



# Open Data Readiness Assessment

## Prepared for the Government of Sierra Leone





# Executive Summary

## Background

Sierra Leone has made significant strides towards establishing the structural and legal foundations for a comprehensive Open Data Initiative. In 2008, Sierra Leone established the Open Government Initiative (OGI), followed by the adoption of the Right to Access Information Act in 2013 and the joining of the Open Government Partnership (OGP) in 2014. The OGI, out of the Office of the Presidency, led the crafting of the open government commitments of the most recent OGP National Action Plan, with support from the World Bank. These commitments, which include passing a robust and proactive Archives and Records Management Bill and establishing an Open Data Portal, provide further justification for a full-fledged Open Data Initiative.<sup>1</sup> In this regard, the Government has already fulfilled one of these commitments with the launching of a national Open Data Portal (<http://opendata.gov.sl>) in May 2015.

An Open Data initiative means more than launching a portal for publishing data in one place or issuing a policy. A complete open data initiative involves addressing both the supply and the reuse of open data, as well as other aspects of an open data ecosystem, such as developing the relevant skills, securing sufficient financing for open data activities and targeting innovation linked to open data. In this context, strong policies and government commitments to openness in Sierra Leone should be measured against the progress made thus far towards implementing policies and commitments in practice. Currently, an “implementation gap” exists between what legislation has been enacted, and what has been achieved to date in terms of access to information and data.

## Potential Impact of Open Data

Sierra Leone stands to benefit greatly from an Open Data initiative, as underscored by the response to the Ebola virus outbreak in 2014. Multi-stakeholder efforts to produce and map data of the outbreak and health services during the crisis provided striking evidence of how data, when shared in an open and standardized format, can foster col-

<sup>1</sup> These actions include: 1 - Develop and implement a Public Integrity Pact with 5 pilot MDAs that identifies key commitments in line with Section 8 – Public Integrity – of the ACC Act, 2008 to improve public trust in public service delivery and to ensure effective accountability of public officials; 2. Pass a robust and proactive Archives and Records Management Act to support the implementation of the Right to Access Information Act in a bid to improve public transparency; 3. Scale up and deepen the activities of the Performance Management and Service Delivery Directorate to improve accountability and increase civic participation in governance; 4. Increase compliance with audit measures to improve transparency and accountability in public resource spending; 5. Establish a Single Treasury Account to improve financial accountability; 6. Enact an Extractive Industry Revenue Act to promote transparency and accountability in the granting of tax incentives; 7. Scaling up the Extractive Industry Transparency Initiatives (EITI); 8. Improve monitoring of the Local Content Policy especially around monitoring the implementation of activities and improving linkages with MDAs in order to improve local participation and accountability in the process; 9. 70% of all Mining and Agricultural lease agreements and contracts revised and made public with a view to improve transparency, accountability and public participation; 10. Implementation of the Right to Access Information Law; 11. Establish an open data portal to improve transparency in fiscal and extractive transactions.



laboration and enable greater and more timely access to critical information in a country such as Sierra Leone. Further, lessons learned from the formal information management and sharing structures established during the Ebola outbreak should be usefully leveraged for the post-Ebola recovery and development efforts more broadly.

## Assessment Summary

In this context, at the request of the Ministry of Information and Communications and the Right to Access Information Commission of Sierra Leone<sup>2</sup>, the Open Aid Partnership program of the World Bank's Innovation Labs conducted an Open Data Readiness Assessment from November 9<sup>th</sup> to 20<sup>th</sup>, 2015. The Government of Sierra Leone's objective in conducting the ODRA is the opening of government data for use by ministries, departments and agencies, business, civil society, developers, and academics to improve service delivery, particularly in the areas of health, education, social welfare, and issues for women and girls. The mission team<sup>3</sup> met with more than 200 stakeholders and identified 40 key datasets to be released on the open data portal. In addition to the standard ODRA, the mission also included an Open Data for Business assessment specifically addressing the economic growth potential of open data in the private sector (annex 8).

## Key Findings

- ▶ Regarding the key dimensions of the assessment, the study found that, in addition to visible political leadership on open data and open government, the Government has also made progress towards an Open Data Initiative by establishing a cross-agency Open Data Council, which provides a space for coordination on open data. The Right to Access Information Act provides an important basis for open data, and it is encouraging that the Government has already drafted legislation on Data Protection and Archives and Records Management.
- ▶ Further, there already exists a nascent data ecosystem in the country, with certain data systems in place in key sectors such as health and education, as well as a small set of stakeholders with the capacity to act as “infomediaries.”
- ▶ Finally, there is substantial demand for accurate and granular data from within government, and among CSOs and the private sector to provide further momentum to the initiative.
- ▶ Yet, despite the existence of a political commitment to openness, the institutionalization and sustainability of such an initiative is significantly challenged by limited resources, ICT infrastructure, data and ICT literacy, and a critical lack of records management.

<sup>2</sup> Please see Annex 1 for a copy of the official request letter.

<sup>3</sup> Comprised of Jeanne Holm, Pierre Chrzanowski, Laura Manley and Rob Baker.



- ▶ Further, the slow progress on implementation of the access to information legislation questions whether there is sufficient capacity and political will for an open data initiative to succeed. The Government is aware of this, and there is a growing consensus that data management, disclosure and record keeping must be strengthened as vital assets for the development of the country.

The assessment concludes that an open data initiative in Sierra Leone, if soundly implemented, has the potential to result in significant outcomes in a highly ICT-constrained environment. The Government may achieve tangible results in a one-year timeframe if it focuses on a set of specific and targeted actions.

## Report & Action Plan Overview

This report puts forth 8 components (and 17 sub-components) of a recommended action plan for the Government of Sierra Leone, in order to establish the enabling conditions for a long-term and impactful open data initiative for the country. The recommended actions are prioritized in phases based on importance and feasibility of achievement in the given timeframe. These include:

- ▶ **Phase 1:** Establish and secure the leadership, structure and functioning of the Open Data Initiative; Secure a budget for one-year implementation of the proposed action plan; Create and publish an Inventory of key datasets and arrange for their release based on priorities; Launch pilot projects to showcase the value of open data.
- ▶ **Phase 2:** Review and introduce Open Data provisions in legal and policy framework; Facilitate data disclosure through the open data portal and data management procedures.
- ▶ **Phase 3:** Build broad-based data literacy and ICT skills; Embark on digitization of paper-based information; Plan, attract and secure financial backing for the initiative following the one-year initial timeframe.

Lastly, this action plan was design to foster activities on both foundational elements such as data management or institutional framework as well as work on short term pilot projects in key areas such as education, health and geospatial data in order to rapidly showcase the value and impact of open data for Sierra Leone. Among the potential short term outputs from the action plan are the setting up of a collaborative map for the country, and the consolidation and publication of the primary registers for schools and health facilities, including GPS coordinates.



# Table of Contents

**Executive Summary** .....2

**Acknowledgements** .....6

**Disclaimer**.....7

**Acronyms and abbreviations** .....8

**Methodology** .....10

**Assessment of key dimensions**.....12

    1 | Senior leadership .....12

    2 | Policy and legal framework.....19

    3 | Institutional structures, responsibilities, and capabilities within government..... 30

    4 | Government data management policies, procedures, and data availability..... 40

    5 | Demand for Open Data ..... 56

    6 | Civic Engagement and Capabilities for Open Data..... 62

    7 | Funding an Open Data program ..... 66

    8 | National technology and skills infrastructure ..... 71

**Summary of assessment of 8 key dimensions** .....75

**Recommendations for an action plan** .....76

**Annexes**.....87

    Annex 1: Mission Request Letter ..... 88

    Annex 2: Mission Schedule..... 89

    Annex 3: List of organizations Interviewed .....91

    Annex 4: Inventory of laws and policies ..... 95

    Annex 5: Inventory and status of public authorities’ websites ..... 96

    Annex 6: Inventory of current World Bank’s projects relevant to open data ..... 98

    Annex 7: Pilot project ideas ..... 100

    Annex 8: Open Data for Business report .....105



## Acknowledgements

At the request of the Government of Sierra Leone, led by the Right to Access Information Commission and the Ministry of Information and Communications, in collaboration with the Open Data Council and the Open Government Initiative, the World Bank agreed to carry out an Open Data Readiness Assessment (ODRA). The assessment was conducted by a team of World Bank experts from Sierra Leone and other countries.

The principal authors of this report are Pierre Chrzanowski, Jeanne Holm, Laura Manley, Elizabeth Dodds and Rob Baker of the World Bank. The overall planning, organization and delivery of the assessment would not have been possible without the support of colleagues in Sierra Leone, in particular Yeama Thompson, Commissioner at the Right to Access Information Commission, Kwame Yankson, the Executive Secretary of the Right to Access Information Commission, and Peter M. Kaindaneh, Managing Partner of the Economic Forum. Further, critical guidance and support were provided by the World Bank Country Team during the launch and closing of the ODRA and the drafting of the assessment report, particularly by Parminder Brar, Country Manager, Sheikh Sesay, Operations Officer, Cyrus Talati, Senior Economist, Roberto Panzardi, Senior Public Sector Specialist, Cari Votava, Senior Financial Sector Specialist, and Kaliope Azzi-Huck, Senior Operations Officer.

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The team is also thankful to all Sierra Leonean counterparts who agreed to take part in the field interviews and shared inputs, insights and materials that contributed significantly to the findings in this report. Their organizations are listed in Annex 3.

Lastly, the team acknowledges Andrew Stott, Senior Consultant, and Roberto Panzardi, Public Sector Specialist, both at World Bank, for reviewing the report.



## Disclaimer

This ODRA is a diagnostic and planning tool, it is not a measurement tool. This tool is intended to provide diagnostics and recommendations for actions based on existing good practice elsewhere, but it is not a prescription for open data nor is it a formal evaluation exercise. The output of any diagnostic, even following the guidance in this tool, needs to be carefully and critically considered in the context of the particular circumstances in which it has been made.

Using the tool will not guarantee a successful and sustainable open data program on its own; implementation and an idea of how to sustain such a program are crucial to ensure success. The purpose of the tool is to provide a plan for action for an open data program, as well as initiating a robust and consultative dialogue among relevant stakeholders. In that sense, use of this tool is the beginning of a process and not the end or result of a process. This tool is a living document and will be subject to continuous updating and revision based on experience from actual practice. In addition, other means of assessing readiness for open data are available, and this tool is not necessarily the only, or always the most appropriate approach in all circumstances.



## Acronyms and abbreviations

API	Application Programming Interface
AFFORD	African Foundation for Development
CGG	Campaign for Good Governance
CIO	Chief Information Officer
CSO	Civil Society Organization
CSV	Comma separated value
CTO	Chief Technology Officer
DFID	UK Department for International Development
DHIS	District Health Information Software
ECOWAS	Economic Community of West African States
ECOWAN	ECOWAS Regional Backbone and e-Governance Program
EMIS	Education Management Information System
EITI	Extractives Industry Transparency Initiative
GIS	geographic information system
GoSL	Government of Sierra Leone
HDX	Humanitarian Data Exchange
IAMTECH	Institute of Advanced Management and Technology
ICT	Information and Communications Technology
IFMIS	Integrated Financial Management Information System
IHSN	International Household Survey Network
IPAM	Institute of Public Administration and Management
ITU	International Telecommunication Union
LLI	World Bank Leadership, Learning, and Innovation Unit
MCC	Millennium Challenge Corporation
MCCU	Millennium Challenge Coordinating Unit
MDA	Ministry, department, or agency
MEST	Ministry of Education, Science and Technology
MIC	Ministry of Information and Communications
MoFED	Ministry of Finance and Economic Development
NADA	National Data Archive
NATCOM	National Telecommunications Commission
NERC	National Ebola Response Center



NPPA	National Public Procurement Authority
OARG	Office of the Administrator and Registrar General
OCHA	Office for the Coordination of Humanitarian Affairs
ODC	Open Data Council
OD4B	Open Data for Business assessment tool
ODRA	Open Data Readiness Assessment
OGI	Open Government Initiative
OGP	Open Government Partnership
OSIWA	Open Society Initiative for West Africa
OSM	OpenStreetMap
PDF	portable document format
PMSD	Performance Management and Service Delivery Directorate
PPPU	Private Public Partnership Unit
PRSP	Poverty Reduction Strategy Paper (Agenda for Change)
PSRU	Public Sector Reform Unit
RAIC	Right to Access Information Commission
RTAI	Right to Access Information Act
SDG	Sustainable Development Goals
SDI	Society for Democratic Initiatives
SALCAB	Sierra Leone Cable Limited
SLCCIA	Sierra Leone Chamber of Commerce, Industry and Agriculture
SPU	Strategy and Policy Unit
SSL	Statistics Sierra Leone
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization



## Methodology

The ODRA uses an “ecosystem” approach to open data. It is designed to examine the broadest environment for open data: “supply” side issues like the policy/legal framework and data existing within government and infrastructure (including standards), as well as “demand” side issues like citizen engagement mechanisms and existing demand for government data among user communities, including but not limited to developers, the media, civil society actors, private companies, and government agencies.

This assessment evaluates readiness based on eight dimensions considered essential for an open data initiative to build a sustainable open data ecosystem. For each dimension, it proposes a set of actions that could form the basis of an Open Data Action Plan. The recommendations and actions proposed are based on global best practices while also incorporating the needs and experiences of the Government of Sierra Leone to date.

This specific ODRA followed the standard 3.1 version of the methodology, with the following notations. In addition to the general readiness assessment for open data, the focus of the interviews and analysis was on improving service delivery for health, education, social welfare, and gender issues. This provided a link to critical services identified by MDAs, civil society, and the Open Government Partnership Action Plan. To conduct such a wide-ranging assessment, the team interviewed more than 200 people, conducted more than 40 meetings and focus groups, and spent 12 days in and around Freetown, Sierra Leone. Forty high-value datasets were assessed to understand the current processes, quality, and policies around the explicitly released data from the government. The team also looked more broadly at the open data ecosystem by speaking to 60 data users from business, civil society, academia, and other government entities. A list of the organizations interviewed is included in Annex 3.

Within each dimension, the assessment considers a set of primary questions, and for each notes evidence that favors or disfavors readiness. The evaluation of each dimension and primary question is color-coded:

<b>Green</b>	There is clear evidence of readiness
<b>Yellow</b>	Evidence of readiness is less clear
<b>Red</b>	There is an absence of evidence for readiness
<b>Grey</b>	There is insufficient information to assess readiness

When addressing a particular question, evidence of readiness has a  sign. Evidence against readiness has a  sign. Use of the  sign indicates that evidence has mixed implications or neither favors nor weighs against readiness.



Not all evidence is weighed equally when determining the overall color indicator for a given primary question. Certain factors may weigh more heavily when deciding readiness status. For instance, leadership at both high and technical levels is considered critical for data supply. The existence and capacity of “infomediaries” is equally important to leverage released information and bring tangible impact to the country.



## Assessment of key dimensions

Leading governments have learned that open data creates the most value when an “ecosystem” approach is used. Governments that only focus on releasing data fail to maximize its benefits since data release by itself is useless for most people. Value is created when data is reused by people seeking insights.

Best-in-class governments do not only focus on building an open data portal and the “supply” of government data. They focus on the larger environment for open data — its “ecosystem.”

The following is the assessment and evidence for each of the eight dimensions essential for building a sustainable open data ecosystem.

### 1 | Senior leadership

Importance	Very High
Rating	Yellow

By far the most critical success factor for open data is leadership. Open Data Programs require the implementation of change - often including legal, institutional, technological and cultural changes - and may affect stakeholders both inside and outside government. Focused, strong, sustained, political/senior leadership is, therefore, critical to helping a government overcome resistance and inertia of all kinds, to helping incentivize actors to make the necessary changes in a timely and effective manner and to achieving the desired objectives and benefits of an Open Data Program.

#### 1.1 To what extent is there visible political leadership of open data/open government/access to information?

-  In December 2008, Sierra Leone became one of the first countries in the world to establish a government body dedicated to open government. The Open Government Initiative (OGI) was set up under the mandate of the Office of the President, within the Ministry of Presidential and Public Affairs at the State House. OGI was launched with the initial technical and financial assistance from the United Nations Development Program (UNDP) to respond to the objectives of the government to enhance government accountability and participatory decision-making as articulated in the Agenda for Change (Poverty Reduction Strategy Paper, PRSP).<sup>4</sup>

<sup>4</sup> For a review of the first two years of the Open Government Initiative, see: United Nations Development Programme, Enhancing Domestic Accountability through Public Information, Citizen Participation and Dialogue in Sierra Leone: The Open Government Initiative, Yuichiro Sakai



- + In October 2013, the Government of Sierra Leone (GoSL) submitted its Letter of Intent to join the Open Government Partnership (OGP). Following the passing of the Right to Access Information Act (RTAI) the same year, the country was able to officially join the partnership in 2014.
- + On May 15, 2015, the Vice President of Sierra Leone, Victor Bockarie Foh, formally launched the national open data portal ([opendata.gov.sl](http://opendata.gov.sl)), fulfilling one of the commitments made in June 2014 as part of the Open Government Partnership's National Action Plan.
- The formation of an Open Data Council (ODC) to facilitate coordination and oversight of the open data initiative demonstrates a tangible commitment from certain high-level government representatives, including the Minister, Deputy-Minister and the head of the eGov unit at the Ministry of Information and Communications (MIC), the Chairman and Commissioner South from the Right to Access Information Commission (RAIC), the Director of the OGI, the Director of the Millennium Challenge Coordinating Unit (MCCU), and the Director of the Department of Peace and Conflict Studies at Fourah Bay College at the University of Sierra Leone. However, the Open Data Council could benefit from broader representation in terms of both data suppliers and data users, including government and non-government members. It is worth noting that there is currently limited representation of key data producing institutions, such as Statistics Sierra Leone and the Ministry of Finance and Economic Development (MoFED), on the Open Data Council, which could lead to significant challenges in terms of overall GoSL commitment, the production of timely data and sustaining the portal. Further, the strategy, governance and management of the portal have yet to be definitively established since the launch of the national open data portal in May 2015.
- x In practice, there has been limited progress on effectively implementing GoSL's commitments and legislation related to access to information, which raises doubts regarding the strength of political leadership in this regard. Although the RAIC has shown strong leadership on public outreach and implementation of the Act, concerns have been expressed regarding the limited funding and capabilities of the RAIC to ensure the proactive disclosure of information across government and to undertake widespread sensitization. The fact that many ministries, departments, or agencies (MDAs) have not yet been proactive in the disclosure of certain information as mandated under the RTAI, questions the depth of their political will for change. Even if the willingness to disclose information exists among certain officials and in certain MDAs, limited capacity and lack of training on how to manage and publish information will pose a major constraint to operationalizing the RTAI.



## 1.2 To what extent is there an established political leadership and governance model for policy and implementation of programs across multiple institutions or across government as a whole?

- Programs across multiple institutions or across government as a whole are led by the State House (Office of the President). Units with a whole-of-government approach include the Strategy and Policy Unit (SPU), the Performance Management and Service Delivery Directorate (PMSD), the Extractive Industry Transparency Initiative (EITI), the State House Communications Unit, the Millennium Challenge Coordinating Unit, the Citizens' Committee, the Private Public Partnership Unit (PPPU), the Public Sector Reform Unit (PSRU) and the OGI. There is, however, no unit at the Presidential level dedicated to overseeing data management or ICT for the whole of government. This role is delegated to the Ministry of Information and Communications. However, this is not to suggest that a special unit should be established within State House for the overall strategic direction of ICT and data policies, as this could run the risk of politicization of the open data agenda. The institutional roles and responsibilities for open data therefore need to be considered across government both in terms of ensuring prioritization and good governance of such an initiative.

## 1.3 What existing political activities or plans are relevant to open data?

- Since May 2015 and the launch of the national open data portal ([opendata.gov.sl](http://opendata.gov.sl)), the GoSL is officially recognized as among the countries launching an open data initiative. However, the whole framework of the initiative such as the strategy (why open data, for which objectives and priorities?), the governance (who has leadership? who is involved?), and the project management (who runs the project and will implement?) is still in flux. The Open Data Council has been set up with the primary purpose of establishing this framework. The ODRA is expected to help the Council to assess and identify opportunities for and challenges to implementing and sustaining an Open Data Initiative, and provide the Council with actionable recommendations to help them succeed in this task.

## 1.4 How does the wider political context of the country help or hinder open data?

- + The GoSL's current development strategy is The Agenda for Prosperity 2013 – 20185 which aims at putting Sierra Leone on a path to becoming a middle-income country with 80% of the population above the poverty line by 2035. The strategy contains a number of pillars for which open data, if soundly implemented, could make a substantial impact. This concerns, in particular, Pillar 1 – Diversified Economic Growth; Pillar 2 – Managing Natural Resources with high-quality data

5 Government of Sierra Leone, The Agenda for Prosperity, Road to Middle Income Status, 2013, <http://www.statehouse.gov.sl/images/pics/afp%20version%207.1doc.pdf>



needed for Mineral resources; Marine Resources; Water resource management; Land management; Forests; Oil and Gas. Pillar 7 – Governance and Public Sector Reform with activities on anti-corruption and transparency, public finance management, and promotion of human rights and democracy and Pillar 8 – Gender and Women’s Empowerment.

-  The next general election will be held in 2018, giving a timeframe during which certain prioritized actions could reasonably be taken to establish an open data initiative as a sustainable institutional program (see Recommendations for an Action Plan).
-  Corruption is high in the country, with Sierra Leone ranking 119/175 on the Corruption Perception Index 2014.<sup>6</sup> Agencies that should be exchanging information often do not do so in practice due to a lack of trust. The Anti-Corruption Commission is the independent authority with the mandate to reduce corruption within the country. They are a member of the Open Data Council and their work could be substantially reinforced by an open data initiative, such as in support of monitoring and reporting of incidences of corruption in the extractives industry, throughout all stages of the public procurement process, and as part of the Government’s Pay No Bribe Campaign.
-  The Ebola outbreak provided a powerful case for open data in the country. Multi-stakeholder efforts to produce data, and maps of the outbreak and health services during the crisis provided striking evidence of how data, when shared in an open and standardized format, can foster collaboration and enable greater and more timely access to vital information in a country such as Sierra Leone.
-  Sierra Leone remains heavily dependent on foreign aid which accounted for 19% of the country’s Gross National Income in 2012 and an even higher percentage of the national budget. This should be taken into consideration when framing the scope and sustainability of the open data initiative, particularly given the external support currently provided to the Open Data Portal and to conduct the ODRA.
-  This assessment could not find evidence of parliamentarians, judiciary, or a legislative committee with a strong commitment to open data. This points to a possible lack of government-wide adoption and advocacy for open data.

