is detected, a brief survey is presented to the user. This technology provides the opportunity to collect information from a random sample (of internet users), the ability to offer country-specific surveys and to collect information tagged to a sub-national level in real-time. While offline activities were taking place in Indonesia and Kenya, a nano-survey was being run in Bahasa across Indonesia and in English and Kiswahili across Kenya.

Furthermore, as evidenced through the scrutiny of Reinhart and Rogoff's analysis of debt/GDP ratio and economic growth, little doubt remains that open access and open research are critical and valuable to informed discussion and debate.²⁴ As such, this project was designed with the intent to share all feedback received and data collected as a driving principle. All the data²⁵ collected from surveys has been made available and published as open data so that others can also run their own analyses and incorporate this information into their activities.

Key Findings

INDONESIA

More than 1,500 complete responses (4,400 partial responses) to the nano-survey were generated in Indonesia in just 48 hours (a remarkable 12% complete response rate²⁶). In part this can be attributed to the large population of Indonesia, relatively high levels of internet penetration, the novelty of the collection mechanism, and translation of the survey questions into local language.

Highlights include:

- 43% are familiar with the term “open data” (n=1480);
- 56% want access to public financial information (n=3332);
- 30% have used public financial information (n=2523);

²³ See Annex A for a more detailed description of nano-survey technology

²⁴ <http://openeconomics.net/2013/04/18/reinhart-rogoff-revisited/>

²⁵ See Annex A for nano-survey questions and aggregate response data. Raw data can be accessed at <http://bit.ly/NanoData>

²⁶ The average response rate for nano-survey technology is 6% globally.

- 40% know how to access information on the financing and delivery of public goods, works, and services (n=1529)

Quantifying the Demand Gap

The responses to the nano-survey questions also allowed for additional ways to quantify the gap between those who seek public financial information and do not know how to access it.

- 27.7% of those who want public financial information know how to access it (n=1868).

Stated differently, 62.3% of those who want public financial information do not know how to access it. Interestingly, only 26% of those who want public financial information are familiar with the term “open data” (n=1868). This suggests awareness of open data may be an indicator for knowing how to access public financial information. The opposite also seems to hold true, as 70% of those who want public financial information and know how to access it are familiar with the term “open data.” (n=518)

How Do People Want to Get Information?

Excluding the internet which naturally dominates responses (44%) as the preferred source of public financial information for an online survey, television (16%), SMS (7%), and newspapers (6%) are the other preferred channels.

All survey data presented and collected is shared in raw open format (as an online dataset and via API) and available through a Creative Commons 3.0 license for use and re-use. For Indonesia, the dataset also includes interesting “data exhaust” like sub-national location data (latitude/longitude) for all 11,827 unique participants who were extended a survey.²⁷

KENYA

The nano-survey collected 500 complete responses (1,796 partial responses) in Kenya. In contrast to the Indonesia experience, the Kenya survey was left open for a month and offered in English and Kiswahili.

Highlights include:

- 54% are familiar with the term “open data” (n=502);
- 61% want access to public financial information (n=1316);

²⁷ The Kenya data does not include subnational location data due to many internet providers routing traffic through ISPs in Nairobi. In order to test and validate the geographic distribution of responses, an additional question asking respondents to indicate their region was inserted for a short duration.

- 34% have used public financial information (n=978)
- 45% know how to access information on the financing and delivery of public goods, works, and services (n=550)
- 75.1% of people who want public financial information and know how to access it are familiar with the term “open data.” (n=350)

What Percentage of Those Who Want to Access Public Financial Information Know How to Access It?

- 26.1% of those who want public financial information know how to access it (n=1340). 63.9% of those who want public financial information do not know how to access it.
- Similarly, 27.3% of those who want public financial information are familiar with the term “open data” (n=1340).

How Do People Want to Get Information?

Excluding the internet which again naturally dominates responses (44%) as the preferred source of public financial information for an online survey, newspaper (11%), television (10%), and SMS (7%) are the preferred channels indicated by respondents in Kenya.

The research team invites others to run their own analyses of the nano-survey data collected.

