OPEN DATA IN ETHIOPIA

REPORT ON THE OPEN DATA LANDSCAPE IN ETHIOPIA PREPARED IN SUPPORT OF THE DEVELOPMENT OF THE NATIONAL POLICY & GUIDELINES FOR THE IMPLEMENTATION OF OPEN DATA IN ETHIOPIA

Stephane Boyera, François van Schalkwyk & Aman Grewal

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Acronyms and abbreviations

CCRDA	Consortium of Christian Relief and Development Associations
CoST	Construction Sector Transparency initiative
CSA	Central Statistical Agency
CSO	civil society organisation
EIO	Ethiopian Institution of the Obudsman
EITI	Extractive Industries Transparency Initiative
GTP	Growth and Transformation Plan
MCIT	Ministry of Communication and Information Technology
MCS	Ministry of Civil Service
NPC	National Planning Commission
ODB	Open Data Barometer
ODRA	Open Data Readiness Assessment
OGP	Open Government Partnership

1 Introduction

The broad purpose of this report is to conduct an assessment of the current state of open government data in Ethiopia in order to identify achievements since the launch of the Initiative, as well as bottlenecks and challenges identified by the various stakeholders in the Ethiopian national data ecosystem.

Using the Ethiopia Open Data Readiness Assessment (ODRA) conducted by the World Bank in June 2014, this report will provide an update on the progress made since the ODRA, identify specific challenges that have surfaced and recommend interventions that will address those challenges.

This document is prepared by Stephane Boyera, François van Schalkwyk and Aman Grewal, for the Government of Ethiopia as the second deliverable of the contract ODI-C 01/IC/2016 the aim of which is to "Develop National Policy & Guidelines to Implement Open Data in Ethiopia". This report is structured as follows:

1. **International context.** Current trends in terms of open data policy and practice, and Ethiopia's relative position in terms of open data when compared to similar countries.
2. **Stakeholder analysis.** An analysis of key stakeholders (actors) in the Ethiopian open data ecosystem.
3. **Open data readiness.** Progress made since the ODRA conducted in 2014 on the readiness of the Ethiopian Government to implement and institutionalise open data practice. Includes an assessment of changes in the government's practices and procedures as they relate to data management.
4. **Open data portal.** Progress made since the ODRA conducted in 2014 in terms of the publication of open data by the Ethiopian Government.
5. **Legislative and policy context.** A review of current and proposed legislation and policy that is of relevance to the drafting of an open data policy for Ethiopia.
6. **Demand for open data in Ethiopia.** An overview of the existing demand for open data in Ethiopia and the role that data labs could play in stimulating the demand for open data in the Ethiopian data ecosystem.
7. **Recommendations and option to consider when drafting Ethiopia's open data policy.** Based on the items above, key factors to consider when drafting the open data policy and options are presented on how to proceed with implementation.

Methodology

The data informing this document was collected by means of desk research followed by a series of semi-structured interviews conducted in person by two members of the consultant's team with purposively selected informants in Ethiopia between 14 and 18 August 2017.

See Appendix 3 for a full list of interviews conducted.

2 Findings

International context

Global drivers and trends

Globally, the open data landscape is dominated by several drivers, including the International Open Data Charter, the Open Government Partnership, the Sustainable Development Goals, the International Open Data Conference, Africa Open Data Conference and the World Bank's Open Data Readiness Assessment. Sector-specific global open data initiatives include the International Aid Transparency Initiative, G20 Anti-corruption Open Data Principles, and the Extractive Industries Transparency Initiative. Two measurement tools that focus specifically on open data at the national level have been developed: the Open Data Barometer and Global Open Data Index.

In this section, we provide a brief overview from a non-exhaustive list of some of these global drivers for governments to initiate and sustain the release of open data.

Seventeen national governments have formally adopted the Open Data Charter. The Charter's principle of "open by default" sets the bar high in terms of a government-wide commitment to publishing open government data. Nine of the seventeen countries are in Latin America and only one African country, Sierra Leone, has adopted the Charter. Four of the top ten countries in the most recent edition of the Open Data Barometer have endorsed the Charter. Ethiopia has not adopted the Charter.

The Open Government Partnership (OGP) is a membership organization of 75 countries that aims to secure commitments from governments to promote transparency and accountability in governance. Included in the commitments made by OGP member countries is the commitment to increase the availability of information about governmental activities. Many member countries interpret this commitment as the publication of open government data. Of the 75 OGP member countries, 22 have completed 54 commitments related to open data (Appendix 2). Ethiopia is not a member of the OGP.

In September 2015 the United Nations General Assembly approved long-term, broad development targets to be attained by all member countries by 2030, known as the Sustainable Development Goals (SDGs). There are seventeen goals and a total of 231 indicators that are used to identify how far each country has progressed in reaching the SDGs. The need to identify the current status of each of these goals and tracking ongoing progress has created significant demand for data in developing countries around the globe. As a country, Ethiopia will need a functional data inventory to set a baseline for SDG data and track progress on achievement of SDGs. Furthermore, identification of gaps in data availability, reporting and financing will need policy-level support.

One of the key starting points of a country-level initiative is an Open Data Readiness Assessment (ODRA). The ODRAs are promoted and supported by the World Bank. Ethiopia participated in a World Bank ODRA in 2014. The ODRA concluded that Ethiopia was well-positioned to develop and sustain a national open government data initiative. The ODRA noted a comparatively strong supply side backed by well-established political will to support an open data initiative. The reported also noted a weak demand for open data. Recommendations included launching an open data portal, stimulating

the demand side and establishing a cross-agency Open Data Steering Committee.

In addition to global drivers, and perhaps in response to them, Africa-wide initiatives are also shaping the release of open government data. On the continent, the Africa Data Consensus is the most notable development. The Consensus was adopted by the High Level Conference on Data Revolution, a side event of the 8th AU-ECA Joint Conference of Ministers, on 31 March 2015. Resolution L4 – Data revolution and statistical development states that the conference of ministers "Undertakes to ensure that the African data revolution is built on the principle of openness across the data value chain and on vibrant data ecosystems driven by national priorities and anchored in national statistics systems that are inclusive of all data communities and stakeholders".

Open data policies

In response to global drivers, many national governments have drafted and published open data policies. In some cases, these are stand-alone open data policies while in other instances, the policies on open data are integrated into broader policies on, for example, ICT or the statistical system.

Governments have also responded to international trends and pressures by making open data "declarations". In some cases, such as the UK and Australia, these declarations preceded the adoption of the Open Data Charter. The intent of these declarations is to signal the political intent of the government concerned, and to give top-level collective political backing to the implementation of its open data initiative. For instance:

1. The Cabinet of the Government of New Zealand agreed and published a "Declaration on Open and Transparent Government" on 8 August 2011. The declaration is related solely to Open Data.

2. The Minister for Finance and Regulation in Australia issued, on behalf of the Government, a "Declaration of Open Government" on 16 July 2010. The central recommendation of the report of the Australian "Government 2.0 Taskforce" (which proposed an open data policy) was that the Australian Government should make such a declaration.

3. In the US, former President Obama has made two similar declarations. The first, on his first day in office in January 2009, was a memorandum on "Transparency and Open Government" and covered not only transparency but also participation and collaboration. The second, issued on 9 May 2013, was an Executive Order on "Making Open and Machine Readable the New Default for Government Information" and concentrated specifically on Open Data.

4. The UK has not made a similar political declaration (there have been detailed policy publications in White Papers), although the Prime Minister's letter on Transparency on 29 May 2010 is in the same vein.

Table 1 provides a summary of key elements of selected open data policies put in place by the governments of developing countries, as well as key elements of the International Open Data Charter adopted by several national governments internationally. For each of the key elements listed in the header row of the table, policies were analysed as to whether the element was included in the policy document and, if it was included, whether any specific information or directive was provided in the policy relating to the key element.

Table 1 reveals the following about the open data policies of the developing countries included in the analysis:

1. Open data policies are drafted by different government departments and ministries. Common to those analysed is some responsibility for the oversight and management of technology.

2. Both development (social and economic), and transparency and accountability are commonly stated objectives for drafting an open data policy. Absent from the open data policies is a more explicit statement that the objective of the policy to assist, steer and coordinate government activities towards delivery of a successful open data initiative.

3. All policies, with the exception of Tanzania, make clear statements about the underlying principles of the policy. Open by default is a commonly expressed policy principle.

4. All policies apply to all government data but in all cases there are also clear

statements about which data cannot be made open for legitimate reasons of privacy, state security, etc. All countries, with the exception of Tanzania, describe a process to be followed in order to determine which datasets to exclude from those to made available as open data.

5. Only India specifies the number of datasets that each government entity should publish as open data, and the time-frame for publication. None of the countries makes any reference to specific government datasets to be published as open data.

6. All policies make reference to the application of standards and licenses. None are specific about what licenses and standards to apply. Most policies refer to the relevance and precedence of existing legislation, but none address or resolve any possible discord between the policy and existing legislation.

7. All policies, with the exception of South Africa, make reference to how the implementation of the open data policy will be coordinated. Coordination most often involves multiple government entities and, in some cases, the establishment of a new coordinating entity, most often located within an ICT-related ministry.

8. Only Rwanda makes reference to the handling of data requests, and only the Charter acknowledges the importance of engagement and feedback mechanisms between government and the users of its data. Data quality is usually the preserve of the government entity publishing the data or, as is the case in Tanzania, of the national statistical agency.

9. The financial burden on government of implementing and sustaining an open data initiative is acknowledged in most policies. However, it is only Rwanda that includes a 5-year budget in its policy. Both Rwanda and Tanzania reference public-private partnerships as being required to sustaining an open government data initiative.

The Open Data Institute conducted a similar exercise in 2014 comparing key elements of open data policies of the governments of selected developed countries. Their findings are included for comparative purposes:

It is important to note that in some cases, open data policies are very specific in terms of stipulating a specific open data license, providing time-frames for implementation or setting out a detailed budget for the implementation of the open data policy. In other cases, open data policies provide only broad statements of a particular government's policy position on open data. In these cases, the publication of an open data policy may to be followed by the issuing of a directive that sets out the detail on government proposes to implement policy.

Ethiopia's comparative position regarding open government data

We compare Ethiopia to a selected group of countries based on a number of indicators shown in Table 3. Countries were selected for similarity using government type and population, and using income grouping for diversity. Government type, income grouping and population are indicative of the governance context. Gross national income (GNI) per capita and gross enrolment ratio (GER) in secondary schools are proxies for the national socio-economic conditions. Levels of schooling are indicative of a population's capacity to process and interpret data and/or information. The proportion of internet users in relation to a country's population is indicative of the level of access to online data and information, while the statistical capacity indicator is a measure of the capacity of a country's national statistical system, the nerve centre for national data collection and dissemination.

