

Understanding How open data could impact resource allocation for poverty eradication in Kenya and Uganda

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Charles Lwanga-Ntale

Beatrice Mugambe

Bernard Sabiti

Peace Nganwa

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About the study

This study was carried out by Development initiatives (www.devinit.org) and Development Research and Training (www.drt-ug.org)

About Development Initiatives (DI)

DI is an independent organisation which focuses on the Analysis and use of Data for the elimination of Extreme Poverty. The organisation has since 1993 been campaigning for transparency in all development resources including aid, government (domestic) and humanitarian resources for more effective poverty eradication initiatives.

DI Africa hub based in Nairobi Kenya, provides a regional perspective to DI's work on eradicating poverty. The hub views better information as being a fundamental tool to improve policies and influence the allocation of resources to address chronic and extreme poverty in the region. In order to achieve this, the hub provides high quality analysis on resource flows; enhances the capacity of key stakeholders to access, analyse, use and understand information; forms partnerships and engages with like-minded organisations working on similar issues as well as influences policy and programmes to incorporate and prioritise chronic poverty objectives.

About Development Research and Training (DRT)

(DRT)'s core work is to carry out policy-oriented research and analysis focusing on eradication of poverty and more specifically chronic poverty. DRT has since 1997, worked with governments, multilateral organizations and NGOs to undertake specific policy oriented researches and analyses aimed at informing and influencing a wide range of issues including poverty reduction in Uganda and the East African Countries. Our programmes of work are focused on poverty elimination and we have over the years built particular institutional expertise in research, analysis, interpretation and information dissemination about poverty and more specifically chronic poverty. DRT has been at the forefront of promoting the open data movement in Uganda. Over the course of the last three years, important engagement and advocacy work has been going on to demonstrate to relevant stakeholders the importance of open data in poverty eradication. The organisation's focus has especially been on the potential data availability and access can have on key resource allocation decisions for poverty eradication initiatives.

About the Researchers

- Charles Lwanga Ntale (charles.lwanga-ntale@devinit.org) and Beatrice Mugambe (bmugambe@drt-ug.org) were the study team leaders
- Bernard Sabiti (bsabiti@drt-ug.org) and Peace Nganwa (peace.nganwa@devinit.org) were the field based data collectors and compiled the first drafts of the reports.

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CHAPTER ONE: Background to the study

1.1. Background

Open data has its roots in the Open Government Partnership founded in 2009 and launched in 2011, initially with a membership of eight countries¹ but which has since grown to 63 with the aim of providing an international platform for domestic reformers committed to making their governments more open, accountable, and responsive to citizens. In all of these countries, government and civil society are working together to develop and implement ambitious open government reforms. While the open data movement may be relatively new in Eastern Africa, the issues that it seeks to address are age-old. These include transparency, accountability, equity, relevance and responsiveness to community needs, and effectiveness and efficiency of governance systems and processes. A key purpose of this increasingly popular approach is to make local, regional and national data, particularly publicly acquired data, available, accessible, and useable for a wide cross-section of development actors.

For a long time in Kenya and Uganda, large amounts of public (and other) data were not only closed to public users but even when available were either incomplete or presented in forms that made it difficult for the public to use, for example providing budgets in the print media in illegible font size. According to the open data movement, for government data to be considered truly open, those in the open data movement contend that it should possess the following the key features: completeness, access, licence to reuse and licence to redistribute. Various governments will open up for several reasons, but the general ideal remains the same: “open government data has proven time and again that it not only promotes greater accountability, but also pushes government agencies to provide services more effectively”, Greg Brown². Greg Brown went ahead to list a number of areas where open government data has the potential to create value, including; transparency and democratic control, participation, improved or new private products and services, improved efficiency and effectiveness of government services, and impact measurement of policies.

Using case studies from Uganda and Kenya Development Research and Training (DRT) and Development Initiatives (DI) carried out research on the evolution of the open data movement in the two countries and assessed the role that the movement plays in the equitable allocation of financial resources for eradication of extreme and chronic poverty. Besides the role that existing and emerging open data processes in the two countries may be playing in promoting citizen/public engagement and the allocation of resources, the study set out to examine the possible negative impacts that might be emerging due to the “digital divide” between those who have access to and technology and therefore data and those who do not. Further, we sought to establish the extent to which access to data translates to effective use or not particularly in instances where human and financial resources and capacities are lacking. The study generally aimed to contribute to the understanding of which specific efforts are required to ensure “effective use”, which is the most important outcome of “open data”.

¹ <http://www.opengovpartnership.org/>

² Gregg Brown (June 7, 2013) Open Data And Emerging Democracies: Considering Kenya. OPENING PARLIAMENT <http://blog.openingparliament.org/post/52384767815/open-data-and-emerging-democracies-considering-kenya> (visited 27th August, 2013)

1.2. Study objectives

The **overall objective** of this study was to use case studies from Uganda and Kenya to trace the evolution of the open data movement in the two countries and to assess the role that this movement plays in accountability and the equitable allocation of financial resources for the eradication poverty.

The **specific objectives** in the two countries were to:

- i. Describe and assess open data programmes and processes in the respective countries;
- ii. Describe the role of different stakeholders and interest groups in the design and implementation of open data programmes, including the approaches used to link these programmes to communities;
- iii. Assess the present and/or prospective role of open data in promoting citizen/public engagement with governance institutions;
- iv. Examine the extent to which practices by duty bearers (including allocation of public resources, attitudes, behaviour) are (or may be potentially) influenced by information engendered by open data processes;
- v. Assess the possible negative impacts that might be emerging due to the “digital divide” between those who have access to data (and technology) and those who do not;
- vi. Get a better understanding of the context of success or failure of the two countries’ efforts to invest in open data processes.
- vii. Draw lessons from the two countries to compare these with lessons drawn from similar work in which DI is involved, such as in Nepal; and,
- viii. Make recommendations regarding future design and implementation of open data programmes.

1.3. Methodology and approach

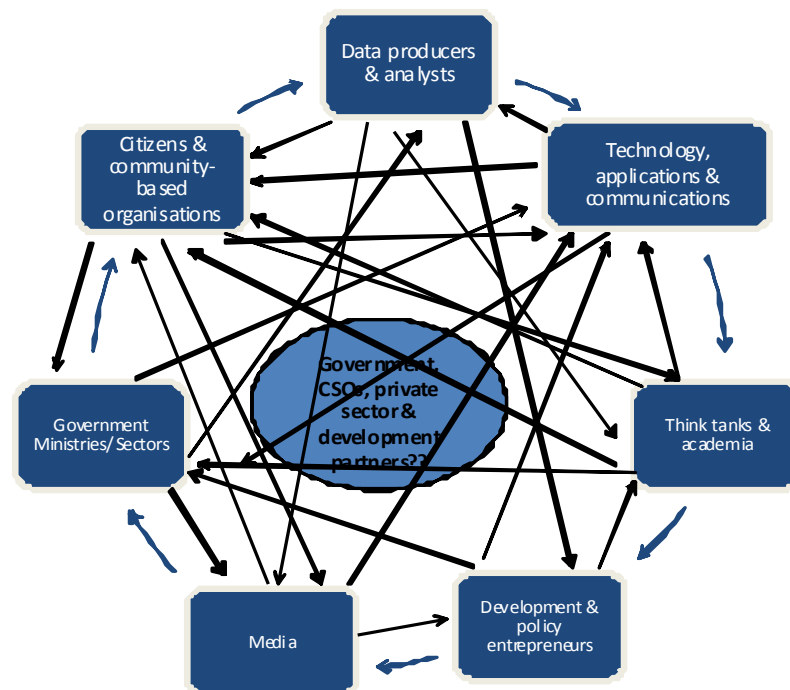
In order to assess the role of open data in resource allocation for poverty eradication in Kenya and Uganda, we adopted a holistic “ecosystem” analytical framework which avers that in order for open data to yield effective outcomes for citizens it will on one hand be interlinked with key nodes in the data-information-analysis-policy value chain, and on the other that it will be conceptualised as part of a complex web of interactions between the different components of data availability; data access; narratives; policy messages; communication; programme design and policy impact.

We also conceptualised that the interactions between and among the different components are not necessarily linear. Instead there are both individual and institutional interests in availing, accessing and using data and information which in reality makes the interactions

‘chaotic’, ‘uncoordinated’, and ‘haphazard’. Each of the components in the ecosystem simultaneously influences processes and outputs with the aim of influencing its own, mutual or collective outcomes (Figure 1). For example, development and policy entrepreneurs will engage with media to gain visibility while media would seek to work with policy entrepreneurs in order to obtain newsworthy narratives. In so doing, this framework assumed the links tend to be much less structured.

The framework was used to help in the drawing of links, relationships and impacts that are attributable to the essence of interrelatedness among components, and the potential value of and logic for linked-up systems. In turn, it was hoped that this would help unravel a rationale for adopting holistic approaches in the pursuit of open data systems for citizen participation and poverty eradication in the two countries.