6 See <https://www.transparency.org/cpi2014>



## 1.5 What is the country's position in relation to the Open Government Partnership?

- + Sierra Leone joined the Open Government Partnership in 2014 on the following eligibility criteria scores: 4/4 on Fiscal Transparency, 4/4 on Access to Information, 2/4 on Income and Assets Disclosure and 3/4 on Citizen Engagement.
- + The country published its first National Action Plan in June 2014.<sup>7</sup> All the actions outlined, with no exception, would be enhanced by a national open data initiative. These actions are: 1 – Develop and implement a Public Integrity Pact with 5 pilot MDAs that identifies key commitments in line with Section 8 – Public Integrity – of the ACC Act, 2008 to improve public trust in public service delivery and to ensure effective accountability of public officials; 2. Pass a robust and proactive Archives and Records Management Act to support the implementation of the Right to Access Information Act in a bid to improve public transparency; 3. Scale up and deepen the activities of the Performance Management and Service Delivery Directorate to improve accountability and increase civic participation in governance; 4. Increase compliance with audit measures to improve transparency and accountability in public resource spending; 5. Establish a Single Treasury Account to improve financial accountability; 6. Enact an Extractive Industry Revenue Act to promote transparency and accountability in the granting of tax incentives; 7. Scaling up the Extractive Industry Transparency Initiatives; 8. Improve monitoring of the Local Content Policy, especially around monitoring the implementation of activities and improving linkages with MDAs in order to improve local participation and accountability in the process; 9. 70% of all Mining and Agricultural lease agreements and contracts revised and made public with a view to improve transparency, accountability and public participation; 10. Implementation of the Right to Access Information Law; 11. Establish an open data portal to improve transparency in fiscal and extractive transactions.
- + In accordance with the OGP process, Sierra Leone published in September 2015 a mid-term self-assessment report.<sup>8</sup> According to the report, 8 actions have already reached a level of completion of 50% or above (the deadline being June 2016). However, the process has experienced delays in the adoption of the Archives and Records Management Act and the scaling up of the EITI. Further, there is some concern regarding the transparency and metrics used in the self-reporting on the completion of action items.
- x The assessment of progress towards implementing OGP commitments has not examined the effectiveness of implementation, excluding metrics that would capture the extent to which implementation is leading to its intended outcomes of enhanced openness and accountability. For example, the limited implementation of the RTAI and lack of proactive disclosure of information thus far by government point to real impediments to concrete and sustainable progress on OGP commitments.

7 Sierra Leone Action Plan for 2014–16, <http://www.opengovpartnership.org/country/sierra-leone/action-plan>

8 Sierra Leone, Midterm Self-Assessment Report, 2014–16, <http://www.opengovpartnership.org/country/sierra-leone/assessment>



## Summary of assessment for Senior Leadership

There is visible and official support for open data at high levels of the Government, including key institutions such as the State House, OGI, RAIC, MIC and the MCCU. Although support has been expressed by key data-owning public authorities, they have not been closely involved in the initiative as of yet, and are not included as part of the Open Data Council. Their leadership and participation in the program will be essential for the release of key datasets and digitalization of key government documents. Yet, assuming the political will to disclose information exists, constraints in terms of limited capacity to collect, manage and publish information pose serious challenges to the implementation of RTAI. Further, the limited financial and human resources of the RAIC will challenge their capacity to ensure compliance with RTAI across government.

The political context (Agenda for Prosperity, Elections in 2018, post-Ebola recovery) offers a one-year timeframe to achieve certain prioritized actions to demonstrate the critical importance of open data and the need to put in place a long-term strategy and ICT infrastructure for data management. Lastly, although the Government has established high-level leadership for whole-of-government priority programs, institutional cross-coordination should be assessed to determine how ICT, e-Government and data management can become a high priority and transformational area for the country.<sup>9</sup>

Question Area	Political Leadership
<p><b>Importance</b> Very high</p>	<p>There is visible leadership from high-level institutions and individuals, but clarifications are needed regarding institutional structures and responsibilities for the oversight, coordination and implementation of an open data initiative. Further, progress on implementation of commitments remains limited, questioning the extent of political will and/or capacity for openness.</p>
Question Area	Political Structure for whole-of-government program
<p><b>Importance</b> High</p>	<p>There is a governance model for whole-of-government programs but data management, and ICT are not among them. This is not necessarily a negative factor; however, an assessment should be made of how to ensure prioritization of open data at the highest levels of government without encroaching on the governance of such an initiative.</p>

<sup>9</sup> One model to follow could be the work done on civil service reform and the decentralisation process.

**Question Area****Existing Activities****Importance**

Medium

The open data initiative already started with the launch of the open data portal, but key elements of the program are still to be defined and implemented, including the mandates and responsibilities of the agencies involved, as well as the structure and management initiative. Further, few datasets have been uploaded to the portal following its initial establishment.

**Question Area****Wider Political Context****Importance**

High

There are opportunities to establish and institutionalize the open data initiative and link the program to the wider Agenda for Prosperity in the timeframe leading up to the 2018 elections. However, an impediment includes the lack of parliamentary commitments to open. In light of this context, recommended actions for such an initiative should be realistic regarding what can be achieved in a one-year timeframe.

**Question Area****Open Government Partnership****Importance**

Medium

The country's active involvement in the OGP process is key to maintaining leadership and high-level support for open data activities. However, limited progress on implementation calls into question the extent to which open data commitments under the OGP will result in sustainable progress on transparency and accountability as intended.

**Overall: Yellow****Importance**

Very high

Visible political leadership on open data and open government exists, but there is a need to clarify roles and responsibilities within the open data agenda and to ensure sufficient political will and capacity for the sustainability of an open data initiative.



## 2 | Policy and legal framework

Importance Very High

Rating **Yellow**

The long-term success and sustainability of an Open Data Program are greatly impacted by the policy and legal framework that exists. Open data requires that a range of policy and legal issues be addressed, for example, with respect to safeguards ensuring anonymization of data, licensing of data reuse, data protection, freedom of and access to information and related issues. It is important to identify at an early stage the existing policies, laws, and regulations with respect to a core set of issues, and to identify actual or perceived obstacles in order that policy or legal change can be initiated early if essential.

### Legal Disclaimer

*The preliminary analysis and recommendations in this section are based on information and opinions collected from interviews undertaken and materials provided by the government and other local stakeholders during this study. This section is not based on detailed, legal due diligence and does not constitute legal advice. Accordingly, no inference should be drawn as to the completeness, adequacy, accuracy or suitability of the underlying assessment, or recommendations, or any actions that might be undertaken resulting therefrom, regarding the enabling policy, legal or regulatory framework for Open Data in the country. It is therefore recommended that, prior to undertaking any legal action to address any legal assessment issue raised herein, a formal legal due diligence be performed by competent, locally qualified legal counsel, preferably assisted by international legal experts with relevant experience and knowledge of these areas. For these reasons, we refrain from assigning ,  or  to our findings for this section.*

*All laws and policies mentioned in this section are listed in the “Inventory of laws and policies” table available in Annex 4.*



## 2.1 What is the legal and policy framework for the protection of personal privacy?

The Constitution's Article 25(2)(a)(ii), under the protection of freedom of expression and the press, prevents the "disclosure of information received in confidence."

The Statistics Act of 2000 includes an article on Confidentiality and Disclosure that prevents the disclosure of information collected by Statistics Sierra Leone on individuals, households, businesses, and other organizations to any "unauthorized person." (20(1)). Further clarification is needed regarding these disclosure restrictions, as it is possible that the inclusion of businesses and other organizations is problematic as it can restrict SSL from publishing data on companies or Civil Society Organizations (CSOs).

The Statistics Act provides Confidentiality and Disclosure exceptions to this clause under Subsection 20(3) for when this information can be disclosed, including if the person or organization involved in collecting this information takes an oath of confidentiality or if the "Statistician-General is satisfied that the confidentiality of that information or data will not be impaired." These exemptions should be examined particularly in relation to public access to statutory registers and other information containing personal details, including company registries and election results, to ensure that these exemptions are not at risk of impinging on personal privacy rights.

The Right to Access Information Law under Article 21 restricts the disclosure of information if it relates to personal information concerning an individual, with certain exemptions relating to the prior consent of the individual or if the information is necessary for public health, safety, among others (21(2)). However, this is not consistent with the exemptions for disclosure of personal information under the Statistics Act (above), which would allow for such a disclosure at the discretion of the Statistician-General of the person collecting the information.

The Telecommunications Act of 2006 establishes the National Telecommunications Commission (NATCOM) under the Ministry of Information and Communications, and calls on the Commission to establish regulations to protect data on computer files and their transmission in order to "safeguard the secrecy of telecommunications and the protection of personal data in collaboration with the telecommunications network operators" (Section 9.2.).

Overall, there is currently no data privacy or data protection framework in the country yet. A legal or regulatory data protection framework is generally understood as a data protection law that is broadly applicable, provides the right of choice/consent to individuals, provides the right to access and/or correct one's personal data, imposes clear responsibilities on information holders and provides a right of redress against both private and public bodies that violate data privacy.

The Government is working on a draft Data Protection Act. The process is led by the Technical Working Group for the review and regulatory process of the Data Protection Act.



## 2.2 What rights of access to information exist?

The Right to Access Information Act, enacted in 2013, guarantees citizens access to information and provides for the proactive publication of several types of information by public authorities. The Act requires all parts of government to adopt and disseminate their plans to publish records. The information to be disclosed is extensive and includes annual budget and financial reports, contracts, concessions of each agency, among several other categories of information. Given its broad scope, RTAI is tied for the fifth strongest in the world in an analysis by the Centre for Law and Democracy.<sup>10</sup> However, it should be noted that the Center's rating is provided on the basis of the quality of the legislation, and not on the extent and quality of implementation, for which there are critical challenges (outlined below).

The Act establishes the Right to Access Information Commission, with duties and powers to monitor and report on compliance with the Law, to carry out investigations in the case of non-compliance and order the release of information, or lawful redress (Section 32 (3-4)). Additionally, under Section 32(5) “a person or authority dissatisfied with an order made by the Commission (☒) may appeal to the High Court within twenty-one days of the order.”

The Act provides for every public authority to appoint public information officers with the responsibility to provide requested information. The time limit for compliance is of 15 working days. However, in practice, due to budgetary constraints, not all MDAs have been able to recruit officers, and instead, current Information Officers, Archivists, and ICT personnel are undergoing training for this role. To date about 50 officers have been trained by the Society for Democratic Initiatives, a local Civil Society Organization.

In practice, the RTAI has not yet been implemented widely. However, there have been a few The use of the RTAI to challenge MDAs in obtaining information is still low as evidenced by the fact that while the RAIC has been copied on some of the Freedom of Information requests made, they have received few formal complaints from the requesters.<sup>11</sup> Several barriers indeed remain for the effective implementation and use of the Act. First, even though the RAIC started to raise public awareness, in particular through daily radio infomercials, there is no clear and detailed process for citizens to request information, nor any obvious legal framework for citizens to legally challenge decisions of officials in withholding information. There is a particular need to publicize the RTAI in the Provinces. Furthermore, RAIC does not have a website where people may find practical information about the law, such as the list of public information officers and their contact details. Lastly, there is a shared concern among MDAs that the situation of records management may seriously limit their capacity to comply with the Act regarding both providing access and mandatory proactive disclosures.

<sup>10</sup> See <http://www.law-democracy.org/live/sierra-leones-right-to-information-law-is-5th-strongest-in-the-world/>

<sup>11</sup> However, following the completion of the ODRA and as of March 2016, the RAIC received two formal complaints regarding requests for information that had not been fulfilled, which were both successfully resolved.



There are several inconsistencies among the policies and laws with which the RTAI intersects. In particular, the RTAI is inconsistent with and may be hindered by the Official Oaths of Secrecy that all employees in the Civil Service with access to “classified or restricted documents” must sign and abide by (Rule 13.17 of the Civil Service Code, Regulations, and Rules). This oath requires a written application to be submitted to the Head of Department to obtain an official approval in order to share any information deemed as “classified or confidential”, although the Oath does not specify how the determination of confidentiality is made and by whom – this should be clarified. Without this official sanction, civil servants are liable for prosecution for publishing “any information [they] may acquire in the course of [their] tenure of office in the Civil Service (unless it has already officially be made public).”<sup>12</sup> The risk is the Oath of Secrecy could be interpreted quite broadly, leading to the further entrenchment or perpetuation of a culture of secrecy within government.

The exemptions provided under the RTAI can be broadly interpreted, which can make implementation of the law challenging. Under Article 12(2), “information shall not be exempt where the public interest in accessing the information outweighs the harm.” This includes information relating to national security and defense, international relations, economic interests, investigations and law enforcement, third-party information, commercial interests, personal information, public economic interests and customary rites. Further, information obtained by a public official from a third party is not required to be disclosed under the RTAI (Section 19).

The lack of credible legal frameworks for citizens to challenge government decisions related to information disclosure under the RTAI undermines the legitimacy of such legal obligations for disclosure. In the absence of effective sanctions for withholding information, there will be few incentives on the part of government to follow through on their RTAI obligations.

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12 Oath of Official Secrecy, Published by the Government on 22 June 2011.



### 2.3 What is the legal and policy framework for data security, data archiving, and digital preservation?

Although there are elements of data security, archiving and digital preservation in certain policies, there is not one overarching policy that consolidates and harmonizes these or provides formal procedures or mechanisms to address data security. There are also no current policies on protecting electronic information. While certain policies and bills relating to cyber security, data protection and archiving have been drafted or plan to be drafted, they have not yet been passed. As a result, there are concerns about using e-Government services due to lack of protection and risk that information will be shared with third parties.

Building of the National ICT Policy (2009), the Draft National ICT Policy (2015) has an objective to “enact the necessary cyber-laws including those relating to: intellectual property and copyrights; data protection and security, freedom of access to information; computer and cybercrime and other cyber-laws necessary for facilitating the country’s participation in the information age and economy”.

A National Cyber Security Policy for 2016–2020 has been drafted by the MIC but not yet established. The Government also indicated plans for a cybersecurity act in the future. Currently, there is a National Cyber Security Coordinator under the MIC. However, in the absence of a specific legislation on cybercrime or any related regulation on cybersecurity, there is no legal framework in this area.

A Records and Archives Management Bill has been drafted to consolidate the management of all public records and archives under one single authority and to replace the Public Archives Act of 1965, which does not include any provisions for electronic records. This is driven by the Public Sector Reform Unit. The Bill will establish a National Records and Archives Department and an independent Archives Advisory Board under the supervision of the Minister of Information and Communications. Based on recommendations of an analysis of the policy conducted by the International Legal Resource Centre, the mandate for records management is being transferred from the Ministry of Education, Science and Technology to the Ministry of Information and Communications to ensure records management forms a part of e-Government. The Bill also establishes branch offices and records centers to serve each region of the country, under the authority of the Director of the Department and holds heads of public offices responsible for establishing good records keeping practices and creating and maintaining documentation relating to their offices. The draft Bill also provides for the preservation and management of metadata relating to electronic records.

While the fact that legislation on records management has been drafted and reviewed is encouraging, there are concerns regarding the capacity of MDAs to improve the full



lifecycle of information management, including managing and digitizing documents and creating, capturing and storing data without training and resources dedicated to this effort. To encourage commitment on the part of MDAs to records management, it was suggested to leverage performance tracking plans to make data archiving, management and publishing compulsory as part of staff assessments.

It is important to note that some of the progress on the legal aspects was driven and funded by donor organizations. It is expected that the government would prioritize and manage legal analysis and develop in-house expertise for promoting and creating legal structures for open data.

#### **2.4 What is the policy on the ownership and licensing of government data?**

There is an established Copyright Act enacted in 2011, which defines the ownership of a government work. Under Section 8(a-b), copyright of works that are made by or under the direction of the Government vests in the President.

However, under Section 7(a), copyright protection does not extend to “mere data”, which leaves unclear the government’s ownership of raw data or the process for which the government would permit the use of such data, and opens copyright rules to a case-by-case basis. The intention of this provision is not clear, as it could represent a common copyright restriction that “facts cannot be copyrighted.” Therefore, it is suggested to reexamine and clarify the wording and intention of this provision.

For Public Benefit works, the copyrights reserved do not extend to the authors of works including: “an enactment, a decision made by a court, a report made by a commission of enquiry appointed by the Government or an agency of the Government, and news, namely a report of fresh events or current information made by media...”. In these cases, the President is the trustee for the public of these works.

In practice, each Ministry website includes a copyright notice by that Ministry, not by the President, raising doubt on whether this mention of ownership for digital content is compliant with the Copyright Act.<sup>13</sup>

There is a lack of provision or guidance regarding terms of use or license applying to the government’s work.

There is no evidence that any government dataset was released under an open license, except for NERC’s data released under CC-BY license.<sup>14</sup>

13 The website of the Ministry of Health and Sanitation has for instance a copyright mention stating “Copyright © 2015 Ministry of Health and Sanitation, Sierra Leone”. See <http://health.gov.sl/>

14 See more at <http://opendata.gov.sl/dataset/sierra-leone-nerc-ebola-care-facilities-master-list>.



## 2.5 To what extent is government data sold by agencies?

There does not seem to be an official policy or regulation on charging for access to information, and whether or not MDAs charge for access to information does not seem consistent across government. For example, Statistics Sierra Leone does not charge for digital data or publications. However, the current practice is that agencies such as OARG, Ministry of Lands, among others, charge fees for obtaining paper copies of information, which is often personal in nature. Although official fees for obtaining information may be minimal, for example, a fee of Le 20,000 (approximately 4-5 \$) for obtaining copies of the land registry, there is substantial evidence of additional fees for “verified true” information, as well as people having to pay more than the official fees in practice.

## 2.6 What other policies/laws exist that may have significant impact on open data?

The Statistics Act of 2002 establishes the functions of a national statistics agency, Statistics Sierra Leone, which are to “compile, report, and document statistical publications and make them accessible to the public”; 10(2)(e): “impartially disseminate statistical information to government departments, other institutions and the general public” (Article 10(2)(d)).

The Public Debt Management Act (2011) indicates one of the functions of the Debt Management Division is to “keep timely, comprehensive and accurate records of outstanding Government debt, guarantees and lending in an appropriate database”, however, there is no mention of publication of records.

The Mines and Minerals Act (2009) includes a provision (159(e)) for transparency in the extractives industry, which calls on the Minister to “disseminate by way of publication or otherwise, records, reports or any information concerning the revenue of the Government from the extractive industry, at least annually.”

The Anti-Corruption Act includes a confidentiality clause that requires all officers to maintain the confidentiality of any information relating to the administration of the Act.

The Government Budgeting and Accountability Act (2005) requires the Government to maintain and provide annual revenue and expenditure data and to publish the report and annual statement of public accounts as soon as possible after submission to the Auditor-General (57(6)).

The Public Procurement Act (2004) requires the National Public Procurement Authority to publish a quarterly Public Procurement Bulletin that includes information on public procurement, “including approved procurement plans, proposed procurement notices, and notices of invitation to bid and contract award information” (14(2)(i)). The functions of procurement committees include “submitting



annually updated databases of suppliers, contractors and consultants, and records of prices of the Authority for publication” (18(13) (h)).

Although some of these Acts have been in place for 14 years, the fulfillment of the mandates set forth have not been well documented. MDAs have not established a clear record of proactive fulfillment of information requests.

There is no legal way for citizens to challenge a denial of access to information.



## Summary of Assessment for Policy and Legal Framework

The country is now equipped with a strong Right to Access Information Act, which is supervised by a dedicated Commission. The Act, which provides for the proactive publication of a broad number of documents, is regarded as comprehensive by experts in the field, and as demonstrated by its rating as the fifth strongest in the world by the Centre for Law and Democracy. However, there are concerns that many public authorities will struggle to comply with the Act in the short term, as many of them have not yet appointed or trained their public information officers. More importantly, many public authorities do not manage their records and archives in a way that will allow them to respond to requests in a timely manner and publish all required documents proactively. Furthermore, the limited cases brought to the RAIC thus far point to a lack of awareness of the process of requesting information or limited demand for information. There is a need for MDAs to be accountable to and have the capacity to respond to such requests when they are made. However, the need for basic records management, accountability and transparency, and legal responsibility need to be in place to ensure the fulfillment of the vision of this Act.

Additionally, the legal framework for access to information has not been harmonized with other laws and regulations, for instance with regard to the Civil Service's Official Oath of Secrecy. Conflicting policies may remain regarding the data and information that can be released and the process for doing so. This uncertainty may hinder the willingness of civil servants to share information.

A number of important legal elements remain to be adopted or adapted to fully secure the open data environment. The lack of credible legal channels for citizens to challenge government decisions related to information disclosure under the RTAI undermines the legitimacy of such legal obligations for disclosure. The Copyright Act is not clear enough on who owns digital documents and data produced by the Government. Laws or policies on Data Protection, Cybersecurity, and the new Records and Archive Management are still in the draft stage. Finally, the legal framework does not contain any requirements for public information to be released as open data. Such a regulation would, for instance, mandate public authorities to proactively release their data online in machine-readable digital format, under a license allowing reuse by anyone, and without any charge.

Overall, the recommendation is to continue raising awareness of the Right to Access Information Act, reinforce its technical applicability, clarify and better document the process and procedures for requesting information, and identify and strengthen any channels for challenging government decisions in cases where information disclosure is denied. As several draft laws and policies with implications for open data are now being proposed, it is recommended that the Government undertakes an official review of the entire legal framework to determine that these laws are not conflicting, and when relevant, integrate provisions for open data standards.

**Question Area**      **Protection of personal privacy****Importance**  
Very high

There is a draft Data Protection Bill but at an early stage of the adoption process. While some legislation includes restrictions to the disclosure of personal information, these are not consistent or comprehensive enough to include regulations around the collection and protection of personal data provided to Government, businesses or individuals. Data Protection legislation is critical to establishing rights for individuals to complain and obtain redress if their personal data is misused by anyone in Sierra Leone.

**Question Area**      **Right of access to information****Importance**  
Very high

There is a comprehensive but new Right to Access Information framework. Its implementation is limited thus far, and there are concerns regarding the capacity, commitment and incentives on the part of MDAs to follow through on RTAI obligations.

**Question Area**      **Data security, data archiving, and digital preservation****Importance**  
High

There is a draft Records and Management Bill that should provide for a much needed revised legal framework of data management in the digital age, but the bill is at an early stage of the adoption process, and further, capacity building will be required for MDAs to improve the whole lifecycle of information management.

**Question Area**      **Ownership and licensing of government data****Importance**  
Very high

The Copyright Act is not clear enough on who owns digital data produced by the Government.

**Question Area**      **Data sold by agencies****Importance**  
High

There is no business model or practice in place that is preventing the Government from releasing digital data free of charge. Selling paper-based documents is, however, a common practice in the government.

**Question Area**      **Other policy and laws****Importance**  
High

Many sectorial laws include provision on data collection and dissemination but lacks precision on how data should be released.



**Overall: Yellow**

The Right to Access Information Act is a positive move towards a basic legal framework for open data, although significant challenges must be addressed to ensure its effective implementation. The enactment of the Data Protection Act and the Records and Archives Management Act would be other important steps, and it is encouraging that the Government has already drafted this key legislation. However, it should be reemphasized that political intentions, represented by legislation and commitments on access to information and records management, does not equal effective and widespread implementation, which still remains to be seen.



