The Federal Democratic Republic of Ethiopia
Ministry of Communication & Information Technology

Consultation on the Recommendations and Working Text of the National Open Data Policy of The Government of Ethiopia

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Contents

ABBREVIATIONS

CSA   Central Statistics Agency

ICT   Information and Communication Technology

MICT   Ministry for Communication and Information Technology

MoCIS Ministry of Public Service and Human Resource Development

NPC   National Planning Commission

ODRA Open Data Readiness Assessment

GLOSSARY

TERM	DEFINITION
Data	Known or assumed facts about something that can be used in calculating, reasoning, or planning.
Datasets	Collection of data presented in a tabular or non-tabular form.
department or agency (of government)	All ministries, departments, commissions or any other permanent or semi-permanent organizational structure, including public agencies, state-owned companies and organs of the state, established by government and that have been given the responsibility to perform a public function under the auspices of the Federal Government of Ethiopia.
Government data	Data produced or commissioned and published by a government institution.
Information	Data that have been organized and communicated.[1]
Machine readable	Data in a format that can be automatically read and processed by a computer such as CSV, JSON and XML.
Open Data	Data in machine-readable format that is publicly available under an open license that ensures it can be freely used, reused and redistributed by anyone for any legal purpose.
Open Data Portal	A web-based platform that aggregates the open data catalogue for government agencies and which the public can access without restriction.
Metadata	The information that describes the data source and the time, place, and conditions under which the data were created. Metadata informs the user of who, when, what, where, why, and how data were generated. Metadata allows the data to be traced to a known origin and know quality
Restricted data	Data that the for reasons of privacy or security are only made available on request and under restrictive re-use conditions determined by the data owner.
Sensitive data	Data that if made publicly available is likely to put individuals, organizations or the state itself at risk of harm or injury, and as defined in various Acts and rules of the Government.
Sharable data	Those data not covered under the scope of restricted or sensitive data.
Data standards	Any application that embeds data handling functions (e.g., data collection, management, transfer, integration, publication, etc.) and operates on data in a manner that complies with data format and data syntax specifications produced and maintained by open, standards bodies.

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[1] Porat M (1977) *The Information Economy: Definition and Measurement*. Washington DC: Office of Telecommunications, US Department of Commerce.

1. BACKGROUND

The background to the policy process is included in this document for purposes of transparency. Section 1 shows the processes, considerations and revisions that followed consultations with stakeholders that contributed to the final version of the National Open Data Policy.

Section 1.1 provides background information from Ethiopia's Open Data Readiness Assessment conducted in 2014, while Section 1.2 provides insights from a situational analysis commissioned by the Ministry for Communication and Information Technology (MCIT) in 2017. The situational analysis provided several policy recommendations, and these are included in Section 1.2. These recommendations formed the basis of further consultations that will ultimately inform the final version of Ethiopia's National Open Data Policy.

1.1 Open Data Readiness Assessment

The world over the last 10 years has experienced exponential growth in demand for access to government data. This has largely been led by the assumption that access to data facilitates spurs innovation, improved service delivery and better economic opportunities for citizens. ICT's provide an unprecedented opportunity to supplement and boost such initiatives and governments across the world acknowledge that this will ultimately result in greater accountability, transparency, efficiency and effectiveness of the government itself.

The Government of Federal Democratic Republic of Ethiopia took the first steps towards harnessing the benefits of Open Data by conducting the Open Data Readiness Assessment (ODRA) Study in June 2014. The findings of the ODRA revealed that Ethiopia had fulfilled many requirements to integrate open data principles across the public sector and, subsequently, an action plan with details on next steps was drafted.

According to the 2014 ODRA, compared to other countries in the region, Ethiopia has a remarkably strong supply side. A Right to Information framework [ref] is in place and there is a well-established political will to introduce an Open Data Initiative across ministries and agencies. The national Open Data Portal has been launched and several key ministries have established procedures to collect and manage data, and there are many cross-government initiatives that can be leveraged.

The Government of the Federal Democratic Republic of Ethiopia has put in place laws and legislation to promote access to online data and information. These include Freedom of the Mass Media and Access to Information[2] (Proclamation No. 590/2008); the National Data Protection Law, E-commerce Law, Computer Misuses and Cybercrime Law and the E-signature Law.[3] The enactment of these laws provides for the availability of data in open formats while safeguarding the privacy and security of institutions and individuals.

In terms of the required infrastructure to support and Open Data Initiative, Ethiopia has also been working towards the establishment of a national Public Key Infrastructure (PKI) framework. The government has adopted an e-government enterprise architecture and interoperability framework.

According to the 2014 ODRA, the apparent lack of demand is largely attributable to a lack of awareness and weak capacity. The private sector is aware of the benefits of Open Data, and is

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[2] http://www.mcit.gov.et/web/guest/laws-and-standards-in-the-ict-sector
[3] https://goo.gl/YMWgaQ

moving from the 'hardware stage' toward services.[4]

The ODRA report recommended both short-term and long-term goals. As part of the short-term actions of strengthening the supply-side, the government launched the national open data portal and followed up by capacity building within various ministries.