Traditional Online Survey

Methodology

Kicking off the project, a basic survey was conducted online from May through June 2013 targeting the global community of users and publishers of open financial data. Primarily through free text fields, the survey was designed to collect real use cases, barriers, and best practices. It was also designed to serve as a light resource for the open data community to draw upon examples of open data use. The survey also provided respondents with an opportunity to request additional types of information and to suggest potential use case scenarios for such information.

This online survey had the objective of assessing and collecting: 1) the current way in which users interact with financial data, 2) any shortcomings, limitations, obstacles that users were facing, 3) areas in which there was demand for additional or different types of data, 4) methods to share data so that it would more clearly respond to and address existing demand.

The survey received responses from more than 100 respondents providing relevant information regarding the aforementioned themes.

Key Findings

Highlights of the survey include:

- Responses collected from 30 countries

- Users of open data (91.6% of respondents) have also used financial data (72.7%)
- 78.7% of users of open data also identified themselves as suppliers of open data.
- Users of open data most often self-identified themselves as Researcher/Academic (16%), Open Data Enthusiast (15%), Transparency/Policy Advocate (14%), and Engaged Citizen (14%)
- Suppliers of open data most often self-identified themselves as Researchers/Academic (17%), Transparency/Policy Advocate (15%), Engaged Citizen (12%), and Open Data Enthusiast (11%)
- Responses include anecdotal use cases, data requests, barriers, best practices, and suggestions.

As expected, many respondents indicated they had used open data; however, many of those users have also accessed and used open financial data. One of the common knocks against open financial data is that it is complex, boring, potentially confusing, and hard to understand, but despite these perceptions, there seems to be substantial usage and interest in financial information within the open data community. As the open data community continues to mature and expand, it is evident that the distinction between suppliers and users of data is blurring.

Conclusion

While not a complete understanding of the demand for open financial data in offline or online environments, the combination of surveys and field pilots in Indonesia and Kenya conducted provide insight into the value of the information that fuels open data initiatives. The surveys help quantify the gap between demand and supply, as exemplified by those who desire to use public financial data but do not know how or where to access such information. The fieldwork shows the potential impact and value of taking open data to the last mile of development work. **From an international development perspective, open data's full impact is likely linked to its ability to bridge the digital divide.**

Technological barriers aside, the incentive structures for infomediaries and local communities should be looked at more carefully as well. Prioritizing the release of the most relevant information in open format by responding to citizen demand is one key to open data's success. As the demand for open data and government rises, it becomes even more critical to facilitate meaningful interactions between citizens and government—namely addressing the most relevant issues through methods that will result in the greatest levels of civic participation and ultimately positive impact.

The digital divide and natural barriers to information dissemination may slow the flow of information to the very local level, but it is clear that when open financial data reaches an audience of development beneficiaries interaction and

engagement abound. Often the demand for open data at the local level is not captured because it is not visible through clicks, views, and downloads on open data portals and websites, but the potential uses of “open data” in offline capacities cannot be ignored in assessing the true value of open data. The true value of open data is in its use and the positive change it can spur, and from an international development perspective that value appears to remain largely untapped.

Leveraging nano-survey technology and community-generated content exercises were particularly promising methods, but there is full recognition that more innovative approaches are needed to better understand demand. Even taking into consideration the natural internet bias of the nano-survey methodology, it is an especially useful tool when considering the design of open data and e-government platforms and services. Furthermore, over time it can also be used to track the performance and effectiveness of digital services and activities. While understandably difficult to measure and assess demand and potential for growth, these questions should be grappled with iteratively. Exploring the demand for data is critical to the success and continued growth of open data activities and their impact. As a collective open community of publishers, advocates, and users of open data, how we continue to measure, articulate, and respond to the demand for information is a crucial step to fulfilling open data's great promise.

Annex A: Nano-Survey Data & Technology

Nano-Survey Questions & Response Data Tables

Data can be accessed in raw open format and via API at bit.ly/OpenNano²⁸

Q1a. What is your age?