## 3 | Institutional structures, responsibilities, and capabilities within government

Importance High

Rating **Yellow**

Open data requires agencies to manage their data assets with a transparent, organized process for data gathering, security, quality control and release. To effectively carry out these responsibilities, agencies need clear business processes for data management as well as staff with adequate ICT skills and technical understanding of data (e.g., formats, metadata, APIs, databases). Engagement among agencies and at all levels of government to set common standards and remove impediments to data interoperability and exchange is also vital.

### 3.1 Which agency or agencies have relevant capabilities, mandates, project management experience and technical skills to be a suitable lead institution in the planning and implementation of an open data program?

-  The preliminary phases of the Open Data Initiative for Sierra Leone started under the Open Government Initiative, a State House body set up in 2008 and whose main objective is to enhance transparency, accountability and the free-flow of information in governance. The Office of the Chief of staff led the process to sign up to the OGP. The MCCU and the OGI were tasked to formulate the first national action plan with support from the Steering Committee consisting of 17 civil society and 17 government institutions. Opening up government data became critical during the formulation of the National Action Plan. Thus 2 commitments were made specifically speaking to Open Data: the establishment of the portal and the ODRA. OGI is now overseeing the implementation of the national action plan.<sup>15</sup> In April 2015, OGI was granted ownership of the open data portal<sup>16</sup> launched with funding from the World Bank’s Open Aid Partnership program and technically implemented and managed by NuCivic.<sup>17</sup>
-  The Millennium Challenge Coordinating Unit also played an important role in promoting the opening of government data in Sierra Leone. MCCU was set up in April 2013 and placed under the Office of the Chief of Staff (State House), with the responsibility to lead the process for the country to be eligible for Millennium Challenge Corporation (MCC) Compact fund and oversees the program’s development and subsequent implementation. MCC is a U.S. foreign aid agency that

<sup>15</sup> See Sierra Leone’s section on the Open Government Partnership website <http://www.opengovpartnership.org/country/sierra-leone>

<sup>16</sup> Open data portal is at <http://opendata.gov.sl>.

<sup>17</sup> NuCivic is a US-based company that provides open source software-as-a-service (“OpenSaaS”) solutions to public sector institutions. See <http://www.nucivic.com/>.



is helping countries to fight widespread poverty through economic growth. To be selected, a country must pass a minimum of ten out of twenty governance-related indicators including those of “political rights” and “control of corruption”. MCCU promoted the right to access information, open data, and the OGP process as ways to improve indicators on corruption. MCCU also sees the benefit of open data in assessing MCC indicators and implementing the programs.

-  The Right to Access Information Commission was created as per the RTAI, enacted in 2013, and took office in September 2014, with the nomination of a Chairman and 4 Commissioners representing the 3 Provinces and the Western area. The primary mission of RAIC is to enforce the RTAI. As the mandate of RAIC also encompasses the proactive publication of government information, it was decided that the Commission would also drive the Open Data Initiative. For that purpose, an Information and Communications Technology (ICT) officer from MIC joined the Commission to manage the open data portal. Although quite young, the Commission has demonstrated its commitment to promoting and advance both the right to access information and open data across the Government. The availability of resources to sustain such momentum remains a question that the Government will need to address if RAIC is to spearhead the Open Data Initiative. Lastly, the ownership of the open data portal has been officially transferred in August 2015 from OGI to the Commission,<sup>18</sup> but the technical ownership may soon be transferred to the Ministry of Information and Communications.
-  The Ministry of Information and Communications is responsible for the development of the Government’s ICT agenda and is composed of a policy and an e-Government unit. It employs 130 ICT officers, and around 45 of them are currently deployed within other MDAs as information officers. MIC is based at the Youyi building with several other ministries. The e-Government Unit is overseeing the implementation of the government network, which will connect 23 MDAs. The unit is also responsible for implementing a central e-Government website and helping other MDAs in setting up their own website. Overall, the MIC has demonstrated a willingness to take the lead on the open data initiative and is in the best position to oversee its technical implementation with evidence of project management and ICT skills. MIC is seating on the Open Data Council.
-  RAIC has set up and is chairing the Open Data Council, a multi-stakeholder platform, which will serve as a steering committee to manage the Open Data Initiative of Sierra Leone. The Open Data Council, established in August 2015, is composed of representatives from the following organizations: OGI, RAIC, MCCU, MIC, Anti-Corruption Commission, Public Sector Reform Unit, Government Archives Office, Transparency International, Society for Democratic Initiatives (SDI), Fourah

18 A Memorandum of Understanding was signed between the two bodies to enact the transfer of ownership.



Bay College, Njala University, Institute of Public Administration and Management (IPAM), Sierra Leone Association of Journalists, United Nations Women, Academia Sierra Leone, Knowledge Management Society, Sierra Leone Library Board. The Council is divided into two sub-committees, the Technical Support Sub-Committee and the Strategy and Policy Sub-Committee. The Open Data Council is envisioned as an intermediary between Government and the stakeholders requesting data. The establishment of the Open Data Council, which has already met on several occasions, is a welcomed move which should enable the necessary coordination and collaboration between the different stakeholders committed to advance open data. However, it should be noted that key data producers, such as the Ministry of Finance and Economic Development (MoFED) and Statistics Sierra Leone have thus far not been centrally involved in the deliberations of the Council. It was also recommended that the Council represent a more diverse group of stakeholders, including both data producers and data users.

- According to its terms of reference,<sup>19</sup> the Technical Sub-Committee of the Open Data Council will be primarily tasked to serve as an interlocutor between the contractor of the open data portal (NUCIVIC) and the MDAs. In particular, the Sub-Committee is tasked with providing the following key deliverables: design and implementation of Open Data Portal; Training on Open Data Portal; hosting of Open Data Portal; administration of Open Data Portal; support and maintenance of open data portal; Security of the Open Data Portal; Review/Upgrade of Open Data Portal; Sensitization. It is also responsible for setting up the ICT team responsible for managing the portal. The Sub-Committee is composed of the following representatives: Right to Access Information (Commissioner and ICT Manager), MCCU (Policy Benchmark Officer), Ministry of Information and Communications (ICT Manager), Fourah Bay College (Head of Electrical and Electronics Department), Njala University (Head of ICT Department), IPAM (Head of ICT Department). Looking at its terms of reference, the Technical Sub-Committee is both close to the definition of a project team responsible for daily operational and technical implementation of open data across the Government and to an advisory body. By its status, the Technical Sub-Committee, which is under the Open Data Council, has the role of a steering committee and is composed of members who, for most of them, will not work full time on the initiative. It is therefore suggested to review the mandate of the Technical Sub-Committee in line with the role of the project team who should be primarily responsible for delivering the open data initiative.
- × While it is understood that one or two ICT managers at RAIC will be responsible for the technical implementation of open data, there is, however, no evidence that a project team will be in charge of all aspects of the program. An open data initiative is a project, and as such needs a dedicated project team. This means to clearly iden-

19 Open Data Council Technical Committee Term of Reference, Alpha Version (no date specified)



tify the project manager, who has responsibility for signing off on key decisions and delivers the plan, as well as other typical roles, which might include a Chief Technology Officer (CTO) (responsible for the portal), a data manager (responsible for data management, collection and publication), a community manager (responsible for communication and engagement with data users), and a legal advisor.

- + The National Ebola Response Center (NERC) is an ad hoc public authority set up in the summer 2014<sup>20</sup> to coordinate Ebola response activities and which demonstrated strong management capacity that could be of high value for an open data initiative. During the outbreak, one of the main objectives of NERC was to collect and provide accurate data on the epidemic on a daily basis to all stakeholders. NERC's Situation Room succeeded in this task by setting up task data collection and management processes to gather 40 key indicators. NERC trained around 700 people through the Situation Room Academy. The Academy trained people on basic but key tasks including presentations, calendars, meeting notes, computer literacy, and data collection. Lastly, NERC collaborated with the Humanitarian Data Exchange (HDX) team of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) to publish Ebola data as open data on the HDX website.<sup>21</sup>
- ✗ Among the most important staff skills for data management and access to information that are currently lacking are the legal skills to understand and effectively implement the obligations related to RTAI, to be able to establish systems and procedures within each agency to implement these obligations. It is therefore important that designated Information Officers are trained on the intricacies of the laws and policies related to RTAI, and are held accountable for requests for information received and providing determinations on whether to disclose the information requested pursuant to these regulations.

20 NERC was first launched as the Emergency Operations Center (EOC) for Sierra Leone and in November 2014 renamed as the National Ebola Response Center.

21 See <https://data.hdx.rwllabs.org/ebola>



### 3.2 Which if any agencies have a CIO, CTO, or permanent official positions dedicated to data management?

- ✘ A Chief Information Officer is a title commonly given to the most senior official in a government or agency responsible for the information technology and computer systems that support its operations and agenda. There is no CIO position at government level or cross-agency level in Sierra Leone. There is an e-Government unit placed within the Ministry of Information and Communications, but its Director does not have authority over other MDAs. Furthermore, the mandate of the e-Government at the MIC is broad and exceeds data management.
- ✘ Data systems within MDAs are managed by ICT officers who are at mid-level positions and commonly report to non-ICT senior positions. The rank and position of ICT officers also vary between ministries. The Ministry of Finance and Economic Development has an ICT Manager, the Ministry of Health and Sanitation is composed of an ICT Unit with a Director and an Administrator responsible for the data system. The Ministry of Social Welfare, Gender and Children's Affairs has a Senior ICT Officer. Overall, ICT officers do not have a high-level position in their agency, and they are rarely involved in the preliminary phases of ICT project, where important technical decisions are taken.

### 3.3 What inter-agency mechanisms coordinate ICT issues (such as for technical matters)?

- ✘ Following the ICT National Plan 2009, an ICT Advisory Council was set up in 2010 to ensure a participatory approach for the development of the ICT sector. It was expected that the council would formulate ICT objectives and implementation plans, develop national ICT standards and guidelines, and monitor the implementation of policy plans and evaluating the results. However, the council only met a few times and is now dormant.
- Statistics Sierra Leone (SSL) acts as a clearinghouse for MDAs statistics, but there is no evidence of inter-agency coordination for enhancing data harmonization and quality. A new 5-years National Strategy for the Development of Statistics is currently under development. It is expected that the strategy will provide for a collaboration platform between statistics users and producers.

### 3.4 What process is currently used to measure agency performance or quality of service delivery?

- + Since 2008, each MDA is required to sign a Performance Management Contract with the Presidency. The process is oversight by the Performance Management and Service Delivery Directorate (PMSD), which is responsible for leading peer assessment process where MDAs evaluate each other and review their contract



accordingly on a bi-annual basis. Performance Management Contract and related Annual Assessments are public documents. However, contracts are kept in paper form by the PMSD making difficult to access them. CSOs have expressed concerns over the lack of transparency and difficulty to follow the process.

- + The Audit Service Sierra Leone (ASSL) is an independent authority mandated to conduct operational audits of Government MDAs. ASSL staff has been recently trained on IT audit with support from IPAM, and the authority shall start IT audit of key ministries by 2016.
- + Additional consultation is needed with the Bank of Sierra Leone and the National Commission for Privatisation, which has responsibility for data releases for the entities under its jurisdiction.
- + Following from a lack of effective standards for access to information and data management, there is a lack of clear business processes for data management in place beyond single instances at the MDAs.

### 3.5 Which agency or ministry is primarily responsible for data or statistics?

- + Statistics Sierra Leone (SSL) is the primary institution for the management of statistics and data in Sierra Leone. SSL is responsible for carrying out the population and household's census every ten years and conducting specific surveys, often in collaboration with development partners. The institution is organized in five divisions, where four of them are responsible for collecting, analyzing, and publishing specific data and statistics. The Economic Unit is responsible for producing a national account, foreign trade, business data, the Consumer Price Index, and economical statistics on agriculture. The Demographic Unit is responsible for gender, education and health statistics as well as the production of Sustainable Development Goals (SDG) indicators, vital statistics and data on immigration. The Geographic Information System (GIS) Unit is responsible for Census and GIS data while the Data Processing Unit handles IT operations and data analytics. SSL has a staff of 250 people.
- ✗ Concerns have been raised regarding the preparation of the 2015 population and households' census. A report from the Institute for Governance Reform pointed out that the political mobilization of several District Census Officers and the lack of an updated map of the country were among the main risks that may undermine the accuracy of the forthcoming census.<sup>22</sup> The census effectively started in December 2015 a few weeks after the Odra mission. There is no evidence that SSL addressed these concerns.

22 Institute for Governance Reform, Critical Perspectives of Governance, Volume 3, January 2015, The Credibility of the 2015 census in Sierra Leone, [http://www.igr-sl.org/media/635568612060595021Credibility\\_of\\_Sierra\\_Leone\\_2015\\_Census.pdf](http://www.igr-sl.org/media/635568612060595021Credibility_of_Sierra_Leone_2015_Census.pdf)



- ✘ Additional support may come from the National Commission for Privatization, which has responsibility for data releases for the entities under its jurisdiction. The Bank of Sierra Leone may also have similar data reporting requirements.

### **3.6 Which agencies or ministries appear most concerned about the release of data, and what is the basis of their concern? How can they be handled procedurally, and how can their concerns be addressed?**

- One of the leading concerns of the GoSL is the misuse of data, in particular, if information is used by CSOs or non-public authorities to blackmail or bribe citizens for money. Such a concern was expressed by the Minister of Social Welfare, Gender and Children's Affairs. A related concern is the possibility to modify the data when in machine-readable format. This has been raised by entities such as Sierra Leone Police and the Audit Service Sierra Leone. Such concerns are common and need to be addressed both from a technical perspective (a paper form or portable document format (PDF) file can also be misused – such as for blackmailing – or modified), as well as from a strategic perspective (when government information is challenged, it is important to have the official source publicly available). Another aspect reported here is that MDAs, which themselves are struggling with basic records and data management, may be misreporting performance measures.
- Another concern is the risk of over-expectation by the public regarding certain authorities. For instance, people may assume they can access MDAs' data from the Audit Service whereas the institution is not the owner of the data and has signed a clause of confidentiality with the MDAs for the data it collects from them.

### **3.7 How strong is the government's overall ICT skill base among senior government leaders and civil servants?**

- ✘ Although it was not possible to assess senior government leaders' ICT skills, none of them have a background in ICT. This may explain why important technical and capacity issues may have been overlooked on ICT projects.
- ✘ Basic computer skills are not a requirement for civil servants to advance in their career. As a result, and excepted for the MIC's staff, ICT skills are considered to be low among civil servants.



### 3.8 What is the government's presence on the Web?

- OGI compiled and published a list of all MDAs websites on its own portal<sup>23</sup> including domain names for ministries, agencies, commissions, district, city councils, and other public authorities. As of De Looking at the public authorities interviewed for the assessment, the Right to Access Information Commission, the Ministry of Education, Science and Technology (MEST) and the Public Sector Reform Unit does not have a functioning website.<sup>24</sup> On all 24 ministries, only 7 ministries do have a functioning website. These are the Ministry of Finance and Economic Development, Ministry of Social Welfare, Gender and Children's Affairs, Ministry of Mines and Mineral Resources, Ministry of Fisheries and Marine Resources, Ministry of Agriculture, Food Security and Forestry, Ministry of Local Government and Rural Development, Ministry of Health and Sanitation, and Ministry of Energy. No city or district council does have a functioning website.
- The Right to Access Information Commission is now responsible for the open data portal [opendata.gov.sl](http://opendata.gov.sl) and also envisaged to launch a "What Do They Know"<sup>25</sup> type portal, a service where people can directly request information to MDAs and get the response online and publicly. Combined with a digitization facility service, the portal may even help to provide an online digital version of requested information initially only available in paper form. However, it is not clear whether the RAIC will soon have its own domain name where it can publish basic information related to the Commission such as its mandate, staff, contacts, events, statistics, and activities.

## Summary of assessment for Institutional Structures, Responsibilities, and Capabilities

RAIC, OGI, MIC, MCCU demonstrated leadership, good understanding and willingness to drive the open data initiative forward. The setting up of an Open Data Council, which will serve as a steering committee, is a welcome move that will help all these leading agencies to coordinate and facilitate the adoption of open data within the Government and beyond. However, there is a need for clarification over the ownership of the project, who will be accountable for its implementation and who will finance it. It is also highly recommended to appoint a dedicated project team that will be responsible for the day-to-day implementation of the project. The team should have the mandate and enough authority to be able to collaborate closely with all MDAs. Additionally, it is important to involve main government data producers in the process, such as SSL, but also non-government data producers such as development partners. Finally, management of

23 See <http://ogi.gov.sl/gosl-weblinks>

24 As of December 2015, MEST has a new website, funded by the REDiSL operation. As of the publishing of this report, the URL of that site is [www.education.gov.sl](http://www.education.gov.sl)

25 See <https://www.whatdotheyknow.com/>



digital data is still a new concept for most of the government stakeholders. Implementing agencies, both high-level and technical officers, would greatly benefit for training program and sensitization in the field of data management, data literacy, and open data.

Question Area	Lead OGD Agency
<p><b>Importance</b> Very high</p>	<p>Good leadership from RAIC, OGI, MIC, MCCU and a place for coordination with the Open Data Council (steering committee). However, there is a need for clarification over the ownership and responsibilities of each body.</p>
Question Area	Agency CIOs and CTOs
<p><b>Importance</b> Medium high</p>	<p>No CIO position level within MDAs. There is a need to consider data management as a priority for the Government and appoint relevant high-level positions. Further, legal skills are needed for this position to understand how to effectively implement government obligations under RTAI.</p>
Question Area	Inter-Agency Mechanisms
<p><b>Importance</b> Medium high</p>	<p>No efficient coordination on ICT or data management issues among MDAs.</p>
Question Area	Performance Management
<p><b>Importance</b> Medium</p>	<p>Performance Management Contract could be a good vehicle for the assessment of data management and open data programs.</p>
Question Area	Data/Statistics Agency
<p><b>Importance</b> Medium</p>	<p>SSL needs to be involved in the open data initiative as do other major data producers, such as MoFED.</p>
Question Area	Agency Concerns About Data
<p><b>Importance</b> High</p>	<p>There is a shared concern around the misuse of information, but, overall, no stated objections to adopting open data from the Government. This is not to imply an absence of challenges to political will for open data, as discussed above.</p>



**Question Area**

**ICT Skills in Senior Management**

**Importance**  
High

There is a strong need to enhance ICT capacity at senior management level and introduce computer and data literacy skills as part of the civil servant curriculum.

**Question Area**

**Government Web Presence**

**Importance**  
Medium

On all 24 ministries, only 7 ministries do have a functioning website.

**Overall: Yellow**

**Importance**  
High

The Open Data Council offers a good place for coordination among all stakeholders. The initiative is, however, lacking a dedicated technical Project Team and data producers have not been involved yet.



## 4 | Government data management policies, procedures, and data availability

Importance High

Rating **Red**

Open data programs can build on established digital data sources and information management procedures within government where they already exist. Where data is only available in paper form, it will be hard to release as open data and in reusable format quickly and cheaply. Conversely, good existing information management practices within government can make it much easier to find data and associated metadata and documentation, identify business ownership, assess what needs to be done to release it as open data and put processes in place that make the release of data a sustainable, business-as-usual, downstream process as part of day-to-day information management.

### 4.1 What are the policies and practices on the management of government information?

- ✘ In 2014, the PSRU contracted a study to assess records management across the Government.<sup>26</sup> This World Bank funded assignment, conducted by the International Records Management Trust, was motivated by the critical situation of archives and records in the country. The overall finding of the assessment was a lack of skills, resources, basic standards, systems, and procedures for managing the Government's records and information base and for enabling public servants to access and share the information they need. In particular, the assessment notes that no standards are in place for maintaining the integrity of electronic records through time, and staff rely on flash drives and email to share information. Databases and specialized applications that contain records are currently regarded as outside the expertise and responsibility of records managers. According to the assessment, this disconnect between electronic records and records management standards is probably the greatest risk to the information assets of MDAs. Therefore, Improved ICT infrastructure should greatly increase the potential to conduct business electronically. However, Sierra Leone must also address the lack of capacity, material resources, systems and infrastructure to manage the records and information. Lack of a reliable power supply is also a significant challenge.
- ✘ Statistics Sierra Leone is by mandate responsible for accrediting the quality of statistics published by MDAs, but it is understood that the process is not working well, resulting in MDAs' statistics being published without SSL's clearance.

<sup>26</sup> Government of Sierra Leone, Public Sector Reform Unit, Office of the President, Capacity and Needs Assessment of Records Management in the Sierra Leone Public Service, Final report, June 2014.



- ✘ Overall, there is no common policy, standards or guidelines for the quality of government data (including provenance, accuracy, timeliness and completeness). Such provisions could be incorporated in the future Archives and Records Management policy, a specific Open Data policy, and in more detail in related guidelines for MDAs.
- The Right to Access Information Act provides with a list of information that every public authority is mandated to publish proactively. This list includes the description of the organization, a directory of its employees, the monthly remuneration received by each of them, etc. However, the Act does not detail how this information should be published (online, in the newspaper, available at the MDAs building). The capacity to search for and re-use information published by public authorities under the RTAI could be highly enhanced if information were published as open data (online, in machine-readable format, under an open license). Moreover, the information to be published proactively only concerns a small, even if important, subset of the information collected and managed by a public authority. This is different from an open data per default regime, where, to the extent possible, every data collected by a public authority under the performance of its duties is proactively published as open data.

#### 4.2 To what extent does the government have a coherent view of its data holdings?

- ✘ There is no evidence that the Government has a coherent overview of what data is collected by who within the MDAs, nor that any entity is managing and publishing an inventory of datasets for the whole government. Some of the data collected is also not available in digital, machine-readable format. The MDAs that would be best positioned to support the creation of an inventory of government datasets are the MIC, which has an overview of IT systems across the Government, and Statistics Sierra Leone, which is collecting statistical data from the different MDAs.
- ✘ The use of digital metadata for storing and managing government data is very uncommon within the Government. One of the only online evidence of this is the central data catalog of Statistics Sierra Leone, where 16 surveys are listed together with standardized metadata such as a reference ID, geographic coverage, and data producer.<sup>27</sup> The catalog is based on the Microdata Cataloging Tool (NADA), an open source software developed by the International Household Survey Network (IHSN).<sup>28</sup>
- ✘ There is no coherent policy or practice for producing and managing common core reference datasets – data useful for all MDAs – such as map, company register, citizen register, land register, addresses or GPS locations of main infrastructures. Furthermore, there is evidence of duplication or overlap in data collection and

27 Central Data Catalog, Statistics Sierra Leone, <http://microdata.statistics.sl/index.php/catalog>

28 See <http://www.ihsn.org/home/software>



management responsibility for several of the key datasets. For instance, company data is collected by the Office of the Administrator and Registrar General (OARG) in paper form, while the Sierra Leone Chamber of Commerce, Industry, and Agriculture (SLCCIA) has been working on a Business Contacts Database for Sierra Leone companies. OARG and the Ministry of Lands, Country Planning and the Environment are both responsible for land registry data. Geographical data are fragmented within several MDAs with no central and widely available geographic information system.