The 2014 ODRA also made recommendations on the policy side. Access to government data in a simplified manner and machine-readable format to enable use and re-use of data and the absence of harmonized regulations, procedures and strategies to manage and release such data, calls for a comprehensive policy that will guide public institutions in producing and releasing data. Aided by the advancement of Information and Communication Technology (ICT), such a Policy would provide directives, guidelines, and uniformity in implementing Open Data initiatives in Ethiopia. Further, an appropriate open data-specific policy must provide a clear and detailed monitoring and evaluation framework that will help to measure and evaluate the evolution of the open data initiative, detect specific issues and design appropriate contingency plans to address them.

As a follow-up to the assessment, MCIT commissioned a study in parallel to developing the national open data portal that further highlighted the granular points to be addressed by such a policy. Some of the key elements identified were -

1. Which public sector information should be available for citizens?
2. How to safeguard privacy of citizens?
3. What is the practical response time to receive public information?
4. Whether to or how much to charge?
5. How to manage information?
6. How to analyse, process and present information?

The end goal therefore of such a policy should be that all government agencies and public companies must be aware of the specificities of the Open Data Initiative, understand the requirements, and guidelines and the processes to publish open data. Due care must be taken to ensure that such agencies must also acquire the appropriate capacities both at the management and the technical levels to implement and embed the required change towards more open data practices across the data ecosystem.

1.2 Situation Analysis 2017 & Recommendations

1.2.1 Leadership

Leadership is a critical success factor for Open Data agenda. It is essential that top leaders publicly demonstrate their commitment to the agenda and keep public institutions accountable for its implementation. It is equally important that Open Data champions are groomed and supported across the agencies within government and other public institutions. Leadership from the supply side alone is not sufficient and therefore intermediary actors and actors from the demand side become critical for the ultimate success of any Open Data Initiative.

In the context of Ethiopia, there is evidence of leadership support for open data at the highest levels in government. There is high-level support via the National Planning Commission (NPC) that reports directly to the prime minister. The prime minister expects more and better-quality data from government ministries and agencies to enable the NPC to fulfil its primary duty of monitoring the implementation of the country's strategic plans. That the NPC has submitted a

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[4] See financial services being provided by Kifiya: http://www.kifiya.com/

concept note to the prime minister outlining the creation of a national data center is indicative of an acknowledgment at the highest level of the importance of accessible and reliable government data. There is a notable development at the operational level: MCIT and the Central Statistics Agency (CSA) have entered into a memorandum of understanding on how data will be management and shared.

Key actors
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 center, the provision of the required documentation to guide government entities on how and in what formats to submit data; and a user-centered open data portal.
2. Central Statistics Agency (CSA):
    a. Application of statistical expertise (i) to ensure that published open data meet minimum standards requirements and (ii) to make a determination on the authoritative data source.
    b. Publisher of large-scale, national survey data (e.g. census data).
3. National Planning Commission (NPC):
    a. Point of centralization for government data.
    b. Key user of government data for the monitoring and evaluation of the national strategic plan.
    c. 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 as per the Freedom of Mass Media and Access to Information Proclamation (no. 590/2008).
5. Ministry of Public Service and Human Resource Development (MoCIS): Provision of training on open data to public servants.
6. Higher education sector: Both public and private universities under the direction of the Ministry of Education:
    a. Provision of training and certification of skills related to the publication, curation and use of open data
    b. Funding and support for research on open data to better understand which open data initiatives and which fail in the Ethiopian context
    c. Setting up open data clusters, such as the existing open data cluster at Addis Ababa University:
    d. Promotion of the publication and use of open data within the national research system.
    e. Evidence-based policy advice on the effectiveness and impact of the open government data in Ethiopia.
7. Regional information technology development agencies located in the 9 regions of Ethiopia as well as 2 city administrations and other regional data processing offices: Stakeholders operating at the subnational level who are closer to the point of service delivery and the needs of the publics they serve.
8. Non-government organizations focused on transparency and accountability, including CoST, 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.
9. Entrepreneurs in the private sector: Users of open data for development of innovative products and services.

Recommendations (pre-consultation)

The implementation of a national open data policy will require coordinated contributions from a range of stakeholders, key among them in government is the Central Statistics Agency (CSA), and the National Planning Commission (NPC). Such coordinated contribution will require leadership and structures provided with a strong mandate to ensure the publication, curation and use of open data in Ethiopia. From a policy perspective, such leadership needs to be formalized and the following is proposed:

1. Mandate the National Planning Commission to oversee the implementation of the Ethiopian Open Data Initiative.
2. Set up an Open Data Steering Committee comprised of one representative of each of the stakeholder groups listed under "Actors" above.
3. Optional: 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.

1.2.2 National Technology and Skills Infrastructure

Technological infrastructure provides a platform for accessing, sharing, analyzing and usage of data. The infrastructure that includes availability of physical communication networks, devices, ICT skills (for both technical and non-technical users), internet access and affordability increase the chances of success to Open Data Initiatives.

Government has made substantial investments in the ICT infrastructure and technical training for its public servants. There is significant development of skills in managing and using ICT systems. MCIT has been developing capacity to provide a range of centralized applications and e-services within the public sector. It is also operating the government e-service portals and its Data Center including shared ICT infrastructure. It has the mandate, project management skills and technical skills necessary to implement and anchor Open Data initiatives. Support is available from the private sector.

However, current skilling initiatives appear to be technical in its focus and targeted at ICT staff within the ministries. Awareness of open data at the level of director in ministries is still minimal. From a policy perspective 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.