Table 3 shows that at face value there is a correlation between the socio-economic indicators (GNI per capita and GER in secondary schools) and those indicators that have a bearing on the country's data use capacity (internet users and statistical capacity). The table shows that the two low-income countries – Ethiopia and Tanzania – are similar in terms of income per capita and levels of education. The marked difference between the two countries, is the lower number of internet users as a proportion of the population in Ethiopia (12%) compared to Tanzania (50%). Internet use in Ethiopia may be higher in urban areas, and particularly in the capital, Addis Ababa. If this is the case, policy may favour a focus on urban centres where the number of internet users is highest.

Table 1: Key elements of selected national open data policies: Developing countries

COUNTRY & TYPE OF DATA	PUBLISHED BY	OBJECTIVE(S)	PRINCIPLES	SCOPE
INDIA	National Data Sharing and Accessibility Policy [2012]			
Sharable data	Department of Science & Technology in the Ministry of Science & Technology	Development. Planning.	Specific.	All government data. Differentiates between sharable and non-sharable data. Sharable data are those data not covered in the negative list and are non-sensitive in nature.
RWANDA	National Data Revolution Policy 2017			
Data in general, and big data and open data in particular	Ministry of Youth & ICT	Development. Planning & monitoring. Transparency & participation. Innovation.	Specific.	Open by default. All non-sensitive government data.
SOUTH AFRICA	National Integrated ICT Policy White Paper 2016			
Open data	Department of Telecommunications and Postal Services	Multiple objectives related to ICTs but includes a specific objective related to open data.	Specific.	Open by default. Non-personal, public data.
TANZANIA	Open Data Policy Draft 2016			
Open data	Not specified. (EGA)	Development. Transparency, accountability and empowering citizens. Standardisation.	No reference.	Open by default. All government data. Subject to considerations of "privacy, national security, protection of honour and reputation, public order and safety or other confidentialities."
International	International Open Data Charter 2015			
Open data	Open Data Charter	To provide governments with a predefined set of endorsable open data principles. Improved governance and citizen engagement. Inclusive development and innovation.	Six principles are the foundation for access to data and for the release and use of data.	All data. Open by default. Recognizes that there are legitimate reasons why some data cannot be released.

Notes to the table

Column: Principles: 'Specific' means that the policy contains a list of clearly articulated principles that frame the policy; 'No reference' means that the policy does not make an statements of principle to frame the policy.

Column: Scope: "Open by default" indicates that the policy contains a specific reference to government data being open by default. Also indicated are the exclusions and exceptions from the open by default position stipulated in the policy.

Column: Datasets: "Nonspecific" means that the policy makes reference to government agencies publishing valuable or important open data but does not provide a list of the datasets to be published; "No reference" means that the policy does not make reference to the publication of valuable or important datasets; "Quantified" means that the policy provides measurable indicators related to the publication of datasets (e.g. the number of datasets to be published, the period in which datasets must be published; frequency of publication; etc.).

Column: Standards: "Included" means that the policy contains a specific section on open data standards; "Acknowledged" means that the policy acknowledges the importance of standards but does not provide much by way of detail; "Specific/non-specific" refers to whether the policy specifies any existing standards or practices to be followed by government agencies.

Column: Licensing: "Included" means that the policy contains a specific section on data licensing; "Acknowledged" means that the policy acknowledges the importance of assigning licences but does not provide much by way of detail; "Specific/non-specific" refers to whether the policy specifies any existing licensing regime to be used by government agencies; "Open/restricted" refers to whether the policy makes it clear whether

	DATASETS	STANDARDS	LICENSING	COORDINATION	REQUESTS & FEEDBACK	RESOURCING
	Nonspecific. Quantified.	Included. Non-specific.	Included. Nonspecific. Restricted.	Included. Specific. Two existing entities plus newly established committee.	No reference.	Acknowledged. Financial. Nonspecific.
	Nonspecific. Unquantified.	Included. Non-specific.	Included. Nonspecific. Open.	Included. Specific. Single existing entity plus multiple new structures within that entity.	Included. Non-specific.	Included. Financial. Detailed 5-year budget.
	Nonspecific. Unquantified.	Acknowledged. Non-specific.	Acknowledged. Nonspecific.	No reference specific to open data.	No reference.	No reference.
	No reference.	Acknowledged. Nonspecific.	Acknowledged. Nonspecific.	Included. Multiple existing entities with a single lead entity.	No reference.	Acknowledged. Financial. Skills. Nonspecific.
	No reference.	Acknowledged. Nonspecific.	Acknowledged. Nonspecific.	Acknowledged. Nonspecific.	Acknowledged	Acknowledged. Skills only. Nonspecific.

government should commit to open licenses (e.g. Creative Commons), or whether the licence regime referenced includes licences that are of a restrictive nature (e.g. copyright).

Column: Coordination: "Included" means that the policy includes detail on how the implementation of open data across government is to be coordinated; "Acknowledged" means that the policy acknowledges the importance of coordination but does not provide much by way of detail; "Specific/non-specific" refers to whether the policy provides detail on the coordinating structure (e.g. steering committee, office, ministries and agencies represented, lead entity, frequency of meetings, levels of authority, etc.).

Column: Request/Feedback: "Included" means that the policy includes detail on (1) procedures for requesting open data not available from a government entity or from the open data portal and (2) how data users can provide feedback to government related to the available open data (e.g. on completeness, quality, etc.); "Acknowledged" means that the policy acknowledges the importance of mechanisms and processes to enable data requests and feedback; "Specific/non-specific" refers to whether the policy provides detail on mechanisms and processes to enable data requests and feedback.

Column: Resourcing: "Included" means that the policy includes detail on the resources required to implement open data across government; "Acknowledged" means that the policy acknowledges the importance of resourcing an open data initiative;; "Specific/non-specific" refers to whether the policy provides detail on the resources required and "financial" and/or "skills" indicates a specific reference in the policy to the kinds of resources required.

Table 2: Key elements of selected national open data policies: Developed countries

Element of open data policy	UK	USA	Japan	Australia
Data will be released in an open, accessible machine readable, re-usable format in a timely manner	☑	☑	☑	☑
Data released will have a license for reuse and remodelling	☑	☑	☑	☑
Plan to release datasets quickly, and then work to make sure that it is available in open standard formats, including linked data forms	☑	☑	☒	☑
Only anonymised data released and personal data protected	☑	☑	☑	☑
Public bodies will actively encourage the re-use of their public data	☑	☒	☑	☑
Guidance or other regulations for implementation created	☑	☑	☑	☑
Processes that ensure data quality promised or created	☑	☑	☑	☑
High value datasets first released based upon customer needs and goals of government	☑	☑	☑	☑
Oversight authority for the open data initiative created or appointed	☑	☑	☑	☑
Process for measuring successful use of data, e.g. capturing metrics on users, creating stories, etc	☑	☑	☒	☒

Table 3: Comparative indicators for countries similar in size and government type

Country	Government type	Income grouping	Population	GNI per capita	GER: secondary schools	Internet users as % of population	Statistical capacity
Ethiopia	Federal parliamentary republic	Low	102 403 196	660	35.2	12%	70.0
Germany	Federal parliamentary republic	High	82 667 685	43 660	102.7	88%	n/a
India	Federal parliamentary republic	Lower middle	1 324 000 000	1 680	73.97	26%	81.1
Mexico	Federal presidential republic	Upper middle	127 540 423	9 040	90.6	57%	98.9
Nigeria	Federal presidential republic	Lower middle	185 989 640	2 450	55.7	47%	67.8
Tanzania	Presidential republic	Low	55 572 201	900	32.3	50%	73.3

Notes: See Appendix 1.

Figure 1 shows the Open Data Barometer (ODB) scores for the comparison countries. The ODB measures readiness, implementation and impact of open data at the national level. The figure shows a marked correlation between a country's socio-economic indicators, data capacity (Table 3) and ODB score across the selected group of countries, that is, those countries with higher levels of education and income per capita (Germany and Mexico) score better on the ODB. Higher statistical capacity also appears to contribute to a higher ODB score in this group of countries, highlighted by India's relatively high level of statistical capacity, relatively similar socio-economic indicators to Ethiopia, Nigeria and Tanzania, but significantly higher ODB scores relative to those countries. Of note is that in 2016, Mexico scores better on the ODB than Germany despite a significantly lower number of internet users at 57%. The number of internet users in Mexico is comparable to Nigeria (47%) and Tanzania (50%) but neither African country scores as well on the ODB. Internet users is either a weak proxy for performance on the ODB, or internet use needs to be disaggregated for urban and rural populations for it to be more informative.

All countries show improvement in their ODB scores over time, and all three African countries, including Ethiopia, show a significant improvement from 2015 to 2016. In Ethiopia and Tanzania, the increase from 2015 to 2016 follows deteriorating ODB scores for the preceding 3-year period. The single biggest contributor to the increase in ODB scores in these African countries has been the efforts of governments in setting up open data portals and publishing selected open data predominantly on budgeting, health and education.

Stakeholder analysis

According to the ODRA, due to lack of awareness and capacity, there is not much activity in terms of exchange between civil society, the IT sector and government regarding open data. This is one of the challenges that is impeding the advance of the open data initiative at a macro level. In this section, we provide a short overview of the key stakeholders in the Ethiopian data ecosystem.