### 4.3 How and where is government data held?

-  National archives are recorded in paper format and kept in boxes in two buildings of Fourah Bay College. Searching for the archives is a challenge as there is no comprehensive and systematic indexation of the records. Furthermore, as the premises reached their storage capacity, each MDA is now required to store its archives on its own premises, resulting in a critical situation for archives and records management in Sierra Leone.
-  Several of the MDAs interviewed are relying on information management systems for collection and storage of their key data. The GoSL, via the Ministry of Finance, has used an Integrated Financial Management Information System (IFMIS) since 2005. The Ministry of Health and Sanitation is using the District Health Information Software (DHIS) as its primary Health Management Information System since 2010 and iHRIS software for managing health workers' data. The Ministry of Education, Science and Technology is implementing an Education Management Information System (EMIS) and is also relying various software for its survey data. In 2015, through a UNICEF–World Bank–MEST partnership, the school census used EdAssist, a software developed by FHI360, and is storing/has stored the data on local servers procured for the use of data collection. The Ministry of Social Welfare, Gender and Children's Affairs is equipped with an information system to collect children's data.
-  Most of the information systems used by MDAs are only available from the cloud, on servers outside of Sierra Leone, which, as stated by ICT officers, is a critical issue for at least three reasons: i) without local servers for backup when the Internet is down or too slow, ICT officers are heavily dependent on international connectivity to do their work; ii) this is also hindering access to the systems from other MDAs; iii) the question of ownership has also been raised. Without direct or easy access to the system, ownership – in terms of who ultimately controls the data – remains *de facto* within the hands of the firm or development partner who implemented the system. In the end, this is hindering the capacity of ICT officers to share data from the information systems they are supposed to manage.



- Some MDAs also use spreadsheets for data collection and preservation. Sierra Leone Police is collecting its statistics on Excel files. The Ministry of Lands uses spreadsheets for collecting information on land.
- ✘ The Office of the Administrator and Registrar General, which is collecting and managing key datasets for the country such as the registers of lands, real estates, and companies is still operating on paper-based records.

#### 4.4 What is the extent of intra- and inter-governmental actual demand and latent demand for data?

- Authorities with a specific mandate to access Government data such as the Audit Service Sierra Leone, the Public Sector Reform Unit, the Performance Management and Service Delivery Directorate or the National Procurement Authority did not report particular difficulties in accessing data in their sector, even though the process can be time-consuming, in particular when information requested is stored in paper form. PSRU could play a key leadership role here in leading by example with transparent practices. However, it was noted that certain of these agencies are behind in their own data collection and dissemination, and therefore it is likely they would face some delays as well in collecting information from sector agencies on a timely basis.
- ✘ In the absence of a reliable Government network and with few documents already available online, digital information is mainly transferred across government either via email or flash drive.
- ✘ The National Ebola Response Center reported difficulties to get access to data from the Ministry of Health and Sanitation at the beginning of the Ebola outbreak. Even though the collaboration between entities improved substantially as the epidemic growth, this demonstrates a need for a cultural change in data sharing from the Ministry. A similar experience is common in the MEST where data is often not shared outside the ministry until it has been entered, cleaned, reviewed, verified, and analyzed. This process, though necessary to some extent, takes as long as 2 years before basic data on enrollment, class size, etc. is available to partners and NGOs. As a result, ad-hoc and unofficial surveys are used.
- ✘ In order to assess MCC indicators, MCCU ensures that MDAs submit data to third party assessors such as WHO and UNICEF as per the agreed upon deadlines. According to the institutions, the whole process of data retrieval is a challenge. MCCU reports cases where it has to go to the MDAs to follow up on data and ensure that submissions are made on time. For some indicators such as the Natural Resource Protection indicator, the MCCU needed to coordinate with several MDAs



due to the fact that data both different and the same are compiled by these parties and have not been fully integrated into a database. These institutions include: Environmental Protection Agency, Ministry of Lands, Country Planning and the Environment the Ministry of Agriculture, Food Security and Forestry and the National Protected Area Authority. The outcome on the indicators is published on the MCC Website (<https://data.mcc.gov/>) and data on protected areas is available on the UNEP- IUCN website.

#### 4.5 What data is already made available outside government, either free or for a fee, and on what conditions?

-  The open data portal [opendata.gov.sl](http://opendata.gov.sl) contains 19 datasets available for free, 8 are related to the Ebola outbreak, 16 are provided in machine-readable format (CSV or XLS), and 2 are available in a compatible open data license (CC-BY). Publishers could be better indicated. For instance, instead of “Health”, the publisher should be clearly stated “Ministry of Health and Sanitation” or “National Ebola Response Center.”<sup>29</sup> The data that could be made available on the portal remains incomplete, and very few additional datasets have been uploaded following the initial launch of the portal, limiting the value of the portal to date.
-  Overall, very few data is made available online, and none, excepted data available on the open data portal, is available in machine readable format. Statistics Sierra Leone publishes standard statistics such as census results or the Consumer Price Index, the Ministry of Finance and Economic Development publishes budget plan and aggregated expenditures results, the National Electoral Commission publishes elections results, Sierra Leone Police made its crime statistics available on its website.
-  Most of the time people have to pay to get a paper extract of an official document (see section 2.5). But, there is no identified case where people are requested to pay to get data online.
-  The Ministry of Lands is currently working on a Land system and has considered introducing a fee schemes to get revenue from its new system.

#### 4.6 What practical experience does the government have in anonymizing personal data?

-  The aggregation of data by an entity such as SSL is the only form or anonymization practice found across the government. Overall, there is no evidence of guideline or procedure for anonymization.

29 See <http://opendata.gov.sl/dataset>



#### 4.7 Which agencies with established capabilities in data management (e.g., the NSO) could give leadership to a wider program?



The MIC has been recognized, notably through the Open Data Council cross-body, as the agency that is best positioned to support the Open Data initiative from a technical standpoint.



RAIC has demonstrated leadership and desire to enhance data management practices within the Government, however their role and responsibility on this topic needs to be defined vis-à-vis MIC, both under the umbrella of the Open Data Council.



Statistics Sierra Leone has also demonstrated capabilities in data management but has not been closely involved in the Open Data Initiative so far. It is one of the recommendations of this report that SSL is integrated into the structure of the Open Data Council within one of the sub-committees and provided responsibilities related to records management, metadata, dataset inventory, and publication procedures.



However, it is important to acknowledge that before significant investments are made in improving data management systems and practices, MDAs should first demonstrate a strong commitment to wider data dissemination by releasing the quality and timely data they already have in existing formats. If this initial objective cannot be achieved, data management processes and systems, even if strongly established, can do little to change the status quo.



## 4.8 Key Datasets Assessment

The mission identified 40 key datasets, most of them considered as priority data according to international standards and local demand. Among these datasets, 30 are available in digital format. They should be considered as top priority candidates for release as open data (machine-readable, in an open license, free of charge) on [opendata.gov.sl](https://opendata.gov.sl).

The datasets inventory provides the following information for each dataset:

- ▶ Producer(s)
- ▶ Digital format?
- ▶ Available online?
- ▶ Machine readable format?
- ▶ Free of charge?
- ▶ License?
- ▶ Priority datasets (in terms of potential social and economic value, with respect to international standards such as the Open Data Index, and with relevance to Government's priorities and local demand)
- ▶ Description and observations.

Table 1 below provides a listing of all the datasets that were discussed during the assessment. These include data that may be made available easily, in part, or for which there are a lot of problems in making the data available.

**Table 1. Inventory of datasets evaluated during the ODRA**

Explicit title (database or name of publication)	Producer(s)	Digital format?	Available online?	Machine readable format?	Free of charge?	License?	Priority datasets	Description and observations.
Administrative boundaries	Statistics Sierra Leone	✓	✗	✓	?	✗	✓	
Administrative boundaries - Level 1 to 4	Government of Sierra Leone	✓	✓	✓	✓	CC-BY	✓	Data is provided through the Humanitarian Data Exchange (HDX) website
Base map	Open Street Map	✓	✓	✓	✓	ODBL	✓	Base map for the country of Sierra Leone
Road's network	Sierra Leone Road Authority	?	n/a	n/a		n/a	✓	
Sierra Leone OSM Roads data attributed with road surface classification	Open Street Map and UK Ministry of Defense	✓	✓	✓	✓		✓	
GPS coordinates of schools, health facilities, markets	Statistics Sierra Leone	✓	✗	n/a		✗	✓	Statistics Sierra Leone uses ArcGIS to manage the data, which includes GPS coordinates of health facilities, schools, and markets as well as other attributes such as school's enrollment, teachers, students or markets size. It took about 15 Months to train the staff and develop the full set of maps. Partner included UN Population EA, World Bank, DFID, and UNDP.
Freetown addresses	Freetown City Council in cooperation with Ministry of Lands, Country Planning, and the Environment	✓	✗	n/a		✗	✓	Addresses (street names + numbers) for the city of Freetown. The dataset is not complete yet. At the time of the interview, there were 33 wards out of 49 covered.
Population and housing statistics (Census)	Statistics Sierra Leone	✓	✓	✗	✓	✗	✓	The census is held every 10 years. The next census was planned to be conducted in December 2015 and shall be published in late 2016.



Explicit title (database or name of publication)	Producer(s)	Digital format?	Available online?	Machine readable format?	Free of charge?	License?	Priority datasets	Description and observations.
Children database	Ministry of Social Welfare, Gender and Children's Affairs	✓	✗	✓	?	✗	✗	Personal level data on children. Need to be anonymized.
Business Register	Office of the Administrator and Registrar General	✗	✗	✗	✗	✗	✓	Basic information for new companies is registered in digital format for better indexation.
Consumer Price Index	Statistics Sierra Leone	✓	✓	✗	✓	✗	✗	
Real estate register	Office of the Administrator and Registrar General	✗	n/a	n/a		✗	✓	
Land register	Ministry of Lands, Country Planning and the Environment	✗	✗	n/a		✗	✓	Land owner, parcel data, and history of the parcel. Most of the data is still paper-based. The Office of the Administrator and Registrar General also manages land register.
Land register	Office of the Administrator and Registrar General	✗	n/a	n/a	✗	✗	✓	Land owner and parcel
Crime statistics	Sierra Leone Police	✓	✓	✗	✓	✗	✓	Aggregated crime statistics per type of offense. Data is first collected at posts level on a daily basis in paper form and then sent to stations, divisions and finally to the headquarters where data is inputted in a spreadsheet. The work of data collection and publication at headquarters is handled by one statistician only.
Elections results	National Electoral Commission Sierra Leone	✓	✓	✗	✓	✗	✓	Data is available for all type of elections (Presidential, Parliamentary, Councils) either in PDF or HTML format.
Environmental situation of lands (degraded lands)	Ministry of Lands, Country Planning and the Environment	✗	n/a	n/a		✗	✓	Data dates back to 1987.





Explicit title (database or name of publication)	Producer(s)	Digital format?	Available online?	Machine readable format?	Free of charge?	License?	Priority datasets	Description and observations.
Flooding risk	Ministry of Lands, Country Planning and the Environment	✗	n/a	n/a	✗	✗	✗	Freetown suffered a severe flooding in September 2015. Data should be updated according to the last event.
Water access survey	Millennium Challenge Coordinating Unit	✓	✗	n/a	?	✗	✗	
Health facilities data (District Health Information System - DHIS2)	Ministry of Health and Sanitation	✓	✗	n/a	✗	✗	✓	Health facility data, staffing, equipment, infrastructure, disease outbreaks. Data is collected and managed through the open source DHIS system. Ministry of Health is working on a new master list for health facilities.
Sierra Leone updates 1501 Health Facilities Nov 2014	Compilation of several list of health facilities including a list from the Ministry of Health and Sanitation	✓	✓	✓	✓	CC-BY	✓	The dataset was made available on the HDX portal as part of Ebola effort to establish an inventory of health facilities in the country.
Health workers data (IHRIS)	Ministry of Health and Sanitation	✓	✗	n/a	✗	✗	✓	Data on health workers. Data is collected and managed through the open source IHRIS system.
Education Management Information System (EMIS)	Ministry of Education, Science & Technology	✓	✗	n/a	✗	✗	✓	Data at school level (government, community and on schools and data private): number of pupils; the number of teachers; teacher's qualifications; schools and examination fees; school feeding program; hygiene facilities; safety kits for Ebola; gender split and pregnant girls. The number of schools is estimated to be between 8000 and 9000. Each school has a unique identifier in EMIS.
Schools surveys (Situation Room - Edutrac)	Ministry of Education, Science & Technology	✓	✗	n/a	✗	✗	✓	Data collected on a regular basis through smartphone apps and from community members. Indicators include pupil enrollment and presence, teachers employed and present, etc.
List of public authorities	Right to Access Information Commission	✗	n/a	n/a	✗	✗	✗	List of all public entities covered by the Right to Access Information Act. RAIC intends to produce the data, but it does not exist yet.





Explicit title (database or name of publication)	Producer(s)	Digital format?	Available online?	Machine readable format?	Free of charge?	License?	Priority datasets	Description and observations.
List of public authorities' websites	Open Government Initiative	✓	✓	✗	✓	✗	✗	List of MDAs and URL of their website.
National Budget Plan	Ministry of Finance and Economic Development	✓	✓	✗	✓	✗	✓	Budget plan for 2015 could not be found online.
Annual Expenditures	Ministry of Finance and Economic Development	✓	✓	✗	✓	✗	✓	Annual report of the Accountant General including Annual Expenditures
Public expenditures (FMIS)	Ministry of Finance and Economic Development	✓	✗	n/a	✓	✓	✓	There have been some delays in publishing quarterly and annual reports on schedule.
NERC monthly financial reports	National Ebola Response Center	✓	✓	✗	✓	✗	✗	
Performance Management Contracts	Performance Management and Service Delivery Directorate	✗	n/a	n/a	✓	n/a	✓	Performance management contracts established between the President, through the Performance Management and Service Delivery Directorate, and the public entities. Both the public entity and the Performance Management and Service Delivery Directorate shall be able to provide with the information.
Public tenders (bid notifications)	National Public Procurement Authority	✓	✗	✗	✓	✗	✓	
Government awarded contracts	National Public Procurement Authority	✓	✗	n/a	✓	✗	✓	According to the National Public Procurement Authority, awarded contracts are not published online due to lack of hosting capacity.
GoSL (SLEITI) online repository	National Minerals Agency and Forestry Department in Freetown	✓	✗	✗	?	✗	✓	Mineral Rights, Export Licenses and related Payments managed by the National Minerals Agency, and all Forestry licenses issued by the Forestry Department in Freetown. This system is developed and operated by the Revenue Development Foundation, supported by UNDP, EC, and GIZ.





Explicit title (database or name of publication)	Producer(s)	Digital format?	Available online?	Machine readable format?	Free of charge?	License?	Priority datasets	Description and observations.
Donors' projects (Development Assistance Database)	Development Assistance Coordination Office	✓	✓	✗	✓	✗	✓	Database of donors' projects including name of the donor, amount, description of the activity, starting and ending dates. Data are collected through the Synergy's Development Assistance Database.
Ebola Outbreak 3W (Who does What and Where)	National Ebola Responses Center	✓	✓	✓	✓	CC-BY	✗	Location and activities of agencies (Government, NGOs, etc.) during the Ebola outbreak.
Policy Benchmarking Data Reporting (MCC indicators)	Millennium Challenge Coordinating Unit	✓	✗	n/a	✓	✗	✗	Data used to assess the performance on a number of indicators designed by the MCC to evaluate a countries' eligibility to receive funding. Data should be made available here <a href="http://www.mccu.gov.sl/downloads.htm">http://www.mccu.gov.sl/downloads.htm</a>
U-Report Sierra Leone	UNICEF	✓	✓	✗	✓	✗	✗	SMS-based surveys for the young population. The service currently has 20000 registered users, 23 % female, and 80 % below 30 years old, 7000 in Freetown area. It was launched in December 2014.
Intellectual property register	Office of the Administrator and Registrar General	✗	n/a	n/a		✗	✗	



**Table 2. List of priority datasets to consider for publication or indexation as open data on the open data portal**

The list combines both non-government and government datasets that should be considered as priority (quick wins) to be published on the open data portal at <http://opendata.gov.sl>. For more information on each dataset, please refer to the datasets inventory in Table 1.

DATASETS	PRODUCERS
Sierra Leone Health Facilities	Compilation of several list of health facilities including a list from the Ministry of Health and Sanitation
Donors' projects (Development Assistance Database)	Development Assistance Coordination Office
Freetown addresses	Freetown City Council in cooperation with Ministry of Lands, Country Planning and the Environment
Administrative boundaries, Level 1 to 4	Government of Sierra Leone
Policy Benchmarking Data Reporting (MCC indicators)	Millennium Challenge Coordinating Unit
Water access survey	Millennium Challenge Coordinating Unit
Schools (Education Management Information System, EMIS)	Ministry of Education, Science and Technology
Schools surveys (Situation Room, Edutrac)	Ministry of Education, Science and Technology
Annual Expenditures (Accountant General Report)	Ministry of Finance and Economic Development
National Budget Plan	Ministry of Finance and Economic Development
Public expenditures (Integrated Financial Management Information System, IFMIS)	Ministry of Finance and Economic Development
Public financial management matters in timely fashion	Ministry of Finance and Economic Development
Health facilities data (District Health Information System, DHIS2)	Ministry of Health and Sanitation
Health workers data (iRHIS)	Ministry of Health and Sanitation
Children database	Ministry of Social Welfare, Gender and Children's Affairs
Ebola Outbreak 3W (Who does What and Where)	National Ebola Responses Center
NERC monthly financial reports	National Ebola Responses Center
Elections results	National Electoral Commission Sierra Leone
Government awarded contracts	National Public Procurement Authority
Public tenders (bid notifications)	National Public Procurement Authority
List of MDAs websites	Open Government Initiative
Base map	OpenStreetMap
Sierra Leone OSM Roads data attributed with road surface classification	OpenStreetMap and UK Ministry of Defense
Crime statistics	Sierra Leone Police
Administrative boundaries	Statistics Sierra Leone
Consumer Price Index	Statistics Sierra Leone
GPS coordinates of schools, health facilities, markets	Statistics Sierra Leone
Population and housing statistics (Census)	Statistics Sierra Leone
U-Report Sierra Leone	UNICEF

There are other datasets that are of high priority but are not easily obtained, collected, or digitized. An example of these is the Business Registry, which was requested by almost every company interviewed. However, this information seems to be incomplete and still



in paper format. The OARG stated an intention to reacquire and update the data from every business entity. For these datasets, further investment would be needed to pool and digitize existing data, and establish proper digital data management systems.

**Table 3. List of priority datasets identified, still in paper format, that should be digitized to be released as open data**

For more information on each dataset, please refer to the datasets inventory in Table 1.

Datasets	Producers
Land register (partially digitized)	Ministry of Lands, Country Planning and the Environment and the Office of the Administrator and Registrar General
Environmental situation of lands (degraded lands)	Ministry of Lands, Country Planning and the Environment
Business register	Office of the Administrator and Registrar General
Real estate register	Office of the Administrator and Registrar General
Performance Management Contract	Performance Management and Service Delivery Directorate



## Summary of assessment for Government Data Management Policies, Procedures, and Data Availability

Overall, there is a lack of skills, resources, digital systems, procedures and standards for managing data within the Government and fostering reuse. The Government does not maintain an inventory of datasets, databases, or IT systems run by public authorities and there is evidence of overlap or lack of mutualization in data collection. Additionally, there is no coherent policy or practice for producing and managing common core reference datasets such as map, company register, citizen register, land register, addresses or GPS locations of main infrastructures. Nevertheless, several Ministries are already using or currently implementing data systems that could serve as baseline for the open data initiative and enhancement of data management practices. These are the Ministry of Finance, with the Financial Management Information System, the Ministry of Health and Sanitation with the District Health Information Software and iHRIS software for managing health worker's data, the Ministry of Education, Science and Technology with the Management Information System and Situation Room and the Ministry of Social Welfare, Gender and Children's Affairs with its children's database. MIC, RAIC and the SSL should all play a role in a wider data management and open data program, and in raising the priority of open data literacy in government. It was acknowledged that before significant investments are made in improving or establishing data management systems or processes, MDAs should demonstrate their commitment to publishing the data they currently collect in existing formats.

Question Area	Policies and practices
<b>Importance</b> High	The future Records and Management Policy is expected to provide the foundation for improvement in data management. This could be an opportunity to define and introduce provisions for open data in the legal and policy framework.
Question Area	Coherent view of data within MDAs
<b>Importance</b> Medium	The GoSL lacks an inventory of its data.
Question Area	Government data hosting
<b>Importance</b> High	Constrained by ICT infrastructure. Many of the data systems are hosted outside of the country.
Question Area	Intra- and inter-government demand for data
<b>Importance</b> High	Flow of information across MDAs is highly constrained by a lack of data management practices and limited ICT infrastructure.

**Question Area**      **Data available outside government****Importance**

High

**Question Area**      **Anonymization of personal data****Importance**

High

**Question Area**      **Agencies with data management capabilities****Importance**

Medium

MIC is a natural candidate for leading a data management program. SSL also has capabilities to contribute.

**Question Area**      **Key datasets assessment****Importance**

Very high

Many key datasets are missing (map) or still in paper format (business and land register). However, some other critical data are already available in digital format and could be rapidly released as open data (education, health, and budget).

**Overall: Red****Importance**

High

There is critical need to invest in data management infrastructure and capacity for the country. Nevertheless, there are already data systems in place in key sectors such as health and education that could start feeding the open data initiative.



## 5 | Demand for Open Data

Importance Very High

Rating Yellow

The value of data is in its use. A strong demand-side “pull” of data is important not only in creating and maintaining pressure on the government to release data but also in ensuring that the wider Open Data Ecosystem develops and that Open Data is turned into economically or socially valuable services for citizens. The “pull” can come from civil society, the private sector, international organizations, donors, and individual citizens.

*This section provides data from the Open Data for Business (OD4B) Tool conducted in conjunction to the standard ODRA. The OD4B Tool is designed to assess the private sector’s current and potential use of government data through interviews, a questionnaire, and roundtable discussions. For more detailed information on Open Data for Business in Sierra Leone, please refer to the Open Data for Business Assessment report in Annex 8.*

### 5.1 What is the level and nature of actual demand and latent demand for data from Civil Society, Development Partners, and the media?

- + Demand from civil society is high. CSOs want to be able to access public funds and related service delivery in the sector in which they operate. Justice, gender issues, and natural resources exploitation are among the main area of concerns regarding data access.
- × However, few seem to have the right capacity to handle and analyze data. Out of twenty-six CSOs, only eight declared having an ICT officer or researcher capable of working with data. Further, barriers to consuming data easily dampen incentives to try and access it.
- × The quality of data available has also been raised as a critical problem for the CSOs to do their work. In particular, the accuracy of the data (last census dates back to 2004) and the lack of disaggregated data at the local level.
- × None of the CSOs interviewed used the RTAI Act to obtain data, and only two know about the national open data portal [opendata.gov.sl](http://opendata.gov.sl).
- × It should be noted that this assessment only examined demand from CSOs and media organizations based mainly in Freetown, and therefore does not capture the level and nature of demand for data in other regions and in villages. This raises the challenge of how to make data accessible and usable to stakeholders lacking access to computers or internet, and it was suggested that alternative channels of requesting and accessing data should be explored, in particular, through mobile phones.