Ethio Telecom forms the telecom backbone of the country. It is also in the process of establishing a center of excellence that can further support MCIT in developing skills infrastructure.

Actors

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 including necessary hardware and software, data center, training services.
2. Ethio telecom: Connectivity backbone and shared hosting services, data center and center of excellence for training purposes.
3. Ministry of Public Service and Human Resource Development (MoCIS): Provision of training on open data to public servants.

4.   Central Statistical Agency (CSA): Support in designing large-scale data collection and in statistical analysis.
5.   Private sector: Provides additional capacity and skills to train government staff and to provide support directly to those government departments or agencies that require on-going support.

Recommendations (pre-consultation)
From a policy perspective the following is proposed

1.   Training to 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.
2.   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 institutionalize open data practice

1.2.3 Government Open Data Portal

Individual government departments, ministries and agencies are publishing data on their respective websites although predominantly in an in ad hoc manner. CSA remains the custodian of all government data. From an open data perspective, government has made strides in realizing the benefits of Open Data. As recommended in the action plan drafted following the ODRA in 2014, a beta version of the Ethiopian National Open Data Portal (www.data.gov.et) has been developed.

The portal is still at an early stage: as at July 2017, only 5 datasets were publicly available on the national portal; and by March 2018 the number of datasets had increased to 25. All data are published in Microsoft Excel and/or csv formats under a Creative Commons Attribution open license.

A key takeaway from the analysis of the use of Open Data Portal is that it is evident that due to a lack of clear policy, the activity of users in the ministries, tasked with publishing data on the portal, is ad hoc and once-off. Most often, activity is linked to training and ceases once training is completed.

Recommendations (pre-consultation)
From a policy perspective the following is proposed

1.   Set up an open data implementation team to source, extract, prepare and publish government datasets on the open data portal. The team to focus on existing datasets that are readily available on the website of government ministries and agencies, and executing approved data requests received.
2.   Mobilize 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.).
3.   Ensure a functioning data request mechanism that will (a) allow government departments, researchers and the public to make data requests via the Open Data Portal; (b) provide timely responses to those requests as to the possibility of making the data available on the open data portal; (c) allow the implementation team to engage with data owners to extract, prepare and publish the data.
4.   Locate the non-CSA implementation team within the NPC in order to provide it with legitimacy and to work in an integrated with the NPC as key data user in the Ethiopian government data ecosystem.

5. Initiate and support events that encourage the use of open government data published on the national open data portal (e.g. hackathons; data innovation competitions; co-production initiatives; etc.).

1.2.4 Financing

The implementation of National Data Policy is expected to entail resourcing and expenditure for both data owners and data managers. These expenses may range from analog to digital conversion, data refinement, data storage, collecting, curating, maintaining and updating the data, quality control, etc. Budgetary provisions and appropriate support for data management for each department / organization by Government would be necessary to support such activities. Moreover, the essence of financing is premised on the fact that the Open Data will be available electronically free of charge for use and re-use.

Despite the importance of Open Data agenda, the government has not yet internalized these initiatives in its operational budgets.

It should be noted that the need to formalize public-private partnerships to resource national open data initiatives is expressed in the national open data policies of other African countries (see, for example, the policies of Rwanda and Tanzania).

Recommendations (pre-consultation)

From a policy perspective the following is proposed:

1. Make provision within government ministry, department and agency budgets for the human resourcing and capital expenditure required to collect, prepare and publish open data.
2. Seek opportunities for support from donor partners or partnerships with private sector companies to co-finance the resourcing and expenditure required to support the initial phase of the Ethiopian National Open Data Initiative.

1.2.5 Legal framework

Existing government policies and legal frameworks can act as enabling (or impeding) factors for the implementation of Open Data initiatives. Therefore policies, laws and regulations pertaining to access, use and re-use of government data, copyright and statistics, as well as policies related to the charging for government data need to be reviewed and harmonized to reduce the possibilities of conflict of interest with existing policies.

The current legal framework is fragmented. Access to information is guaranteed by the Constitution and different ministries, departments and agencies have made an effort to make data online. Article 29 of the Federal Democratic Republic of Ethiopia guarantees a right to obtain information about the activities of state organs and organs of local administration.

The government has also enacted its first Freedom of Information law: The Proclamation to Provide for Freedom of the Mass Media and Access to Information. The Proclamation provides that all persons have the right to seek, obtain and communicate any information held by public bodies, except exempted information therein. Under the Proclamation, citizens have a right of "access, [to] receive and import information held by public bodies, subject to justifiable limits based on overriding public and private interests".

The Mass Media and Freedom of Information Proclamation in article 13(1) states that government institutions shall publish information concerning:

- its organizational structure, main duties and responsibilities;
- the power and responsibilities of the officials as well as decision-making procedures;
- description of the services it provides for the public;
- brief descriptions of the complaint hearing mechanism available to the public and the public body's response to frequently asked questions by the public;
- a description of the type of the records in its possession, a brief description of the contents of its records and the detailed explanation of the procedures to be followed by persons who wish to access this information;
- a description of its regulations, directives, policies, guidelines and manuals, which govern the operation and activities of its various organs, along with a description of any amendment or repeal of such provisions;
- its directives, regulations, guidelines and other documents which governs the activities of the employees of the organization;
- the name and address of the public relation officer; and
- Other particulars.