Government

Government is not a homogenous entity but is comprised of several ministries, departments and agencies, each with distinctive cultures and specific mandates. These government entities may resist

Figure 1: Open Data Barometer scores 2013-2016, selected countries

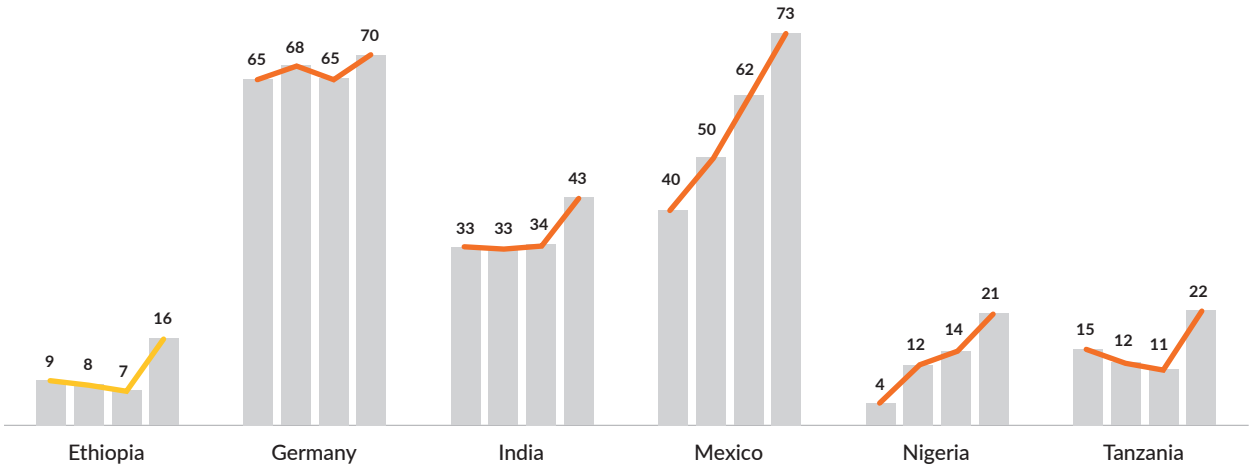
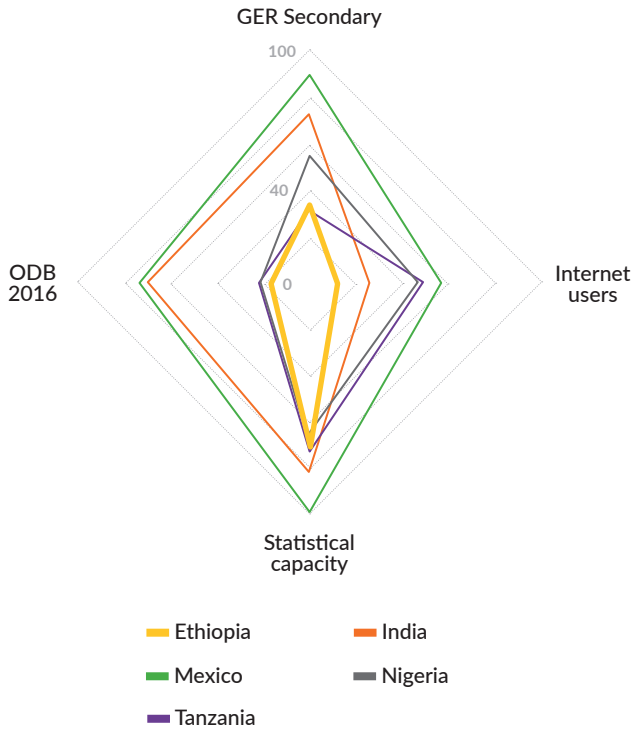


Figure 2: Relationship between gross enrolment in secondary school, percentage of internet users, statistical capacity and ODB 2016 score



and seek to protect their domains in the face of change. Given that all government entities are potential sources of government data, each one should be acknowledged as a stakeholder in the data ecosystem.

One of the challenges facing the implementation of open data initiatives in government is to coordinate the implementation of new initiatives across government (and related executive and oversight structures). In particular, coordination is critical across those government entities responsible for different aspects of an open data initiative. The infrastructure required and the drafting of standards to ensure the interoperability of government information systems are likely to fall within the mandate of a government department responsible for ICTs; the justice system, or in some cases dedicated agencies, are likely to be responsible for monitoring and handling freedom of information requests for public information from the public; the statistical agency is likely to be responsible for conducting national surveys, making the data from those surveys available and for ensuring the quality of statistics across government; an entity for training of public services and ethics oversight; parliament enacts bills and legislation that impact on the legality of opening government data; and in those countries who are members of the Open Government Partnership, a specific department or agency may be mandated to oversee the implementation a government open data initiative. In the case of Ethiopia, the following government entities appear to be key: the Ministry of Communication and Information Technology (MCIT) (infrastructure and interoperability), the Office of the Ombudsman (access to public information), the Ministry of Civil Service (MCS) (training and ethics in the public service), the Central Statistical Agency (CSA) (data supply and quality control), and the National Planning Commission (NPC) (data consolidation, resupply and use). In the following sections, the roles of the NPC and the Ombudsman are explored in greater detail.

A recently established autonomous federal government entity is the National Planning Commission (NPC). The NPC is tasked with, among other duties, the implementation of Ethiopia's Second Growth and Transformation Plan (GTP II).[1] More specifically, three of the NPC's duties are relevant in terms of open data: (1) developing an implementation matrix by line ministry at the federal level and by bureau at the regional level including indicators covering the entire sector plan; (2) guide the Central Statistics Agency and the Ethiopian Mapping Agency as these institutions are accountable to the Commission; and (3) conduct periodic monitoring and evaluation of the GTP II. The GTP II is accompanied by a detailed policy matrix[2] that:

> is designed to address three main objectives. Firstly, it aims at informing citizens, public institutions, non-state actors and development partners regarding the macro and sectoral goals, targets and the expected results of the second Growth and Transformation plan so that they can consider them in their individual and institutional decisions. Secondly, to align and harmonize the targets and indicators articulated in GTP II with the indicators and targets of SDGs. Thirdly, to develop national monitoring and evaluation framework that can be used as a guide to qualitatively and quantitatively monitor and evaluate the performance and implementation of the Second Growth and Transformation Plan and Sustainable Development Goals.

1 http://www.npc.gov.et/documents/10157/395b9c8a-09d9-4d6e-ac5d-35b95898b020

2 http://dagethiopia.org/new//docstation/com_content.article/100/gtp_ii_policy_matrix_english_final___august_2016.pdf

According to the NPC Minister Dr Yinager Dessie, the NPC is nothing without data. To support its need for accessible government data in order to monitor the implementation of the GTP II, the NPC has proposed the development of a National Data Centre (and several regional- and sector-level data centres). The NPC is therefore a central point at which a range of government data is collected and used, as well as a point at which data can be resupplied to other government entities and external stakeholders. The confluence of data at the NPC and the plans for a National Data Centre make the establishment of a data lab a logical next step. Experiences in Indonesia and Tanzania following the establishment of the Jakarta Open Data Lab and the Tanzania Data Lab (dLab), highlight the positive role that the lab can play in stimulating the effective use of data. The dLab was instrumental in mainstreaming the use of the ADAPT tool[3] that enhanced the capacity of the National Bureau of Statistics to report on the SDGs as well as on Tanzania's National Development Plan II. ADAPT is a web-based planning tool developed and supported by PARIS21.[4] It is a consultative tool that brings development stakeholders together defining the measurement context within an indicator framework for monitoring development indicators such as the SDGs and national, sectoral and sub-national development plans. ADAPT allows for the identification of gaps in data, reporting, financing and disaggregation. ADAPT also contains planning and costing modules that facilitate the planning of data collection and help advocating for better financing of statistics.

The Ethiopian Institution of the Ombudsman (EIO) is another stakeholder within government structures that has recently risen in prominence due the Office's responsibilities articulated in the Freedom of Mass Media and Access to Information Proclamation[5] (no. 590/2008). In 2000, legislation enabling the duties of the EIO was passed by Parliamentary Proclamation (no. 211/2000). The Proclamation established that the main function of the EIO is to prevent and rectify maladministration and thus to promote good governance. The EIO is an independent institution that intervenes free of charge at the request of citizens. It assists citizens in an impartial manner to settle disputes with government via the regional and federal administrative authorities.

The Ombudsman is responsible for reviewing the appeals of citizens who have been refused access to information by public bodies. The Freedom of Mass Media and Access to Information Proclamation also directs the Ombudsman to make recommendations to parliament for the improvement of access to information and to train public relations officers of public bodies to ensure effective implementation of the Proclamation (Section 32, Part 2). The Proclamation makes provision for "adequate additional budget" to allow the Ombudsman to carry out these tasks (Section 32, Part 3).

The Ethiopian National Archives and Library Agency, a government agency with expertise in both the curation of information and in making information accessible and usable, could play an important role in providing guidance on the publication of open government data. While the National Archives as a national repository may be more familiar with of printed matter, gray literature, documents, manuscripts, historical archives, records and the like, its knowledge of organising, describing and indexing materials may be equally applicable to the archiving and retrieval of open government data. As the National Archive states on its website:

> Information plays a great role in improving education, bringing better development, developing science and technology and advancing knowledge. When information resources gathered, organized and used properly it can be a great weapon to solve the problems of a society. For these reason Archives, Libraries and documentation centers play very vital role to get well organized and enriched information.[6]

Civil society

Civil society organisations are regulated by the government, and their autonomy is relatively weak. The government monitors the activities of civil society and NGOs under the Charities and Societies Proclamation (no. 621/2009) which places restrictions on CSOs that receive more than 10% of their funding from foreign sources. The consequences of the Proclamation, combined with other non-legal factors, has seen the number of active CSOs in Ethiopia shrink over the past few years.[7]

3 http://www.paris21.org/ADAPT

4 http://www.paris21.org/

5 http://www.ethombudsman.gov.et/index.php?option=com_docman&task=doc_download&gid=23&Itemid=60&lang=en

6 http://www.nala.gov.et/Pages/CommonPage.aspx?Id=1

7 http://www.ccrdaeth.org/index.php?option=com_content&view=article&id=197:prime-minster-hailemariam-expresses-his-governments-willingness-to-revisit-cso-law

In addition to the effects of the Proclamation, social unrest in 2016 and a declaration of a state of emergency in Ethiopia may well have hampered engagement between government and civil society in general. As Freedom House reports:

> In June, the Charities and Societies Agency, the government body that regulates nongovernmental organizations (NGOs), announced that it had shut down more than 200 NGOs in the last nine months. The agency cited failure to comply with numerous requirements of the Charities and Societies Proclamation (CSP) and lack of funding as reasons for the closures. The announcement followed the agency issuing a directive that seeks to impose penalties for noncompliance with the CSP.[8]

Putting aside the veracity and accuracy of Freedom House's interpretation of events that unfolded in 2016, it seems fair to conclude that the relationship between government and civil society was strained during this period. However, more recently, CSOs and government have engaged on more positive terms. On 13 April 2017, Prime Minister Hailemariam Desalegne met with representatives of CSOs to discuss a range of issues. CSO representatives presented a proposal for the amendment of Ethiopian Charities and Societies Law to improve its implementation. Prime Minister Hailemariam Desalegne expressed government's willingness to revisit CSO law.[9]

The Office of the Prime Minister in partnership with the UNDP on 21 April 2017 hosted a National Civil Society Dialogue Forum on the theme "The Role of Civil Society in Ethiopia's Democratic System Building: Experiences, Challenges and a Way Forward" . A paper presented at the Forum by Dr Fisseha Assefa highlighted the need for CSOs to act as a bridge between citizens and the state, and for CSOs to strike a balance between, on the one hand, being autonomous and free from government control and, on the other, to represent effectively their constituencies and not to meddle in politics.[10]

Citizens

Citizens are included as a stakeholder group distinct from CSOs because it cannot be assumed that CSOs act comprehensively or adequately in the interests of all citizens (and/or non-citizens residing in Ethiopia). All government entities interviewed indicated that the government of Ethiopia supports greater openness in the interest of Ethiopian citizens. However, there was no differentiation between citizen groups, what the respective interests of different citizen groups might be, and how these groups may benefit from a more open government. Such lack of specificity is consistent with the passive approach to the disclosure of data on the part of many government entities in Ethiopia.