## 5.2 What are the level and nature of actual demand and latent demand for data from business/the private sector?

-  The concept of using government data (in machine-readable formats) for many of the companies was very new, primarily for SMEs.
-  Most companies use a portfolio of information sources to gather the critical data needed to conduct business. The following sources were most frequently cited: Internet searches, most frequently for commodity and equipment prices, or exchange rates; Media, such as radio, newspaper, and TV that provide ads for contractors, new companies in town, or information about the economy; Family and friends who provide observations about the market and potential leads; Internal data on customers and previous contracts/projects.
-  Information is typically used by large companies for organizational optimization, research, and the identification of new customers. Desired use of data includes pricing, identification of customers, organizational optimization (e.g. competitive analysis, business analytics, customer experience), and the development of new products and services.
-  Top three most requested data from businesses are: the business register (e.g. firm location, characteristics, financials); demographics (e.g. income, family size, education level); and economic conditions (e.g. foreign investment, currency rates).
-  Many companies were interested in government data that would provide a credible benchmark for industries such as electricity, internet penetration, or employment levels. Several participants stated that even basic indicators could allow them to expand into new areas of business or understand market segments better for more targeted services.

## 5.3 What are the key barriers to data use for the demand side?

-  Companies were asked to select the three most significant barriers to government data use. Firstly, finding any data was incredibly difficult or even impossible for many companies. Many responded said the findability of data was the most significant barrier to use. They also stated that they didn't know where to begin looking for government information.
-  The second most significant barrier was the timeliness of data. Companies said that outdated data was a critical barrier to its use because of the importance of time in business decisions. Repeatedly, companies said that they had come across dead links, incorrect phone numbers and emails, and wrong information. Data should be released soon after collection. Education data, for example, is often released a year or more after collection, making it difficult to plan accurately and effectively for projected needs in the sector.



- ✘ The third barrier most frequently cited was inaccurate data. Many companies stated that even if they were able to find and access the information, many times it is incorrect. There was major concern about the reliability of data because of collection issues, inconsistent definitions and schemas, and political interests.
- ✘ A final factor mentioned during our consultations following the ODRA relates to the speed of the internet connection, in cases where data is made available online. If the connection is too slow, this dampens interest in the information and in the site, and detracts users from visiting the site again.

#### 5.4 What is the extent of engagement with government through social media and other digital channels?

- ✘ There is very little active engagement through digital channels with the business and CSO communities. Most interactions are based on personal connections or physical visits to the office to request information.
- ✘ A small fraction of companies stated that social media would be an effective channel for government communication about data.
- It was suggested that the Government could learn from NERC's experience using social media to send out information.

#### 5.5 How do public agencies listen to demands for data and respond?

- ✘ Regarding the private sector, most of the companies stated that they did not communicate with the government about information at all because of lack of clear channels. Of the companies that did have interactions with government, most visited the office or wrote a handwritten letter.
- ✘ Most companies stated that they were unaware of any process for requesting data. Several companies cited specific examples where they visited government offices on a weekly basis until they were able to get a response to inquiries for data and many times it was paper-based. Of the companies that were aware of RAIC and the formal process for requesting data, several stated that the process was extremely unclear and that they still had not received the data requested.
- ✘ Until now, most of the demands for data from CSOs and companies were done in an informal way, many of them had to be cleared by the Permanent Secretary, and there was no formal process to handle the request or track the demand. RAIC is trying to improve the process, but there is evidence that most of the stakeholders are still using informal channels.



## 5.6 How do external stakeholders view public agencies' willingness to listen to demands for data and respond?

-  Regarding the private sector, the average perceived responsiveness of government to data requests was quite low. Several participants cited examples of writing letters, visiting offices, and making phone calls with no response. Of the companies that knew specifically what data they wanted from government, they said it was essential to have a personal connection to someone in the Ministry in order to get the data needed.
-  Regarding CSOs, anecdotal evidence shows that government willingness to listen to demands for data and respond strongly depends on who is doing the request and whether the organization already has established contact with the institution or not. However, it was also stated that nongovernmental stakeholders have a low perception of government responsiveness to information requests, and therefore tend not to go to public agencies for information based on the assumption that they would not be able to get the information they were requesting.



## Summary of assessment for Demand for Open Data

Overall, there is a high level of demand for government data from a broad spectrum of the private sector, from large telecommunication companies to small agri-businesses. Although larger tech-related companies have higher technical capacity and skills-base to utilize data, the smaller non-tech related companies are eager to begin using data primarily for benchmarking and identifying customers. Across all sizes and sectors, the company register, demographics, and economic conditions data were the most highly requested by companies. Critical barriers to the private sector use of government data included the inability to find relevant data and get a response to requests, out of date and inaccurate data, high cost of internet access, and lack of technical skills to utilize the data (primarily SMEs).

Demand for more information is also high from civil society, in particular around public funds and related service delivery in the fields of justice, education, health, gender and children issues and natural resources exploitation. CSOs want to access disaggregated level data to be able to perform investigation and accountability work more efficiently. There is, however, doubt on their capacity to analyze and process digital data, as many of them do not have a person with sufficient computer and data literacy skills.

Question Area	Demand from CSO, media and development partner
<b>Importance</b> High	High demand but limited capacity to utilize the data in an effective way. This may shift as the full RAIC process comes on line.
Question Area	Demand from private sector
<b>Importance</b> High	Overall very high demand from both large and small companies. Associations, incubators, and other business-related organizations have also expressed high interest in government data that would optimize their operations for identification of new companies and pricing.
Question Area	Key barriers to data use
<b>Importance</b> High	Difficulty to find the right data, or data producers, timeliness, lack of granular-level data and concerns regarding the accuracy are the main barriers to data re-use.



**Question Area**      **Engagement with government through social media**

**Importance**  
Medium      Low level of engagement except for few exceptions such as with NERC and Ministry of Health during Ebola crisis.

**Question Area**      **Public agencies' response to requests for open data**

**Importance**  
Medium      Low levels of responsiveness to formal and informal requests for data. Awareness campaigns are needed to communicate the process for requesting data through the RTAI Act.

**Question Area**      **External view of agencies' response to requests**

**Importance**  
Medium      Very low perceived levels of responsiveness as a result of repeated unsuccessful requests and lack of information about a formal request process.

**Overall: Yellow**  
**Importance**  
Very high      Demand for accurate and granular data is high from CSOs and the private sector, but Government's responsiveness is unsatisfactory.



## 6 | Civic Engagement and Capabilities for Open Data

Importance High

Rating Yellow

Experience among leading governments has demonstrated that Open Data initiatives are more sustainable and high-impact when Open Data efforts use an “ecosystem” approach – meaning governments invest not only in supplying data but also address the policy/legal framework, institutional readiness, capacity building (for government and “infomediaries”), citizen engagement, innovation financing and technology infrastructure. Governments need to play a multi-dimensional role in an Open Data ecosystem and create new types of partnerships with a wide range of stakeholders.

### 6.1 Which potential “infomediaries” (such as data journalists) are able to help translate open data into meaningful information for the public? What actions are needed to develop or enhance these parts of the open data ecosystem?



The non-for-profit organization Campaign for Good Governance (CGG), which is working on citizen participation, demonstrated the capacity to act as an “infomediary” and train people in this area. CGG worked with NERC to communicate its data in a more efficient way, and it organized in October 2015 a Civic Codeathon where participants (from business, academia, citizens, and CSOs) were invited to prototype ICT tools to be used by various institutions. Additionally, there is potential for universities, in particular the Institute of Advanced Management and Technology (IAMTECH), Eastern Polytechnic and Njala University, which have programs in IT and Computer Science, to be an important source of training and education on turning data into actionable information. The Society for Democratic Initiatives and the Open Society Initiative for West Africa (OSIWA) were also noted as potential leading “infomediaries.”

### 6.2 What activities has the government engaged in to promote reuse of government-held data (e.g., in developing apps or organizing co-creation events)? How could such promotion be developed or enhanced?



Except for the evidence of CGC working with NERC on a Civic Codeathon, there is no other evidence of a public authority engaging in to promote reuse of government-held data.

### 6.3 What is the extent of engagement with government through social media and other digital channels?



University professors reported that the majority of the students use social media such as Facebook and WhatsApp in the context of their studies. This has been



confirmed by a group of students, in particular for WhatsApp, an instant messaging application for The Internet mobile phone, which is used to discuss and coordinate with their classmates and professors.

- ➕ Several MDAs maintain a Facebook page. Among the most liked and actives pages are the ones related to the Ebola crisis, such as the Ministry of Health and Sanitation and the National Ebola Response Center., suggesting much can be learned from how social media was leveraged during the Ebola crisis to communicate information. Other active Facebook pages include the State House, the Open Government Initiative and the Ministry of Fisheries and Marine Resources. Despite this example, the use of social media from the Government is still limited and the level of engagement of users, as evidenced by the number of comments on the pages, remains low and reaches only a marginal portion of the population.

#### 6.4 To what extent is there an existing Apps Economy?

- ✘ Most mobile or Internet applications identified were created as per requirements and with support from development partners, and without any business consideration. It was suggested that government should provide a platform for competitions to encourage the development of apps.
- ✘ Online ordering activity and online payment are not developed within the country, hindering the capacity to implement online-only business model for apps. For example, Go Food<sup>30</sup> (a website that allows online ordering for food delivery) takes 60% of their orders by phone because many people are unfamiliar with how to order and pay online.

#### 6.5 To what extent is there an academic or research community which trains people with technical skills or has capabilities in data analysis?

- ✘ Among Higher Education Institutions, only the IAMTECH, Eastern Polytechnic and Njala University offer a bachelor degree or higher certification in Computer Science.
- ➕ Sensi Tech Hub is a new tech hub and innovation center in Freetown which provided support to many different institutions, including SSL to identify 30-40 programmers and data specialists to help with the new census; eHealth to organize a hackathon around the 117 phone service for Ebola; and IPAM for the organization of training in computers skills and data literacy. Sensi Tech Hub is also working with 20 schools to bring them computer labs, powered by solar panels.

30 Go Food: <http://www.gofood.sl/>



## 6.6 What are the technical capabilities of the private sector for utilizing data?

- Several of the companies were interested in using data but stated that they lacked the IT skills to utilize the data. The average level of data literacy and skills was average. However, the average level of data literacy and skills for larger companies and incubators was much higher. Many companies mentioned basic computing courses that they had taken or sent employees to but said advanced computing or IT courses available in the country was lacking. Half of companies stated they were most interested in technical skills trainings to build capacity.
- The larger companies, particularly the telecommunications companies, stated that they were able to attract the best talent because of competitive salaries and benefits. Despite being able to attract skilled workers, many of the large companies did say that the limited IT skills in the country were a limitation.
- On average, companies' technical capacity to utilize data, such as computers and data management tools was assessed as average. This ranged significantly based on the type of organization. Several of the SMEs said they had limited financial resources available to pay for the equipment and basic tools required to make sure of data. Again, larger companies and incubators had much higher technical capacity.
- ✘ In particular, SMEs stated that finding workers with ICT skills was a major constraint for utilizing any advanced technologies or scaling their business. The SME ICT companies also complained of the difficulty finding and maintaining talent because they were “poached” by large companies or went abroad.

## Summary of Civic Engagement and Capabilities for Open Data

The Government offers or uses very few digital channels such as social media to engage with citizens. There is no Apps Economy of any notable size, and the ICT sector is relatively small with serious constraints to its growth. Lastly, the tertiary education system is still weak and produces few graduates with adequate technical skills for the ICT market. This being said, there are promising “infomediaries” such as CGG, SDI, Sensi Tech Hub and the academic community (professors and students) in the country as well as a number of private ICT companies. If not already, they should be closely involved in the open data initiative.

**Remarks****Question Area Available “infomediaries”**

**Importance** High  
Campaign for Good Governance is a pioneer in this sector.

**Question Area Government engagement on data reuse**

**Importance** High  
No other evidence than CGC and NERC’s activity could be found

**Question Area Government engagement through social media**

**Importance** Medium high  
Constrained by Government’s presence on social media.

**Question Area Apps economy**

**Importance** Medium  
Online ordering activity and online payment are not developed in the country.

**Question Area Academic or research community with capacity to train on digital skills**

**Importance** Medium  
The level of digital literacy is very low, and there is very few training program in place to address the issue.

**Question Area Technical capabilities of the private sector**

**Importance** High

**Overall: Red**

**Importance** High  
There is a nascent data ecosystem in the country with few stakeholders which have the capacity to act as “infomediaries,” but they are highly constrained by limited ICT infrastructure.



## 7 | Funding an Open Data program

Importance Medium High

Rating **Red**

When data exists in digital format, open data is not a high-cost initiative. Still, it requires some financing. A government needs some funding to support training of officials, development of an open data portal and, very importantly, investment in the reuse of its data (through co-creation events and selected apps development). Where there is a lack of data, open data can be used as a way to reduce the cost for data collection, digitization, and production as well as attract investments.

### 7.1 How could resources be identified to fund an initial phase of an open data program? Who would need to take what action to do so?

-  The World Bank has provided initial funding for the development, launch, hosting and maintenance for one year for the open data portal ([opendata.gov.sl](http://opendata.gov.sl)), until March 2016. However, human and financial resources for an ongoing data initiative should be identified in the national budget, and this should correspond to the resources that are allocated by the Bank and other development partners to support ICT infrastructure and data management. Given the national budget cycle runs from September/October, in the immediate term, external sources of support would be needed to continue to maintain the portal.
-  The Annual budget of the RAIC that was approved by parliament has funds allocated to the maintenance of the portal and training for Public Information Officers. However, since RAIC is yet to receive its 4<sup>th</sup> quarter from 2015 and 1<sup>st</sup> quarter allocation in 2016, the financial situation remains unsure. MCC, ODC, and RAIC are now working on project proposals for submission to DFID and OSIWA.
-  A sustainable open data program requires a dedicated and full-time project team to run the initiative. It is understood that the Open Data Initiative in Sierra Leone is now owned by RAIC and that the initial project team will be composed of officers from the Government (via the MIC) and from RAIC. However, it is not clear under which budget line the open data project team will be financed. At least, an open data project team should be composed of a project manager, a CTO, responsible for the portal, a data officer, responsible for data collection, and someone responsible for outreach and data demand.
-  IT systems are generally being funded through procurement processes with funding from development partners. As the National Public Procurement Authority (NPPA) is considering to introduce a standard for procurement on ICT, there is



an opportunity to introduce open data per default in the requirements. Such a standard could require that any data systems collecting public data and funded through public procurement should integrate a feature to easily download or harvest data in appropriate format and include metadata.

- ✘ The assessment revealed a strong need for capacity building on data and computer skills within and outside of the government. Training programs should be part of the priorities for government funding of the open data initiative. A return on investment should be measured and communicated to help rationalize the funding for this.

## 7.2 What, if any, resources exist or have any been identified to fund development of initial apps and e-Services that will use open data?

- + Airtel<sup>31</sup> expressed interest in providing sponsorship or support for an apps competition or Data Centers. “We are interested in helping people develop their entrepreneurial skills. We are looking at sponsoring business competitions, especially dealing with data. We sponsored this type of competition in Nigeria. We would be very interested in having some kind of joint business and data competition with the government. We have also built a Data Center, which was a major investment. It has the capacity to hold data from Sierra Leone, Guinea, and Liberia. We would be interested in helping with the dissemination of data for citizens. A letter of intent is what’s needed to get this type of collaboration started.”<sup>32</sup>
- + The Millennium Challenge Corporation and the Government of Sierra Leone are partnering to implement a \$44.4 million threshold program to support reforms by the Government of Sierra Leone for more effective delivery of water and electricity services, with a focus on the greater Freetown area, and to support reforms to increase transparency and accountability in the delivery of these services, to limit opportunities for corruption.<sup>33</sup>
- The banking sector could also provide a potential avenue of support for e-services, however, this has yet to be fully explored by this initiative.

## 7.3 What funding is available to support the necessary ICT infrastructure and ensure enough staff have the skills needed to manage an open data Program?

- There are a number of critical data systems currently being implemented by the Government with support from development partners that could integrate an open data component to i) ensure that data produced by the system is open by default (can be easily exported in machine-readable format); ii) train ICT officers

31 Orange has acquired Airtel Sierra Leone in January 2016, which occurred after the ODRA mission.

32 Interview with the Marketing Director of Airtel.

33 See <https://www.mcc.gov/resources/doc/fact-sheet-sierra-leone-threshold-program>



and relevant staff managing the system to publish data as open data on the portal; iii) foster re-use and improvement of the data through dedicated events and projects. The projects and related funding are described below.

- +** There is a project to enhance the Health Management Information System by connecting and improving data collection of the two main systems DHIS2 (health facility level data) and iHRIS (health worker's database). Integration of the systems is funded by USAID Global Development Lab with technical support from Intra Health, which will also deploy mHero, an SMS-based system to connect health care workers to important operational information. The World Health Organization (WHO) funds a collection of health workers data. The target is to reach 80% of health workers in the database, including their mobile phone to be able to use the service mHero. Additionally, Clinton Health Access Initiative is funding the cleaning of payroll data in order to remove ghost workers, and ensuring the payment of actual workers.
- +** The Ministry of Education is now working with two data systems, EMIS, used as the main system to manage long-term school level data, and the soon-to-be operational Situation Room (UNICEF EduTrac software for mobile-phone based school data-collection half-funded by the World Bank REDiSL project with funds from DFID and the Global Partnership for Education).<sup>34</sup> Data collection for the Situation Room is done by the communities (led by paramount chiefs), whereas the school census is collected by district education officers with data entry and cleanup carried out by a core team at MEST.
- +** The Ministry of Finance is relying on a 10-year Information Finance Management System from which MDAs can input their own spending. Although some information is published on the MoFED website, once data is collected, there is no easy and public online access to comprehensive financial data such as on the approved budget or actual expenditures. The World Bank funded BOOST initiative could offer an opportunity to open and disseminate financial data in a standardized way. A BOOST database typically contains information on the approved budget, revised budget, and actual expenditure amounts broken down by different classifications such as government level (central or local); administrative unit (typically a ministry, department, agency, university, hospital, or school); sub-national spending unit (such as districts, municipalities, towns and villages); economic classification (wages, goods and services, capital expenses, etc.); functional classification (sector and sub-sector); program classification (if the country uses program-based budgeting); and financing source.<sup>35</sup>
- +** The International Telecommunication Union (ITU), in cooperation with the Government of Sierra Leone and the operators in the country, is carrying out a project

34 See <https://blogs.unicef.org/blog/making-schools-safer-in-sierra-leone-during-the-ebola-outbreak/>

35 For more information on the BOOST initiative, see <http://wbi.worldbank.org/boost/boost-initiative>



to analyze anonymized call detail records to understand geographic mobility patterns of communities affected by the Ebola outbreak.

-  NERC, whose mission is coming to an end, is reflecting on how to sustain its Situation Room Academy, which proved particularly efficient to train local staff on data collection. In the context of the open data initiative, the Situation Room Academy could serve as the baseline for establishing a country-wide training program for basic computers skills as well as data literacy.
-  A number of World Bank projects currently under implementation or in preparation in the country could highly benefit from an open data initiative. These projects should be considered for financial support to explore and streamline open data in specific sectors (for a list of World Bank projects that could benefit and/or support the open data initiative, see Annex 6).
-  The use of grant mechanism, such as the World Bank Trust Fund for Statistical Capacity Building, has proved successful to help another country in funding initial implementation phase of their initiative and filling the gap between Odra technical assistance support and long term, regular, funding.
-  A number of international open data implementing partners such as the Web Foundation, the Open Data Institute, or Code for Africa may offer support for specific components of the initiative.

#### 7.4 What funding mechanisms does the government have for innovation?

-  There is no funding mechanism for innovation from the Government.

### Summary of assessment for Funding for an Open Data Program

The World Bank has provided initial funding for the development, launch, hosting, and maintenance for the open data portal until March 2016 but funding beyond that date still needs to be secured. Besides, the budget of an open data program does not only concern the portal but needs to integrate finances for the dedicated project team (salaries, office, computers and other equipment), cleaning and processing of datasets and metadata when needed, and organization of outreach activities and training. All these elements should ideally be part of the annual government budget, and therefore the government should be prepared to step up its allocation to open data activities specifically, and records management more fundamentally, if it intends to sustain the open data initiative going forward.

The open data initiative is also an opportunity to reflect on the funding model required to transition from a paper-based to an open by default digital data environment and to ensure that stakeholders are served with up to date quality datasets and will have the right



capacity to use them. Fundamentally, however, resources should first be dedicated to ensuring that MDAs can establish and/or improve basic records management, including the management of digital records, to ensure the basis for the provision of more reliable and accurate datasets.

Many ongoing and upcoming procurements contracts and development partners' projects integrate the implementation of data systems. This is an opportunity to financially support open data in specific sectors. Overall, it is recommended to establish a detailed budget for the open data initiative, considering both initial and long-term phases, integrating financial support for data reuse (such as innovation mechanisms) and in the meantime, taking stock of all existing and upcoming funding opportunities (development partners, public-private partnerships, etc.). Lastly, from the use of open source to low-cost computers and mobile technology, there are many ways to reduce and mutualize cost for data management and foster data reuse. This also includes taking advantage of existing common open data infrastructures and initiatives such as OpenStreetMap for GIS data or HDX for crisis management information. Pilot projects may help here to explore and demonstrate the financial gain from the use of these different low-cost solutions.

<b>Question Area</b>	<b>Initial Phase Funding</b>
<b>Importance</b> Very high	Funding for initial phase for the Open Data Portal is only secured until March 2016.
<b>Question Area</b>	<b>e-Services and Applications</b>
<b>Importance</b> High	No Government funding for the development of e-Services and applications.
<b>Question Area</b>	<b>Infrastructure and Skills</b>
<b>Importance</b> Medium high	There is a number of current and upcoming funding opportunities to considerate per sector, but lack investment plan in the global data infrastructure.
<b>Question Area</b>	<b>Innovations</b>
<b>Importance</b> Medium high	No support for innovation at Government level.
<b>Overall: Red</b> Medium high	Overall, there is critical a need to further explore funding opportunities and better-defined budget need for initial and long-term phases of the initiative.



## 8 | National technology and skills infrastructure

Importance High

Rating **Red**

In very practical ways, open data programs normally rely for their success at least in part on the national technology infrastructure, in terms of technology and communications services and the ICT skills among officials, infomediaries, and the general public.