Figure 1: A conceptual framework: A stakeholder-based open data ecosystem



Data sources: In this study we used data from both secondary and primary sources. Secondary data collection involved a review of relevant literature, published and grey, on the evolution and functioning of open data programmes in Uganda and Kenya. Other information was gathered from key institutions involved in generation of data and information including Government ministries and institutions responsible for planning and economic development, generation of national statistics, Information Communication and Technology (ICT); local governments; civil society organisations; research and academic institutions; private enterprises, especially those that are involved in developing applications; and, agencies that are implementing pilot programmes (such as United Nations Children’s Fund (UNICEF)/DEVTRAC in Uganda and Kenya Open Data Initiative). **Appendix 1** contains a full list of institutions that participated in the study.

Data collection methods

- i. **Desk review:** A desk review was carried out which identified the main issues and processes linked to the open data landscape and the key players. The review of literature sought to establish existing links between information access and resource prioritisation on one hand and the role of data on poverty eradication on the other. Further, the desk review examined the political economy factors such as the legal and institutional frameworks for the functioning of open data programmes in the two countries. Specifically, the desk review attempted to investigate the genesis of open data in the two countries, describing the status of implementation of the programmes, gaps, and their impacts. Where these were new, the potential they may have on impacting poverty eradication was assessed.
- ii. **Semi-structured interviews with key informants:** Using the study objectives, the research team developed a semi-structured interview guide which was used for key informant discussions with the stakeholders. The interviews focussed on understanding how stakeholders view and engage with the open data initiatives. The interview guide is attached in Appendix 2.
- iii. **Learning from policy meetings:** During the course of the study, a series of meetings and workshops were held within which discussions centred around open data and its role in transparency. Proceedings from these meetings contributed to the overall study.

Data analysis: The study employed the grounded theory methodology for qualitative analysis. This involved a review of each of the interviews reports, identifying the key issues related to the study questions, the study objectives, and other issues arising. Each interview response was recorded on a card, upon which was also recorded the source, date and response category. Cards with similar issues are then grouped together and categorized in line with the research questions. These then formed the basis of the study findings.

CHAPTER TWO: Study Findings

2.1. The open data landscape in Kenya and Uganda

The two countries have relatively new and fewer open data initiatives, which differ from country to country. Kenya has a government run open data initiative, and was the first country in Sub Saharan Africa to establish an open data portal. The [Kenya Open Data Initiative \(KODI\)](#) is housed in the Ministry of Information Communication and Technology (ICT), and is managed by the Kenya ICT board. In addition to KODI, there are several other initiatives that make data readily available and accessible. Uganda does not yet have a national government-led open data portal, but like Kenya, has several initiatives that contribute to providing free and accessible data and information. These initiatives are government sector-led and CSO-led. Some general findings which are further elaborated in the report include:

- I. There are a number of initiatives in both Kenya and Uganda that provide various types of data and information to the public. Some of these initiatives do not know of the existence of similar initiatives.
- II. Some of these initiatives, although considered open data initiatives by the researchers (because they make available data to the public), do not fit the open definition³ of open data. However these initiatives attempt to make data readily available in all various formats that users can analyse. In addition to data, these initiatives provide information that would support citizen participation in decision making.
- III. Having a number of other initiatives alongside the national open data initiative is healthy. It provides several options of data access and availability that the public can use to suit their demands and needs.

While globally open data has its foundations in technology, in Uganda, the study found that open data is about the provision of data and information largely using off-line methods. The processes by which citizen voices are expressed, and the methods through which data and information is passed on to citizens to support decision making and advocacy have been hinged on methods that do not require the heavy use of ICTs, with which there can be wider participation of the majority of citizenry. Internet use and coverage in Uganda is growing, but it only covers less than 2% of the population in Uganda and is largely centred in urban areas where only 11% of the population live. On the other hand, 90% of the population in Uganda have radios in their households, while 95% listen to FM radios every week⁴. These statistics are key in determining the practices and processes of open data initiatives in Uganda.

At the time the fieldwork was conducted, Uganda did not have a formal government-led open data initiative. However, a study by Association for Progressive Communications (APC)

³ According to the Open Definition (<http://opendefinition.org/>) "A piece of data or content is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to attribute and/or share-alike."

⁴ Uganda National Household Survey (UNHS) 2009/10, Uganda Bureau of Statistics

and The Collaboration on International ICT Policy in East and Southern Africa (CIPESA)⁵” found that Uganda was ready to implement Open Data.

While open data is a relatively new term in Uganda, the idea behind the concept isn’t new. According to one of the respondents, Uganda has attempted to promote transparency and accountability by adopting extensive decentralisation in the 1990s, and adopting hands on resource tracking tools such as the Public Expenditure and Tracking Surveys (PETS) which was launched in 1996. Other endeavours to promoting openness in Uganda have included; the establishment of institutions like the Auditor General’s office, the Inspector General of Government (IGG), the Budget Monitoring and Accountability Unit of the Ministry of Finance, Planning and Economic Development. These have made government accountability information (including tracking and monitoring) available to the public with varying levels of successes.

The Uganda Ministry of Finance Planning and Economic Development (MOFPED) also enhanced budget transparency when it started issuing financial releases of district quarterly financial allocations in the print media. Open data is therefore largely exhibited in the traditional transparency and accountability mechanisms.

In summary, there are striking similarities as well as differences in evolution of Open Data in the two countries of Kenya and Uganda. While the terminology of open data is relatively new in Uganda, the concept has been practiced as way back as the 1990s and intensified by the MoFPED’s open budget initiatives. In Kenya, it is traced to the heroic efforts of one individual who was able to circumvent the official bottlenecks to create the Kenya Open Data Initiative. In Uganda, Open Data initiatives have mainly been off-line and stand alone, while in Kenya, they are ICT based and more interlinked.

⁵ Association for Progressive Communications (APC) and The Collaboration on International ICT Policy in East and Southern Africa (CIPESA) in April 2012 on “Uganda Open Government data readiness

Open data in Kenya

Kenya's open data portal and the umbrella Kenya Open Data Initiative were publicly launched on June 28th 2011 by President Mwai Kibaki to international acclaim. This made Kenya the first country in sub-Saharan Africa to have an open data portal and one of only a handful around the world including the United States of America and the United Kingdom both of which had only launched their portals less than two years earlier.

Efforts in the establishment of KODI were spearheaded by the serving Permanent Secretary in the Ministry of Information at the time, Dr. Bitange Ndemo. Through KODI, the red tape that had previously kept government information unavailable was cut, making government information public¹. The Official Secrets Act had in the past been a key barrier for civil servants in former President Daniel Arap Moi's administration but also continued to be a hurdle 7 years after his term had ended. The promulgation of a new constitution, the Constitution of Kenya 2010, which guarantees freedom of information in Article 35, provided for the first time solid legal covering for an open data initiative even in the absence of freedom of information legislation.

The study revealed that the Permanent Secretary of the Information Ministry played an enormous role in championing the open data movement. In his own admission, Dr Ndemo confirmed that one of the biggest challenges in the establishment of KODI was the resistance from several government offices to release (or make available) data. Leveraging his influence and high social clout in the government, the open data portal secured high value datasets as a result.

At its launch, the open data portal had 200 datasets in six categories: education, energy, health, population, poverty, water and sanitation. Data from the 2009 census also made it onto the platform, as did data on public expenditure, budgets and the 2005/06 Kenya Integrated Household Budget Survey (KIHBS).

When asked about their knowledge of the existence of open data initiatives in Kenya, the Kenyan respondents mentioned three, namely: Kenya Open Data Initiative (KODI), World Bank's open data portal, and the Africa Development

How KODI was initiated.

Dr. Ndemo, the permanent secretary in the Ministry of Information championed the establishment of KODI. In spite of a clear constitutional argument for the release of information to the public Dr. Ndemo encountered significant resistance from sector ministries. He was however determined to proceed and in doing so found a way to circumvent the challenge of accessing data held by government departments. He started with data that was already public but not generally available. Some of this data was held by The World Bank which would not release it without approval (tacit or explicit) from the Ministry of Planning. In June 2011, Dr. Ndemo lobbied the President for support on the initiative as high level support was necessary to encourage ministries to allow the release of their data by the Bank. The President was convinced that Dr. Ndemo was on the right path and gave both his support for the initiative and his commitment to launch it at a public event. With the President's approval secured, Dr Ndemo mounted pressure on his counterparts in other ministries as well as the Kenya National Bureau of Statistics (KNBS) and obtained additional data for the initiative as well as the budgetary support to make the launch event possible and cover the costs of securing and hosting the data portal.

2.2. The open data ecosystem and the role of stakeholders

A healthy open data initiative exists as a function of consistent supply and demand of data. Data makes its way out of the publisher's domain and into public spaces after going through an internal process to de-anonymize, clean and verify it. Once published, intermediaries add value to the data by turning it into services, research, entertainment or news which citizens are now able to easily consume. Feedback related to the quality, accuracy or freshness of the data emanating from its users should ideally make its way back to data producers for improvement.

The study found that each country has an ecosystem unique to its specific country context, political economy and social factors. This is dependent on the level of technology, the involvement and participation of stakeholders such as academia and CSOs in the development process.

One key finding of the study is that both countries have multiple stakeholders in what is seemingly an emerging open data ecosystem. It involves people and institutions that are involved in data collection and cleaning, data supply, data storage, data management, data use (analysis, translation, advocacy) and feedback. These open data functions are not performed or upheld by a single entity but by separate interconnected/interlinked units, each working together, and in other instances are functioning independently of the open data ecosystem. Hogge (2010)⁶ came up with three issues that can promote a functional open data ecosystem. These include:

⁶ Hogge, B., (2010). Open data Study: New technologies. [online] Transparency and Accountability Initiative www.transparency-initiative.org.