Hubs, labs and similar initiatives

Code4Ethiopia, Open Knowledge Ethiopia and HacksHackers Addis Ababa are some of the civil society communities based in Ethiopia. They are communities rather than registered CSOs. All three have reported that they have made use of the provisions in the Freedom of Mass Media and Access to Information Proclamation[11] (no. 590/2008) to access government data.[12]

On 5 March 2016 on International Open Data Day, Code4Ethiopia co-hosted an event in Addis Ababa to bring together dozens of people interested in open data.[13] Around 25 participants from universities, non-government organisations, civil society organisations and government ministries joined the event which focused on awareness among various communities in Ethiopia. The event was organised by Code4Ethiopia and Open Knowledge Ethiopia with support from the Open Knowledge Foundation and Addis Ababa University (AAU).

In August 2016, a Data Bootcamp was hosted by the World Bank with the support of the University of Addis Ababa and it appears that the event was the first of its kind. During the three-day event, participants explored how to access and use open data.[14]

Code4Ethiopia has attempted to promote open data in partnership with government. However, government has not been responsive with a common response being that government does not need the assistance of third parties to implement

8 Freedom House (22 July 2016) Ethiopia: Attack on Civil Society Escalates as Dissent Spreads. https://freedomhouse.org/blog/ethiopia-attack-civil-society-escalates-dissent-spreads

9 http://www.ccrdaeth.org/index.php?option=com_content&view=article&id=197:prime-minster-hailemariam-expresses-his-governments-willingness-to-revisit-cso-law

10 CCRDA Update April 2017.

11 http://www.ethombudsman.gov.et/index.php?option=com_docman&task=doc_download&gid=23&Itemid=60&lang=en

12 Solomon Mekonnen, Abstract submitted to the Second Open Data Research Symposium 2016.

13 https://medium.com/code-for-africa/celebrating-international-open-data-day-in-ethiopia-dd396fe9dc2d

14 http://ethiopia.dbootcamp.org

open data initiatives.[15] The current landscape is described as follows:

> There are some efforts by Ethiopian open data advocators to establish an open data community to synergize the work of data professionals in Ethiopia. [...] Though these communities are flourishing in Ethiopia, they face a lot of challenges. As per the interviews with the organizers and members of the community, the biggest challenge is with the Government adopted proclamation in 2009 to provide for the registration and regulation of charities and societies. [...]. The other challenges reported by the communities are that they face resistance from potential members to join the communities linking it to data journalism as there are many journalists detained in Ethiopia. [...] According to organizers, the sustainability of the communities are at risk since they are losing members' confidence and support because of lack assistance from local and international partners. The communities also reported some good opportunities. The first one is the availability of the Freedom of the Mass Media and Access to Information Proclamation [...]. The organizers reported that they are using the proclamation to back up their advocacy for open data. The other opportunity reported by the communities is the launch of Ethiopian Government open data portal in 2016 which shows the commitment of the Government to open certain data for citizens. In addition, they also responded that the Ethiopian Government has recently launched anti-corruption initiative nationally and the communities reported that they are advocating the role of open data to fight corruption.[16]

Code4Ethiopia is currently inactive as the founding members are in the final stages of their doctoral studies and funding for new activities is unavailable.

The ODRA reports on the innovation hub, IceAddis, engaged in supporting entrepreneurship and innovation. IceAddis aims to cross-link ICT innovation with entrepreneurial knowledge and skills development as well as with incubator facilities for start-up companies. However, it is extremely challenging for ICT start-ups to set up shop owing to top heavy regulatory issues that require several licenses including a letter of competency from a concerned ministry. IceAddis is still operating but it last post on its blog was in July 2016, and indications from the interviews conducted are that IceAddis is not active in promoting or using open data.

GIZ in collaboration with the African Union have embarked on a project to provide citizens with access to an online information platform and to establish a data lab to support the use of data and the provision of information. The project is currently in the planning stage and is planned for launch in 2019. The project is exclusively focused on the AU so while the lab is likely to be located in Addis Ababa, it is unlikely to impact directly on the Ethiopian data ecosystem.

Media

Freedom of the press, access to information of public interest and prohibition of censorship are guaranteed by Ethiopia's constitution. The Criminal Code contains provisions that limit freedom of the press, including criminal defamation provisions and restrictions on 'obscene' communication and criticism of public officials

The news media is dominated by state-owned broadcasters and government-oriented newspapers. There are, however, a number of independent media houses and newspapers.

Freedoms of assembly and association are guaranteed by the constitution.

The ODRA for Ethiopia reported no evidence of data journalism activities in Ethiopia. Most of the print media is based around the release of government information and events, and other data released via the PR officials.

By law, journalist associations are permitted and there are several such organizations. Some of these organizations are vocal in defending the rights of the journalists. However, they face capacity issues when it comes to curating data and other data journalism activities.

Private sector

The private sector is both a publisher and consumer of data. Globally, there is increasing interest in the publication of open data by private companies and in data sharing models (see, for example, GovLab's Data Collaboratives: Creating Public Value by Exchanging Data[17] and Open Data 500 Global

15 One interviewee cited a CSO-led open budget data initiative supported by the British Embassy. According to the interviewee, the British Embassy contacted the Ethiopian government to cooperate on the initiative but were told that the government is capable of implementing the initiative without external assistance.

16 Solomon Mekonnen, Abstract submitted to the Second Open Data Research Symposium 2016.

17 http://www.thegovlab.org/project-data-collaboratives-creating-public-value-by-exchanging-data.html

Network[18] projects). The ODRA noted no evidence of private companies publishing or sharing open data.

Private companies may use government data to develop value-added services for their customers (e.g. repackaging government data as more usable information and developing different platforms for information delivery) or they may use government data for their own analysis of markets (e.g. trade data) or for planning (e.g. use of meteorological data in the agricultural sector). Start-ups and entrepreneurs may use government data to develop new applications and services, leading to innovation and job creation. These is no evidence of such activity in Ethiopia although increased activity in the financial services sector (e.g. micro-financing; short-term loans) may present new opportunities for data entrepreneurs.

The private sector also has a role to play in the provision of infrastructure and services that enable access to data. Ethiopia Telecom (Ethio Telecom) is the only service provider in the country and owns the national telecom and broadband backbone. VAS services are currently either non-existent or minimal even though according the ODRA 50+ private sector companies held licenses to start such services in 2014. Virtual ISPs are allowed to offer services over the Ethio Telecom Backbone. An analysis of the cost of 1GB data based on prepaid data top ups or bundled top ups, shows that in Q1 2017, mobile data in Ethiopia remains comparatively expensive: Ethiopia USD 7.36; Ghana USD 2.27; Kenya USD 4.92; Tanzania USD 2.29.[19]

Research community

The research community consists predominantly of the 31 public universities in Ethiopia and sector-specific research institutes. Examples of sector-specific research institutes include the planned Coffee & Tea Research Institute, which will mainly conduct research to boost coffee production, the Jimma Agricultural Research Center, and the Ethiopian Institute of Agricultural Research (EIAR).

The research community has several roles to play, and it is therefore a key stakeholder in the data ecosystem. First, the research community collects data as it conducts research, and is therefore a potential publisher of data either within closed disciplinary communities or as open research data.

Second, the research community uses government data in the research that it conducts. Most government ministries interviewed referred to researchers as users of government data, most often accessed via formal request submitted to the public relations office of the relevant ministry. One of the most common instances of the use of government data is the use of census and demographic data published by government. The research community also plays an important role as a stakeholder by providing the training for future data analysts.

According to the ODRA, there was no direct evidence of data analysis skills of graduates in Ethiopia as there is not an established knowledge economy in Ethiopia. It noted an opportunity for curricula to be revised and for the introduction of mobile technology and development-related courses along with the employment of experienced teachers to deliver these courses. At the time of the ODRA, there was no evidence of any university in Ethiopia engaged in web science, semantic web and big data technologies, and no immediate plans linked to these.

From the interviews it was established that there is a group of postgraduate students at Addis Ababa University conducting their studies in the area of open data (two doctoral students and two masters students). The doctoral students are being co-supervised by experts at a university in France while the masters students are being supervised by the doctoral students. Students studying IT are aware of open data but, in general, knowledge about open data is still nascent. As such, there is a limited understanding of the potential of formalising support for the study of open data; there is much stronger support for applications that focus on a problem that can be solved using open data than for applications that foreground open data as the topic of study.

An attempt was made to set up a formal research team on open data at the University of Addis Ababa. The team was to be comprised of the staff, students and stakeholders external to the university (e.g. from government). While a few informal meetings were held, the team was unsuccessful in its application to the university to establish a formal research group. Other than support from the university itself, an additional challenge is the lack of open government datasets that can be used to conduct context-applicable teaching and research on open data.

18 http://www.thegovlab.org/project-open-data-500-global-network.html

19 Research ICT Africa, http://researchictafrica.net/pricing/ramp_1gb.php

The African Open Science Platform[20] initiative is a project directed by CODATA[21] and managed by the Academy of Science of South Africa (ASSAf).[22] The Platform initiative seeks to put into practice international principles and enabling practices for open data and open science, focusing on the African continent. It will assist African countries to develop the necessary capacities to manage and exploit scientific data for the benefit of society, at the same time working towards complying with international standards to promote interoperability. The Ethiopian Academy of Sciences (EAS) in collaboration with the Education Strategy Centre (ESC) and EthERnet held a workshop on Assessing the Landscape of Open Access to Scientific Publishing in Ethiopia. The workshop took place on the 4 August 2017 at the Elilly Hotel in Addis Ababa. An open data and open science conference is scheduled to take place in Addis Ababa from 2-3 November 2017. This meeting will be held by the Afica Open Science Platform in collaboration with the Ethiopian Academy of Science and co-located with UbuntuNet Alliance events. The conference will focus on open science, infrastructural issues, connectivity (role of NRENS), and the need for open science/open data policies.

Government readiness

In 2014, an Open Data Readiness Assessment (ODRA) was conducted by the Ministry of Communication and Information Technology (MICT) in partnership with the World Bank. The findings of the ODRA revealed that Ethiopia had fulfilled a number of requirements in order to integrate open data principles across the public sector and, subsequently, an action plan with details on next steps was drafted.

This section considers progress made since the ODRA conducted in 2014 on the readiness of the Ethiopian Government to implement and institutionalize open data practice. It includes an assessment of changes in the government's practices and procedures as they relate to data management.

Summary of achievements

Table 4 below provides a summary of achievements in advancing open government data in Ethiopia as per the recommendations of the ODRA.