Age	Indonesia (n=4402)	Kenya (n=1796)
Under 14	5%	2%
14–17	19%	4%
18–24	39%	34%
25–34	22%	34%
35–44	8%	14%
45–54	4%	7%
55–64	1%	2%
65 and Over	2%	3%

Q1b. What is your gender? M/F

Gender	Indonesia (n=4402)	Kenya (n=1796)
Male	73%	68%
Female	27%	32%

Q2. Do you WANT to access information on the financing of public goods, works, and services? Y/N

Response	Indonesia (n=3170)	Kenya (n=1306)
Yes	56%	61%
No	44%	39%

Q3. Have you ever USED public financial information provided by a government or international organization? (e.g. budgets, expenditures, contracts, products or services) Y/N

Response	Indonesia (n=2402)	Kenya (n=978)
Yes	31%	34%
No	69%	66%

Q4. (If YES in Q3) How do you MOSTLY get public financial information? (select one)

Q5. How would you PREFER to get public financial information? (select one)

²⁸ <https://finances.worldbank.org/dataset/Open-Financial-Data-Demand-Nano-Survey-Responses/g66a-y86t>

INDONESIA

Information Source	How do you MOSTLY get public financial information? (n =597)	How would you PREFER to get public financial information? (n=1717)
SMS	8%	7%
Internet	45%	44%
Newspaper	6%	6%
Radio	2%	1%
TV	21%	16%
Print Materials	7%	5%
Community Meetings	5%	3%
Sign Board	2%	1%
Government Office	5%	2%
Not Interested	Not Applicable	14%

KENYA

Information Source	How do you MOSTLY get public financial information? (n =597)	How would you PREFER to get public financial information? (n=1717)
SMS	3%	7%
Internet	40%	44%
Newspaper	23%	11%
Radio	4%	3%
TV	12%	10%
Print Materials	4%	3%
Community Meetings	5%	2%
Sign Board	2%	2%
Government Office	7%	3%
Not Interested	Not Applicable	16%

Q6. Do you know HOW to get information on the financing and delivery of public goods, works, and services? Y/N

Response	Indonesia (n=1529)	Kenya (n=550)
Yes	40%	45%
No	60%	55%

Q7. Are you familiar with the term “Open Data?” Y/N

Response	Indonesia (n=1423)	Kenya (n=502)
Yes	42%	54%
No	58%	46%

Q8. Which type of graph or chart do you PREFER?

A. Image of Bar Chart / B. Image of Pie Chart / C. Image of Tree Map²⁹

Response	Indonesia (n=1310)	Kenya (n=435)
Bar	21%	14%
Pie	69%	67%
Tree Map	9%	19%

²⁹ This question served as a control between the two country surveys.

Nano-Survey Technology

This project included the use of nano-surveys, which uses a patented system of the RIWI corporation called random domain intercept technology, or RDIT™. When someone types in a faulty, non-trademarked domain into the URL, or direct navigation bar—on any top level domain in the world (TLD), including an internationalized domain name (IDN)—because he or she is trying to reach a site they imagine to exist, or because he or she makes a typographical error, then he or she is very quickly routed via low-latency DNS redirection to one of hundreds of thousands of rotating full-page URLs in target countries of interest, anywhere in the world.

Current data about this technology's use show the average response rate among all countries in the world at six percent, with enormous variation depending on the relevance of the question to the respondent. There is strong geographic co-linear positive correlation between the numbers of people exposed to an identical RIWI question in all countries and those who answer it within those countries.

Privacy-compliant, RIWI nano-surveys are not 'pop-ups' or 'pop-unders.' The surveys are served up in the language of the region of the respondent. Any person from any IP address can only answer once. The domains, or URLs, are rotating. People who do not want to answer the nano-surveys are provided the easy option of exiting. At the end of the short survey, the respondent may be redirected to a third-party page, which may be a donation or awareness page. Respondents are tagged for their location by their IP address and then checked by a proprietary geo-location technique that triangulates using latitude and longitude by city cluster. Surveys can be multiple choice or chain-linked, or chunked into smaller 'bite-size' surveys in order to capture larger numbers of responses.