### 8.1 What is the local ICT “ecosystem”? Which technologies reach what proportion of citizens?

- ✘ Radio is the most popular and most trusted media source in Sierra Leone and the only media to virtually cover all the country.
- In the quasi-absence of a fixed landline network, the number of mobile phone subscription has more than doubled since 2010, reaching 77 subscriptions per 100 inhabitants in 2014. This figure is close to the average of 80 subscriptions per 100 inhabitants in Sub-Saharan Africa.<sup>36</sup> However, a substantial share of the population is still out of reach of the current mobile phone network coverage, in particular in the north of the country.<sup>37</sup>
- + Radio and mobile phone service have been widely used during the Ebola outbreak to do population outreach. SMS-based service has also been used to report information on the ground and do population survey.
- ✘ Many ICT students reported that the lack of computers and the Internet within their Universities as severely hindering their capacity to learn basic ICT skills such as language programming or database management. Most of the students need to rely on their own equipment.

### 8.2 What is the level and cost of Internet access, both by broadband and by mobile technologies?

- ✘ There is few up-to-date statistics on Internet access for Sierra Leone, and the Ministry of Information and Communications has expressed the need to improve statistics collection in the ICT sector. However, available indicators show that the country is one of the less connected in the world.
- ✘ Only 2.1 % of the population uses Internet, mainly via mobile broadband access. The main mobile operators Airtel and Sierratel offer 3G network, but coverage is limited to the main cities Freetown, Bo, Kenema, Makeni, and Koidu.

<sup>36</sup> Otherwise notified, all ICT statistics from this section are from the ITU World Telecommunication 2015 database

<sup>37</sup> See map of GSM network unserved population realized by MapAction, November 2014, [https://www.humanitarianresponse.info/en/system/files/documents/files/MAo4o\\_PopUnserved\\_Telecoms\\_v1-300dpi.pdf](https://www.humanitarianresponse.info/en/system/files/documents/files/MAo4o_PopUnserved_Telecoms_v1-300dpi.pdf)



- ✘ The average cost of a monthly access to fixed-broadband is \$43 when more than half of the population lives with less than \$1.90 per Day (\$57 a Month). The cost of a mobile broadband connection is also very expensive (\$23 in average for a 1GB access).
- ✘ Overall, Internet access is highly constrained by the lack of basic network infrastructures such as fiber optic backbone and Internet exchange point, and the prospect of short-term improvement are low as the main ICT infrastructure project has been suspended. The West Africa Regional Communications Infrastructure Project Sierra Leone (WARCIP-SL), a World Bank funded project, was expected to improve Internet bandwidth and geographic coverage within the country, but it was suspended in 2014 following a disagreement with the Government of Sierra Leone. As a result, the country cannot benefit from its access to the submarine cable ACE (African Coast to Europe) deployed in 2012, and the international Internet bandwidth remains at a very low rate (1994 bit/s per Internet user). By comparison, the average international Internet bandwidth for Sub-Saharan Africa is 7657 bit/s.
- + The GoSL through Sierra Leone Cable Limited (SALCAB) has received a Loan from the Islamic Development Bank in the amount of US\$28.27 million towards the implementation of the ECOWAS Regional Backbone and e-Governance Program (ECOWAN) Sierra Leone Project. The project, oversight by the MIC, should connect 43 MDAs to the Government network and enable them to share information internally and connect to the Internet.

### 8.3 How readily available is compute and store infrastructure?

- ✘ Hosting capacity is extremely limited in the country (1 secure Internet servers per 1 million people).<sup>38</sup> As a result, many of the government and private data systems are hosted outside of the country.
- ✘ The unreliability of the electricity network has also been cited by many interviewees as one of the major constraints for the government and private entities to run IT systems.
- + Airtel Sierra Leone is currently implementing a new generation data center, the first of its kind in Africa according to the company, which, once delivered, should substantially improve hosting capabilities for the country.<sup>39</sup>

### 8.4 How strong are the IT industry, developer community, and overall digital literacy?

- ✘ According to the MIC, all the government IT projects' implementation and many of the maintenance and management have been outsourced, showing a lack of capacity within the Government to run IT systems.

<sup>38</sup> Source: World Bank data 2014

<sup>39</sup> See <http://allafrica.com/stories/201508230031.html>



- + Sierra Leone is becoming increasingly start-up friendly. In 2010, the Business Bomba National Business Plan Competition was launched as an initiative of the Government through the Ministry of Trade and Industry supported by the Soros Foundation and DFID. Businesses have the opportunity to win seed capital (\$20k+) for the best business ideas. Most startups that have participated in this competition have been focused on the agri-business sector, but the coordinators of the event are interested in expanding to other sectors. The African Foundation for Development (AFFORD) manages the competition.
- + The tech start-up scene is at a nascent stage in the country with a first incubator and coworking space, Sensi Tech Innovation Hub, which opened in November 2015 in Freetown. The tech space received seed funding from Indigo Trust and HIVOS and can host up to 120 people during events. iDT Labs is a social enterprise that incubates scalable business ideas (both in-house and from potential partners) from strategy design stage to on-the-ground execution.
- + The developer community is relatively new in Sierra Leone. There are developer meetup groups, but most notably Code 4 Salone, which is led by the co-founder of iDT Labs. Code 4 Salone focuses on utilizing open source technologies to address civic needs. Unfortunately, the current developer talent pool in Sierra Leone is extremely limited.
- x Overall digital literacy is extremely low with an Internet penetration of 2.1% as noted earlier. There is a critical need for the government to invest in ICT education.
- x The education system of Sierra Leone remains one of the weakest in the world. Only 45% of a class of age reaches secondary school and the tertiary enrollment per 100,000 inhabitants in the country in 2011 was estimated at about 600 compared to 1180 in Ghana and 700 in Rwanda.<sup>40</sup> The illiterate population is estimated at 43% for adults (15+ years).<sup>41</sup>

## Summary of assessment for National technology and skills infrastructure

Access to Internet is still extremely limited in the country and only available for inhabitants of the main cities. Important investments in infrastructure are needed to enhance performance and coverage of the fixed and mobile Internet network and reduce connectivity costs. The same is true for data infrastructure. Currently, most of the government data systems are hosted outside of the country. As such, it may be instructive to focus on compliance with disclosure laws and records management systems, prior to improving the release of machine-readable datasets using online data systems. Nevertheless,

<sup>40</sup> World Bank, Republic of Sierra Leone, Higher and Tertiary Education Sector Policy Note, July 15, 2013.

<sup>41</sup> UNICEF, [http://www.unicef.org/infobycountry/sierraleone\\_statistics.html](http://www.unicef.org/infobycountry/sierraleone_statistics.html)



there is a nascent and dynamic ICT community made of private companies, development partners, and individual developers which are ready to take benefit of and leverage any improvement in the country's connectivity.

**Question Area**      **Local ICT “ecosystem.”**

**Importance**  
High      SMS-based services have been widely used during the Ebola outbreak both for data collection and outreach.

**Question Area**      **Internet access**

**Importance**  
High      There is only 2.1% of Internet users and no current or upcoming project which may enable substantial improvement in connectivity's performance, coverage, and cost in the short term.

**Question Area**      **Compute and store infrastructure**

**Importance**  
Medium high      There is a strong need of investments in data infrastructures to enable Sierra Leone ICT sector to develop.

**Question Area**      **IT industry, developer community and digital literacy**

**Importance**  
High      There is a nascent and limited, but active developer community with high competencies.

**Overall: Red**  
**Importance**  
High      Very low level of ICT infrastructures and skills will be one of the main barriers to the dissemination and impact of open data in the country. Nevertheless, the country provide evidence that the use of light and low-cost data system combined with the use of SMS-based and other channels can led to great impact.

# Summary of assessment of 8 key dimensions



Rating	Dimension	Importance	Remarks
●	Senior Leadership	Very high	Visible political leadership on open data and open government exists, but there is a need to clarify roles and responsibilities in the open data agenda and to ensure sufficient political will for the establishment and sustainability of an open data initiative.
●	Policy / legal framework	High	The Right to Access Information Act is a positive move towards a basic legal framework for open data, although significant challenges must be addressed to ensure its effective implementation. The enactment of the Data Protection Act and the Records and Management Act would be other important steps, and it is encouraging that the Government has already drafted this key legislation. However, it should be reemphasized that political intentions, represented by access to information legislation and commitments, does not equal effective implementation, which still remains to be seen.
●	Institutional structures, responsibilities and capabilities within government	High	The Open Data Council offers a good place for coordination among all stakeholders. The initiative is, however, lacking a dedicated technical Project Team and data producers have not been involved yet.
●	Government data management policies, procedures and data availability	High	There is critical need to invest in data management infrastructure and capacity for the country. Nevertheless, there are already data systems in place in key sectors such as health and education that could start feeding the open data initiative.
●	Demand for open data	Very high	Demand for accurate and granular data is high from CSOs and the private sector, but Government's responsiveness is unsatisfactory.
●	Civic engagement and capabilities for open data	High	There is a nascent data ecosystem in the country with few stakeholders which have the capacity to act as "infomediararies," but they are highly constrained by limited ICT infrastructure.
●	Funding an open data program	Medium high	Overall, there is a need to further explore funding opportunities and better-defined budget need for initial and long-term phases of the initiative.
●	National technology and skills infrastructure	High	Very low level of ICT infrastructures and skills will be one of the main barrier to the dissemination and impact of open data in the country. Nevertheless, the country provide evidence that the use of light and low-cost data system combined with the use of SMS-based and other channels can led to great impact.





# Recommendations for an Action Plan

The proposed action plan is based on the findings of the Open Data Readiness Assessment for Sierra Leone and aligned with a one-year timescale. The recommended actions are broken down in three phases for prioritization based on what is considered of high importance and realistically achievable and what could be seen as aspirational in the given timeframe.



**PHASE 1 RECOMMENDATIONS:** HIGH PRIORITY AND REASONABLY ACHIEVABLE ACTIONS**Recommendation 1: Establish and secure the leadership, structure and functioning of the Open Data Initiative (Q1-Q3)**

<b>ACTION 1.1</b>	
Officially introduce the Open Data Council as the cross-agency steering committee for open data	
<b>Dimension(s)</b>	<b>Time-frame</b>
1   Senior leadership	Q1
<b>Stakeholders</b>	
<b>Lead:</b> President	<b>Others:</b> OGI, RAIC, MIC, MCCU
In terms of leadership, it is important for the Open Data Council, which will serve as the steering committee, to be officially introduced from the highest level of the Government. There is also a need to clarify the roles of different member institutions of the council.	

<b>ACTION 1.2</b>	
Establish appropriate sub-committees within the Open Data Council	
<b>Dimension(s)</b>	<b>Time-frame</b>
3   Institutional structures, responsibilities, and capabilities within government	Q1
<b>Stakeholders</b>	
<b>Lead:</b> Open Data Council	<b>Others:</b> MDAs and other relevant stakeholders, in particular SSL and MoFED as leading data producers
For now, stakeholders such as data producers and users have not been well represented within the Open Data Council. It is therefore recommended to establish sub-committees for data producers to provide a forum for them to discuss and provide recommendations on records management, data, metadata, dataset inventory, and publication procedures. Data producers should be appointed according to the commitment of their Ministry to open data and priorities of the initiative. Public information officers could endorse this role. This sub-committee could also integrate non-government data producers committed to publishing data as open data on the portal. A sub-committee of data users that includes SMEs and companies from multiple sectors could host recurring public events or roundtables to allow data users to provide feedback to the Technical sub-committee of the Council.	

**ACTION 1.3**

Establish a full-time Project Team responsible for implementation

**Dimension(s)****Time-frame**

3 / Institutional structures, responsibilities, and capabilities within government

Q2

**Stakeholders****Lead:** RAIC**Others:** MIC

An open data initiative is a project, and as such needs a dedicated project team. This means to clearly identify the project manager, who has responsibility for signing off on key decisions and delivers the plan, as well as other typical roles, which might include a Chief Technology Officer (CTO) (responsible for the portal), a data manager (responsible for data management, collection and publication), a community manager (responsible for communication and engagement with data users), and a legal advisor. The Open Data Project team would be seated within the institution overseeing the initiative. Once the open data project team is in place, the mandate of the Technical Sub-Committee of the Open Data Council could be revised as a more advisory role.

**ACTION 1.4**

Adopt the International Open Data Charter

**Dimension(s)****Time-frame**

1 / Senior leadership;

Q2

3 / Institutional structures, responsibilities, and capabilities within government;

4 / Government data management policies, procedures, and data availability

**Stakeholders****Lead:** Open Data Council

The International Open Data Charter is a global effort to foster greater coherence and collaboration for the increased adoption and implementation of shared open data principles, standards and good practices across sectors around the world. It sets high-level principles and related non-binding commitments which authorities are invited to adopt publicly. The adoption of the charter by Sierra Leone would imply: 1) Appointment of a key ministry, department, or agency, including a direct individual, to serve as point of contact responsible for implementing the Open Data Charter's principles; 2) definition of delivery mechanism(s) through which the Open Data Charter will be operationalized by the institution; 3) provide time-bound actions that outline specific, realistic deadlines by which progress toward implementation can be demonstrated as well as 4) means of verification of the specific actions that will be taken by the institution to track the progress of the Charter's implementation. For more information see <http://opendatacharter.net/adopt-the-charter/>



## Recommendation 2: Inventory and release of key datasets (Q2-Q3)

### ACTION 2.1

Establish an inventory of government datasets and publish the resulting list as open data on the open data portal

#### Dimension(s)

#### Time-frame

4 / Government data management policies, procedures, and data availability

Q2

#### Stakeholders

**Lead:** Open Data Project Team

**Others:** Data Producers Sub-committee

The datasets inventory is a critical, but too often neglected asset of an open data initiative. It can be used to manage and document the data publication process as well as serve as a strategic document when dealing with data producers and users. The assessment of datasets included in this report could serve as a starting point for a broader datasets inventory. The inventory should also include non-government datasets and indicate the level of priority for each dataset based on international standards, local demand as well as priority issues such as education, health and gender issues. This should consolidate data and techniques from existing activities like NERC, and from other mandated reporting mechanisms.

### ACTION 2.2

Ensure the release of priority datasets already available in digital format

#### Dimension(s)

#### Time-frame

4 / Government data management policies, procedures, and data availability

Q3

#### Stakeholders

**Lead:** Open Data Project Team

**Others:** Data Producers Sub-committee

The ODRA identified a list of priority datasets already available in digital format that could be rapidly and without any additional cost published as open data on [opendata.gov.sl](http://opendata.gov.sl). It is recommended for the Open Data Project Team to focus first on the release of these datasets.



## Recommendation 3: Launch of pilot projects (Q1)

### ACTION 3.1

Consider the launch of pilot projects to showcase the value of open data and raise awareness among leaders and institutions

Dimension(s)	Time-frame
4 / Government data management policies, procedures, and data availability 5 / Demand for Open Data 6 / Civic Engagement and Capabilities for Open Data	Q1
Stakeholders	
<b>Lead:</b> Open Data Council	<b>Others:</b> Relevant stakeholders for each pilot project (see Annex 7)
Pilot projects are low-cost and short-term (6-months to one-year projects) involving data producers (including non-government) and data users, whose main objectives are to produce, publish and use open data in an innovative way to respond to a priority issue for Sierra Leone. Pilot projects should be designed to benefit the whole open data initiative by rapidly showcasing the value and impact of open data for Sierra Leone. See Annex 7 for pilot project ideas.	

**PHASE 2 RECOMMENDATIONS:** LOWER PRIORITY, REASONABLY ACHIEVABLE IN THE GIVEN TIMEFRAME**Recommendation 4:** Review and introduce Open Data provisions in legal and policy framework (Q2-Q4)**ACTION 4.1**

Adopt an open license by default for open government data

Dimension(s)	Time-frame
2 / Policy and legal framework	Q2
Stakeholders	
<b>Lead:</b> Open Data Council	<b>Others:</b> Open Data Project Team
Provide a general open license aligned with the RTAI law, and mandate its default use across government for open data, where applicable. Creative Common (CC) licenses are among the most popular licenses for open government data. The suggested licenses are either CCo (public domain dedication) or CC-BY 4.0 (requiring attribution of source).	

**Stakeholders****Lead:** Open Data Council**Others:** Open Data Project Team**ACTION 4.2**

Mandate an independent legal expert to review the legal framework

Dimension(s)	Time-frame
2 / Policy and legal framework	Q3
Stakeholders	
<b>Lead:</b> Open Data Council	<b>Others:</b> RAIC, Open Data Project Team
Various stakeholders expressed concerns regarding the legal interpretation of opening up government information and data. Clarification of what is possible within the current legal framework will allay concerns and doubts and facilitate further data publication. An official review will also provide recommendations on how to improve and revise the legal framework to further empower the open data initiative.	

**Stakeholders****Lead:** Open Data Council**Others:** RAIC, Open Data Project Team



**ACTION 4.3**

Introduce a provision for open data by default

**Dimension(s)**

**Time-frame**

2 / Policy and legal framework

Q4

**Stakeholders**

**Lead:** Open Data Council

**Others:** PSRU

There is an opportunity to use the draft Archive and Records Management Bill to introduce a clear definition of and scope for open data and a provision for proactive disclosure (open data by default) as part of public records and archives management. It is expected that such a provision would disallow the introduction of charging fees for public data. Additionally, Performance Management Contract offers a mechanism to define indicators and assess performance of a given MDA on a bi-annual basis. It would be also valuable to link the Performance Management Contract of RAIC and other relevant institutions involved with the Open Data Initiative, such as data producers, with the objectives of the Open Data Initiative and publish the contracts in digital format.



## Recommendation 5: Facilitate data disclosure (Q2-Q3)

### ACTION 5.1

Enable non-government data producers to publish their datasets on the open data portal

#### Dimension(s)

#### Time-frame

4 / Government data management policies, procedures, and data availability

Q2

#### Stakeholders

**Lead:** Open Data Project Team

As the assessment revealed, non-government stakeholders such as development partners, civic tech organizations, private companies and other international organizations produce datasets, often of high quality, that could greatly benefit the country if released as open data. It is therefore recommended to enable non-government data producers to publish or index their own datasets on the portal, however non-governmental contributions should be considered supplementary to and not a substitution for GoSL's own release of data (and this should be distinguished in any assessment of data publication)

### ACTION 5.2

Adopt and publish procedures and standards for data management, data quality, data publication and metadata

#### Dimension(s)

#### Time-frame

4 / Government data management policies, procedures, and data availability

Q4

#### Stakeholders

**Lead:** Open Data Council, Open Data Project Team

Online documentation of the procedures and standards for opening up data is essential to enable data producers to follow best practices, improve the quality of datasets published, and foster reuse. For data publication, DKAN has existing documentation for users, but this might need to be supplemented with additional documentation specific to Sierra Leone's open data portal. It should be noted that there is little point in doing this if the primary data providers are not yet in a position to supply data in the required format.

**PHASE 3: ASPIRATIONAL, CHALLENGING TO ACHIEVE IN GIVEN TIMEFRAME****Recommendation 6: Build data literacy and ICT skills of all stakeholders (Q4)**

<b>ACTION 6.1</b>	
Establish a Data Academy to improve digital literacy of the whole open data ecosystem	
<b>Dimension(s)</b>	<b>Time-frame</b>
5 / Demand for Open Data 6 / Civic Engagement and Capabilities for Open Data	Q4
<b>Stakeholders</b>	
<b>Lead:</b> Open Data Council	<b>Others:</b> NERC, Sensi Tech Hub, Universities
<p>Beyond key open data stakeholders, there is a strong need to enhance digital literacy of the whole ecosystem. It is therefore suggested to establish a nationwide Data Academy program offering basic to high-level data literacy and computer skills courses to all stakeholders in Sierra Leone interested in improving their ICT skills (from civil servants, CSOs, students, to private companies). In its initial phase, the Academy would first focus on train-the-trainers courses and priority open data stakeholders. Such a program could take inspiration from the successful NERC's Situation Room Academy and benefit from Tech Hub and Academia support.</p>	

<b>ACTION 6.2</b>	
Introduce data literacy in the career development curriculum for civil servants	
<b>Dimension(s)</b>	<b>Time-frame</b>
3 / Institutional structures, responsibilities, and capabilities within government	Q4
<p>In order to address the low level of ICT and data literacy among MDA officers, it is highly recommended to require all civil servants to master a basic level of ICT and data literacy by making this part of their professional curriculum. This could be done by introducing ICT into the civil service curriculum via the civil service training college. Existing academic institutions could also offer short courses targeting civil servants.</p>	



## Recommendation 7: Embark on digitization of paper-based information (Q4)

### ACTION 7.1

Initiate the digitization of high-value data still in paper format

#### Dimension(s)

#### Time-frame

4 / Government data management policies, procedures, and data availability

Q4

#### Stakeholders

**Lead:** Open Data Council

**Others:** See table 3 for list of data producers

There are datasets that are of high priority but are not easily obtained, collected, or digitized. An example is the business registry, which was requested by almost every company interviewed. However, these data seem to be incomplete and still in paper format. For these datasets, further investment would be needed to pool and digitize existing data, and establish proper digital data management systems so that they can be released as open data. This activity should be closely linked to the reinforcement of records and data management capacity in the country, including identifying, classifying, storing, securing, retrieving, tracking and destroying or permanently preserving records. For contents that are not digitized, it would be already a great added value to have the inventory of the records (metadata) available as open data, including information on where to found them.



## Recommendation 8: Plan, attract and secure financial backing for the initiative following the one-year timeframe (Q4 and beyond)

<b>ACTION 8.1</b>	
Plan a long term government budget for the open data initiative	
Dimension(s)	Time-frame
7 / Funding an Open Data program	Q4
Stakeholders	
<b>Lead:</b> Open Data Council	<b>Others:</b> RAIC, MIC. MoFED
Beyond the one-year recommended action plan, there is a need to plan for a long term sustainable open data initiative and consider to make open data part of the national budget.	

<b>ACTION 8.2</b>	
Use the preliminary results of the open data initiative to attract the attention and investment of an ICT infrastructure project	
Dimension(s)	Time-frame
7 / Funding an Open Data program	Year 2
8 / National technology and skills infrastructure	
Stakeholders	
<b>Lead:</b> GoSL	<b>Others:</b> Open Data Council
There is as need to address connectivity and broader e-Government issue for the country. As seen in other countries, first successes of the Open Data Initiative may be an opportunity to build trust in the capacity to deliver ICT project, demonstrate the need for better ICT infrastructure and attract investors.	



## Annexes

1. Mission Announcement Letter
2. ODRA Team and Mission Schedule
3. List of organizations interviewed
4. Inventory of laws and policies
5. Inventory and status of public authorities' websites
6. Inventory of current World Bank's projects relevant to Open Data
7. Pilot projects' ideas
8. Open Data for Business report



## ANNEX 1

# Mission Request Letter



Ministry of Information and  
Communications  
8<sup>th</sup> Floor, Youyi Building, Brookfields  
Freetown

30<sup>th</sup> October, 2015

### SIERRA LEONE GOVERNMENT

The Country Manager,  
World Bank  
Sierra Leone

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Dear Mr. Parminder Brar,

#### **REQUEST FOR TECHNICAL ASSISTANCE FOR THE OPEN DATA READINESS ASSESSMENT**

The Government of Sierra Leone continues to demonstrate a strong commitment to transparency and improved access to information. We are pleased to inform you that with assistance from the World Bank, we have established an open data portal, which is currently being managed by the Right to Access Information Commission.