20 http://africanopenscience.org.za/

21 http://www.codata.org/

22 http://www.assaf.org.za/

Highlights

Since the completion of the ODRA in 2014, one of the major achievements has been to develop the national open data portal (www.data.gov.et), which is still at early stage: "The Government is releasing public data to help people understand how government works and how policies are made. Some of this data is already available, but data.gov.et brings it together in one searchable website. Making this data easily available means it will be easier for people to make decisions and suggestions about government policies based on detailed information".[23]

The MCIT also followed up on conducting training for government officials in using the portal. In July 2017, a third-party provider, eSystems Africa[24], was contracted to provide training to 35 professionals from 14 government ministries and agencies on the management and administration of portals, national web guidelines and digital marketing strategies. The national government entities trained included the Ministry of Trade, Ministry of Education, Ministry of Industry, Ministry of Transport, Ministry of Livestock and Fisheries, Ministry of Public Service and Human Resources Development, Ministry of Water, Irrigation and Energy, Ministry of Women and children Affairs, Ministry of Agriculture and Natural Resources, Ministry of Federal and Pastoralist Development Affairs, Ministry of Communication and Information Technology, and the Government Communications Affairs Office. Similar training was delivered to 45 professionals from several government ministries in October 2016.

In May 2017, data experts from the Central Statistics Agency were trained on open government data management concepts and technologies by eSystems Africa to support their management of the Ethiopian government's open data portal.

A field trip to the Open Data Lab in Jakarta to familiarize MCIT officials on how an innovation hub can catalyse the data ecosystem was organised.

Leadership: Government and other public institutions

There is limited evidence of leadership support for open data at the highest levels in government. At most, the evidence points to indirect support by the

23 https://www.newsghana.com.gh/ethiopia-launches-open-data-on-agriculture-socioeconomic-wellbeing/

24 http://www.esystemsafrica.com/index.php

Table 4: Summary of progress against ODRA recommendations

Activities	Responsible entity	Progress
Leadership		
Install Steering Committee	MCIT	Not implemented
PM makes a public announcement of launch of Ethiopia Open Data Initiative	PM office, MCIT	No evidence found
Define evaluation criteria and monitor performance in terms of OD at agency/ministry level	ODI-SC	Not implemented
Policies		
Update the current "implementation directive" being developed to harmonize Information Act with OD principles	ODI-SC, MCIT	Not implemented
Pass regulation related to government ownership of data within government contracts, and the publication of collected data as open data	ODI-SC	Not implemented
Change policies related to ICT tech startup setup, and value-added-services licensing to support innovation.	MCIT, Ministry of Trade	Not implemented
Government & Institutions		
Create an Open Data Working group (ODWG)	ODI-SC	Not implemented but a MoU is in place between MCIT and CSA
Train & raise awareness on open data & open data publishing among agencies & ministries	ODI-SC	2 rounds of training by private company: July 2017: 35 professionals from 14 gov. entities; May 2017: CSA data experts
Train government lawyers, PR staff, procurement specialists & related agencies on open data & government data rights	MCS, Min. of Gov. Comm. Affairs, Office of the Ombudsman	Not implemented; most PR directors interviewed were not knowledgeable about open data
Data		
Select among identified potential early-movers agencies with high-value datsets that will be part of the beta launch of the portal	ODI-SC	National Bank of Ethiopia, Ministry of Trade appear to have been targeted based on the data available on the portal.
Setup of Automatic update of datasets for original agencies/ ministries	MCIT	Not implemented
Expand dataset availability in the portal and recruit new agencies/ ministries	ODI-SC + ODWG	No evidence
Make a Data Asset Inventory across agencies and ministries	ODI-SC + ODWG	Completed by eSystems Africa. Inventory not shared with research team.
Support paper-based agencies in their transformation towards electronic records and OD publication	ODI-SC	Not implemented. Several ministries still follow paper-based reporting.
Demand & Ecosystem		
Raise awareness about OD within the different multi-stakeholder groups and collect feedback on high-value datasets	ODWG	Not implemented, reports of government's reluctance to engage with external stakeholders on open data
Develop awareness among journalists and CSOs through the organization of an open data Infomediaries bootcamp	ODI-SC	Not implemented, reports of government's reluctance to engage with external stakeholders on open data
Develop internal capacities of media houses and CSOs through	ODI-SC	Not implemented
Develop awareness among ICT private sector and developers through (mobile & OD) technology bootcamp	ODI-SC	Not implemented
Develop internal capacities of ICT private sector & developers through the setup of a sustainable Open Data training lab	ODI-SC	Not implemented
Establish an online mechanism for dataset requests and responses	MCIT+ODI-SC	Partially implemented. Portal has a "Data Requests" link but the link is dead. There is also a "Suggest" link to a "Suggest a Dataset" form
Upgrade university programs in ICT and statistics to cover OD matters	MCIT, Ministry of Education	No interaction between government and the university in this regard.
Financing		
Identify budget and staff for outreach, for installation & maintenance, for cleaning/upload of data, for training, etc.	MCIT, ODI-SC	No evidence
Secure funding for all activities identified in particular in the demand & ecosystem and technology & infrastructure journalism		No evidence
Technology & Infrastructure		
Build & Launch a beta version of the National Open Data portal	MCIT	Completed. Beta launched.
Train MCIT technical staff, plus ICT staff from agencies on open data publishing (portal management, portal usage, data cleaning, etc.)	MCIT	Completed. See above.
Setup of an innovation platform to allow rapid deployment and test of new innovative ICT and mobile services	MCIT, Ethio Telecom	Not implemented. MCIT organised and hosted the ICT Exhibition and Conference, 2-6 June 2016
Improve ICT/Mobile penetration and quality of services	MCIT	Based on interviews, infrastructure remains an impediment to data sharing

prime minister via the National Planning Commission that reports directly to the prime minister. The prime minister expects more and better-quality government data to enable the National Planning Commission to fulfil its duties. That the NPC has submitted a concept note to the prime minister outlining the creation of a national data centre is indicative of an acknowledgment at the highest level of the importance of accessible and reliable government data. And there is one notable development at the operational level. MCIT and CSA have entered into a memorandum of understanding on how data will be management and shared.

At the sector level, two initiatives established to combat corruption through increased transparency and accountability are worth noting: the Ethiopian Extractive Industries Transparency Initiative (EEITI) and the Construction Sector Transparency (CoST) initiative.

Ethiopia has been a member of the global Extractive Industries Transparency Initiative (EITI) since 2014. The 2013-2014 Ethiopia EITI Report[25] was published in February 2016 and a Beneficial Ownership Scoping Study[26] was published in March 2017. The EEITI is still to be assessed against the 2016 EITI Standard – the report is expected in the second half of 2017.

EITI has also published an Open Data Policy (December 2016).[27] The objective of the EEITI open data policy is to provide guidance and a framework for the management of EEITI open data, and to provide an institutional and legal framework to improve public service delivery. EEITI commits in its policy document to "release EEITI data to help people understand how EEITI works and how Government policies are made. Making this data easily available means it will be easier for people to make decisions and suggestions about government policies based on detailed information related to the natural resource governance and its economic advantageous.[...] Accordingly, the following data accessing tools are identified as data open source applications: Machine readable open data format [on] www.eeiti.org.et and/or www.mominines.gov.et; Coded or tagged information to compare with other publicly available data by adopting Board-approved EITI standard; Cadastre flex and Community Radio; Printed hard copies and infographics translated in local Ethiopian Language. These activities would be conducted with and through the continuous Supportive follow up, technical and administrative approval of the ENSC [Ethiopian National Steering Committee]."

No data could be accessed via the EEITI website, and based on the URLs ending in ".doc" and ".pdf", data are not shared in machine-readable formats.[28] No EEITI data has been published on the national Open Data Portal.

Prior to CoST, transparency in the Ethiopian construction sector was limited to the disclosure of information on tenders and contract awards as required under the Ethiopian Federal Government Procurement and Property Administration Proclamation 2009. This information is required to be disclosed on the Public Procurement and Property Administration Agency web-site. The Ethiopian Multi-Stakeholder Group persuaded their Government to revise the country public procurement regulations to include the majority of the CoST disclosure requirements in a procurement proclamation and directives. This provides the MSG with a mandate to collaborate with the participating procuring entities.

CoST is s a country-centered initiative to improve the value for money spent on public infrastructure by increasing transparency in the delivery of publicly-financed construction projects. CoST builds on the experience of a 3-year (2008-2010) pilot programme in eight countries (including Ethiopia) with the support of the UK Department for International Development (DFID) and the World Bank (WB). CoST Ethiopia is a founding member of the international CoST Programme.

The activities of the initiative have been directed by a National Multi-Stakeholder Group Executive Committee (NMSG-EC), comprising representatives of the government, construction industry and civil society. CoST Ethiopia has procured the services of independent experts to verify the accuracy and interpret raw data disclosures more intelligible to the public so as to make informed judgments about the cost, time and procurement compliance of the projects concerned.

25 https://eiti.org/document/20132014-ethiopia-eiti-report

26 https://eiti.org/document/ethiopia-beneficial-ownership-scoping-study

27 https://eiti.org/sites/default/files/documents/ethiopia_open_data_policy_december_2016.pdf

28 Attempts to access data on 28 August 2017 returned the following errors: "The requested file was not found. Please inform the webmaster.: TOR on MOU with Universities.doc"; "The requested file was not found. Please inform the webmaster: EEITI Mining inventory.pdf"; "The requested file was not found. Please inform the webmaster.: EITI fact sheet 1.doc".

CoST is centred on three core activities: (1) the Disclosure of Material Project Information (MPI) (or Infrastructure Data Standard); (2) the quality assurance of the disclosed information; and (3) the demand for accountability based on the disclosed information. To meet these objectives, CoST Ethiopia, in consultation with the respective public procuring entities, has disclosed on 52 construction projects Material Project Information with associated Causes of Concern to the public via its website.[29] The disclosures cover projects from the building, water and roads sub-sectors. All the projects covered by the disclosure have their own specific Assurance Reports. In November 2016, CoST published its "Aggregation, Analysis and Synthesis of Disclosure and Assurance Reports of Construction Projects Covered by CoST-Ethiopia" report to aggregate, analyse and synthesise the findings of the Assurance Reports.[30,31] The report contains 23 graphs and 10 tables setting out data from CoST's construction sector monitoring and disclosure efforts.

None of the CoST MPI data is published on the national Open Data Portal.

Open Data Portal

A beta version of the Ethiopian national Open Data Portal (www.data.gov.et) has been developed. The portal was developed using CKAN by a private company, eSystems Africa, that was awarded a contract to produce the portal following a tender process. eSystems Africa also conducted a data audit on the state of data across government ministries, as well as research on international best practices, open data standards and policies. A consolidated report was produced for MCIT that included the findings of the research, a data scheme and a technical specification for the open data portal.