- i. Civil society, the media and other end-users should have capacity to access and make use of the data;
- ii. The high and mid-level political operators and government officials should have a positive attitude to opening up and sharing data;
- iii. The role of multilateral and bilateral development aid partners to support the processes.

Of course, the open data ecosystem is not static, but changes over time with changes in policies, global hot topics, and citizen and donor interest. Some relationships or links are strengthened, while others are weakened or diffused. Given the four enablers earlier mentioned, the respondents were asked to describe the current open data ecosystem, the results of which were as follows:

- a. A number of stakeholders emerged as key to the open data process. Government and academia were identified as key producers of followed by users/intermediaries who process the data for further production of outputs consumed by others.
- b. Civil society and private sector were cited as intermediaries just like technologists and the media who, according to their role as *inter/Infomediaries* use data produced by government and academic researchers to generate utility or *infotainment*.
- c. They intersect in service delivery and resource management according to some respondents. Some did not see any interlinkage between the stakeholders in the absence of citizens/the public. Specific organizations mentioned included the ICT Authority and the Kenya National Bureau of Statistics (KNBS) in Kenya, and the Uganda Bureau of Statistics, Sector Ministries and the National Information Technology Authority (NITA) for Uganda.

In the next section, we present the stakeholders and their specific roles.

2.2.1. Critical stakeholders in the ecosystem

Critical elements in the open data ecosystem

- i. The elements of the ecosystem and their general or specific roles are similar in both Kenya and Uganda. In both countries, the government was viewed by the respondents as the critical and central component of the open data ecosystem.
- ii. In Kenya, the government's establishment of KODI paved way for the open data movement in Kenya.
- iii. In Uganda, civil society and the initiatives they are putting in place are encouraging government to embrace the open data movement, including signing up to the Open Government Platform (OGP).

The elements of the open data ecosystem are as follows:

2.2.1.1. Government

The governments of Kenya and Uganda are reportedly playing a central role in the collection and production of data for other users. In Kenya, the Ministry of Information and Communication and in particular the ICT Board played a crucial role in the design and implementation of KODI, by collecting and producing data, as well as coordinating the initiative itself. Kenya National Bureau of Statistics (KNBS) – the principle data collection agency in Kenya was also listed as a key data producer in the open data ecosystem.

In Uganda, all respondents mentioned that the central data collection agency is the Uganda Bureau of statistics (UBOS). UBOS is semi-autonomous, coordinating and supervising the National Statistical System and the principle data processing, analysing and disseminating agency. It collects periodical national household surveys, carries out censuses, and other generic data. Justus Muhwezi, the manager for Geo-information services in UBOS, mentioned in an interview that

“The UBOS mandate rhymes well with the Open Data concept. Though some information is still largely not digitalized, there is a lot that the Bureau shares. The Bureau mechanisms in place to make information available to the general public. For example, it publishes a list of all available datasets on the Integrated Management Information System (IMIS) database. UBOS has also signed up to International Standards Organization (ISO) standards. The Bureau has also partnered with the Uganda national bureau of standards to ensure quality of the data it produces”.

Sector ministries, departments and agencies (MDAs) were identified as key stakeholders in open data. They also regularly collect sector specific information for their use, which may be accessed by interested parties.

2.2.1.2. ‘Techies’ and Private Sector Intermediaries

Respondents reported that ‘techies’ (technologists or developers) and media played a key role in the implementation of open data initiatives. Considered to be equipped with the skills to analyze data, and disseminate the information to citizens, techies were identified to be the primary audiences of KODI.

The study uncovered gaps, attributable to lack of policy and a negative attitude towards opening up, which slowed down progress that brought some efforts to a premature end. For example, towards the end of the Code4Kenya pilot, projects were incomplete due to inability to access data.

The role “techies” play as stakeholders in the open data ecosystem was not very apparent in Uganda. A possible reason for this could be the infancy of open data (and technology use) in

Uganda. There is, however, an emerging potential role of techies in open data development in Uganda.

2.2.1.3. CSOs and NGOs

CSOs are both users and producers of information. In recent times, however, according to an official from the Uganda Ministry of Finance, CSOs have not been active producers of information. In their defence, some CSOs mentioned that a possible reason for this is that government does not readily accept CSO information as credible since it doesn't think they have the resources (technical and financial) to collect credible data.

Civil society and other private sector organisations' efforts spread across both supply and demand of open data, by acting as info/intermediaries between government and citizens. The study revealed that CSOs and PSOs used data published by the government and academic researchers to generate utility or *infotainment*.

The role of CSOs in the open data process was more apparent in Uganda than in Kenya. CSOs use the data collected and supplied by government Ministries Departments and Agencies (MDAs) for their planning activities. The CSOs in Uganda reported using data collected and supplied by government agencies to guide the selection of geographical areas of operation as well as analysing various development issues. In addition, the data they accessed was used for advocacy and policy engagement activities, which in some measure informs or affects government resource investment decisions.

CSOs and NGOs such as Kabalore Resource Centre (KRC), ToroDev, Rwenzori Information Centre Network (Ric-Net), Development Research and Training (DRT), Northern Uganda Media Club (NUMEC), and others interviewed in Uganda, highlighted the essential role they play of *"translating data into information that is meaningful and understandable"*, thereafter disseminating it to the communities they work with. CSOs therefore play an important role in disambiguating data and other information provided by the government into usable information for decision making that communities, mainly made up of the less educated, marginalised, and left out, can use for participatory and inclusive decision making.

2.2.1.4. Academia and think tanks

The role of the academia and think tanks, though mostly pronounced in Uganda compared to Kenya was highlighted as involving the collection, analysis and translation of data that the CSOs and to some extent the media, can disseminate to communities. An official in the Uganda Ministry of Education said that,

"Academia helps in translating information and preparing documents for sharing".

2.2.1.5. Media

The Media are recognised as instrumental in the dissemination of information through electronic and print media. Prior to the open data movement, news and information was

presented to readers without facts and figures. But with the open data movement, journalists are increasingly backing their articles with hard evidence (facts and figures) which they mainly get from government reports and datasets. Because of their far reach and scope (90% for radios), they are a critical part of the ecosystem. In addition, some media houses are also occasionally involved in the production of data through the surveys and investigations they carry out on different aspects of the society. According to a government official,

“Most people do not act because they do not have information. People do not have information because they do not demand it. They do not demand it because they do not know that it exists and because of this they do not know and exercise their rights, and therefore do not care. The media is key in this nexus”. Uganda Ministry of Finance official

2.3. The drivers of the open data process in Kenya and Uganda

Drivers to open data can be loosely defined as those conditions, influences, activities, systems, or people that create, fuel, motivate and support the open data process in the various stages of the ecosystem. The drivers to open data may influence the initiative as a whole, or may potentially motivate, fuel or support different stages or actors of the ecosystem, that individually would contribute to the overall drive of the ecosystem.

Drivers for open data may be laws, systems and a general enabling environment that promotes and provides demand and usage of open data. Drivers can be foundations upon which data users can demand for data, political persuasions and willingness to release and use data and legal fundamentals and technical practicalities that enable the development of effective open data platforms.

Respondents were asked to mention the factors that in their opinion drive or have the potential to the open data process in Kenya and Uganda. The respondents' views in both countries were categorised into four drivers namely:

- (1) legislative drivers that include laws, policies, and other legal frameworks,
- (2) political drivers which include the political will rooted in the understanding of the concept of open data,
- (3) technical drivers which include availability of internet and other virtual spaces, technical capacity, and
- (4) public demand drivers from data users such as government departments, think tanks and academic institutions, civil society and community members at different levels of the community

These in many instances resonate with the four issues that Hogge (2011) highlighted as being crucial to the functioning of an open data initiative. The table below provides a summary of the drivers to the open data processes in Kenya and Uganda as indicated by the respondents.