The Article does not cover aspect of the raw data that is a prerequisite for open Government data. The absence of raw data from the list also means data is not "open by default." However, article 13(3)a states that a public body shall "publish all relevant facts concerning important decisions and policies that affect the public not later than the time at which such decisions and policies are announced". This implies that the data that is a basis for decision may also need to be published in conjunction with the outcome of a given decision.

The law provides for protection of privacy of information. The exempted information from disclosure is personal information. The exempted information includes:

- Information relating to third party
- Commercial information of a third party
- Protection of confidential information of a third party
- Third party notification and intervention
- Protection of safety of individuals and property
- Protection of proceedings of law enforcement and legal investigation
- Protection of records privileged from production in legal proceedings
- Defense, security and international relations
- Cabinet documents
- Economic interests and financial welfare of the country and commercial activities of public bodies
- Operations of public bodies
- Requests that are too broad, likely to divert resources or pertaining to information to be published in the future

There is a general apprehension that data may be misused and misreported, if available in a raw form. There are also fears that business or citizens may use raw data irresponsibly and an incorrect analysis of data may lead to misconceptions and may hurt business interests or larger public interests. Hence, many data suppliers are cautious in releasing any data in the public domain.

The value of the open data can only be realized when public sector raw data is available freely for reuse through proactive disclosure. Proactive disclosure ensures that information seekers get immediate access to public information and avoid the costs of filing a request or engaging in administrative procedures.

While the Mass Media and Access to Information Proclamation provides for overall guarantee for access to information and privacy, it does not provide for publications of raw data and electronic information. The law is a vehicle for reactive disclosure where a question/request has to be filed before an answer is given and that public information must be requested before it is disclosed.

A subsidiary legislation that builds on the Mass Media and Access to Information law needs to be enacted in order to address access to electronic and raw data and provide for the proactive release of public information before individuals requests it. The law will update and improve access to information and specify new data sets and records to be collected and published.

Other Legislation that Provide for Open Data
Ministries and agencies do not use any license when making data available to the public information - even where they make data available in machine-readable format. Creative commons is largely unknown; therefore all ministries present information on their websites under full copyright protection. A review of the web sites indicates that there is no mention of free distribution of information on the web sites in any media and on the Internet without any conditions except citation of source. The extent to which "open" licenses conform to the Ethiopian legal framework including copyright laws is unclear, and there is no provision for creative commons to date.

Privacy of Online Data
Privacy establishes the basic protections for personal information. Processing personal data usually requires prior consent of individual whose data will be processed. Consent is especially important when information is collected in digital format and can easily be copied and exchanged. Ethiopia has a more comprehensive privacy safeguard that is introduced by the constitution. The constitution protects privacy of persons, their home and correspondences, which is informed by the privacy provisions of the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil Political Rights (ICCPR) to which Ethiopia is state party.

According to the Constitution:

1. Everyone has the right to privacy. This right shall include the right not to be subjected to searches of his home, person or property, or the seizure of any property under his personal possession.
2. Everyone has the right to inviolability of his notes and correspondence including postal letters, and communications made by means of telephone, telecommunications and electronic devices.
3. Public officials shall respect and protect these rights.

The Constitution requires public officials not only to refrain themselves from interferences with individual privacy, but also to prevent private persons or entities that would impair the right. Limitation to the right to privacy is allowed only when three important elements are satisfied together: (1) there must be compelling circumstances; (2) restriction must be in accordance with specific laws whose purposes shall be the safeguarding of national security or public peace, the prevention of crimes or the protection of health, public morality or the rights and freedoms of others; and (3) there must be legitimate aims.

Although the constitution provides safeguards for privacy, and a clear understanding of the importance of privacy, it is not clear how institutions protect the privacy of individuals in the online environment. There is limited knowledge on the anonymization of data.

Recommendations (pre-consultation)
1. Ensure alignment between the open data policy and relevant existing policies and legislation, both at Federal and at the agency level. The Open Data Policy should provide clear and unambiguous guidance to government department and agencies seeking to make their data openly available.
2. Where the policy fails to provide direction in future cases where contradictions or inconsistencies with legislation occur, departments and agencies should seek advice from the Open Data Steering Committee whose recommendations and decision should set precedent.

1.2.6 Institutionalizing Open Data Practice in Government

Institutionalizing open data practice in government needs to take into account the history, culture, organizational structure and the distribution of power within government, as well as the motivations, norms and values of those who are employed by government. Currently, the level of data processing skills across government relatively low. Furthermore, there is no support structure to assist with technical knowledge and the use of tools for analyzing, interpreting and engaging with data. Knowledge of open data is relatively nascent, with many government leaders laboring under the misconception that committing to open data is tantamount to committing to publishing all data in the public domain. And there are no incentives in place to motivate government departments and agencies to invest resources in publishing machine-readable, open licensed data.

However, a continuous long-term engagement with customized approaches tailored according to the specific needs of the target audiences and rigorous implementation of these approaches in the form of a public-sector data lab can ensure that data access along with capacity-development results in tangible and positive outcomes. Sharing these outcomes as use cases that illustrate the potential of data create opportunities to negotiate opportunities to negotiate incentive structures and the allocation of resources to replicate success.

The value of a lab is further supported when one considers that the NPC expects its need for data skills of varying kinds to become manifest in the near future, especially as its Delivery Unit becomes more established and if the planned National Data Centre comes to fruition.