To acquire 'sample' for these short surveys, RIWI has access, through partnerships built since the late 1990s and via proprietary algorithms, to hundreds of thousands of appropriate non-trademarked URLs from a large number of portfolios of domains, rotating in real-time (via DNS redirects), and through multiple geo-location software algorithms, to ensure, for example, that respondents are not using a proxy server in a location from other than where they appear to respond. The RIWI process thus creates a 'statistical router' of highly randomized representative online Web users in every country and in every micro-region of the world. Proprietary code ensures traffic is randomized, 'bot'-free, smart-phone and tablet-optimal, geo-representative and quality-controlled. It enables 24/7 real-time data capture, simultaneously captured in all geographies, and it leverages neuro-associational snap short surveys for data purity and elimination of coverage bias.

Annex B: Samples of Offline Data

TABLE 1. Program Nasional Pemberdayaan Masyarakat Mandiri (PNPM) data for Community-Driven Development projects in Desa Ban, Indonesia

Province Name	Regency Name	Sub District Name	Community Direct Assistance (Bantuan Langsung Masyarakat—BLM) (Indonesian Rupiah)	Community Self-help Funds (Indonesian Rupiah)	Activities	Total Proposals for Each Activity	Project Length (meters)	Project Area (sq. meters)	Project Amount (Unit)	Community Direct Assistance (Bantuan Langsung Masyarakat—BLM) for each activity (Indonesian Rupiah)	Community Self-help Funds for Each Activity (Indonesian Rupiah)	Amount of Beneficiaries (male)	Amount of Beneficiaries (female)	Amount of Beneficiaries (poor)
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Jalan	1	5,149	14	6	1,133,488,900	44,388,500	7,495	7,117	1,535
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Irigasi	1	1,202	0	1	284,666,400	17,825,000	1,300	1,100	300
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Sekolah	1	12	6	1	192,116,900	7,830,000	1,500	1,400	200
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Gedung Kesehatan	2	19	15	2	419,760,600	27,050,000	5,529	5,372	1,090
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Air Bersih	1	1,440	0	1	200,215,000	1,884,000	1,500	1,200	300
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	MCK	1	9	12	1	69,413,250	584,750	2,000	2,200	500
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Penyuluhan & Pelatihan Pend.	3	—	0	193	301,392,050	584,750	55	83	55
Provinsi Bali	Kabupaten Karang Asem	Kecamatan Karang Asem	3,000,000,000	100,147,000	Simpan Pinjam Perempuan	9	—	0	14	398,946,900	—	0	220	220