Table 1: Drivers of the open data process in Kenya and Uganda

Category	Description of drivers
Legislative	<p>Legislative drivers provide a legal framework within which open data can exist and operate. They are the institutional structures or institutional operating environments that make conditions conducive for operationalisation and implementation of open data. Legal frameworks make non-compliance a criminal offence that is punishable by law.</p> <p>The results of the study indicated that the presence of legal frameworks is a key factor in the open data process and can be used to demand for data from government ministries, departments and agencies.</p> <p>Uganda has legal frameworks in place that would drive the open data initiative in Uganda. The most important is the Freedom of Information Act, 2005.</p> <p>In Kenya, the Freedom of Information law is still a Bill. This however did not deter the establishment of KODI.</p>
Political	<p>Political enablers compliment on the legislative framework for open data. These include the political will, political commitment backed with resources and championship to drive the open data agenda and influence government and non-government stakeholders in playing crucial parts in institutionalising and enabling operationalization of the legal prerequisites for open data. According to the respondents, willingness of government political leaders to open up will:</p> <ul style="list-style-type: none"> -Facilitate the release of public information, making it easily accessible and usable -Respond to information requests from various stakeholders for transparency and accountability -Support the allocation of financial resources to the ICT sector including open data <p>In Kenya, much of the success of KODI is attributed to the open data “champion”, a political figure who rallied support for the initiative. With support from the highest political office, sector ministries were then obligated to make information available.</p>
Technical and capacity drivers	<p>For open data to gain momentum there has to be an increase in innovation in ICT technologies. Some of these innovations include computer use, database management, software design, etc. In addition, there should be an increase in the scope and coverage of ICTs, even to the rural and underserved areas.</p> <p>open data is driven by the capacity (ability) to use computers, especially if one is to use and analyse data. Use and analysis of data for resource allocation requires special training in data analysis (which is costly), and requires to a certain extent high level of education. Therefore, capacity to use, analyse and interpret data is a driver to open data</p>
Demand and Supply drivers	<p>Open data exists because of supply and demand of data. Absence of either distorts the open data ecosystem. Data providers must be willing and able to supply data freely and accessibly, while at the same time, users must be willing and able to demand for data and use it. Demand for data is also hinged on awareness of the availability of data (as well as awareness of the presence of the Access to Information Act).</p> <p>Increased awareness of the availability and accessibility of data would increase the demand and use of data at various levels – such as academia, media, advocacy groups, and community groups. This would in turn increase the demand for accountability and transparency from the government, which would have a positive effect on resource allocation for poverty eradication.</p>

2.4. Barriers to open data initiatives in Kenya and Uganda

The establishment and operationalisation of open data initiatives in Kenya and Uganda has faced a range of challenges. Analysis of stakeholder interviews indicate that although open data is viewed as a potential benefit to the development of the country, there are several reasons why open data initiatives have not necessarily established themselves firmly in the country.

Respondents were asked to identify what in their opinion are the current and potential barriers to open data initiatives in the respective countries. These barriers identified fall into two categories:

1. Barriers to the supply of open data
2. Barriers to the demand for and use of open data

2.4.1. Barriers to the supply of data.

Barriers to supply are those factors which can prevent suppliers or providers of data from opening up or sharing their information and data with existing and potential users. Such barriers are varied and impact not only government as suppliers of data, but also non-government institutions and civil society organisations that demand for and use this data in their work. Respondents in the study identified the following supply barriers:

2.4.1.1. Political barriers

These were most often identified as the reason for government not engaging with open data supply. Some respondents in interviews identified fear of exposure as a one of the main barriers:

“Open data makes exposure more likely, and if government fears scrutiny, then reluctance to increase access to data is more likely”.

Both political leaders and policy makers were identified as stakeholders who were likely to fear being questioned as more data is released publicly.

Alongside an attitude of fear among political leaders, power relationships were also identified by several respondents as a challenge for increasing the quantity and quality of open data in Uganda. They asserted that political leaders use ownership of data as a means of exerting power and influence, and are thus reluctant to release it. Arguably, this could also apply to other organisations or individuals outside the countries' governance structures, including the private sector, who may use the data they own to gain leverage over competitors.

In Uganda, partisan politics was also identified as possible barriers to open data. A respondent from civil society recognised that Uganda is a young democracy that has only had political parties since the early 1980s. There was a feeling that policy makers (members of parliament) did not have enough data and information to propose alternatives for development.

Furthermore, in instances when the government/state is under other political pressures, making government commitments on open data is not considered a high priority. An official from the Ministry of Finance recognised that there were some tensions in the government (corruption scandals, army and succession tensions, economic hardships) and these had prevented an open political environment where the government felt comfortable to make strong and well-backed decisions regarding the operationalisation of open data.

2.4.1.2. Financial barriers

Lack of sufficient financial resources is a constraint that was identified in both Kenya and Uganda. Open data is an expensive venture that requires a dedicated flow of resources for establishment of the institutional and human resource set up and its sustainability. Resources are required for setting up the appropriate technological infrastructure and acquiring the necessary human resource to collect, clean, analyse the data and to make it available.

2.4.1.3. Legislative and institutional barriers

In Kenya, the legal challenges that were mentioned by our interviewees related to the lack of a Freedom of Information Act and the existing colonial era Official Secrets Act. The latter, we were told, played a big part in preventing civil servants from disclosing information. One respondent argued that some needed to see the law first to be able to act on anything and that, at times; they didn't have permission to publish the information in the public domain. There was a perception that the data was 'public' even though it was only available to those within the government itself. They went on to recount that in the cases where the interpretation was a bit blurry, some people were uneasy with disclosing information without the shelter of the law.

In Uganda, a number of respondents alluded to the fact that most policies, especially those concerned with freedoms and rights to access information, seemed to be paper policies and were absent in real implementation and operationalization. Whereas this implied that policies lacked operational strength, other respondents indicated that there was need for better understanding and interpretation of these laws and policies. This was alluded to by a respondent from the Ministry of Finance:

"The Access to Information Bill did not necessarily leverage open data even though it was being used as a foundation for it."

Another respondent from the Ministry of Finance in Uganda stated that government willingness to share information was hugely lacking. Government officials understood the provisions and limitations of the Access to Information Act⁷ and made sure that they used

⁷ Among the many exception of the law include; if the information 'prejudices national security', costs are also allowable if the officer in charge has to incur costs to provide information, and it gives the information officer up to 20 days to respond to an information request. (Sections 15, 16, 17 and 18 on 'Deferral of request', 'Decision on request and notice', Extension of period to deal with request', and 'Deemed refusal of request' respectively). These clauses are subject to abuse by officials who are reluctant to release information.

them in their defence to deny information and share the data. In addition to this, the government was said to be taking no action on sectors and individuals that did not produce accurate information both to fellow government institutions or other information seekers.

2.4.1.4. Technological barriers

In Kenya and Uganda, interviewees agreed that a key challenge was technology, with technical capacity and technological illiteracy also falling into this category. One CSO respondent, from a data producing organisation, indicated that the digital divide in the country was remarkable and put forward that as much as they would like users to use the data uploaded onto the portal, most of them do not have the necessary skills to access and use data. The definition of open data requires that users have access to and technological know-how. To this end, the suggestion that was echoed by nearly all was the need for more capacity building to be carried out by government and other stakeholders, as well as developing better tools and ways to communicate information that the common 'wananchi' (citizen) can easily consume.

2.4.2. Barriers to demand for and use of data

These include those that might prevent potential data users from requesting or seeking information, and further, those barriers which prevent easy access to data once it is published into meaningful use.

2.4.2.1. Lack of adequate quality data

Available literature showed that while new activity was triggered from the catalytic⁸ effect of the government rolling out open data portals; in other departments such as the Kenya Ministry of Lands, the primary audience targeted by the initiative (particularly journalists and software developers) did not consume data in the way that they had originally anticipated⁹, and most felt that high value data remained elusive¹⁰. This echoes the observations of the participants in the interviews in both countries who intimated that while several datasets were available on the portal, high quality data was wanting. Many noted that a significant barrier to adoption was due to the lack of quality, up-to-date and relevant data on the KODI portal, or sector websites. The term 'value' was frequently used, with some arguing that the key to uptake would be in value addition to the data and to have it connected with the realities of people's lives and thus garner interest organically. Dr. Ndemo of Kenya mentioned that 'data is not information until you make it information citizens will not see the value of it'.

Linnet Kwamboka of the Kenya ICT board conveyed to us that a lot of the data submitted was outdated. Journalists, for example, did not see the importance of publishing out-dated information that did not make news.

There have been several attempts in Kenya to stir up and increase demand for data. Some of these included the Nairobi Data Bootcamp, Code4Kenya, Open Data for Development

⁸ The Benefits of a Big Tent: Opening up Government in Developing Countries (2012) UCLA LAW REVIEW [pdf] <http://www.uclalawreview.org/pdf/discourse/60-3.pdf>

⁹ Rushda Majeed (2012) Disseminating The Power Of Information: Kenya Open Data Initiative, 2011 – 2012

¹⁰ Conrad Akunga on the iHub blog (2012) <http://www.ihub.co.ke/blog/2012/11/the-trouble-with-open-data/>

Camp, and the Africa Counts Roundtable. It is worth noting here that out of the four, the Code4Kenya fellowship programme was the only one mentioned by any of our respondents in Kenya, indicating lingering lack of knowledge of Open data initiative. In Uganda, an open data workshop was held to launch the open data partnership platform, and sensitize the public on open data initiatives.

2.4.2.2. Lack of interest and capacity to access and use data

This study has found that the capacity of actors particularly Uganda's members of Parliament, policy makers and the ordinary citizens to access data are still low. Some respondents mentioned that this was likely due to the lack of interest in data or lack of knowledge and appreciation of the importance of data in decision making. A discussion with Uganda's Anti-Corruption Coalition revealed that the poor reading culture among Uganda's MPs and other policy makers has had significant impact on access and use of open data.

Also, even with data made available, there is need for an intermediate level of data analysis – where raw data is analysed to produce valuable information that is readily consumable, and easily understandable. This intermediate level between supply and demand – with more or less a similar function to a market in the economic sense – would ensure effective and efficient movement and use of data.

2.4.2.3. Limited Technology

Limited technology was listed as a blocker to the supply of open data, but was also noted by many as a barrier to demand and use. It was identified by respondents that open data is often promoted through online communication technologies, which means that those who are not ICT empowered may not be able to benefit from open data.