The portal is still at an early stage; as of July 2017 only five datasets were publicly available on the national portal:

1. Education Statistics 2017
2. Ethiopian Standard Industrial Classification
3. Gold Purchasing Rate: From 02/02/2010
4. Transaction Exchange Rate for Major Currencies: From 26/10/2009
5. Indicative Rates For Major Currencies Against Birr: From 26/01/2010

All data are published in Microsoft Excel and/or csv formats under a Creative Commons Attribution open license.

According to the portal, three government agencies have published open data: the National Bank of Ethiopia (3 datasets), the Ministry of Trade (1 dataset) and the Ministry of Education (1 dataset). However, the Education Statistics 2017 published by the Ministry of Education appears to link to a dataset containing banking data rather than educational data. Attempts to access the "Gold Purchasing Rate" data, return the following error: "This resource view is not available at the moment." The "Data Requests" link on the open data portal links to a blank page. These observations bring into the checks in place to ensure the accessibility, quality and accuracy of the data published on the portal.

Currently, eSystems Africa does not have in place a contract for the maintenance of the open data portal.

In terms of activity at the level of the government entities, Table 5 lists the users registered on the open data portal and their level of activity as at 28 August 2017:

Table 5: Data publishers and their level of activity on data.gov.et

User	Datasets	Last active
CSA Administrator	0	Profile updated 17 days ago
eodp	0	No activity
eodp administrator	Transaction Exchange Rate for Major Currencies	5 months ago
mcit	0	1 year ago
mcit admin	0	1 year ago
MOE Administrator	Education Statistics in 2017	5 months ago
MOFEC Administrator	0	1 year ago
MOT Administrator	Ethiopian Standard Industrial Classification	Over 1 year ago
NBE Administrator	Gold Purchasing Rate Indicative Rates For Major Currencies Against Birr	Over 1 year ago
Tsedi Lemma	0	Profile updated 12 days ago

Source: https://www.data.gov.et/user

Table 5 shows that the activity of users in the ministries, tasked with publishing data on the portal, is ad hoc and once-off. Most likely, activity is linked to training and ceases once training is completed.

29 http://www.constructiontransparency.org/ethiopia

30 http://www.constructiontransparency.org/cost-ethiopia-from-technical-data-to-actionable-information-new-aggregation-study-launched?forumboardid=3149&forumtopicid=3149

31 http://www.constructiontransparency.org/documentdownload.axd?documentresourceid=2183

Data requests can be made by completing a web form: "Are you looking for a dataset of an Ethiopian institution, agency or other body that is not yet in our catalogue? Fill in the form below and we will do our best to get it for you!"[32]

The open data portal also showcases two applications (ESIC and Historical Currency Converter), both of which were developed by eSystems Africa as part of its contract. Neither app is being updated.

Legislative and policy context in Ethiopia

A review of current and proposed legislation and policy that is of relevance to the drafting of an open data policy for Ethiopia.

On 4 December 2008, the Ethiopian promulgated the Freedom of Mass Media and Access to Information Proclamation[33] (no. 590/2008) which is considered as legal foundation for its open data initiative. The Proclamation recognizes the right of every citizen to access information held by public bodies.[34]

Part Three states the objectives of the Proclamation as follows:

1. To give effect to the right of citizens to access, receive and import information held by public bodies, subject to justifiable limits based on overriding public and private interests;
2. To establish mechanisms and procedures to give effect to that right in a manner which enables persons to obtain information as quickly, inexpensively and effortlessly as is reasonably possible; and
3. To encourage and promote public participation, public empowerment to foster a culture of transparency, accountability and efficiency in the functions of public bodies and to encourage and promote good governance. (Part 3, Section 11, page 4333)

The Proclamation does not refer specifically to data, only to information. Nor does it specify proactive disclosure of information on the part of public bodies. The lack of specificity about data means that public bodies limit their provision to aggregated data and information, and do not see it as a legal requirement to make raw data publicly available. This despite the definition of information in the Proclamation as being "any material recorded in any form" (page 4325).

That disclosure is passive rather than active, has resulted in public bodies defaulting to a process whereby the public requests information from the public relations officers of public bodies. Nevertheless, the Proclamation's stipulation that public bodies are to "establish mechanisms and procedures to give effect to that right in a manner which enables persons to obtain information as quickly, inexpensively and effortlessly as is reasonably possible", favours the active disclosure of information (if not expressly raw data) via an open data portal or on the Internet.

There are no directives or guidelines in the Proclamation to inform the licensing and reuse policy for releasing data to the public. There is therefore a need to have in place an implementation directive or guidelines aimed at streamlining the implementation of the Freedom of Mass Media and Access to Information Proclamation across agencies.

In addition to the legal provisions for public access to public records, the government of Ethiopia is committed to combating corruption through increased transparency and accountability. According to the Federal Ethics and Anti-Corruption Commission of Ethiopia. In 2001, the Government of Ethiopia established the Federal Ethics and Anti-Corruption Commission pursuant to Proclamation 235/2001. The power of the Commission is further defined in revised Proclamation 433 of 2005 with the objective of "cooperating with relevant bodies, to strive to create an aware society where corruption will not be condoned or tolerated by promoting ethics and anti-corruption education; in cooperation with relevant bodies, to prevent corruption offences and other improprieties; to expose, investigate and prosecute corruption offences and impropriety."[35]

Since 2007, seven of the nine state administrations have established their own anti-corruption commissions to fight and prevent corruption in their respective states. The Commission has adopted three-pronged approach to fighting corruption, which incorporates investigation,

32 https://www.data.gov.et/contact

33 http://www.ethombudsman.gov.et/index.php?option=com_docman&task=doc_download&gid=23&Itemid=60&lang=en

34 http://www.abyssinialaw.com/blog-posts/item/1544-sources-of-ethiopian-privacy-law

35 http://allafrica.com/stories/201601051056.html

prosecution and prevention/ethics education.[36]

The Ethiopian Extractive Industries Transparency Initiative (EEITI)'s Open Data Policy of December 2016[37] drafted to provide guidance and a framework for the management of EEITI open data, and to provide an institutional and legal framework to improve public service delivery, should be noted in the drafting of the national open data policy.

Demand side

According to the ODRA, "[t]here is [...] an apparent lack of demand and this can be attributed mainly to lack of awareness and capacity. The private sector is aware of the benefits of Open Data, however they confess being in the 'hardware stage' of evolution and focus less on services. Due to an absence of competition amongst telecom operators that usually brings innovative services in the sector there is virtually no 'App Economy.'" This situated reported in the 2014 ODRA is exacerbated by the low number of open government datasets available on the Ethiopian open data portal and the fact that the website of the CSA (www.csa.et.gov) is frequently inaccessible.

Based on the Exhibitors' Guide for the 9th ICT Exhibition Bazaar and Conference held from 2-6 June 2016, the IT sector is still mainly orientated towards the provision of computer hardware, mobile phone components and infrastructure, and the development of software solutions for business. However, there is also some evidence of the provision of data-centric training opportunities and some activity in the app economy.

There is an organisation of IT professionals, Code4Ethiopia, doing work around open data awareness and capacity building: "We foster education, opportunity, and professional development through high-quality, community-driven events, content, resources, products and services. Our goal is to create a truly open and welcoming community of people who produce, consume, analyze, and work with data scientists, analysts, economists, programmers, journalists, librarians, researchers, and statisticians, regardless of industry, sector, or technology".[38] However, the Code4Ethiopia website provides no detailed information on training activities. The websites of Open Knowledge Ethiopia and HacksHackers Addis Ababa also provide no information on training opportunities or activities.

There are some short-term training opportunities related to data skills at universities and colleges. For instance, the School of Earth Science based at the Addis Ababa University (AAU) provides training on GIS[39] and the Department of Statistics at AAU[40] also offers short-term training on statistical tools which are related with data skills. The private sector is also offering training related to data. Companies such as Geomark Systems, Etye Boge ICT Solutions and AhadooTec advertise data-related skills training opportunities.

Some activity is also noted in other sectors. For example, the first real-time source for open air quality data in Africa is published by the US Embassy in Ethiopia in Addis Ababa. The Embassy is monitoring and publicly sharing PM2.5 data online, and aggregating the data to OpenAQ.[41]

The Ethiopia Commodity Exchange (ECX) is a marketplace where buyers and sellers come together to trade, assured of quality, quantity, payment, and delivery organised with the support of the Ethiopian government. The key market dissemination channels at ECX are rural-based Market Information Tickers, a mobile phone Short Messaging Service (SMS), an Interactive Voice Response (IVR) service, the mass media (TV, radio, newspapers) and a website (www.ecx.com.et).

In terms of an "app economy", the situation does seem to have improved since the ODRA. The following examples indicate increased activity in this area:

1. PE Trading: Taxi hailing app
2. Etta Solutions: ETTApp Taxi hailing web and mobile app: https://www.ethiopiataxi.com/
3. Merkina.net: Car trading web app: http://www.mekina.net/
4. Betoch.com: Property web app: http://www.betoch.com/
5. Sheger.net: Goods buying and selling web app: http://www.sheger.net/
6. Teliyodan Information and Promotion

36 http://allafrica.com/stories/201601051056.html

37 https://eiti.org/sites/default/files/documents/ethiopia_open_data_policy_december_2016.pdf

38 http://www.code4ethiopia.org/?page_id=4

39 http://www.aau.edu.et/cns/academics/school-of-earth-science/

40 http://www.aau.edu.et/cns/department-of-statistics/overview-of-statistics/

41 https://airnow.gov/index.cfm?action=airnow.global_summary#Ethiopia$Addis_Ababa_Central

Service: Infonegari information hub for Addis Ababa: http://www.infonegari.com/

7. Somtec: Jobs web and mobile app: http://www.mjobs.net
8. MOSS ICT: M-BIRR mobile money: http://www.mossict.com/
9. Telemed Medical Services: HelloDoctor healthcare web and mobile app: http://www.hellodoctorethiopia.com/ and http://hellocash.et/hello
10. Fziti Information Service: Hello Tebeka: Legal advice service web and mobile app: http://hellocash.et/hello
11. Hello Gebeya: Jobs web app: http://hellogebeya.com
12. Events Ethiopia: Event guide mobile app: http://www.enhid.net/

The extent to which the above examples depend on or would benefit from open government data would need to be investigated further. However, it does appear that activity is on the increase and that open government data could create new opportunities.

Demand for data originates outside of the public sector but government is also a user of its own data. Reference has already been made to the National Planning Commission's need for data in order to monitor and evaluate government's strategic growth plan. However, with the exception of the NPC, the ministries interviewed did not acknowledge or were unaware of the usefulness of access to data from other ministries in executing their duties.

3 Recommendations

Key factors to consider when drafting the open data policy are highlighted in this section based on the desk research and on the insights gained from the field visits. This section also includes actionable items and points for discussion during the draft open data policy consultation process.