Recommendation (pre-consultation)
Establish a Data Lab within the NPC to collect, prepare and analyze government data for the NPC and 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 organizations and other external stakeholders to make more effective use of publicly available data, and participate in training, mentoring, technical assistance and peer exchange.

2. VISION AND MISSION OF THE POLICY

2.1 The need for an open data policy

Evidence-based planning to steer socio-economic development relies on quality data. There is a general need to facilitate the sharing and use of the large amounts of data generated and held by the Government of Ethiopia.

The value of data for improved governance and socio-economic advancement calls for a policy to leverage these data assets. The current regime of data management does not enable open sharing of Government owned data within government nor does it expect proactive disclosure of sharable data available. Such regimes could lead to duplication of efforts and the loss of efficiency in planning activities focused on national development. Efficient and open sharing of data among data owners and with the public, calls for data standards, interoperable systems, clear and unambiguous guidelines to inform practice, and incentives and resources to ensure sustained open data practice in government. Hence, the National Open Data Policy aims to enable the provision of and provide a platform for the proactive and open access to data generated through public funds by the various departments and agencies of the Government of Ethiopia.

2.2 Vision

- Achieve and sustain economic growth and improved public service delivery in a transparent and accountable manner.

- Build an innovation-data-enabled industry to harness rapid social economic development.

2.3 Mission

To put in place an enabling environment for government agencies and the public to access government data and to promote the use and re-use of data for socio- economic development.

3. POLICY PRINCIPLES

3.1 Specificity

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

3.2 Accountability

The open data policy shall 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.

3.3 Alignment

The open data policy will 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.

3.4 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. Data is open by default, and will be published timeously in machine-readable formats as raw or disaggregated data under an open license subject only to considerations of state security and individuals' right to privacy and safety.

4. POLICY OBJECTIVES

1. To realize the potential contribution of open government to improved governance and sustainable, equitable development.

2. To provide government departments and agencies with clear guidelines on how to implement and sustain the publication of open data.

3. To formalize the government's long-term commitment to publishing open government data.

4. To provide stakeholders external to government with assurance of government's ongoing commitment to publishing open data and provide clarity on the government's strategy for institutionalizing open data practice across all public institutions.

5. To establish and enhance the capacity of public institutions to manage open data.

6. To ensure access, use and re-use of government data.

7. To ensure the quality, relevance and usability of government data published by public institutions.

8. To put in place an institutional framework to facilitate the publication of open government data.

9. To enhance policy and legal framework for the implementation of the Open Data Initiative.

10. To ensure adequate human and financial resources are made available to support the Open Data Initiative.

11. To ensure government data are open by default.

5. POLICY SCOPE

1. The policy applies to all ministries, departments, commissions or any other permanent or semi-permanent organizational structure, including public agencies, state-owned companies and organs of the state, established by government and that have been given the responsibility to perform a public function under the auspices of the Federal Government of Ethiopia.

2. The policy applies to all government data in line with principles of open by default and published at the most granular level. Exceptions are accepted, and, in such cases, data may be classified as either "restricted data" or as "sensitive data". Data classified as restricted or sensitive must be listed in the Data Inventory along with a justification for classification.

3. Open default implies that all data is published timeously and in its most granular form. If data is not published at the most granular level or if the publication of data is delayed, then an explanation as to why delayed publication is required and/or why fully disaggregated data cannot be made public must be provided in the data inventory.

4. All public contracts and the data they generate are included in the scope of this policy.

6. POLICY STATEMENTS

6.1 Open Government Data Governance Framework

6.1.1 Policy Issue

Open Data implementation requires a governance framework that is clear, well-known and functioning coordinating body with legal and policy mandates to oversee and coordinate Open Data implementation.

Government institutions such as Ministry of Communication and Information Technology (MCIT), the Central Statistics Agency (CSA), the National Planning Commission (NPC), the Ministry of Public Service and Human Resource Development (MoCIS) and the Office of the Ombudsman are all having different mandates and priorities when it comes to publishing and sharing data. However, there is no overall lead institution with a policy mandate to implement the National Open Data Initiative.

The NPC is mandated to monitor the performance of government against a set of objectives set out in the Growth and Transformation Plan II (2015/16-2019/20). A detailed set of indicators and annual targets per government agency, linked to the Sustainable Developments Goals (SDGs), has been produced. The NPC requires data in order to monitor performance against the objectives of the Plan, and already plays a coordinating role to ensure the functioning of the national monitoring and evaluation system, including close collaboration with the Central Statistical Agency (CSA) regarding socio-economic data and the sourcing of administrative and performance data from sector ministries. The NPC is uniquely placed as a central point in government to use a range of government data in order to fulfil its mandate. And in order to do so, it will need to work closely with other stakeholders.

6.1.2 Policy Objective

To establish a governance framework for implementation of the National Open Data Initiative.

6.1.3 Policy Statements

The Government of Ethiopia in collaboration with all stakeholders shall:

1. Establish an institutional framework for implementation of the National Open Data Initiative.

2. Mandate the National Planning Commission, in cooperation with the Ministry of Communication and Information Technology (MCIT) and Central Statistics Agency (CSA), to oversee the implementation of the Ethiopian National Open Data Initiative.