In order for Open data initiatives to work for resource allocation and poverty eradication, the above mentioned barriers should be addressed by all nodes of the open data ecosystem. This study is suggesting a number of recommendations as remedies to the above obstacles as follows:

Table 2: Summary of responses to barriers of open data in Kenya and Uganda

Barriers to the supply of data	Barriers to the demand and use of data
<ul style="list-style-type: none"> ➤ Political barriers – political reluctance stifles the release of data and delay in open data initiatives ➤ Financial barriers – Dedicated resources are vital for the implementation of open data initiatives ➤ Legislative and institutional – lack of an legal environment, or weak legislative implementation will not provide a conducive environment for operation 	<ul style="list-style-type: none"> ➤ Lack of adequate quality data – This discourages usage of data if it cannot be relied on ➤ Lack of interest and capacity to access data – data is important for as long as people have interest in making useful information out of it, and have the capacity to do so ➤ Limited technology – users may sometimes lack the appropriate technology use the data, data maybe in a format that is not user

➤ Technological – technology is important for making data available and usable	friendly, or the technology to host data may be lacking
Recommended solutions to the barriers	
Partnerships and collaboration among stakeholders within the ecosystem	
Capacity building and raising awareness of the public on data availability and use	
Providing resources for open data initiatives	
Enforcing data standards and quality	

2.4.2.4. Suggested recommendations to address the above barriers

For each barrier mentioned, respondents were asked to suggest recommendations, which are compiled as follows:

Partnership/collaboration: The open data initiative should be approached by its promoters through an ecosystem mechanism where all actors should come together to avoid duplication and support each other. For instance in one of the discussions held by Uganda Bureau of Statistics an official suggested that university students should be ushered into UBOS geo-coding work, to begin mapping, studying and supporting the open data processes. By doing this awareness shall be created as well as adding to the number of actors involved in the open data realm.

The study respondents reinforced the “eco-system” analytical framework’s proposal of a need for independent and interdependent working relationships among the various eco-system players. The proposed partnership/collaboration should include government, its ministries, departments and agencies; selected individuals; civil society including NGOs and community members; and public-private partnerships among others.

Emphasis was put on the role that an **open data champion** would play promoting open data especially in government in both countries, most notably Uganda, that did not have a champion. The open data champion in Kenya, a government official, played an advocacy role, garnering support (financial, institutional and capacity) from the government for the operationalisation of open data and its endorsement as a national initiative that would contribute to increased transparency and accountability. Such a champion in Uganda would facilitate the uptake of open data as in Kenya.

Capacity building and raising awareness: The capacity of actors to effectively use data needs to be built in a number of ways: capacity to effectively access data, analyse data and use data, turning it into information that can be used for decision making and change. Furthermore, data and information should be made available in user friendly formats and tailored to suit the needs of the various end users. Capacity building would take the form of trainings at the community level, district level and national level, involving households, CSOs and NGOs, government bodies and media houses.

Financing for open data initiatives: Open data initiatives are expensive and require large investments of financial and other resources for their effective implementation. There must be willingness and commitment of the government to invest in open initiatives. The study was not clear though on the possible sources of financing for open data.

Data standards and quality: For effective open data initiatives, there is need for the promoters to embrace internationally and nationally applicable- data collection and analysis standards. Data standards refer to guidelines through which interacting parties can confidently exchange information and share the same understanding of what is presented in the information/data. The standards may include procedures, implementation guidelines and usage directives.

“Data must be standardized, easily integrated, comparable and useable”
NITA official

Respondents in government and non-state spheres in Uganda called for such standards to guide production, sharing and use of data. On production, respondents called for data production to be regularly done and disaggregated. This, they said, would enhance access and use of open data. Data disaggregation can be done according to sectors; governance levels of central, district, sub-country and village; economic focus – macro, meso and micro and other categorizations as the need may be.

With data use, respondents called for open data initiatives to provide data in useable formats such as MS Excel and CSV (in contrast to the most commonly used PDF format), local languages and other off-online channels such as radios, notice boards and out reaches.

“ICT and subject specialists in Government and outside Uganda should translate information into suitable formats”, MoFPED

2.5. Impact of open data on resource allocation

It was envisaged that open data would play an important role in poverty eradication. This study set out to identify the role of open data in contributing to resource allocation for poverty eradication. The results of the study did not clearly bring out the impacts of open data to resource allocation for poverty eradication Uganda and Kenya. In fact, some respondents stated that there is no visible relationship between open data and resource allocation. This is possibly due to the fact that the open data movement is a relatively new concept in both countries and hence no visible impact yet or attribution to influence on resource allocation for poverty eradication. While there have been several advocacy campaigns for resource allocation to pro-poor sectors, these cannot be directly attributed to availability (or non-availability) of open data. In addition, it was found out that poverty eradication is a function of not only availability of open data, but a number of other factors such as availability and implementation of inclusive policies, improved social service delivery as a result of allocating resources to those sectors dominated by the poor. Nevertheless,

over time, open data has the potential to influence resource allocation by allowing citizen engagement in the budget process and evidence based advocacy.

It was however, established that there are indirect links of the impact of open data to poverty eradication. And with the rising level of technological advancement, and citizens' demand for budget transparency and accountability, open data has the potential to influence resource allocation. The findings of this are presented in the following section.

2.5.1. The present and /or prospective role of open data in promoting citizen or public engagement with governance institutions

Analysis of literature showed that by opening up data, inclusion and empowerment could be fostered by citizens. Our interviews uncovered that KODI played a part in promoting citizen engagement, mostly using media as a mechanism to inform citizens about the information. A sentiment that many respondents shared is that stakeholders need to endeavour to inform the public on the general availability of data, and push as well as information, and advocate for the use of both data and information to influence decision making in resource allocation. Respondents suggested that government sectors should make their data readily available, in their planning and budget offices or resource centres, or on sector websites.

In both countries, an open data portal was identified as a platform for interface between government and citizens with the latter's need to know being served by the datasets. KODI included a mechanism for citizens to make requests for datasets that were not yet on the portal. In Uganda, the *Baraza* programme led by the office of the Prime Minister (OPM) is an initiative by government which provides an opportunity for interface between local communities and their leaders on sharing of public information with focus on effective monitoring of public service provision (on part of the leaders) and demand for accountability and transparency (on the part of the local population). This is an innovative initiative that promotes citizen participation with governance institutions. However, in both countries, the present role of open data in citizen engagement was not clear.

2.5.2. The extent to which practices by duty bearers are (or may be potentially) influenced by information engendered in open data processes.

Due to time constraints, we identified that a limiting factor in undertaking this study was in securing duty bearers with the authority to allocate resources to take part in our interviews. While our interviewees conveyed their interpretation of the challenges that these duty bearers faced from their experiences of working either for or alongside them, we were unable to get the same submission directly from the duty bearers. There was no evidence that open data was being used to effect/impact resource allocation decisions by duty bearers or whether the presence of data would necessarily guarantee its use in decision making on the side of the politicians.

In Kenya, many of those interviewed were of the opinion that duty bearers in public office are not responding to the existence of open data in Kenya in any way. In Uganda, open data and its role in resource allocation was largely unknown.

Respondents in both Kenya and Uganda asserted that the allocation of resources is not scientific, that there often looks like there is a method behind the allocation, often backed by data (not open data), but relies heavily on experience and conversations between a very limited set of policy-makers who sit and decide. In other instances, allocation of resources is political (for popularity among the citizens) rather than based on evidence.

2.5.3. The possible negative impacts that might be emerging due to the “digital divide” between those who have access to data and technology, and those who do not

Quoting Transparency International’s Collins Baswony, Majeed (2012)¹¹, he pointed out the challenge of reaching offline communities with open data in an environment where there still exists a considerable digital divide. Most technology revolution is largely taking place in urban areas, while the rural areas remain left behind in Uganda. Similarly, according to Julius Torach of NITA-U, *“it is mainly the educated who demand for data particularly those in think tanks and academia and the CSOs working in advocacy.”*

In Kenya a few of our interviewees agreed that a key challenge to the uptake of open data was technology, with limited technical capacity in data production, analysis and usage, and illiteracy of women, compared to men and across majority of people in both the rural and urban areas. In one incident, it was reported that that the digital divide in Kenya was remarkable and that as much as they would like users to use the data published on the portal, most of the potential users do not have access to the portal to be able to use the available data. However, Schumann and Kende (2013)¹² observed that Kenya has a high internet penetration as a result of reasonably cheap internet services and with the laying of the fifth undersea cable, it allays some concerns that may arise on whether demand for open data and the capacity to utilize it would be hampered by poor access to infrastructure necessary for the exploitation for this resources. Taking into consideration the current state of technology and infrastructure available in Kenya, one of our respondents argued that the lack of infrastructure should not pose as a limitation, but instead work to our advantage by building around it.

‘Our ability is our greatest resource and it’s largely ignored’.

Literature and consultations with people in Kenya suggests that the attempts at driving demand for data or demand for transparency and accountability culminated in four prominent efforts in 2012, namely, the [Nairobi Data Boot camp](#), Code4Kenya, Open Data for Development Camp, and the Africa Counts Roundtable. All of the open data efforts since the launch of the movement have been concentrated in urban areas (Nairobi and Kampala),

¹¹ Rushda Majeed (2012) Disseminating the Power of Information: Kenya Open Data Initiative, 2011-12. Princeton University [pdf]

¹² Robert Schumann & Michael Kende (May 2013) Lifting barriers to Internet Development in Africa. ANALYSYS MASON (online)
<http://www.internetsociety.org/sites/default/files/Barriers%20to%20Internet%20in%20Africa%20Internet%20Society.pdf> (Accessed August 27, 2013)

where access to and use of technology is high. Offline communities, largely those outside the capital cities and in the non-urban areas were largely excluded from these efforts. It is therefore important that open data is modelled for various audiences and users for inclusiveness and wider participation.