The recommendations are structured in three parts. The first part outlines important conditions identified by those interviewed that will enable the effective implementation of an open government data initiative. The second part lists those recommendations that emerged during the interviews and that are predominantly recommendations on in-principle statements to include in the open data policy. The third part provides for the consideration of the Ethiopian government options to follow in order to advance and sustain its open data initiative. The options are split into those that are executable in the short term and those that are more achievable over the medium and longer terms.

Enabling factors

An open data policy alone will not steer Ethiopia towards the implementation of open data practice and the realisation of the potential of open data for Ethiopia's citizens. Inculcating a culture of openness across government ministries will take time as institutionalised norms and values are challenged by new approaches and thinking. Leadership, institutional entrepreneurs (or 'champions'), changes in incentive structures and innovative training approaches can all contribute to changing institutionalised practices. However, there are also certain practical steps that government can take to support the effective transition to open data practice, all of which were mentioned by those interviewed. These include:

1. Improving ICT infrastructure to enable fast and reliable sharing of digital content both within government and between government and external stakeholders. Many ministries bemoaned slow and unreliable internet connections.
2. Supporting the transition from paper-based to digital systems. In many cases, reporting systems are still paper-based making it difficult for government ministries to share data more broadly using available technologies and platforms.
3. Educating government employees on the value of machine-readable formats (e.g. csv, MS Excel) over human-readable formats (e.g. PDFs). Too much government data is 'locked up' in PDFs placing restrictions on the reuse of the data contained in the PDFs. A key message to get across to public servants is that open data does not mean that all government data must be in the public domain. This was a common misconception encountered during the interviews. Open data applies only to that data that do not contravene the privacy rights of individuals, jeopardise state security, etc.
4. Engaging on a regular basis with external stakeholders (such as researchers, private sector companies, entrepreneurs, CSOs, etc.) to establish what their data needs are.

Policy principles

In order to draft a policy that has the best chance of successfully steering the implementation of open

data practice in Ethiopia, it is necessary for there to be agreement on certain fundamental principles and on the role and responsibilities of key actors. Based on the interviews conducted, the information provided in the preceding sections of this report, including international practices and experiences in relation to the implementation of open data policies, this section sets out those issues to be resolved prior to drafting an open data policy for Ethiopia.

Specificity

Avoid general and vague statements of principle that leave room for interpretation and non-action. In other words, the policy should be precise and clear to ensure that the policy guidelines are consistently and uniformly implemented across government. The policy should be specific on matters of documentation, metadata, standards, publication frequency, datasets, data formats, granularity and interoperability to name a few.

Recommendation: Draft an open data policy that is specific rather than general in the guidelines it provides. In particular, the policy should be specific on the following:

1. Open by default. The policy should make it clear that all government data is open by default while acknowledging that there are legitimate reasons for not releasing all government data into the public domain. The policy should require government entities to provide a list of government datasets that are not to be published as open data with an accompanying motivation for the data's non-release.
2. Licensing. The policy should clearly state the open licence to be adopted for all open government datasets (e.g. Creative Commons Public Domain [CC-Zero] Licence; Creative Commons Attribution Licence; etc.).
3. Formats. The policy should indicate the formats in which open government data is to be published (e.g. csv; MS Excel; etc.).
4. Timeliness. The policy should provide clear and unambiguous guidelines on how so after data has been collected it should be published (e.g. budget data published on the day that the budget is tabled in parliament; exchange rate data in real-time; school enrolment data no later than 2 months after the commencement of the school year; GDP data on the 7th day of every monthly; survey data no later than one month after the data has been verified by the CSA; etc.).
5. Frequency. The policy should be specific on how frequently certain datasets should be published (e.g. budget data published annually; GDP data monthly or quarterly; survey data on an ad hoc basis; etc.).
6. Quality and comprehensiveness. The policy should stipulate the government open data will be comprehensive and accurate, released in its original, unmodified form, and linked to relevant contextual information, documentation, visualisations or analyses. Data should be disaggregated to the lowest, most granular level, unless doing so infringes on the right of individuals to privacy.
7. Archiving. The policy should provide clear guidance on information management practices to ensure that historical data are preserved, archived and kept accessible for as long as the data retains value.

Recommendation: Conduct a data audit to determine what data government holds, what data is available in digital form, and what data can justifiable be excluded from being published as open data due to privacy and/or security concerns.

Recommendation: Propose specific guidelines for acceptable exclusions from the open by default principle,open data licensing, open data formats, and on best practice in terms of timeliness, frequency, quality, comprehensiveness and archiving of open government data.

Recommendation: Consult a broad range of stakeholders in Ethiopia on the appropriateness and applicability of the specific guidelines proposed for the national open government data policy.

Accountability

The open data policy should include mechanisms that hold government entities accountable in terms of open data practice as set out in the policy guidelines. It should also be clear and unambiguous in terms of specifying to whom government ministries and agencies are accountable in publishing open government data. Accountability should favour the active disclosure of data rather than rely on the passive disclosure of data as enshrined in the current access to information legislation.

Recommendation: The open data policy should include mechanisms to ensure that government entities are held accountable. Accountability could, for example, be bolstered by requiring government entities to report annually (or more frequently) to the Open Data Steering Committee on datasets published and provide justifications for withholding certain datasets.

Alignment

The open data policy must be cognizant of existing legislation pertaining for the publication of and access to data and information in Ethiopia. In particular, the open data policy should be in harmony with the Freedom of Mass Media and Access to Information Proclamation (no. 590/2008) and, where possible, provide greater detail to supplement the Proclamation to ensure a policy that is both specific and ensures accountability as detailed above. The open data policy should also be sensitive to and resolve any potential conflict with specific policies on data sharing that may pertain at the government ministry or agency level. For example, the Federal Supreme Court as part of the executive branch of the Federal government may have in place particular policies that dictate what the Court may or may not publish. The same might apply to the Ministry of Health that collects large amounts of data containing personal information.

Recommendation: Ensure alignment between the open data policy and relevant existing policies and legislation, both at Federal and at the agency level.

Accessibility

Open government data should be easily discoverable and accessible, and made available without bureaucratic or administrative barriers which may deter data users from accessing government data. The current open data portal meets the requirement of a central point of access but lacks a sufficient number of datasets to attract users, and it is not clear that the current datasets were published based on the needs of prospective data users.

Recommendation: Maintain the existing central open data portal as a central, online access point to open government data so that open data is easily discoverable and accessible in one place.

Recommendation: Bolster efforts to populate the open data portal with more government datasets.

Recommendation: Ensure through constant consultation and feedback with user groups that the data published is that data that users need and are therefore likely to use.

Recommendation: Promote data literacy and support other initiatives that build capacity for the effective use of open data, and to ensure that external stakeholders (citizens, civil society, researchers, private sector, etc.) have the tools and resources they need to use open government data effectively

Structures and resources

To sustain an open data initiative will require leadership, management, oversight, performance incentives and internal communication policies to support the institutionalisation of a culture of openness in all government departments and agencies, including statistics agencies. This process requires oversight and review processes to report regularly on the progress and impact of our open data initiatives, and will most likely require the establishment of a new government structure representative of a range of internal stakeholders mandated to implement the open government data initiative. The structure will require adequate resources (both human and financial) to execute its mandate effectively.

Recommendation: Set up a representative, resourced government entity to oversee the implementation of the Ethiopian open government data initiative.

Implementation: Short term (1 to 12 months)

National open data policy

An open data policy will provide guidance to government entities on how to go about publishing open data. It will also ensure a coordinated and coherent approach for implementing a government-wide open data initiative. And it signals to all stakeholders the intent and commitment of the Government of Ethiopia to unlock the benefits of open government data as a public resource. At the same time, multiple stakeholders (both within and outside of government) have vested interests in the implementation of the open government data initiative, and the effectiveness of an open data policy will therefore require the buy-in and commitment from a broad range of stakeholders.

Option: Prepare a draft national open data policy and create opportunities for stakeholders to

participate in the preparation of the final and official version of the policy.

Option: Host a co-writing workshop that will bring together key stakeholders to draft collectively over a period of a few days the first iteration of the open data policy.

Option: Create multiple mechanisms for stakeholder to comment on and discuss the draft policy. For example, face-to-face consultations could be supplemented by make the draft policy available online for comment or by using the print or broadcast media to invite written submissions.

Leadership

While it is MCIT that is driving the process of drafting an open data policy, it is not necessarily MCIT that should be responsible for its implementation. Based on the current landscape in Ethiopia, the following key actors (or anchor institutions) and their specific roles have been identified:

1. Ministry of Communication and Information Technology (MCIT): Provision of the ICT infrastructure required to store, curate and share data reliably and effectively. This would include a robust network, a well-structured data centre, the provision of the required documentation to guide government entities on how and in what formats to submit data; and a user-centred open data portal.
2. Central Statistics Agency (CSA): Application of statistical expertise (a) to ensure that published open data meet minimum standards requirements and (b) to make a determination on the authoritative data source. Publisher of large-scale, national survey data (e.g. census data).
3. National Planning Commission (NPC): Point of centralisation and user of government data for the monitoring and evaluation of the national strategic plan, and potential re-supplier of open government data.
4. Office of the Ombudsman: Representative of citizens in ensuring the enactment of their rights to access public data
5. Ministry of Public Service and Human Resource Development (MoCIS): Provision of training on open data to public servants.
6. Open data research cluster at Addis Ababa University.
7. Non-government organisations focused on transparency and accountability.
8. Entrepreneurs in the private sector.

We also see a niche for the establishment of a data lab as a key intermediary in the Ethiopian data ecosystem stimulating the supply and use of data by bringing together different stakeholders (both internal to government and external to government) in the data ecosystem.

Within government, the NPC appears to be most dependent on data for the execution of its duties, and as a central point of collection could also act as a re-supplier of open government data. The NPC also appears to be most directly linked to the executive level of government in that it reports directly to the prime minister.

Option: Mandate the National Planning Commission to oversee the implementation of the Ethiopian Open Data Initiative.

Option: Set up an Open Data Steering Committee comprised of one representative of each of the above stakeholder groups.

Option: If joint representation on a Steering Committee is likely to be ineffective and/or problematic, then at the very least task a government-only Steering Committee to consult formally with external stakeholders with what their data needs are. The Steering Committee should, after the consultation, oversee the process of data collection and publication.

Open data rapid implementation team

At present there is insufficient open data on the open data portal to illustrate the value and usefulness of open data. This disincentivises data owners in government to prepare and publish data on the open data portal. There is also no group or persons within government responsible for identifying, preparing and publishing high-value datasets. From the interviews conducted, several potential datasets were identified that remain inaccessible and that could, with minimum effort, be converted to structured open data for publication on the open data portal. Examples include the NPC's indicators; the data from CoST's construction industry survey; data on primary and secondary school enrolments and examination pass rates; non-sensitive micro-data from the national census, to name a few.