3. Establish Open Data Steering Committee to oversee the implementation of the National Open Data Policy. The Committee is to be comprised of one representative of each of the following stakeholder groups:

    a. Ministry of Communication and Information Technology (MCIT).

    b. Central Statistics Agency (CSA).

    c. National Planning Commission (NPC).

    d. Office of the Ombudsman.

    e. Ministry of Public Service and Human Resource Development (MoCIS).

     f.   Ministry of Education

     g.   National Archives and Library of Ethiopia

     h.   The Open data research cluster at Addis Ababa University.

     i.   Non-government organization, preferably focused on transparency and accountability.

     j.   CoST.

     k.   The private sector, preferably an entrepreneur invested in the use of open data for the development of innovative products and services.

4. Put in place the appropriate structures within public institutions to facilitate the implementation of Open Data Policy and initiatives.

5. Commit to continuous engagement with government ministries and departments, citizens, civil society organizations, higher education institutions, the private sector and other stakeholders.

6. Identify and provide sources of funds and the human resources required to support the governance of the National Open Data Initiative.

6.2 Publication of Open Government Data

6.2.1 Policy Issue

Government is a complex, multi-tiered organization and as such there are a multitude of data owners within the organization. Intra-organizational co-operation and shared knowledge of the activities and assets, including datasets, between departments and agencies cannot be assumed. Departments and agencies may enjoy autonomy in terms of designing their own systems or adopting standards of operation, or may be locked into different historically inherited arrangements and practices. In terms of data, the key data collected may vary in terms of the frequency with which is collected, the methods of collection, and the sensitivity of the data.

6.2.2 Policy Objective

To encourage and facilitate the publication of data across all government departments and agencies while taking into consideration differences in the data collected.

6.2.3 Policy Statements

A. The Government of Ethiopia shall

1. Set up Open Data Implementation Teams to source, extract, prepare and publish government datasets on the National Open Data Portal. The Team will focus on existing datasets that are readily available on the website of government ministries and agencies, and on executing approved requests received by the Open Data Steering Committee or by individual departments and ministries for the release of open data.

2. Mobilize two separate 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.).

3. Locate the non-CSA implementation team within the NPC in order to provide it with legitimacy and to work in an integrated with the NPC as key data user in the Ethiopian government data ecosystem.

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4. Ensure a functioning data request mechanism (see Section 6.5 below) that will allow the Implementation Teams to engage with data owners to extract, prepare and publish the data.

B. The Open Data Steering Committee shall

1. Create a Data Inventory that will allow each government department and agency to capture in digital format all data held by government, including information for each dataset on the data owner, the frequency of the data collection, the granularity of the dataset, and its status as restricted, sensitive or sharable.

2. Oversee the publication of the Data Inventory on the National Open Data Portal.

3. Oversee the updating of the Data Inventory by each government department and agency on an annual basis.

4. Check and approve the justifications provided for the classification of datasets as restricted or sensitive, and, where necessary, seek recourse from the Ombudsman in cases where the Steering Committee disagrees with a data classification assigned by government data owners.

5. Ensure that the publication of open government data does not infringe upon the personal rights to privacy of individuals as set out in Article 26 of the Constitution of the Federal Democratic Republic of Ethiopia, and in any other applicable legislation.

6. Draft and circulate an Open Government Data Directive on the completion of the Data Inventory, open data standards, licenses, formats and metadata within 3 (three) months of the appointment of the Steering Committee.

    a. Specify in the Open Government Data Directive the following standards to be followed in each government department and agency with regard to the publication of Open Government Data:

        i. **Format**: government data to be published as machine-readable, structured data in non-proprietary formats such as comma separated values (csv), JavaScript Object Notation (JSON), Extensible Markup Language (XML) or RDF format. In the case of geospatial data and other data types, suitable open formats should be used (for example, geoJSON and KML). Wherever possible, the CSV file format should be used for sharing open data as CSV format is simple to understand, highly reusable and machine-readable. In effect, the Directive will require a data publication maturity level of three stars as defined by the 5-Star Deployment Scheme for Open Data.[5]

        ii. **Timeliness**: government data to be published according to a prescribed update cycle according to which the most recently published open government datasets should not be older than one cycle of update (e.g. if a dataset is updated every month, then the published open version of that dataset should not be older than 2 months).

        iii. **License**: government data to be published under a Creative Commons Attribution License (CC-BY).

        iv. **Metadata**: Published data to be described as per the guidelines of the

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[5] http://5stardata.info/en/

Data Catalogue Vocabulary (DCAT).[6]

    b. Provide instructions to government departments and agencies on how to classify and provide justification for any government data that

        i. cannot be published as open data or

        ii. that can be published but not according to the standards as set out in 6.2.3B.6(a) above.

7. Enforce Common Standards and APIs: The Government will enforce open policy architecture to support interoperability of data integration systems and software. This will be supported by adoption of common international best practice open standards and open formats readable by machines.

C. Each government department and agency shall

1. Produce an annual Open Data Publication Plan

2. Publish at least 2 (two) previously unpublished datasets within one year of the effective date of this policy.

3. Publish as open data that data which are released as a result of successful access to information requests as per the Freedom of Mass Media and Access to Information Proclamation (no. 590/2008).

4. Publish data online regularly, timeously, in machine-readable formats, and under an open license as per the Open Data Directive.

5. Release data without mandatory registration, allowing users to choose to download data without being required to identify themselves.

6. Complete the Data Inventory on an annual basis, including specifying which datasets will not be published ("sensitive") or published only on request ("restricted) for security and privacy reasons.