Literature showed that Kenya has a five-year [National ICT Master Plan \(2013-2017\)](#) that aims to drive Kenya forward, with a heavy push towards closing the digital divide and giving Kenyans access to the information they need by developing ICT policies, infrastructure and initiatives further. Similarly in Uganda, there is a five year “E-Governance Master plan” and NITA has within its strategy a plan to extend IT infrastructure to all parts of Uganda including the rural areas, thus laying the foundation for increased access.

The gender divide: Women are disadvantaged in access to data (or the technology and the ability) to have equal access. Julius Torach, NITA-U says:

“The IT world is/has been predominantly controlled by men, and information for a long time has been in the hands of men. However, things have been changing over time, and women are increasingly accessing various technologies. In terms of literacy, there are more literate men than women, a trend that is being changed”.

The Majority of the respondents called for more sensitization and awareness to take place, as well as developing better tools and ways to communicate information that the common ‘wananchi’ (citizen) can easily consume. As Gurnstein (2011)¹³ pointed out, the process of understanding/interpreting ‘open data’ is not the same as making use of the data. This can be applied in the context of the digital divide - there’s a gap between connecting offline communities and their consumption of open data.

CHAPTER THREE: Policy Implications

3. Recommendations regarding the design and implementation of open data initiatives

Results from the interviews highlighted that open data is more than just provision of data online but also the off-line methods in which information to support decision making and resource allocation is provided to citizens. It is therefore recommended that these methods are not excluded from the open data agenda, but rather strengthened to improve citizen participation.

¹³ Gurnstein, M. (2011) Open Data, Empowering the empowered or effective data use for everyone? First Monday. Volume 16, Number 2 – 7 February 2011
<http://firstmonday.org/ojs/index.php/fm/article/view/3316/2764>

In addition, there was strong evidence of the need for open data champions in both in both Kenya and Uganda who would make a case for open data in both governments while also leveraging political support.

The recommendations suggested by the respondents in the Kenya case focused on strengthening the political and legal aspects of open data while in Uganda recommendations centred on financial investment in the open data process, building multi-stakeholder engagement, the strengthening the legal and political environment and capacity building.

There was strong evidence of the need for open data champions in both Kenya and Uganda who would make a case for open data in both governments while also leveraging political support.

Specific recommendations to the various stakeholders were suggested as follows:

For government

The government is a key player in the full operationalisation of the open data movement in Uganda and Kenya. Therefore the following are recommended for the governments:

- 1) Promote sector and cross sector specific initiatives that enable collaboration and transparency through different e-transformation strategies across government sectors and agencies.
- 2) Develop and champion the capacity to drive transformation across government and to advance skills in its institutions and civil service.
- 3) Governments need to formulate policies, regulations and laws to support use of ICT to transform service delivery.
- 4) The governments are also expected to formulate common standards for transformation to enable:
 - a. An environment that allows an open government and civil society to participate in content and service creation in both countries.
 - b. Ensure that interoperability and efficiency exist among the data, documents and services between organisations, sectors, agencies, and the like. Modern computer technology has developed **ontology** applications to define and unify the terminologies used in a given domain such as governments or specific sectors.
 - c. Both governments need to support private sector engagement in service delivery. For example looking at the current rate of failure of governments ICT projects brings out a clear need for better procurement practices, a need for not only ICT expertise but project management as well as these IT departments of government ministries and agencies are growing. This can be alleviated by outsourcing ICT intensive operations and equipments to specialised private sector entities leaving governments to focus on service level management in such collaborations.
 - d. Due to the intensity of ICT use in open development, governments should promote a reasonable level of trust in ICT systems' usage to secure information and data that all the stakeholders of the open development share.

When the government is in position to play the above outlined role then the other stakeholders especially civil society will be able to act accordingly towards an open development environment.

For Civil Society organisations, private sector,

There is need for open development pioneering institutions (civil society, media, academic) to work closely with government to form and execute the necessary policy on open development that bases on the right to information access act of Uganda. The need comes from the fact that government is a high priority player in almost all development initiatives in the country, not only because it's a key consumer or producer of data but because it plays a leading role in national development.

The pioneering institutions in this work should focus on creating awareness and conceptualisation of open development behaviour or culture in Kenya and Uganda by explaining what it is, who it serves and why the country needs an open development approach at this level of national development.

CSOs need to work in partnership to strengthen their voice in advocacy for transparency and accountability through availability and access to public data. Particularly Private sectors and the technology community need to;

- a. Work with government, CSOs and other actors to increase investments in technologies and services that promote access to data and information.
- b. Contribute to the bridging of the rural-urban digital divide that exists by ensuring penetration into rural areas, cost effectiveness and affordability of information technologies
- c. Push for demand for open contracting and better conditions of doing business by requesting for positive incentives for ICT and data related entrepreneurs and enterprises. This will encourage diffusion of people-friendly innovations

4. Discussions and Conclusions

This study set out to answer two broad questions:

- (1) How open data initiatives are contributing to poverty eradication through its impacts on resource allocation, and
- (2) How the contribution of open data initiatives to poverty eradications resource allocations could be strengthened.

The overall aim of the study was to build an evidence base on the contribution of open data initiatives to key areas of governance: exploring where data is impacting on processes of decision making and implementation. The study also sought to develop knowledge and action that would enhance the potential of open data to foster greater transparency and accountability, better economic efficacy and efficiency and greater inclusion and empowerment of marginalised groups.

Open data (open information) has the potential to contribute to:

- (1) Poverty eradication
- (2) Resource allocation and
- (3) Resource allocation for poverty eradication.

As Charles Lwanga-Ntale¹⁴ regularly says, “data is good but it becomes better when it is analysed; analysis is good but it becomes better when it makes good messages; messages are good but they become better when they can be translated into good policy and practice; policy and practice is good but only useful when it provides a platform for interlocking, interacting and networking of stakeholders.” There is no individual programme that can efficiently address data, data analysis, information, policy and interaction. The open data ecosystem, supported by an enabling policy and political environment provides an interaction for all these actors.

In an open data ecosystem, there are vertical and horizontal linkages and relationships. Policies flow from the top to the bottom but decision making should flow both from the top to the bottom and vice versa. At the horizontal level, technological changes, liberalisation of knowledge sharing and knowledge management, networking, and more, legal systems, human development all work together to drive the ecosystem and leverage development. Whilst the starting point is data, it is information, translated from data that would have relevant impact on poverty eradication in Kenya and Uganda today.

With the above components of open data should be observable in the country. Although indicators for these components are many and may vary, the following are common and vital;

1. An open government where transparency and collaboration are emphasized, citizens have the right to access official public information and they have a responsive voice to issues of development.
2. There is collective action by citizens to tackle their development challenges.
3. Co-creation and co-ownership of development solutions by government and citizens who are fully engaged in the development process of their nation.
4. Utilization of multiple sources of development knowledge in a feedback and learning mechanism of development.
5. The international development partners and development institutions have embraced open data and knowledge solutions.

Despite the efficacy of the ecosystem, the interactions among the different nodes of the open data ecosystem are not necessarily evident in both Kenya and Uganda. Often, the different actors in the ecosystem function in isolation, duplicating efforts and not capitalising on core competencies and capabilities that each possess regarding open data. The open data ecosystem is, therefore, in the case of Kenya and Uganda, more theoretical than operational. Strengthening the linkages would provide a firm basis upon which open data can function effectively to achieve its goals. Future research could focus on the functioning of the ecosystem linkages and how they can be leveraged for better results.

Throughout the study, it was clear that the distinction between data and information obscures understanding open data. While the open data movement is narrowly focused on

¹⁴ Regional Director, Development Initiatives Africa Hub

data and statistics, the essence of information has more far reaching implications for development. The respondent's understanding of open data related to provision of information. In fact the words "data" and "information" were often used interchangeably. Open data, according to many of the respondents was about openness and free provision on information in newspapers and booklets, over the radio and on television, on notice boards, through mobile phone services and other off-line methods. The definition of open data as per the study was understood by those who had previously been exposed to the term, or who through experience or educational training had worked with raw data. Therefore, in order not to underestimate or understate the impact of openness through off-line methods on resource allocation, open information, in addition to open data was adopted in the working definition of open data of this study.

The availability of funds through a development partner played a role in the early success of KODI in Kenya. The absence of this kind of funding in Uganda may be one of the limiting factors that are affecting the launch of a national open data initiative in Uganda. So whereas there is some political will in both countries, funding is the main barrier (and driver) of open data and the difference between initiation and operation of open data in Kenya and Uganda. It is worth noting that having an Access to Information Act, as is the case of Uganda, does not necessarily imply citizen's access to information. This suggests that open data is politically driven, and would among others, require political drivers such as an open data champion.