Source: PNPM Support Facility and World Bank

TABLE 2. Demand Data Sample 2 Kenya WB Major Contracts

Fiscal Year	Project ID	Project Name	Procurement Type	Procurement Category	Procurement Method	Major Sector	Contract Description	Kenya CDF Project Data—Makueni County			
								Contract Signing Date	Supplier	Supplier Country	Total Contract Amount (USD)
2009	P111545	KE-Cash Transfer for OVC (FY09)	Equipment, Transportation	Goods	International Competitive Bidding	Health and other social services	Supply of 20 vehicles	May 13, 2009	GENERAL MOTORS KENYA LIMITED	Kenya	405,816
2009	P111545	KE-Cash Transfer for OVC (FY09)	Equipment, Transportation	Goods	International Competitive Bidding	Health and other social services	Supply of 20 units motorcycles Contract No. ICB No. DCS/G/01	May 13, 2009	RYCE EAST AFRICA LTD.	Kenya	58,197
2008	P095050	KE-NRM SL (FY07)	Equipment, Transportation	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	PROCUREMENT OF MOTOR VEHICLES	May 13, 2009	RYCE EAST AFRICA LTD.	Kenya	147,573
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Kitui Sub Regional Office	August 14, 2007	M/S TOYOTA EAST AFRICA LTD.	Kenya	390,890
2008	P095050	KE-NRM SL (FY07)	Management Advice, Technical/Operation A	Consultant Services	Single Source Selection	Agriculture, fishing, and forestry	CONTRACT FOR CONSULTING SERVICES SMALL ASSIGNMENTS - LUMP SU	November 3, 2012	MARSON INTERGRATED	Kenya	9,804
2009	P095050	KE-NRM SL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Water Quality Monitoring Equipment	September 19, 2007	LITS INTERNATIONAL LTD	United Kingdom	10,569
2009	P095050	KE-NRM SL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Water Quality Monitoring Equipment	November 3, 2008	AQUATECH INDUSTRIES LTD	Kenya	682,280
2009	P095050	KE-NRM SL (FY07)	Equipment, Transportation	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Supply of Water Quality Equipment	November 3, 2008	ESTEC LTD	Kenya	816,813
2009	P095050	KE-NRM SL (FY07)	Equipment, Transportation	Goods	National Competitive Bidding	Agriculture, fishing, and forestry	Supply of 60 motor cycles	November 3, 2008	CAR & GENERAL	Kenya	137,435
2009	P095050	KE-NRM SL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Water Quality Monitoring Equipment	November 10, 2008	CAR & GENERAL	Kenya	80,902
2009	P095050	KE-NRM SL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Surface Water Monitoring Equipment	November 3, 2008	WAGTECH INTERNATIONAL	United Kingdom	243,321
2009	P095050	KE-NRM SL (FY07)	Equipment, Transportation	Goods	National Competitive Bidding	Agriculture, fishing, and forestry	Supply of 42 Double cabin pickups.	November 3, 2008	RENE ENTERPRISES	Kenya	827,192
2010	P095050	KE-NRM SL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Water Quality Monitoring Equipment	May 4, 2009	GENERAL MOTORS EAST AFRICA LTD.	Kenya	119,066
2010	P095050	KE-NRM SL (FY07)	CRS	Consultant Services	Quality And Cost-Based Selection	Agriculture, fishing, and forestry	Baseline Survey Consultancy	November 3, 2008	WAGTECH INTERNATIONAL	United Kingdom	181,791
2010	P095050	KE-NRM SL (FY07)	CDS	Consultant Services	Quality And Cost-Based Selection	Agriculture, fishing, and forestry	Consultancy Service for Detailed Design, Tender Document and	August 11, 2009	REMPAI	Kenya	1,156,514
2012	P095050	KE-NRM SL (FY07)	Works, Installation & Erection	Civil Works	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Construction Works for Mwea Irrigation Scheme	October 20, 2009	GIBB AFRICA LTD	Kenya	7,038,771
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Kisumu Regional Office	July 18, 2011	HEBEI WATER CONSERVANCY ENG BUREAU	China	496,537
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Machakos Regional Office	November 3, 2012	JN INVESTMENTS	Kenya	510,988
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Mombasa Sub Regional Office	November 3, 2012	MARSON INTERGRATED	Kenya	399,622
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Siaya Sub Regional Office	November 3, 2012	DANNEX INVESTMENTS & ENGINEERING WORKS	Kenya	368,163
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Kapenguria Sub Regional Office	November 3, 2012	SHAKABABU ENGINEERING COMPANY	Kenya	396,232
2013	P095050	KE-NRM SL (FY07)	Works, Buildings	Civil Works	National Competitive Bidding	Agriculture, fishing, and forestry	Construction of Nanyuki Regional Office	November 3, 2012	VIMAG	Kenya	