The Ministry of Information and Communications is now seeking assistance from the World Bank, represented through the Open Aid Partnership of the Leadership Learning and Innovation Labs VPU in collaboration with the Transport and ICT Global Practice, in conducting an open data readiness assessment for Sierra Leone.

The objective of this assessment is the opening of government data for use by business, civil society, developers, and academics to improve service delivery, particularly in the areas of health, education, social welfare, and issues for women and girls.

Open data is an important element to the government's reform efforts in promoting accountability and transparency.

We thank the World Bank Country Office in Sierra Leone for their continued assistance towards promoting accountability and transparency.

Yours sincerely,

Theo Nicol

**Deputy Minister of Information and Communications**

**Cc:** Minister of Information and Communications  
Permanent Secretary – MIC  
Executive Secretary - Right to Access Information

**ANNEX 2**

## Mission Schedule

9-Nov	8:00 AM	Statistics Sierra Leone
	9:00 AM	ODRA Launch
	3:00 PM	Ministry of Information and Communication
	4:30 PM	Right to Access Information Commission
	7:30 PM	UNEP
	10:45 AM	Ministry of Public Sector Reform Unit
10-Nov	12:00 PM	Chairman Parliamentary Committee on Communication
	12:00 PM	Performance Management and Service Delivery
	12:00 PM	Parliament
	12:30 PM	Citizen's Committee
	3:00 PM	e-Government Program
11-Nov	9:30 AM	Conflicts and Peace Study
	11:00 AM	Civil Society Organization Focus Group
	2:00 PM	Defense Ministry HQ (Ebola)
	2:30 PM	Office of the Administration and Registration General
	3:30 PM	Audit Service
12-Nov	12:00 PM	Chief of Staff
	1:30 PM	Ministry of Social Welfare
	2:30 AM	Ministry of Health
	3:00 AM	Ministry of Agriculture
	4:00 PM	MCCU
13-Nov	10:00 AM	DACO
	10:00 AM	Education Focus Group
	11:30 AM	Students of Sierra Leone
	12:00 PM	Ministry of Education, Science and Technology
	2:00 PM	National Ebola Response Center
14-Nov	11:00 AM	Intra Health
16-Nov	10:00 AM	Campaign for Good Governance
	11:00 AM	Accountant General
	1:30 PM	National Registration Service
	2:00 PM	Business Owners and Entrepreneurs
	3:00 PM	IPAM
	3:00 PM	Ministry of Lands



17-Nov	11:00 AM	Anti-Corruption Commission
	12:00 PM	Police HQ
	4:00 AM	Statistics Sierra Leone
	11:00 AM	Anti-Corruption Unit
	12:00 AM	Legal Aid Board
	12:00 AM	Sierra Leone Police
	2:00 PM	National Public Procurement
	3:00 PM	Statistics Sierra Leone
	5:00 PM	UNICEF Edutrac and U-Report
18-Nov	10:00 AM	Records and Information Management
	12:00 AM	Donor Focus Group
	2:00 PM	Technical Focus Group
19-Nov	10:00 AM	Launch of Legal Aid Board
	2:00 PM	ODRA Wrap up meeting
20-Nov	11:00 AM	Sensi Tech Hub



## ANNEX 3

# List of organizations Interviewed

The following organizations were met with and interviewed in relation to their use of or ability to share open data.

ORGANIZATION	TYPE
College of Medicine and Applied Sciences	Academia
Crown Technical University College	Academia
Fourah Bay College	Academia
Institute of Public Administration and Management	Academia
LICCSAL Business College	Academia
Milton Margai College of Education and Technology	Academia
Njala University	Academia
Action for Large Scale Land Acquisition Transparency	Civil Society
Budget Advocacy Network	Civil Society
Campaign for Good Governance	Civil Society
CAN-SL	Civil Society
Centre for Accountability and the Rule of Law	Civil Society
Citizen's Committee	Civil Society
Civil Rights Coalition	Civil Society
Coalition of Civil Society	Civil Society
Community Agricultural Development Association	Civil Society
Conscience International	Civil Society
Democracy And Development Associate	Civil Society
Humanist Watch	Civil Society
Institute for Governance Reform	Civil Society
Institute for War and Peace Reporting	Civil Society
Network Movement for Justice Development	Civil Society
Network Movement for Youth and Children's Welfare	Civil Society
NMJD	Civil Society
Search for Common Grounds	Civil Society
Sierra Leone Association of Journalists	Civil Society
Sierra Leone Reporters Union	Civil Society
Sierra Leone Union on Disability Issues	Civil Society



ORGANIZATION	TYPE
Society for Peace and Development	Civil Society
Transparency International	Civil Society
UN Women	Civil Society
West Africa Youth Network	Civil Society
Women's Forum Network	Civil Society
African Development Bank	Development partner
CartONG	Development partner
Clinton Health Access Initiative	Development Partner
DFID	Development partner
ENCISS	Development partner
European Union	Development partner
Intra-Health	Development Partner
Millennium Challenge Coordinating Unit	Development partner
NUCIVIC	Development partner
UN Office for the Coordination of Humanitarian Affairs	Development partner
UNDP	Development Partner
UNEP	Development partner
UNICEF	Development Partner
United Nations Sierra Leone	Development partner
USAID	Development Partner
Wash-Net	Development Partner
World Health Organization	Development partner
Chamber of Commerce	Government
Chief of Staff	Government
Development Assistance Coordination Office	Government
Financial Intelligence Unit	Government
Government Central Medical Stores	Government
Justice Sector Coordinating Unit	Government
Medical Services	Government
Ministry of Agriculture, Forestry and Food Security	Government
Ministry of Education, Science and Technology	Government
Ministry of Finance and Economic Development	Government
Ministry of Health and Sanitation	Government



ORGANIZATION	TYPE
Ministry of Information and Communications	Government
Ministry of Lands, Country Planning and the Environment	Government
Ministry of Social Welfare, Gender and Children's Affairs	Government
National Ebola Response Center	Government
National Public Procurement Authority	Government
National Registration Service	Government
Office of the Administrator and Registrar General	Government
Open Government Initiative	Government
Performance Management and Service Delivery Directorate	Government
Public Sector Reform Unit	Government
Sierra Leone Police	Government
Statistics Sierra Leone	Government
Anti-Corruption Commission	Independent Authority
Audit Service Sierra Leone	Independent Authority
Human Rights Commission	Independent Authority
Legal Aid Board	Independent Authority
National Youth Commission	Independent Authority
Right to Access Information Commission	Independent Authority
The Independent Media Commission	Independent Authority
Society for Radio Democracy 98.1	Media
Parliament	Parliament
A1 Networks Ltd	Private Sector
Academic	Private Sector
Accountant	Private Sector
African Foundation for Development in Sierra Leone	Private Sector
CAP	Private Sector
CIAES	Private Sector
Dee Point Relaxation	Private Sector
Entabuy Agency	Private Sector
Ernsy Enterprises	Private Sector
GDFCI	Private Sector
Greenfield Farm Ltd	Private Sector
Growth Youth Initiative	Private Sector



ORGANIZATION	TYPE
Guoji Construction	Private Sector
GWS	Private Sector
Institute for Development	Private Sector
J & F Fashion Enterprise	Private Sector
Jamka Agricultural Enterprise	Private Sector
Katakan Martial Arts Academy	Private Sector
Kings Production	Private Sector
Kolot Foods & Drinks	Private Sector
Lambano SL Ltd	Private Sector
LEWODA / Salon Juice	Private Sector
M & J Enterprise	Private Sector
M.I. C Agric Business	Private Sector
Maersk	Private Sector
NAREG	Private Sector
Oasis Juice Bar	Private Sector
ODSSA	Private Sector
Pedrax Security	Private Sector
Radisson Blu Hotel	Private Sector
S.B.T.S	Private Sector
SALCAB	Private Sector
Tee bangs Services	Private Sector
Sensi Tech Innovation Hub Freetown	Private Sector



## ANNEX 4

# Inventory of laws and policies

TITLE	TYPE	YEAR OF PUB	STATUS
Public Archives Act	Act	1965	Active
Constitution of Sierra Leone	Constitution	1991	Active
Statistics Act	Act	2002	Active
Public Procurement Act	Act	2004	Active
The Government Budgeting and Accountability Act	Act	2005	Active
Telecommunication Act	Act	2006	Active
National Strategy for the Development of Statistics in Sierra Leone 2008 - 2012	Strategy	2008	Deprecated
The Anti-Corruption Act	Act	2008	Active
Civil Service Code, Regulations and Rules	Code	2009	Active
National ICT Policy 2009	Policy	2009	Active
Telecommunication Act (Amendment)	Act	2009	Active
Mines and Mineral Act	Act	2009	Active
The Copyright Act	Act	2011	Active
Right to Access Information Act	Act	2013	Active
OGP Action Plan	Action Plan	2014	Active
Open Data Council Technical Committee	Term of Reference	2015	Alpha version
Establishment of an Open Data Council within the Right to Access Information Commission	Concept Note	2015	Active
Public Financial Management Act	Act	Unknown	Draft
New National Statistics Strategy	Strategy	2015 (expected)	Draft
Archives and Records Management Act	Act	2016 (expected)	Draft
Archives and Records Management Policy	Policy	2016 (expected)	Draft
Data Protection Act	Act	2016 (expected)	Draft
Land Management Policy	Policy	Unknown	Draft
Law on Cyber Security	Act	Unknown	Proposed
National ICT Policy 2015	Policy	2015 (expected)	Draft
National Cyber Security Policy 2016 - 2020	Policy	2016 (expected)	Draft
The Public Debt Management Act	Act	2011	Active
The Mines and Minerals Act	Act	2009	Active
The Government Budgeting and Accountability Act	Act	2005	Active
The Public Debt Management Act	Act	2011	Active



## ANNEX 5

# Inventory and status of public authorities' websites

MDA	Type	Domaine name	Online status*
State House	Executive Branch	<a href="http://www.statehouse.gov.sl/">http://www.statehouse.gov.sl/</a>	OK
Open Government Initiative	Executive Branch	<a href="http://www.ogi.gov.sl/">http://www.ogi.gov.sl/</a>	OK
Statistics Sierra Leone	Institution	<a href="http://www.statistics.sl/">http://www.statistics.sl/</a>	OK
Bank of Sierra Leone	Institution	<a href="http://www.bsl.gov.sl/index.html">http://www.bsl.gov.sl/index.html</a>	OK
SLIEPA	Institution	<a href="http://investsierraleone.biz/">http://investsierraleone.biz/</a>	OK
National Public Procurement Authority	Institution	<a href="http://www.publicprocurement.gov.sl/">http://www.publicprocurement.gov.sl/</a>	OK
Human Rights Commission of Sierra Leone	Institution	<a href="http://hrctl.org">http://hrctl.org</a>	OK
National Tourism Board	Institution	<a href="http://www.ntb.sl/">http://www.ntb.sl/</a>	OK
The Sierra Leone Police	Institution	<a href="http://police.gov.sl">http://police.gov.sl</a>	OK
Sierra Leone National Museum	Institution	<a href="http://www.sierraleoneheritage.org/CI/">http://www.sierraleoneheritage.org/CI/</a>	NOK
The Office of the Administrator and Registrar-General	Institution	<a href="http://www.oarg.gov.sl">http://www.oarg.gov.sl</a>	OK
Justice Sector Coordinating Office (JSCO)	Institution	<a href="http://jscosl.org">http://jscosl.org</a>	NOK
National Revenue Authority	Agency	<a href="http://www.nra.gov.sl">www.nra.gov.sl</a>	OK
Environmental Protection Agency	Agency	<a href="http://epa-sl.org">http://epa-sl.org</a>	OK
Sierra Leone Extractive Industries Transparency Initiative	Agency	<a href="http://www.sleiti.gov.sl/">http://www.sleiti.gov.sl/</a>	OK
The Disaster Management Department (DMD)	Agency	<a href="http://www.ons-dmdsl.org/">http://www.ons-dmdsl.org/</a>	NOK
African Peer Review Mechanism- APRM	Agency	<a href="http://aprm.gov.sl">http://aprm.gov.sl</a>	NOK
Ministry of Finance and Economic Development	Ministry	<a href="http://www.mofed.gov.sl/">http://www.mofed.gov.sl/</a>	OK
Ministry of Trade & Industry	Ministry	<a href="http://trade.gov.sl">http://trade.gov.sl</a>	NOK
Ministry of Social Welfare, Gender & Children's Affairs	Ministry	<a href="http://mswgca.gov.sl/">http://mswgca.gov.sl/</a>	OK
Ministry of Mines and Mineral Resources	Ministry	<a href="http://www.slminerals.org/">http://www.slminerals.org/</a>	OK
Ministry of Fisheries/ Marine Resources	Ministry	<a href="http://mfmr.gov.sl/">http://mfmr.gov.sl/</a>	OK
Ministry of Defence	Ministry	<a href="http://defence.gov.sl">http://defence.gov.sl</a>	NOK
Ministry of Lands, country Planning and Environment	Ministry	<a href="http://www.mlcp.gov.sl/">http://www.mlcp.gov.sl/</a>	NOK
Ministry of Transport & Aviation	Ministry	<a href="http://mta.gov.sl">http://mta.gov.sl</a>	NOK
Ministry of Agriculture, Food Security & Forestry	Ministry	<a href="http://www.maffs.gov.sl/">http://www.maffs.gov.sl/</a>	OK
Ministry of Foreign Affairs and International Co-operation	Ministry	<a href="http://foreignaffairs.gov.sl">http://foreignaffairs.gov.sl</a>	NOK
Ministry of Internal Affairs	Ministry	<a href="http://mia.gov.sl">http://mia.gov.sl</a>	NOK
Ministry of Justice and Attorney-General	Ministry	<a href="http://mojag.gov.sl">http://mojag.gov.sl</a>	NOK
Ministry of Local Government and Rural Development	Ministry	<a href="http://mlgrd.gov.sl">http://mlgrd.gov.sl</a>	OK
Ministry of Information and Communications	Ministry	<a href="http://information.gov.sl">http://information.gov.sl</a>	NOK
Ministry of Political and Public Affairs	Ministry	<a href="http://politics.gov.sl">http://politics.gov.sl</a>	NOK
Ministry of Education, Science and Technology	Ministry	<a href="http://education.gov.sl">http://education.gov.sl</a>	NOK
Ministry of Works, Housing, And Infrastructure	Ministry	<a href="http://works.gov.sl">http://works.gov.sl</a>	NOK
Ministry of Energy	Ministry	<a href="http://energy.gov.sl">http://energy.gov.sl</a>	OK
Ministry of Labour And Social Security	Ministry	<a href="http://labour.gov.sl">http://labour.gov.sl</a>	NOK
Ministry of Tourism and Culture	Ministry	<a href="http://tourism.gov.sl">http://tourism.gov.sl</a>	NOK



MDA	Type	Domaine name	Online status*
Ministry of Sports	Ministry	<a href="http://sports.gov.sl">http://sports.gov.sl</a>	NOK
Ministry of Youth Affairs	Ministry	<a href="http://youth.gov.sl">http://youth.gov.sl</a>	NOK
Ministry of Health and Sanitation	Ministry	<a href="http://health.gov.sl">http://health.gov.sl</a>	OK
Ministry of Water Resources	Ministry	<a href="http://water.gov.sl">http://water.gov.sl</a>	NOK
Truth and Reconciliation Commission	Commission	<a href="http://www.sierraleonetr.com/">http://www.sierraleonetr.com/</a>	OK
National Commission for Social Action (NaCSA)	Commission	<a href="http://www.nacsa.gov.sl/">http://www.nacsa.gov.sl/</a>	OK
National Electoral Commission (NEC)	Commission	<a href="http://www.nec-sierraleone.org/">http://www.nec-sierraleone.org/</a>	OK
The Law Reform Commission	Commission	<a href="http://www.lawrefcom.sl">http://www.lawrefcom.sl</a>	NOK
National Asset and Government Property Commission	Commission	<a href="http://nagpc.gov.sl">http://nagpc.gov.sl</a>	NOK
National HIV/AIDS Secretariat	Secretariat	<a href="http://www.nas.gov.sl/">http://www.nas.gov.sl/</a>	OK
Permanent Mission to the United Nations	Foreign Mission	<a href="http://www.un.int/sierraleone/">http://www.un.int/sierraleone/</a>	OK
Parliament of Sierra Leone	Legislative Branch	<a href="http://www.sl-parliament.org/">http://www.sl-parliament.org/</a>	NOK
Sierra Leone Millennium Challenge Coordinating Unit	Unit	<a href="http://www.mccu.gov.sl/">http://www.mccu.gov.sl/</a>	OK
Public Sector Reform Unit- PSRU	Unit	<a href="http://www.publicsectorreform.gov.sl/">http://www.publicsectorreform.gov.sl/</a>	NOK
Petroleum Resource Unit- PRU	Unit	<a href="http://pru.gov.sl">http://pru.gov.sl</a>	NOK
The Special Court for Sierra Leone	Judicial Branch	<a href="http://www.sc-sl.org/">http://www.sc-sl.org/</a>	NOK
Office of Diaspora Affairs- ODA	Office	<a href="http://diasporaaffairs.gov.sl/">http://diasporaaffairs.gov.sl/</a>	OK
Office of Nation Security- ONS	Office	<a href="http://ons.gov.sl">http://ons.gov.sl</a>	OK
Human Resource Management Office- HRMO	Office	<a href="http://hrmo.gov.sl/">http://hrmo.gov.sl/</a>	OK
Freetown City Council	City Council	<a href="http://www.freetown.gov.sl/">http://www.freetown.gov.sl/</a>	NOK
Bo City Council	City Council	<a href="http://www.bo.gov.sl/">http://www.bo.gov.sl/</a>	NOK
Makeni City Council	City Council	<a href="http://www.makeni.gov.sl/">http://www.makeni.gov.sl/</a>	NOK
Bonthe City Council	City Council	<a href="http://bonthe.gov.sl">http://bonthe.gov.sl</a>	NOK
Koidu-New Sembehun City Council	City Council	<a href="http://koindu.gov.sl">http://koindu.gov.sl</a>	NOK
Kenema City Council	City Council	<a href="http://kenema.gov.sl">http://kenema.gov.sl</a>	NOK
Moyamba District Council	District Council	<a href="http://moyamba.gov.sl">http://moyamba.gov.sl</a>	NOK
Pujehun District Council	District Council	<a href="http://pujehun.gov.sl">http://pujehun.gov.sl</a>	NOK
Tonkolili District Council	District Council	<a href="http://tonkolili.gov.sl">http://tonkolili.gov.sl</a>	NOK
Koinadugu District Council	District Council	<a href="http://kono.gov.sl">http://kono.gov.sl</a>	NOK
Kambia District Council	District Council	<a href="http://kambia.gov.sl">http://kambia.gov.sl</a>	NOK
Bombali District Council	District Council	<a href="http://bombali.gov.sl">http://bombali.gov.sl</a>	NOK
Portloko District Council	District Council	<a href="http://portloko.gov.sl">http://portloko.gov.sl</a>	NOK
Kailahun District Council	District Council	<a href="http://kailahun.gov.sl">http://kailahun.gov.sl</a>	NOK
Kenema District Council	District Council	<a href="http://kenema.gov.sl">http://kenema.gov.sl</a>	NOK
Kono District Council	District Council	<a href="http://kono.gov.sl">http://kono.gov.sl</a>	NOK
Bo District Council	District Council	<a href="http://bo.gov.sl">http://bo.gov.sl</a>	NOK



## ANNEX 6

# Inventory of current World Bank's projects relevant to open data

### DESCRIPTION

The development objective of the Revitalizing Education Development in Sierra Leone (REDiSL) Project for Sierra Leone is to improve the learning environment in targeted schools and establish systems for monitoring of education interventions and outcomes (P133070).

<http://www.worldbank.org/projects/P133070?lang=en>

### POTENTIAL SYNERGIES WITH THE OPEN DATA INITIATIVE

Open data can help improve transparency and accountability of the project and its outcomes; support planning and achievement of outcomes through better access to various data; foster re-use of project data for replication in other schools not covered by the project.

Implementing Agency	Approval - End date	Amount (\$million)
Ministry of Education, Science and Technology	Jul 31, 2014 - Feb 28, 2017	23.40

### DESCRIPTION

Sierra Leone Integrated Household Survey (P157778)

<http://www.worldbank.org/projects/P157778?lang=en>

### POTENTIAL SYNERGIES WITH THE OPEN DATA INITIATIVE

The overall development objective of this project is to support the Government of Sierra Leone in improving the availability and quality of poverty and other socioeconomic data to inform policy monitoring and planning through the implementation of the 2016 Sierra Leone Integrated Household Survey, and associated capacity building activities.

Implementing Agency	Approval - End date	Amount (\$million)
Statistics Sierra Leone	Mar 15, 2016 - NA	1.75



## DESCRIPTION

Smallholder Commercialization and Agribusiness Development Project (P153437)

<http://www.worldbank.org/projects/P153437/?lang=en&tab=details>

## POTENTIAL SYNERGIES WITH THE OPEN DATA INITIATIVE

The project development objective is to promote smallholder commercialization by fostering productive business linkages between smallholder farmers and selected agribusiness

firms and other commodity off-takers in Sierra Leone. The project will explore the use of ICT technologies for market price information in order to address the price information asymmetry which is a major factor affecting efficient access to markets among smallholder farmers.

Implementing Agency	Approval - End date	Amount (\$million)
Ministry of Agriculture, Forestry, and Food Security	Feb 18, 2016 - Nov 30, 2021	40.0



## **ANNEX 7**

### Pilot project ideas

Pilot projects are low-cost and short term, 6-months to one-year projects, involving data producers (including non-government) and data users and whose main objectives are to produce, publish and use open data in an innovative way to respond to a priority issue for Sierra Leone. Pilot projects should be designed to benefit the whole open data initiative by rapidly showcasing the value and impact of open data for Sierra Leone. Below is a set of open data pilot projects ideas for Sierra Leone, based in particular on the priorities of the Government, willingness of stakeholders, and availability of data.



## Pilot project idea #1: An open collaborative map of the country

### DESCRIPTION

Leverage collaborative mapping effort during Ebola outbreak by establishing a common, sustainable and open GIS repository for the country. This pilot project would include the following activities: 1. Set-up a flexible pilot project working group of top-down (Government) and bottom-up (OpenStreetMap) GIS contributors; 2. Establish an inventory of existing and missing GIS data of the country; 3. Use OpenStreetMap as a central repository for merging and opening-up GIS data as open data; 4. Reinforce the capacity of the Government and local GIS contributors through dedicated trainings on digital mapping and GIS management.