The open data initiative in Kenya took off and thrived due to the efforts of an open data champion within government. According to the study, the champion advocated for, and when need arose, defended the open data initiative. His voice of authority, backed with evidence of benefits, irrespective of opposition, was able to impel the government of Kenya to accepting and operationalizing the initiative.

Appendix 1: Organisations that participated in the open data study in Kenya and Uganda

Table1: Organisations that participated in the open data study in Uganda

Organization	Profile	Interview Date
Government bodies		
Uganda Bureau of Statistics	UBOS a semi-autonomous body, is the principle data collecting, processing, analyzing and disseminating agency responsible for coordinating and supervising the national Statistical System.	18/02/2013
Ministry of Finance Budget Monitoring and Accountability Unit	The unit monitors <u>economic data</u> and <u>economic indicators</u> of budgets and projects of other <u>departments</u> including those of Agriculture, Education, Energy, Health, Industrial parks, Roads, and Water and sanitation. Budget monitoring aims to verify the information in the quarterly performance reports and assess the link between financial performance and physical performance. Quarterly budget monitoring reports present findings and high level recommendations.	
Ministry of Education Information Management		04/03/2013
National Information Technology Authority	The National Information Technology Authority-Uganda (NITA-U) is an autonomous statutory body established under the NITA-U Act 2009, to coordinate and regulate Information Technology services in Uganda. NITA's mandate is to coordinate, promote and monitor IT development with the context of national social and economic development. NITA operates under the supervision of the Minister of ICT.	21/05/2013
Civil Society Organisations and Non-governmental Organisations		
Collaboration on International ICT Policy in Eastern and Southern Africa CIPESA	CIPESA is centre for research and analysis of information aimed to enable policy makers in the region to understand ICT policy issues, and for various multi-stakeholders to use ICT to improve livelihoods. CIPESA produce and publish commentaries, briefing papers and newsletters that are widely circulated aimed at sparking thinking and dialogue – and provide an overview of selected international ICT policy and Information Communication Technology for Development (ICT4D) issues relevant to African stakeholders.	05/03/2013
Anti Corruption Coalition of Uganda ACCU	ACCU brings together 70 civil society organizations, individuals, religious leaders, academicians, media practitioners and key institutions involved in the fight against corruption in Uganda. It was formed in January 1999 and registered as an NGO under the NGO statute which anti-corruption activists can enhance their capacity to tackle corruption and build a strong voice and force that can effectively engage government on issues of corruption. Since its inception in 1999, it has been lobbying and advocating	28/02/2013

	for appropriate anti corruption national policies, punitive measures, research, and exposure of corrupt activities; as well as the capacity building, coalition building and mobilization of the Ugandan citizens to fight corruption.	
Knowledge Management and Communication Capacity Initiative (KMCC)	The Uganda Knowledge Management and Communications Centre (KMCC) is an innovative multi-disciplinary hub that collates, synthesizes, analyses and communicates research and other knowledge to inform evidence-based policy and practice and thereby contributing to reduced annual HIV infections in the country.	27/03/2013
Northern Uganda Media Club NUMEC	NUMEC is an independent and non-partisan media development organisation formed by journalists and media professionals from or working in northern Uganda, with its offices in Gulu. NUMEC, with a membership of 80 journalists was conceived to revitalise the media terrain within the region and to help catalyse the reconciliation, resettlement, recovery and peace building efforts in the region. Its objective is to empower the communities through adequate and reliable information on programmes and development, enhancing peace, justice, accountability, good governance and development.	13/09/2013
Rwenzori Information Centres Network RIC-NET	RIC-NET is a community owned information sharing network of 50 centres at different levels, 20 community Information facilitators(CIF), 15 plant “Doctors” and 800 community process Facilitators (CPF) in information sourcing and sharing, operating in 28 Districts. The objective of the network is to develop structures that enhance citizen participation and engagement in wealth creation (and poverty reduction).	02/07/2013
Mulajje Information and Skills training Services MISTS	MISTS Centre, is a one stop centre for developing skills integrated with Information Communications Technology (ICT). MISTS Centre was established five years ago to cater for the needs of information access, ICT and development in the rural areas of greater Mukono district, including integrating Education training, IT development and provision of Internet services.	13/09/2013
Development partners		
DevTrac	DevTrac is a Ugandan initiative led by a consortium of government and donor agencies: including the GEO-IS Working group, OCHA, Uganda Bureau of Statistics and UNICEF - to visualize and monitor the status of national services (schools, health centers, water points, etc) and development projects. Its formation was motivated by the fact that Traditional data collection methods often struggle to capture timely, reliable data and display and disseminate it in meaningful ways. Through a combination of innovative data collection mechanisms, such as turning mobile phones into community reporting and information management tools, and efforts to improve connectivity to marginalized populations through locally appropriate hardware such as rugged computers and digital doorways, DevTrac aims to	

	merge traditional and real time data, while providing viewers the opportunity to simultaneously observe, inform themselves and contribute to this knowledge base.	
GIZ		
Academia		
Economic Policy and Research Centre EPRC	The EPRC was established in 1993 in a period of far-reaching donor-supported economic reforms in Uganda. It was designed to fill fundamental voids in economics research, policy analysis, and capacity building for effective in-country contributions to Uganda's policy processes. In this context, the EPRC was created to provide analytical backstopping for policy dialogue, formulation, implementation, and monitoring and evaluation. EPRC delivers research evidence on economic challenges facing Uganda and the African Continent. The overall objective of EPRC is to conduct and disseminate high quality economic research for policy formation and advise to the centre's stakeholders and contributing to building and strengthening analytical capacity through training and technical assistance.	15/02/2013

Table 2: Organisations that participated in the open data study in Kenya

Name	Organization	Role in organization
Linnet Kwamboka	Ministry of Information and Communication ICT Board	Formerly Project Manager of the Kenya Open Data Initiative
Leonida Mutuku	iHub Research	Research Manager
Dr Bitange Ndemo	University of Nairobi	Senior Lecturer (formerly the Permanent Secretary of the Ministry of Information and Communication)
Peter Kamau	The National Treasury	E-ProMIS Admin
John Matogo	Strathmore University, iLab Africa	Manager, Business Incubator
Athman Mohamed	TradeMark East Africa	Director, Research & Learning
Roukaya Kasenally, PhD	African Media Initiative (AMI)	Director of Programmes & Knowledge Management
S. K. Kiptorus	Ministry of Devolution & Planning	Chief Economist
Cleophas Kiio*	Kenya National Bureau of Statistics	Director, Information and Technology
Chris Finch*	World Bank Country Office	Senior Social Development Specialist
Kaburo Kobia	ICT Authority,	

Open Data Study-General Interview Guide

Open Data is data which is made accessible (usually online), in a standardise machine-readable format, and under a licence that allows it to be re-used. This particular study is primarily interested in Open Data initiative that meet all, or most of the criteria of the Open Definition (www.opendefinition.org). An **Open Data initiative** is any organized activity focused on providing open data (Supply side), or on securing access to open data (demand side). These may be national government led open data initiative, but may also be thematic and local initiatives for open data.

Introduction:

The overall aim of this study is to build an evidence based on the contribution of open data initiatives to key areas of governance in developing countries: exploring where data is impacting on processes of decision making and implementation. It also seeks to develop knowledge and action that will enhance the potential of open data to foster greater transparency and accountability, better economic efficacy and efficiency and greater inclusion and empowerment of marginalized groups.

Research questions:

- (1) How are open data initiatives in Uganda contributing to poverty reduction through impacts of resource mobilization?
- (2) How could the contribution of open data initiatives to poverty reduction resources allocations be strengthened in the future?
 - Choose a particular set of governance issues (e.g. debates over agricultural policy and :
 - (a) Look to see if you can find examples of where open data is being used at present; and ,
 - (b) Discuss or pilot the use of open data to learn about prospective roles of open data in this context.

1. How would you describe your institution – its origin and history; purpose and focus; links to (or use of) open data initiatives and/or programmes
2. Which open data initiatives and/or programmes exist in Uganda? What are the origins of these initiatives?
3. How have the initiatives evolved or changed? What have been the main drivers of the changes?
4. Which institutions do you consider to be the key stakeholders in open data processes? What are their interests? To what extent would you say that the interests of the stakeholders are inter-linked? How, if at all, do different stakeholders connect with the public/ communities
5. What links, if any, exist between the allocation of public resources by duty bearers on one hand, and existence of open data initiatives or processes on the other hand? How do decision-makers in resources allocation respond to the existence of open data?
6. What role/s do existing open data initiatives in Uganda play in promoting citizen/public engagement with governance institutions
7. What are the know benefits of open data? Evidence? In what ways do gender differences impact on such benefits? What are the drivers of these differences? In what ways could the differences be reduced
8. What are the main gender risks in promoting open data? How could those risks be mitigated
9. In what other ways does the open data process disenfranchise different sections of the population

10. How do institutions for open data initiatives in Uganda and Kenya differ? In what ways do these differences affect uses of open data?
11. How does open data interact with institutions and legislation? Can open data work in place of certain institutions or does it need the institutions but act to increase their effectiveness?
12. Which factors positively or negatively affect investment in open data initiatives/processes?
13. What lessons can Uganda learn from other countries with regard to introduction and implementation of open data initiatives?
14. In what ways could the impact of open data on resource allocation for poverty reduction be assessed quantitatively? What are your recommendations regarding design of such a study? What would be the key elements of the study?
15. Assuming that an open data initiative would function better if it were conceived within the eco-system framework, what would you consider to be the essential elements and/or components of such an ecosystem? What consequences would the different components have on their initiatives?
16. Uganda has in place a freedom of Information Act (assented to in 2005). To what extent would you agree that such legislation promotes data access for citizens and other users?
17. What are the key “levers” to uptake of open data in a country such as Uganda? What are the main barriers?
18. What role does “political will” play in promoting open data initiatives? What needs to be done to enhance this?