Fiscal Year	Project ID	Project Name	Procurement Type	Procurement Category	Procurement Method	Major Sector	Contract Description	Kenya CDF Project Data—Makueni County
2009	P095050	KE-NRM SIL (FY07)	Institution building	Consultant Services	Quality And Cost-Based Selection	Agriculture, fishing, and forestry	Irrigation and Drainage Sector Institutional Reform Consulta	November 3, 2012 FINE TOPS ENTERPRISES Kenya 494,121
2009	P095050	KE-NRM SIL (FY07)	Equipment, Mechanical	Goods	International Competitive Bidding	Agriculture, fishing, and forestry	Procurement of Surface Water Monitoring Equipment	March 4, 2009 EUROCONSULT MOTT MACDONALD Netherlands 275,318
2008	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Transportation	Goods	International Competitive Bidding	Transportation	SUPPLY OF TRAINING SIMULATORS LOT 1	November 3, 2008 SEBA HYDROMETRIC Kenya 67,930
2009	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Feasibility studies, Design Studies	Consultant Services	Quality And Cost-Based Selection	Transportation	Consultancy Contract for Feasibility Study, Environment and	February 6, 2008 INDRA SISTEMAS S.A., SPAIN Spain 2,029,202
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Works, Maintenance and Rehabilitation	Civil Works	International Competitive Bidding	Transportation	REHABILITATION OF MAU SUMMIT - KERICHO - KISUMU (A1/B1) ROAD	May 6, 2009 SCE TAUROUTE INTERNATIONAL France 2,084,939
2009	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction	Consultant Services	Quality And Cost-Based Selection	Transportation	PHASE III SUPERVISION OF CONSTRUCTION FOR UPGRADING OF FACIL	February 1, 2010 SBI INTERNATIONAL HOLDINGS A.G. Switzerland 98,012,036
2009	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Feasibility studies, Design Studies	Consultant Services	Quality And Cost-Based Selection	Transportation	Consultant Services for Feasibility Study, Environmental and	September 12, 2008 NETHERLANDS AIRPORT CONSULTANTS B.V.(MACO) Netherlands 3,265,862
2009	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction	Consultant Services	Quality And Cost-Based Selection	Transportation	Consultant Services for Design and Supervision of the Output	May 6, 2009 SHELADIA ASSOCIATES INC. United States 1,080,739
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Works, Maintenance and Rehabilitation	Civil Works	International Competitive Bidding	Transportation	REHABILITATION OF MAU SUMMIT - KERICHO - KISUMU (A1/B1) ROAD	June 5, 2009 MOUCHEL PARKMAN SERVICES LTD United Kingdom 1,026,587
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Works, Buildings	Civil Works	International Competitive Bidding	Transportation	CONTRACT FOR EXPANSION OF PASSENGER TERMINAL FACILITIES AT J	February 1, 2010 SBI INTERNATIONAL HOLDINGS A.G. Switzerland 123,267,264
2007	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Equipment Information Technology	Goods	International Competitive Bidding	Transportation	SUPPLY INSTALLATION AND COMMISSIONING OF LAN STRUCTURED CAB	January 11, 2010 CHINA NATIONAL AERO-TECHNOLOGY INTERNATIONAL China 72,202,497
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction Supervision, Quality Manage	Consultant Services	Quality And Cost-Based Selection	Transportation	CONSULTANCY SERVICES FOR SUPERVISION OF CONSTRUCTION FOR EXP	March 29, 2007 MFI OFFICE SOLUTIONS, LIMITED Kenya 357,614
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Management Advice, Technical/Operation A	Consultant Services	Single Source Selection	Transportation	CONSULTANCY SERVICES; 1.RECLASSIFICATION OF ROAD NETWORK &	October 15, 2009 MACO NETHERLANDS AIRPORT CONSULTANT BV Netherlands 6,480,696
2007	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction Supervision, Quality Manage	Consultant Services	Quality And Cost-Based Selection	Transportation	CONTRACT FOR CONSULTING SERVICES FOR THE DESIGN REVIEW AND C	February 16, 2010 GRONTMIJ CARL BRO AVS Denmark 978,639
2012	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Works, Maintenance and Rehabilitation	Civil Works	International Competitive Bidding	Transportation	Rehabilitation of Nyamasaria # Kisumu - Kisan (A1/B1) Road	March 23, 2007 OTIENO ODONGO & PARTNERS Kenya 1,009,394
2010	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction	Consultant Services	Quality And Cost-Based Selection	Transportation	FORMULATION OF ROAD SAFETY PROGRAM AND TECHNICAL ASSISTANCE 2011	August 3, 2011 SINOHYDRO CORPORATION China 63,259,033
2011	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Construction Supervision, Quality Manage	Consultant Services	Quality And Cost-Based Selection	Transportation	Consultancy Services for Feasibility Studies, Environmental	July 8, 2009 TRL LIMITED UK United Kingdom 1,830,027
2011	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Management Advice, Technical/Operation A	Consultant Services	Quality And Cost-Based Selection	Transportation	Review of Training, Testing and Licensing of Drivers and Dev	February 23, 2011 SHELADIA ASSOCIATES, INC United States 1,524,817
2007	P082615	KE-Northern Corridor Trnsprt SIL (FY04)	Management Advice, Technical/Operation A	Consultant Services	Quality And Cost-Based Selection	Transportation	CONSULTANCY SERVICES FOR IMPLEMENTATION OF GPS/GNSS APPROACH	September 2, 2010 SWEDISH NATIONAL ROAD CONSULTING AB [SWEROAD] Sweden 404,097
								January 19, 2007 IATA IN ASSOCIATION WITH INNOVATIVE SOLUTIONS INTERNATIONAL Canada 508,651