7. Comply with the standards and procedures for open data publication as determined from time-to-time by the Open Data Steering Committee.

6.3 Open Data by Default / Design

6.3.1 Policy Issue

By recognizing the importance of open by design / default, the government will ensure that data is open and published at source. Due consideration is given to

1. Restricted data – Data accessible only through a prescribed process of registration and authorization by respective departments / organizations.

2. Sensitive data – Sensitive data as defined in various Acts and rules of the Government.

3. Sharable data – Those data not covered under the scope of restricted and sensitive with regards to privacy, national security, public order and safety or other confidentialities.

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[6] https://www.w3.org/TR/vocab-dcat/

6.3.2 Policy Objective

To ensure government data are open by default / design.

6.3.3 Policy Statements

The Government of Ethiopia in collaboration with stakeholders shall

1. Ensure government data are published as Open Data.

2. Develop guideline for publishing open data by default.

3. Create and maintain a data inventory that details all data held by government, including the data owner, frequency of data collection, status as restricted, sensitive or sharable, and justification for its status as restricted or sensitive.

4. Ensure due consideration is given to clearly defining data on the restricted and sensitive list.

6.4 Capacity in Managing Open Data

6.4.1 Policy Issue

Open Data is still a relatively new concept for government institutions. There is a need to build a pool of human resources and data skills to support the implementation of Open Data initiatives. Furthermore, the skillsets and roles required are diverse ranging from data scientists, data privacy experts, application developers, etc. Therefore, there needs to be a careful analysis of identifying data skill gap, develop and implement appropriate national capacity building program across private and public domain. In order to accomplish this several institutional partners such as MCIT and Ethio Telecom along with University of Addis Ababa will have to play a pioneering role in data capacity building.

6.4.2 Policy Objective

To enhance capacity of public institutions to manage open data.

6.4.3 Policy Statements

The stakeholders shall formulate a strategy to

1. Assess and quantify data knowledge and skills gap, paying attention to government employees at all levels and focusing not only the technical skills require to publish open government data but also the gaps in knowledge relating to the purpose and value of publishing open government data.

2. Supplement the gap by launching awareness-raising and capacity-building programs across government.

3. Create a supply chain of training across sectors to ensure skills gap is met.

4. Identify and support institutional entrepreneurs who are champions of open data and are likely steer the change processes required to institutionalize open data practice.

6.5 Access, Use and Re-Use of Open Government Data

6.5.1 Policy Issue

Governments produce terabytes of data as part of their governance activities. The value of this

data lies locked up if it is not shared and re-used. Therefore, the government as the default owner of such data should make it available and easily accessible in order to facilitate widest range of users for the widest range of purposes. It is essential that all non-sensitive data be publicly consolidated and published, either via a central portal or via respective institutional mechanisms such as websites or other visible forums. Success access, use and re-use of government owned data will enable more extensive use of a valuable public resource for the benefit of the community. Furthermore, by sharing data the need for separate bodies to collect the same data will be avoided resulting in significant cost savings not only in data collection, but also processing and analysis.

6.5.2 Policy Objective

To enhance access, use and re-use of Open Government Data.

6.5.3 Policy Statements

The Government of Ethiopia in collaboration with stakeholders shall

1. Publish open government data on the National Open Data Portal.

2. Maintain the existing National 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.

3. Publish data under a Creative Commons Attribution license (see 6.2.3B.6).

4. Engage with external and internal stakeholders via online feedback mechanisms and face-to-face meetings to help guide the release of data and ensure its use.

5. Ensure that the rights to publish are properly cleared and understood, starting from when data is collected through to its publication.

6. 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.

7. 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.

6.6 Quality of Open Government Data

6.6.1 Policy Issue

Even though the government produces and holds vast amount of data that are of interest to the public, often the data are not of acceptable or usable quality. Data collection and management systems are also inefficient and are accompanied by inadequate capacity and skills in terms of data processing and management.

6.6.2 Policy Objective

To improve quality of data captured, processed and disseminated via public institutions as per the Open Data Standards and Principles.

6.6.3 Policy Statements

1. The Central Statistical Agency shall

    a. provide directives and support to data owners in terms of data collection,

management, analysis and archiving.

    b. be the arbiter of which data are authoritative and/or official.

2. The Ministry of Communication and Information Technology shall

    a. provide the infrastructure for the publication, archiving and retrieval of open data.

    b. develop comprehensive data management systems in Public Institutions.

3. The Open Data Steering Committee shall

    a. develop a responsive feedback mechanism for improved data quality. This will include:

        i. The creation of a mechanism on the National Open Data Portal by which external stakeholders can make requests for data to be considered by the Open Data Steering Committee.

        ii. Other channels for requests (e.g. email, telephone) clearly indicated on the National Open Data Portal.

        iii. Communicate to individual government departments and agencies any feedback received via the National Open Data Portal or any channels feedback received on the quality of the data published on the Portal.

    b. follow the same process and procedure when dealing with requests for data as set out in the Freedom of Mass Media and Access to Information Proclamation (no. 590/2008)

    c. publish the decisions of the Open Data Steering Committee related to requests for government data on the National Open Data Portal.