19. To what extent are such factors as limited technical capacity, awareness in civil society, political space for data use as well as other factors responsible for slow uptake of open data
20. What else would you like to say about the design and/or implementation of open data initiatives in Uganda?

Appendix 3: Some open data initiatives in Kenya and Uganda

Selected Open data initiatives in Uganda

Uganda Open Development Partnership Platform (ODPP)

ODPP is a CSO-led initiative to promote open development in Uganda. It was formed out of a belief that flows of resources for development – sources, management, means of transfer, administration, utilisation and the like, should be known by all stakeholders. Knowledge of this information is possible only if this information is made available and accessible by all stakeholders. The ODPP platform was established to ensure the availability and accessibility of this data, from its various sources, on a one-stop portal, and to also support use of this data to for transparency and accountability. ODPP collects and makes available existing government datasets and documents.

BOOST

BOOST is an initiative of the World Bank designed to boost public spending efficiency. BOOST transforms raw data from government financial management information systems for each expenditure item from Charts of Accounts into an easy-to-understand and easy-to-use database for detailed analysis. BOOST strengthens public expenditure policy outcomes and accountability by improving the quality of expenditure data, facilitating rigorous expenditure analysis and improving fiscal transparency. BOOST draws detailed government expenditure data from government financial management information systems and creates easy-to-use databases. Expenditure data can be combined with information on public institutions, service delivery and households to allow assessment of the efficiency and effectiveness of public spending. The ease of access and preparation of analytical reports supports decision-making for the purposes of planning, budgeting, monitoring and evaluation.

Kasese e-Society Resource Centre

The e-society was established in 2006 as a solution to inadequate access to timely and relevant information, a key aspect that limited citizens' effective participation in the planning and monitoring processes of Kasese district. The idea of an e-society was birthed under the broad development strategy of maximising Public-Private partnerships (PPP) which was enshrined in the Kasese district development plan of 2004-2005. The then e District Vision was "A Poverty free society by 2025". The district adopted provision of information through ICTs as one of the tools to fight poverty. It was envisioned that *"availing information would positively impact the people's mindset and help them learn ways of harnessing their resources"*. A partnership with the private sector was selected as an efficient and effective means in which these objectives would be achieved. The PPP, which brought together public sector, private sector and CSOs would serve to harmonise service delivery, ensure networking and collaboration at all levels, and avoid fragmented and replicated services.

Uganda Budget Information

As a part of ongoing reforms and initiatives aimed at improving the transparency and accountability of public spending, the Government of Uganda, through the Ministry of

Finance, Planning and Economic Development (MoFPED), in 2013 launched a website from which Uganda budget information can be accessed. The Uganda Budget Information website (www.budget.go.ug) aims to provide all Ugandans with access to detailed information on how public money is being spent on the provision of services throughout the nation.

There are four key aspects to the website:

- The *Budget Library* is a searchable database of important budget documents from the National, Sector and Local Government level.
- *Your Local Budget* allows users to see how funds are being allocated and utilised up to the Parish level. Information on public services – such as schools, health centres and infrastructure projects – is available and users can provide feedback on service delivery in their local area.
- The *Subscribe service* allows users to register for notifications of new information published on the site. Users can select what type of information they wish to receive (health budgets, the National Budget, etc) and receive email updates according to their interests.
- The *Feedback function* allows users to provide feedback on budget utilisation of resources in their local area (down to the Parish level). This includes the ability to upload photos and make comments.

Devtrac

DevTrac is a Ugandan initiative led by a consortium of government and donor agencies: including the GEO-IS working group, OCHA, Uganda Bureau of Statistics and UNICEF - to visualize and monitor the status of national services (schools, health centers, water points, etc) and development projects. Its formation was motivated by the fact that Traditional data collection methods often struggle to capture timely, reliable data and display and disseminate it in meaningful ways. Through a combination of innovative data collection mechanisms, such as turning mobile phones into community reporting and information management tools, and efforts to improve connectivity to marginalized populations through locally appropriate hardware such as rugged computers and digital doorways, DevTrac aims to merge traditional and real time data, while providing viewers the opportunity to simultaneously observe, inform themselves and contribute to this knowledge base.

Selected open data initiatives in Kenya

Code4Kenya

Code4Kenya (C4K) is a Pilot program and a global first. Jointly funded by the World Bank's Innovation Fund and Governance Partnership Facility, together with the Africa Media Initiative, through their Digital Projects Division, C4K will embed 4 fellows in Media and Civil Society Organizations, backed by external software development team that are housed at an incubation facility. The pilot program will run for a duration of 5 months starting from the 1st of July to the 30th of November. During this period, both the Developers and the Fellows will work towards a number of objectives such as getting the host's to understand the value of Open Data Ecosystems to their Organisations, Conduct assessments on the level of investment and understanding the host Organization needs to create in house capacity and Data Desks, Creating Data Portals that allow Organizations to open up their Data and derive

the benefits from partnerships with Developers and create a sustainable application or service within the 5 month pilot period.

[DHIS2](#)

DHIS 2 is the preferred health management information system in 30 countries and even more organizations across four continents. DHIS 2 helps governments in developing countries and health organizations to manage their operations more effectively, monitor processes and improve communication. DHIS 2 supports the management of aggregate data and routine data through a flexible meta-data model. DHIS 2 has advanced features for data visualization, like GIS, charts, reports, pivot tables and dashboards which bring meaning to your data.

[e-ProMIS](#)

e-ProMIS (electronic Project Monitoring Information System) is a Web-based information collection, tracking, analysis and planning tool. It is an information *system for* monitoring projects development and implementation. It is meant to capture information on projects implemented by ministries, state corporations and counties. All government organisations are encouraged to have their projects in the system and have them updated regularly. To provide information on Constituency Development Funds (CDF) managers are encouraged to enter information on all projects implemented at the constitutional level.

[MajiData](#)

MajiData is the pro-poor database covering all the urban low income areas of Kenya which has been prepared by the Ministry of Water and Irrigation (MWI) and the Water Services Trust Fund (WSTF) in cooperation with UN-Habitat, the German Development Bank (KfW), Google org. and GIZ. It contains a large amount of important information on all urban low income areas of Kenya. This online database will assist the Water Service Providers (WSPs) and Water Services Boards (WSBs) to prepare tailor-made water supply and sanitation proposals for the urban slums and low income planned areas located within their service areas. The fact that data is linked to satellite imagery will also allow for the improved management and operation of these areas by WSPs. MajiData provides the Water Sector with the information required to measure impact and progress towards the achievement of the Millennium Development Goals and the targets set by our Vision 2030.

About the participating Organisations

Since 1992, [Development Initiatives \(DI\)](#) has been working with governments, multilateral organisations and NGOs. Our programmes focus on poverty elimination and we have a particular expertise in analyzing, interpreting and improving information about resources for development, particularly aid, and making these more transparent and accessible. The DI [Africa Hub](#), based in Nairobi, provides a regional perspective to Development Initiatives' work globally. The hub produces high quality analysis and policy briefings, contributes to capacity development for analysis, and engages at a high level to influence policy - enabling and supporting evidence based policymaking which recognises the needs of people living in extreme and chronic poverty.

[Development Research and Training \(DRT\)](#) on the other hand is a Ugandan based not-for-profit organization, whose core work is to carry out policy-oriented research and analysis focusing on

eradication of poverty and more specifically chronic poverty. DRT has since 1997, worked with governments, multilateral organizations, NGOs and communities to undertake specific policy oriented research and to facilitate analyses aimed at informing and influencing poverty reduction efforts in Uganda and in other the East African Countries. DRT has built particular institutional expertise in research, analysis, interpretation and information dissemination about poverty and more specifically chronic poverty, and has been at the forefront of promoting the open data movement in Uganda. The organisation's focus has especially been on the potential data availability and access can have on key resource allocation decisions for poverty eradication initiatives.

For over one year now, DI has been working with DRT to develop a conceptual understanding of the link between open development, access to information, governance and poverty eradication. This dialogue ultimately led to the establishment of the civil society-led [Uganda Open Development Partnership Platform](#) in September 2012. The initiative has facilitated discussions among a wide cross-section of open data stakeholders which are leading to a multi-stakeholder open data programme in Uganda. An example is a roundtable forum convening a wide array of stakeholders held in March 2013 in Kampala Uganda to discuss [Open Data Ideas for Uganda](#). DI and DRT have also come together and partnered with community level organizations in both countries to support efforts to increase the access and use of information about resources for poverty eradication, essentially reaching ordinary citizens to use information to engage, influence decision making and resource allocation.

At DI and DRT, we want to understand demand for, capacity to use, and impact of the use of information. Articulating this clearly is central to ensuring that information providers publish and share information in a way that meets the needs of users.