Source: www.cdf.go.ke and opendata.go.ke

TABLE 3. World Bank Major Contract Awards Data: Subset of Kenya Data Around Makueni County

County/ District/ Constituency	Project Name	Location	Sector	MTE Sector	Economics 1/2	Pending Activity	Expected Output	Implementatus	Remarks	Estimated Cost	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	Total Amount
Makueni	Nomani Sand Dam	Kalamba	Water	Environment, water and Irrigation	Capital	Construction Of A Sand Dam Across The River	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		300,000	—	150,000	—	150,000	—	—	300,000
Makueni	Kwakinyili Sand Dam	Kithumba	Water	Environment, water and Irrigation	Capital	Construction Of A Sand Dam Across The River	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		30,000	—	150,000	—	150,000	—	—	300,000
Makueni	Mandela Water Project	Nzau	Water	Environment, water and Irrigation	Capital	Extension Of Existing Water Pipe	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		1,000,000	—	1,000,000	—	—	—	—	1,000,000
Makueni	Isiolo Water Project	Nzau	Water	Environment, water and Irrigation	Capital	Rehabilitation Of Existing And Extension Of Existing Water Pipe	Provide Regular Water Supply And Serve More People	Complete		—	—	600,000	—	—	—	—	600,000
Makueni	Iangini Dam	Nzau	Water	Environment, water and Irrigation	Capital	Scooping And Construction Of Three Gabbons.	Community Have Water For Domestic Use And Livestock	Complete	Extra funds needed	3,600,000	—	400,000	2,800,000	—	400,000	—	3,600,000
Makueni	Ing'Aliom Water Project	Kithumba	Water	Environment, water and Irrigation	Capital	Drilling Of A Bore Hole.	Community Has Access To Clean Drinking Water	On Going		1,000,000	—	—	1,000,000	—	—	—	1,000,000
Makueni	Isyukoni Earth Dam	Kalamba	Water	Environment, water and Irrigation	Capital	Building Of Embankment To Create A Dam	Community Has Access To Water For Domestic Use And Irrigation	Complete		4,500,000	—	—	—	1,500,000	3,169,427	—	4,669,427
Makueni	Kwangwasi Sand Kilili Dam	Kilili	Water	Environment, water and Irrigation	Capital	Construction Of A Sand Dam.	Check Soil Erosion Provide Sand Harvesting Grounds	Complete	Lab fittings - ksh 200,000. Bal of 100,000 construct Library	150,000	—	—	—	150,000	—	—	150,000
Makueni	Mulalo Sand Dam	Kilili	Water	Environment, water and Irrigation	Capital	Construction Of Sand Dam.	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		1,000,000	—	—	—	500,000	—	—	500,000
Makueni	Kweleli Wroject	Kilili	Water	Environment, water and Irrigation	Capital	Rehabilitation Of Existing And Extension Of Existing Water Pipe	Community Has Access To Clean Drinking Water	Complete		1,000,000	—	—	—	500,000	—	—	500,000
Makueni	Kwakaleli Dam	Mulala	Water	Environment, water and Irrigation	Capital	Scooping Of Mud And Disilling Of The Dam	Community Have Water For Domestic Use And Livestock	Complete		100,000	100,000	—	—	—	—	—	100,000
Makueni	Mutoa Dam	Mulala	Water	Environment, water and Irrigation	Capital	Scooping Of Mud And Disilling Of The Dam	Community Have Water For Domestic Use And Livestock	Complete		2,100,000	100,000	—	2,000,000	—	—	—	2,100,000
Makueni	Kauma Gabion	Kavuthu	Water	Environment, water and Irrigation	Capital	Construction Of A Gabion Across The River	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		250,000	100,000	150,000	—	—	—	—	250,000
Makueni	Kwakakulu Water Project	Emali	Water	Environment, water and Irrigation	Capital	Installation Of A Distribution Tank And Extension Of Water Pipe.	Provide Regular Water Supply And Serve More People	Complete	the school was written twice as Nyabete & Nyabete AC in 2006/7	1,250,000	—	750,000	—	500,000	—	—	1,250,000
Makueni	Yandia River Sand Dam	Mulala	Water	Environment, water and Irrigation	Capital	Construction Of A Gabion Across landia River	Check Soil Erosion Provide Sand Harvesting Grounds	Complete		300,000	—	150,000	—	—	—	—	150,000
Makueni	Muoni Kwa Kivoko Sand Da	Emali	Water	Environment, water and Irrigation	Capital	n/a											
Makueni	Kwa Wambua Sall	Emali	Water	Environment, water and Irrigation	Capital	Construction Of A Shallow Well	Community Have Access To Clean Water	Complete									
Makueni	Kwa Kimeu Gabio	Mutyambua	Water	Environment, water and Irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	150,000	—	—	—	—	150,000