It is also clear that training alone does not result in the publication of open data on the national open

data portal. MCIT has developed the open data portal but does not actively source and publish data on the portal.

Option: As a transitional strategy, mobilise an open data rapid implementation team to source, extract, prepare and publish government datasets on the open data portal. The team could focus on existing datasets that are readily available on the website of government ministries and agencies, and could also be tasked with executing approved data requests received. The task force would report to the Open Data Steering Committee, and could serve as team around which to establish a Data Lab in the medium term.

Option: Mobilise two separate rapid implementation teams: one to focus exclusively on data that fall under the mandate of the CSA, and a second that focuses on data from government entities (e.g. education data; budget data; economic data; map data; etc.).

Government data portal

Given the current 'resistance' to publishing open government data following the development of the open data portal and subsequent training of government ministries, the Ethiopian government may want to explore a two-step process: (1) encourage and support centralised data sharing within government, followed by (2) making selected datasets available on the open government portal.

Option: Use the planned National Data Centre as a centralised platform for sharing data between government entities. Once quality, comprehensive, structured data is available on the central, non-public platform, begin a process of transferring selected datasets to the open government data portal.

Training

Current training appears to be have been technical in its focus and targeted at IT staff within the ministries. Awareness of open data at the level of director in ministries was found to be minimal. If ministries and other government entities are to support the Ethiopian open data initiative, it is critical that those in leadership positions are aware of open data and are properly informed of what open data is (and isn't) and what value it holds.

Option: In the short term, training should target data managers and the directors of government agencies (particularly directors of public relations and of planning) and focus on change management and their cooperation with the open data rapid implementation team.

Option: From training delivered, identify 'institutional entrepreneurs' within government agencies to provide them with the necessary support they need to champion open data and steer the change processes required to institutionalise open data practice.

Engagement

In the short-term, it will be important to engage with stakeholders (both internal and external) to determine their data needs. It will also be important to stimulate the demand for and use of open government data by engaging and supporting entrepreneurs and the private sector to enhance or develop products and services using open government data.

Option: Create a mechanism on the open data portal by which external stakeholders can make requests directly to the Steering Committee for specific datasets on an ad hoc basis. Other channels for requests (e.g. email, telephone) should also be made available. Publish the decisions of the Steering Committee on the open data portal.

Option: Initiate and support events that encourage the use of open government data (e.g. hackathons; data innovation competitions; co-production initiatives; etc.).

Implementation: Medium term (2 to 4 years)

Ethiopia Data Lab

The level of data processing skills across government and civil society groups is relatively low. Furthermore, there is no support structure for the various user groups to assist with technical knowledge and the use of tools for analysing, interpreting and engaging with data. During the initial phase of portal development which can be safely be called the early stages of open data, attention was largely focused on supply side considerations, with questions revolving mainly around open data portal platforms and formats, and on the initial release of data coupled with preliminary capacity-building. However, a continuous long-term engagement with customised approaches tailored according to the specific needs

of the target audiences and rigorous implementation of these approaches in the form of a public-sector innovation lab is what is needed to ensure that data access along with capacity-development results in tangible and positive outcomes.

It was made clear by the NPC that while it depends on data for the execution of its duties, it does not currently have a shortage of data-related skills or expertise because it is still a relatively new agency. However, it expects its need for data skills of varying kinds to become manifest in the future, especially as its Delivery Unit becomes more established and if the planned National Data Centre comes to fruition.

Option: Establish a Data Lab within the NPC to collect, prepare and analyse government data for the NPC and also for publication on the national open data portal. Working with the NPC, such an entity will work across government, civil society and academia to raise awareness on open data and act as a bridge between open data users and government; through sustained engagement, embed itself as a valuable support structure to government agency heads; support the national government's open data policy for the sustainable publication of data; and build the capacity of government officials for data sourcing and release. The Lab will also convene local civil society organisations and other external stakeholders to make more effective use of publicly available data, and participate in training, mentoring, technical assistance and peer exchange.

Engagement

The open data policy should spell out mechanisms for engagement between government and those using open data to ensure the best possible match between the supply of the and demand for government data. This should include feedback mechanisms to create constructive feedback loops – a critical process to ensure creating incentives for data sharing over the longer term.

Option: Schedule regular meetings between the Steering Committee and external stakeholders. The suggested Data Lab could also play an intermediation role in this regard.

Option: The Steering Committee should follow up with those who have made successful data requests to establish how the data were used.

Training

In the medium term, training will be required to support the institutionalisation of a culture of openness in all government departments and agencies, including statistics agencies, especially as the open data rapid implementation team is phased out.

Option: Continue with ongoing training to raise levels of awareness and understanding of the potential benefits of open government data at a senior level in government entities.

Implementation: Long term (5+ years)

In the long term, government should continue to address those enabling factors identified above. These include improving the country's ICT infrastructure to enable fast and reliable sharing of digital content both within government and between government and external stakeholders, supporting the transition from paper-based to digital systems, and ongoing efforts to make government systems interoperable. In addition, it should be recognised that institutional change is slow and that resistance to change is the norm. Government therefore needs to make long-term commitments to training, providing incentives and supporting structures that will institutionalise the publication of open government data as a taken-for-granted practice.

4 Conclusion

The preamble to the International Open Data Charter reads as follows:

> We, the adherents to the International Open Data Charter, recognize that governments and other public sector organizations hold vast amounts of data that may be of interest to citizens, and that this data is an underused resource. Opening up government data can encourage the building of more interconnected societies that better meet the needs of our citizens and allow innovation, justice, transparency, and prosperity to flourish, all while ensuring civic participation in public decisions and accountability for governments.

The drafting of a national open data policy for Ethiopia will go some way to support the realisation of these ambitions for open data. But policy alone is not enough. While policy is a statement of intent and provides guidance to government on how best to implement and coordinate an open data initiative, many supporting conditions need to be put in place and existing institutionalised impediments to change need to be smoothed over.

In this report, we have described the current environmental and institutional conditions ('the landscape') in Ethiopia; the landscape in which the country's national open data initiative will be rooted. Based on the current landscape, we have also provided both recommendations and options on how to cultivate and sustain open government data practice at the national level in Ethiopia. Success will depend as much on the attention given to those supporting conditions as on the publication of a national open data policy.

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Appendix 1: Notes to Table 1

Income group	As per World Bank lending groups in June 2017. See: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups
Population	Source: World Bank
GNI/capita	GNI per capita (formerly GNP per capita) is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the midyear population. GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. GNI, calculated in national currency, is usually converted to U.S. dollars at official exchange rates for comparisons across economies, although an alternative rate is used when the official exchange rate is judged to diverge by an exceptionally large margin from the rate actually applied in international transactions. To smooth fluctuations in prices and exchange rates, a special Atlas method of conversion is used by the World Bank. This applies a conversion factor that averages the exchange rate for a given year and the two preceding years, adjusted for differences in rates of inflation between the country, and through 2000, the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States). From 2001, these countries include the Euro area, Japan, the United Kingdom, and the United States Source: World Bank national accounts data, and OECD National Accounts data files.
Statistical capacity	The Statistical Capacity Indicator is a composite score assessing the capacity of a country's statistical system. It is based on a diagnostic framework assessing the following areas: methodology; data sources; and periodicity and timeliness. Countries are scored against 25 criteria in these areas, using publicly available information and/or country input. The overall Statistical Capacity score is then calculated as a simple average of all three area scores on a scale of 0-100. Source: World Bank
Internet users	Internet users compares the number of users within a country that access the Internet. Statistics vary from country to country and may include users who access the Internet at least several times a week to those who access it only once within a period of several months. Source: CIA Factbook
Gross enrolment ratio, secondary, both sexes (%)	Total enrolment in secondary education, regardless of age, expressed as a percentage of the population of official secondary education age. GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition. Source: UNESCO Institute for Statistics

Appendix 2: OGP National Action Plan Open Data Commitments Completed

Brazil: 15
Canada: 2
Chile: 2
Columbia: 1
Czech Republic: 1
Denmark: 2
Estonia: 2
Georgia: 1
Greece: 2
Ireland: 1
Italy: 2
Macedonia: 5
Mexico: 3
Maldova: 1
Netherlands: 1
Philippines: 1
Romania: 1
Slovakia: 5
Spain: 1
UK: 2
USA: 1
Ukraine: 2

22 countries; 54 completed commitments

Source: OGP Explorer: https://www.opengovpartnership.org/irm/ogp-explorer-and-irm-data [20 July 2017]

Appendix 3: Interviews conducted (14 to 18 August 2017)

Date	Sector and organisation	Persons
14/07/2017	Public sector: Ministry of Communication and Information Technology (MCIT)	Dr Abiyot Mr Kasim Kedir
	Parastatal: Ethio Telecom	Dr Andualem Admassie, CEO
	Public sector: Central Statistical Agency (CSA)	Aberash Tariku, Deputy Director-General
	Private sector	Mr Abay Ezra
15/07/2017	Public sector: Supreme Court	Mr Hagos, IT Department Mrs Fikire, Strategy Directorate Mr Abel Getnet, Planning Directorate A representative from the public relations office joined the meeting mid-way
	Public sector: Ministry of Public Service and Human Resource Development (MoPSHRD)	Mrs Azeb, IT Department
	Public sector: Ministry of Trade (MoT)	Mr Tsegaw, Director of IT A representative from Planning Mr Achalu, IT Mr Wendimu, Director of PR
	Public sector: National Planning Commission (NPC)	Dr Yinager Desssie, Commissioner and Minister Mr Yared, IT A representative from the Communications office
16/07/2017	Civil society & Research: Mr Melkamu Beyene Ababu	Lecturer, School of Information Sciences & PhD student working on open data, Addis Ababa University
	Public sector: MCIT	Mr Getachew Negash, State Minister Mr Taye Estifanos
	Civil society: GIZ	Dr Hartmut Kremz, Head of Program: Support to the African Governance Architecture
17/07/2017	Public sector: Ministry of Finance and Economic Cooperation (MoFEC)	Mr Haji Ibsa, Director of PR & Information Mr Zelalem, Communications advisor
	Public sector: Ministry of Health (MoH)	Mr Eyob, IT
	Public sector: Public Procurement & Property Administration Agency (PPA)	Mr Jonse Gedefa
	Private sector: eSystems Africa	Mr Solomon Tesfaye, Director
	Civil society: Construction Sector Transparency	Mr Tesfaye, CoST Country Manager
18/07/2017	Civil society: Consortium of Christian Relief and Development Associations (CCRA)	Mr Eyob
	Public sector: MCIT	Dr Abiyot Mr Kasim Kedir

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