6.7 Legal Framework

6.7.1 Policy Issue

Global experience shows that a comprehensive legal framework and regulatory clarity is essential for the implementation of Open Data initiatives. Clear policies and laws ensures that public institutions follow consistent principles and guidelines on the release of data, use a standard "open data" license and comply with security, privacy and technical standards for open formats. Current legal framework establishes the foundation for Open Data initiatives to flourish. However, there is currently no specific legislation setting out the rules and guidelines on access and re-use of government data, and the existing legal framework is limited on regulating the type and amount of data to be released.

6.7.2 Policy Objective

To strengthen policy and legal framework for the implementation of Government Open Data

6.7.3 Policy Statements

The Government of Ethiopia in collaboration with stakeholders shall

1. Put in place an appropriate policy and legal framework.
2. Enact new legislation relevant to Open Data.
3. Develop a comprehensive regulatory framework for the implementation of Government Open Data.

The policy recognizes the existence of, and will comply and work in conjunction with other policies which have taken on board issues related to the access, use and reuse of government data and records, intellectual property, statistics and ICT.

The policy further recognizes that to give effect to the policy objectives and directions given herein, a comprehensive review of the existing legal framework needs to be conducted, and where appropriate, amendments or revisions of existing policies, laws and procedures be proposed to ensure operability of the Open Data Initiative, ideals and objectives stated herein and data management, release and re-use practices to ensure all are consistency with the requirements in this policy.

In addition, the policy recognizes a need to enact new laws and regulations, or amend the existing ones including those related to Right to Information, Privacy and Data Protection and other laws relevant for the implementation of Open Government Data.

6.8 Financing Open Government Data

6.8.1 Policy Issue

The success of the administration, implementation and sustainability of the Ethiopian Open Data Initiative depends on the availability of adequate human and financial resources. Currently, respective government departments and agencies cover the costs of any Open Data activity undertaken. The government must match its stated commitment to the publication of open government data with the financial resources for the implementation of the Open Data Initiative.

6.8.2 Policy Objective

To ensure the availability of funds to facilitate the National Open Data Initiative.

6.8.3 Policy Statements

The Government of Ethiopia in collaboration with stakeholders shall

1. Establish a funding mechanism for the National Open Data Initiative.

2. Budget adequately and ensure funds are available for the full implementation and sustainability of the Open Data Initiative such that the current initiative becomes taken-for-granted practice accompanied by a dedicated line item in departmental and agency budgets.

3. Take into the requirement for government entities such as CSA, MCIT and NPC to budget for overarching investments (such as providing technical support across departments and agencies, maintaining the National Open Data Portal, resourcing the Open Data Implementation Team and providing for the cost of the Open Data Steering Committee) and for each government department and agency to budget for the provision of equipment and human resources to support the overarching open data activities and infrastructure .

7. POLICY MONITORING AND EVALUATION FRAMEWORK

The implementation and success of the Ethiopian National Open Data Initiative and the effects of this policy in contributing to that success will be assessed according to performance against a set of key indicators. Collection of data and measurement against these indicators should be conducted on an annual basis with each government department and agency conducting its own annual evaluation that is submitted to the Open Data Steering Committee. The Open Data Steering Committee will conduct its own annual evaluation, and will review the evaluations completed by the government departments and agencies. The indicators proposed are as follows:

7.1 Department/agency-level Indicators

Data supply

1. Number of datasets released (on agency website, national data portal, CSA website) -- name of dataset + URL
2. % datasets released with standardized metadata & documentation -- URL
3. % of datasets up to date (within reasonable delay)
4. %of data set with at maximum 2 period of publication missed
5. % of data sets not updated since 3 or more periods
6. % of datasets with a more restrictive license than CC-BY
7. Publication of a publishing plan -- name of document + URL
8. % of the publishing plan implemented (% of datasets published as committed to in the annual publishing plan)
9. Publication of a data inventory - Y/N + URL
10. % of data inventory published as open data
11. Publication of FOI requirement - Y/N

Capacity

1. Number of people trained at the management level -- attendance registers and/or certificates
2. Number of people trained at the data management layer -- attendance registers and/or certificates
3. Number of people trained at the technical level -- attendance registers and/or certificates
4. National and international events attended by key staff -- name and date of event

Engagement

1. Number of requests received --
2. Number of requests answered --
3. Annual Number of dataset downloads (cumulative) --
4. Annual Number of unique users (cumulative) --
5. Annual Number of downloads [requests] from government agencies (cumulative)
6. Annual Number of engagements (event) with external stakeholders initiated as per

Resources

1. Description of any resources (human and financial) made available to support the open data initiative
2. Dedicated agency-level committee, unit or team in place to oversee data initiative -- Names of members

Data use

1. Number of document use cases

7.2 Open Data Steering Committee Indicators

1. Number of agencies mandated to publish data
2. % of agencies publishing datasets
3. % of agencies using datasets
4. % of agencies publishing a data inventory
5. % of agencies publishing a publication plan
6. Average % of completion of publication plan
7. % of agencies publishing FOI requirements
8. % of agencies with people trained at the mgt level
9. % of agencies with people trained at the data level
10. % of agencies with people trained at the IT level
11. Number of requests received
12. Number of requests answered
13. National Open Data Portal:
    a. Number of API accounts
    b. Number of API hits
    c. Number of applications submitted
    d. Number of companies submitted
    e. Number of dataset downloads (cumulative)
    f. Number of unique users (cumulative)
    g. Total number of download from government agencies (cumulative)