County/ District/ Constituency	Project Name	Location	Sector	MTE Sector	Economics 1/2	Pending Activity	Expected Output	Impiestatus	Remarks	Estimated Cost	2003– 2004	2004– 2005	2005– 2006	2006– 2007	2007– 2008	2008– 2009	Total Amount
Makueni	Manoani Water Proj.	Kakutha	Water	Environment, water and irrigation	Capital	Rehabilitation Of Existing And Extension Of Existing Water Pipe	Provide Regular Water Supply And Serve More People	Complete		1,100,000	—	750,000	—	350,000	—	—	1,100,000
Makueni	Ilangeni Water Proj.	Kyemundu	Water	Environment, water and irrigation	Capital	Installation Of A Distribution Tank And Extension Of Water Pipe	Provide Regular Water Supply And Serve More People	Complete		500,000	—	500,000	—	—	—	—	500,000
Makueni	Munganyi Sand Dam	Kakutha	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		300,000	—	—	150,000	—	—	—	150,000
Makueni	Muyambua Sand Dam	Muyambua	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Kavuthu Sand Dam	Kavuthu	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Ileta Sand Dam	Mulala	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Mwambwani Sand Dam	Muyambua	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Masue Sand Dam	Kavuthu	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Kallini Sand Dam	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Yumbani Sand Dam	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Gabion Across The River	Reduce Soil Erosion Provide Sand Harvesting Grounds	Complete		150,000	—	—	150,000	—	—	—	150,000
Makueni	Mwambwani Primary School borehole	Kakutha	Water	Environment, water and irrigation	Capital	Drilling Of A Bore Hole Well	To Provide Clean Drinking Water	Project Not Initiated		1,100,000	—	—	1,100,000	—	—	—	1,100,000
Makueni	Mwanyani Dam	Mulala	Water	Environment, water and irrigation	Capital	Scoping Of Mud And Disfilling Of The Dam	Community Have Water For Domestic Use And Livestock	Complete		6,700,000	—	—	—	6,700,000	—	—	6,700,000
Makueni	Muvukoni Shallow Well	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water.	Complete	Alleged case of misappropriation.	100,000	—	—	100,000	—	—	—	100,000
Makueni	Yumoni Shallow Well	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000
Makueni	Misolo Shallow Well	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000
Makueni	Nzauni Shallow Well	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000
Makueni	Kwa Sanga Shallow Well	Kyemundu	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000
Makueni	Kwa Musungu Shallow Well	Mulala	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000
Makueni	Kwa Mbele Swell	Mulala	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete	Four classes complete and in use. Two classes on going.	100,000	—	—	100,000	—	—	—	100,000
Makueni	Kwa Kinyili Swell	Mulala	Water	Environment, water and irrigation	Capital	Construction Of A Shallow Well.	To Provide Drinking Water	Complete		100,000	—	—	100,000	—	—	—	100,000

Annex C: Contact Information

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