### RATIONALE

At the start of the Ebola outbreak there was no base map available online for the country. The international health community has recognized this as one of the most critical issues for the response.<sup>2</sup> In the absence of any government wide geospatial infrastructure, the use of OSM as a central low-cost repository for GIS data would enable to pool top-down and bottom-up efforts to create a common map of the country. Furthermore, this would make GIS data open data by default.

### POTENTIAL DATASETS

Base map (OSM); Administrative boundaries; Freetown addresses; GPS coordinates of schools, health facilities and markets, Roads network

### EXPECTED OUTCOMES AND IMPACTS

Geospatial data is considered a critical information infrastructure for a country. The improvement - through efforts' pooling - and release of base map of Sierra Leone would have an economic and social impact on all sectors.

### POTENTIAL STAKEHOLDERS

Ministry of Lands, SSL GIS Unit, National Mineral Agency GIS Service, Humanitarian OpenStreetMap Team (HOT), CartONG GIS Specialists, MSF



## Pilot project idea #2: Our schools, our data

### DESCRIPTION

Improve overall information management in the education sector by releasing school level data as open data.

### RATIONALE

The Ministry of Education is working with two data systems, EMIS, used as the main system to manage long-term school level data, and the Situation Room (using UNICEF Edutrac software) for mobile phone based school data-collection. SSL also has GPS data for school facilities. However, there is still a great uncertainty on the real number of schools in the country and missing information for many of them (such as data on access to electricity, access to water, education performance, etc.).

### POTENTIAL DATASETS

Education Management Information System school census reports, Situation Room reports, and GPS mapping of Schools (SSL)

### EXPECTED OUTCOMES AND IMPACTS

The release of school level data as open data would facilitate the inventory and monitoring of education facilities in the country and better inform decision and policy reform in the sector; it would enable for a better system of checks and balances, making it easier for “infomediaries” to communicate key information to parents such as school’s fees. Greater access to school level data would facilitate interventions for better quality and access in the sector, a key factor for improving education outcomes (completion, transition, etc.)

### POTENTIAL STAKEHOLDERS

Ministry of Education, Science and Technology, UNICEF, Statistics Sierra Leone



## Pilot project idea #3: A sustainable health open data ecosystem

### **DESCRIPTION**

Ensure the release of non-personal data collected through DHIS2, iHRIS and other health data system as open data.

### **RATIONALE**

In the start of the Ebola outbreak, an online search for “health system” and “Sierra Leone” would have returned many entries linking to PDF documents, but not a single dataset on health facilities. It was, however, the data itself and not the reports, which was vital to access. Sierra Leone is now using open source modern data systems as part of its national health information system management (DHIS2 and iHRIS) and there are several ongoing projects to update the data (on health facilities, health workers). Data management through these systems (personal data excepted), would be of very high-value for the health community in order to build a better and resilient health system in the country.

### **DATASETS**

Health facilities data (District Health Information System - DHIS2), Aggregated health workers data (iHRIS), GPS coordinates of health facilities (SSL), Sierra Leone updates 1501 Health Facilities Nov 2014 (HDX)

### **EXPECTED OUTCOMES AND IMPACTS**

Improvement of health system capacity through better indicators (trained doctors, medical equipment, drug supplies)

### **POTENTIAL STAKEHOLDERS**

Ministry of Health and Sanitation, National Ebola Response Center, Sensi Tech Hub, Intra-Health, and SSL



## Pilot project idea #4: Open data for Sustainable Development Goal #5: achieve gender equality and empower all women and girls.

### DESCRIPTION

Work with all organizations, projects and initiatives collecting gender-based issues data to mainstream open data principles in order to contribute to the achievement of Sustainable Development Goal #5: Achieve gender equality and empower all women and girls. The activity would include the release of identified data on the open data portal as well as specific workshops to improve data quality and foster reuse of gender-based issues data as well as identify data gaps in the sector.

### RATIONALE

The country has a very high level of gender-based issues such as violence and sexual assault against women, teenage pregnancy, lack of access to education for girls or discrimination in social institution.<sup>3</sup> Many stakeholders are working on gender-based issues in the country but information is often fragmented and not easy to reuse. Organizations working on gender-based issues are lacking reliable statistics and operational local data to improve prevention work, accountability and justice.

### POTENTIAL DATASETS

Many data, if open, can contribute to advancing gender-based issues. Key datasets to consider for release are budget and spending data, national statistics, health, crime, education, land ownership, and legislation.

### EXPECTED OUTCOMES AND IMPACTS

Enhanced women empowerment and improvement of performance for gender-based issues projects, policies and other stakeholder's gender-based initiatives thanks to better indicators and actionable data.

### POTENTIAL STAKEHOLDERS

Ministry of Social Welfare, Gender and Children's Affairs, Ministry of Health and Sanitation, Ministry of Education, Science and Technology, UN Women, UNICEF, Women's Forum Network



## ANNEX 8

# Annex 8. Open Data for Business report

## SIERRA LEONE FINDINGS AND RECOMMENDATIONS

Prepared by Laura Manley, January 2015

### DISCLAIMER

The Open Data for Business (OD4B) Tool is intended to help inform a long-term strategy to increase the business use of government data. The representativeness of any OD4B assessment is dependent on the number and spectrum of companies and business groups interviewed. It is not a comprehensive or necessarily representative assessment of private sector use of government data in client countries. In some countries or circumstances, the OD4B Tool may not be the most appropriate approach to assessing the business environment for open data. The OD4B Tool is also not meant to provide an overview of all aspects of an open data program, which can be developed through an Open Data Readiness Assessment (ODRA) or other means.

## I) EXECUTIVE SUMMARY

### Open Data for Business Tool

The Open Data for Business (OD4B) Tool is a methodology to assess the private sector's current and potential use of government data in various countries. It is designed to increase the business use of government data through (1) increased private sector awareness of government data, (2) identification of high-value data and barriers to use, and (3) a recommended Action Plan to engage with private sector stakeholders on an ongoing basis.

The following findings and recommendations are based on interviews, questionnaire responses, discussions and the roundtable, and insights from the Local Partner during field work in early November 2015. All of the information collected has been aggregated and analyzed across four assessment areas – high value data, barriers, capabilities, and engagement. Each section of this document demonstrates both the spectrum of responses and overall trends.



## Participants

**Sectors:** Agriculture, Business and Legal Services, Consumer and Retail, Data and Information Technology, Education, Construction and Real Estate, Finance and Investment, Manufacturing and Distribution, Research and Consulting, Security, Telecom and ISP, Tourism, Transportation and Logistics

**Interviews:** 14

**Roundtable attendees:** 52

**Types of participating organizations:** 8

TYPE	#	%
Small (<10)	35	54
Medium (11-100)	12	18
Academia	7	11
Government	4	6
CSO	2	3
Incubator	2	3
Large (>100)	3	3
Association	1	2
TOTAL	66	100

## Key Findings

Overall, there is a high level of demand for government data from a broad spectrum of the private sector, from large telecommunication companies to small agri-businesses. Although larger tech-related companies have higher technical capacity and skills-base to utilize data, the smaller non-tech related companies are eager to begin using data primarily for benchmarking and identifying customers. Across all sizes and sectors, the company register, demographics, and economic conditions data was the most highly requested by companies. Critical barriers to the private sector use of government data included inability to find relevant data and get a response to requests, out of date and inaccurate data, high cost of Internet access, and lack of technical skills to utilize the data (primarily SMEs).



Assessment Area	Key Findings
<b>High Value Data</b>	
Government data of greatest interest	Business (company register), demographics, economic conditions
Most important characteristics of government data	Timeliness
<b>Capabilities</b>	
Technical infrastructure available	2.68/5 - Average on 1 (low) - 5 (high) scale
Data literacy and skills	2.84/5 - Average on 1 (low) - 5 (high) scale
Capability of greatest interest	Additional technical skills training
Awareness of government data resources	3.26/5 - Average on 1 (low) - 5 (high) scale
<b>Barriers</b>	
Most significant barriers	Difficulty finding data, out of date, inaccurate
Impact on businesses	Inability to scale, effectively budget, and forecast. Lack of ability to segment markets. Major cost inefficiencies.
<b>Engagement</b>	
Level of government responsiveness to data requests	1.55/5 - Average on 1 (low) - 5 (high) scale
Most effective outreach and feedback channels	Public workshops/roundtables, publicized phone number, online feedback forms



## II) HIGH VALUE DATA

This includes types of data that are most important to business. High value is determined both by the data's relevance and application for users and specific characteristics such as data quality, timeliness, and formats.

### Current Information Use and Access

Most companies use a portfolio of information sources to gather the critical data needed to conduct business. Information is typically used for organizational optimization (39.4%), research (25.8%), and the identification of new customers (18.2%). The following sources were most frequently cited:

- ▶ Internet searches, most frequently for commodity and equipment prices, or exchange rates
- ▶ Media, such as radio, newspaper, and TV that provide ads for contractors, new companies in town, or information about the economy
- ▶ Family and friends who provide observations about the market and potential leads
- ▶ Internal data on customers and previous contracts/projects

*“Most of the time the information that we have is wrong or incomplete. Each sector works to get their own information and they don't work with each other or compare. There are always disparities. For example, if I want to know all the SMEs we send out a questionnaire to our members, but it only reflects those institutions or who they know. It's time consuming, costly, and not very comprehensive.*

*– Trade Association*

Most companies use Google as the first place to look for data, but said the information is typically not specific or “deep” enough to provide real insights for business. In addition, much of the information found online is not reflective of the realities in the country. For example, the exchange rate is currently 4400 Leones to 1 \$. The going rate in Freetown is 5500 Leones to 1 \$.



*“We need data about the economy it’s very important for telecom. For example, the valuation of the currency reflects on the valuation of my revenues. I need to be able to plan my budget how the currency will change to offset the loss. We also care about the economy and how much it will help us to grow. We need to be able to change our prices if the economy is dropping and customers lose their ability to pay.”*

*– Telecom, Large-Sized Enterprise*

Many companies also use informal networks such as friends, family, and professional contacts. They also find information through newspapers and radio. Many companies cited the newspaper as a source for finding new business through ads or learning about the economy through TV and radio shows. Larger companies and associations said they paid to have market research conducted such as paper surveys, face-to-face interviews, and other types of research. For some of the larger companies, primarily the Telcos, internal data collected on their customers provided the most accurate data.

All of the companies said that the information currently used is not reliable and mostly estimates. Because of the lack of centralized, complete, and timely data, many companies average figures and overestimate costs for their budget. For example, one company estimated (based on what they have seen in their neighborhoods) that approximately 1 in 5 households have a TV. This determined how they stocked their inventory. Airtel stated that they budget a large amount annual for an international market research company to conduct interviews and field research. The Chamber of Commerce stated that they conducted member surveys when they need information about the business environment. One of the largest construction and safety material distributors in Freetown said they use newspapers to find new business and then they go door-to-door to meet with potential clients.

## Demand for Government Data

Overwhelmingly, the company register was the most requested type of government data by 53% of companies. Demographics data (21.2%) and economic statistics (18.2%) were the second and third most requested type of data. More specifically, companies requested information on processes, such as business registration protocols and guidelines for taxes. In addition, most companies requested disaggregated data, in order for it to be specific enough for business decisions. For example, when looking for the amount of loans disbursed for women, one company was only able to find the total # of loans disbursed.

Many companies were interested in government data that would provide a credible benchmark for industries such as electricity, internet penetration, or employment levels. Several participants stated that even basic indicators could allow them to expand into new areas of business or understand market segments better for more targeted services.



In addition, many companies stated that they did not know or understand the official process for registering a business. They said it was very difficult to find the correct information online and typically did not hear back from government when they requested forms. They also requested greater understanding of how they were taxed. Several companies said they didn't know the breakdown of taxes and knew of others who had become tax evaders because they felt they were cheated.

### III) BARRIERS

#### Findability

Companies were asked to select the three most significant barriers to government data use. Firstly, finding any data was incredibly difficult or even impossible for many companies. When asked to select the three most 39.4% of companies said the findability of data was the most significant barrier to use. Many stated that they didn't know where to begin looking for government information.

#### Timeliness

The second most significant barrier was the timeliness of data. Another 39.4% of companies said that out of date data was a critical barrier to their use of data because of the importance of time in business decisions. Repeatedly, companies said that they had come across dead links, incorrect phone numbers and emails, and wrong information. In addition, data needs to be published soon after collection.

*"We can't take big risks because the data isn't up to date data, so it limits our ability to scale and expand. We have to average and over-budget because of this and it seriously affects business."*

*– Data/Information Technology, Small-Sized Enterprise*

#### Accuracy

The third barrier most frequently cited was inaccurate data. 34.8% of companies stated that even if they were able to find and access the information, many times it is incorrect or fake. There was major concern about the reliability of data because of collection issues, inconsistent definitions and schemas, and political interests.

For example, many stated that because data is physically centralized in Freetown, it doesn't provide an accurate picture of the country. This centralization of data was ex-



plained in terms of business registration. According to several companies, if someone wants to obtain information, they must come to Freetown and the information is primarily about activity and businesses in Freetown. For example, if a company outside of Freetown wants to register a company, they must come to Freetown. According to the Office of the Administrative Registrar General (OARG), there are offices in rural parts of the country, but many companies and the Chamber of Commerce said that they have never seen an office and that most of the time city councils handle registration for a fee and that registrations typically don't make it to the central registrar.

## IV) CAPABILITIES

### Awareness

The concept of using government data (in machine readable formats) for many of the companies without an IT focus was very new. On average, companies' awareness of open data was 2.03/5 (1-not aware, 5- very aware).

### Data Literacy & Skills

Several of the companies were interested in using data, but stated that they lacked the IT skills to utilize the data. The average level of data literacy and skills was 2.84/5 (1-poor, 5-excellent). However, the average level of data literacy and skills for larger companies and incubators was much higher. Many companies mentioned basic computing courses that they had taken or sent employees to, but said advanced computing or IT courses available in the country was lacking. 54.5% of companies stated they were most interested in technical skills trainings to build capacity.

*“Recruiting talent is very difficult. It’s just not there. We have to go to the schools to find people with the right skills. Technical training is definitely needed in Sierra Leone. People could also get paid to be mentors and develop network.”*

*– Data/Information Incubator*

In particular, SMEs stated that finding workers with IT skills was a major constraint for utilizing any advanced technologies or scaling their business. The SME IT companies also complained of the difficulty finding and maintaining talent because they were “poached” by large companies or went abroad.

The larger companies, particularly the Telcos, stated that they were able to attract the best talent because of competitive salaries and benefits. Despite being able to attract skilled workers, many of the large companies did say that the limited IT skills in the country were a concern.



## Technical Infrastructure

On average, companies' technical capacity to utilize data, such as equipment and data management tools was 2.68/5 (1-poor, 5-excellent). This ranged significantly based on the type of organization. Several of the SMEs said they had limited financial resources available to pay for the equipment and basic tools required to make sure of data. Again, larger companies and incubators had much higher technical capacity.

## V) ENGAGEMENT

### Current Communication Channels

Most participants (36.4%) stated that they did not communicate with government about information at all because of lack of clear channels. Of the participants that did have interactions with government, most visited the office (24.2%) or wrote a hand-written letter (21.2%). Most companies stated that they were unaware of any process for requesting data. Several companies cited specific examples where they visited government offices on a weekly basis until they were able to get a response to inquiries for data and many times it was paper-based. Of the companies that were aware of RAIC and the formal process for requesting data, several stated that the process was extremely unclear and that they still had not received the data requested.

### Responsiveness to Requests

The average perceived responsiveness of government to data requests was a 1.55/5 (1-poor, 5-excellent). Several participants cited examples of writing letters, visiting offices, and making phone calls with no response. Of the companies that knew specifically what data they wanted from government, they said it was essential to have a personal connection to someone in the Ministry in order to get the data needed.

### Optimal Communication Channels

When participants were asked about effective strategies to engage with government, the top three options were: public workshops/roundtables (40.9%), data hotline or help number (31.8%), and online feedback forms (24.2%).

Many participants expressed interest in participating more actively in the process to open government data and said any kind of public event would be highly attended. Several suggested a business advisory council for government data that would include representation of not only large companies and associations, but also SMEs and incubators.



*“We need a place online that people can get up to date information. Knowing the last time information was updated is very important to our business. There should also be a feedback form or survey that people can express their satisfaction or dissatisfaction. I would use that.”*

*– Housing/Real Estate, Small-Sized Enterprise*

Participants also expressed the need to promote government data communication channels through media, like newspapers, radio, and TV. Several stated that one publicized hotline or phone number was essential for many companies in rural areas or for business owners with lower literacy rates.

## VI) PILOT PROJECTS

Based on the Open Data for Business findings, this section describes recommended pilot projects to increase the private sector use of government data.

### Pilot Project #1: Awareness Campaign for RTAI Act

<b>Description</b>	Create awareness campaign for the Right to Access Information Act data request process and include status communication after data has been requested. For example, receipt of request with approximate response date, status update, etc.
<b>Rationale</b>	Several companies stated that they were unaware of the RTAI Act and the process for requesting data. Of the companies that had requested data through the current process, many stated that they did not receive the information and there was no way to follow up.
<b>Potential Impact</b>	Increased use of RTAI Act by companies
<b>Potential Stakeholders</b>	RAIC, potential users of government data



## Pilot Project #2: Monthly Newsletter

<b>Description</b>	Create monthly newsletter, both print and electronic, highlighting intelligence mined from the datasets. In the newsletter, MDAs are recognized/rewarded based on their compliance with the open data policy in place. Some aspect of this can also be worked into the Performance Trackers that MDAs are required to sign and work against. This newsletter could also be a good avenue to promote a gamification strategy by rewarding top performers with mentions and features
<b>Rationale</b>	Open data is still a new concept for many businesses. Providing specific examples of the value of datasets in a monthly newsletter will help entrepreneurs and business owners understand how it can be applied to their current work.
<b>Potential Impact</b>	Increased awareness about the value of open data through specific examples and publication of progress. Also, provides concrete incentive for MDAs to participate in the open data policy actively
<b>Potential Stakeholders</b>	RAIC, MDAs, potential users of government data



## Pilot Project #3: Create private sector engagement strategy

<b>Description</b>	Host recurring public events or roundtables to allow companies to provide feedback that are not participating in the advisory council. This could be based off of the format from the initial open data for business roundtables (see annex) or held as a more casual public event.
<b>Rationale</b>	Give companies from larger spectrum of sectors and sizes an opportunity to provide feedback on what types of data they are interested in using and for what purposes.
<b>Potential Impact</b>	Increase in SME and non-technical company participation in the open data conversation and use; better understanding of high value datasets for business and optimal channels for ongoing communication
<b>Potential Stakeholders</b>	RAIC, SMEs, non-technical companies, entrepreneurs



## Pilot Project #4: Partner with businesses for competitions and sponsorships

<p><b>Description</b></p>	<p>Several of the companies interviewed were interested in partnering with the government on competitions to build the country’s data-driven entrepreneurial community. The following two organizations could be valuable partners:</p> <ul style="list-style-type: none"> <li>▶ AFFORD (African Foundation for Development) – Adding data component to the National Business Bomba competition to provide access to financing for data-related initiatives</li> <li>▶ Airtel – Airtel is interested in providing sponsorship or support for an apps competition or Data Centers. “We are interested in helping people develop their entrepreneurial skills. We are looking at sponsoring business competitions, especially dealing with data. We sponsored this type of competition in Nigeria. We would be very interested in having some kind of joint business and data competition with the government. We have also build a Data Center, which was a major investment. It has the capacity to hold data from Sierra Leone, Guinea, and Liberia. We would be interested in helping with the dissemination of data for citizens. A letter of intent is what’s needed to get this type of collaboration started.”</li> </ul>
<p><b>Rationale</b></p>	<p>Many private sector organizations have the technical and skills capacity to support the government’s open data efforts.</p>
<p><b>Potential Impact</b></p>	<p>The creation of companies and/or applications utilizing government data; additional financing available for data-driven companies</p>
<p><b>Potential Stakeholders</b></p>	<p>AFFORD, Airtel, RAIC, entrepreneurs</p>



## Pilot Project #5: Utilize public-private partnerships

<b>Description</b>	Partner with iDT Labs to build applications for improved service delivery – specifically related to healthcare. Refer to the Ebola Response Worker payment system as a prime example of a successful partnership
<b>Rationale</b>	iDT Labs has the technical and skills capacity, in addition to the experience of developing healthcare-related applications to assist the government in their data efforts.
<b>Potential Stakeholders</b>	iDT Labs, RAIC, Partnering Ministry



## Questionnaire Responses - COMPANY BACKGROUND

Industry/Sector	Total	%
Business and Legal Services	11	16.7%
Education	8	12.1%
Agriculture	7	10.6%
Data/Information Technology	7	10.6%
Consumer services	6	9.1%
Telecommunications/ISP	6	9.1%
Governance	5	7.6%
Housing and Real Estate	5	7.6%
Mining/Manufacturing	3	4.5%
Tourism and hospitality	3	4.5%
Research and consulting	2	3.0%
Finance/Investment	1	1.5%
Security/Public Safety	1	1.5%
Transportation/Logistics	1	1.5%
Grand Total	66	

Type of organization	Total	%
Small (<10)	35	54%
Medium (11-100)	12	18%
Academia	7	11%
Government	4	6%
CSO	2	3%
Incubator	2	3%
Large (>100)	3	3%
Association	1	2%
Grand Total	66	

Business/Rev Model	Total	%
Direct sales	21	31.8%
Contracting	11	16.7%
Other	9	13.6%
Fee for service	8	12.1%
(blank)	7	10.6%
N/A	4	6.1%
Subscription	4	6.1%
Add on	1	1.5%
Affiliate	1	1.5%
Grand Total	66	

Funding for data initiatives	Total	%
N	50	75.8%
Y	16	24.2%
Grand Total	66	



## Questionnaire Responses - DATA USE

How do you access information? (Select top 3)

What do you use the data for? (Select top 3)

Source	Total	% (out of 66)
<b>Internet search</b>	<b>25</b>	<b>37.9%</b>
<b>Radio</b>	<b>19</b>	<b>28.8%</b>
<b>Personal networks</b>	<b>18</b>	<b>27.3%</b>
Collect data internally	17	25.8%
Newspapers	17	25.8%
Professional networks	17	25.8%
TV	14	21.2%
Social media	8	12.1%
Other	5	7.6%
Government websites	4	6.1%
Formal request	3	4.5%
Scraping	3	4.5%
Other businesses	1	1.5%
Grand Total	152	

  

Application	Total	% (out of 66)
<b>Org optimization</b>	<b>26</b>	<b>39.4%</b>
<b>Research</b>	<b>17</b>	<b>25.8%</b>
<b>ID new customers</b>	<b>12</b>	<b>18.2%</b>
Pricing	11	16.7%
New product/service	7	10.6%
n/a	1	1.5%
Other	1	1.5%
Grand Total	75	



## Questionnaire Responses - CAPABILITIES

### Rate your organization's technical capacity to aggregate, analyze and manage data (1-5)

Average technical capacity: 2.68

### Rate your organization's data literacy and skills (1-5)

Average data literacy and skills: 2.84

### How aware are you of what government data is available in your country? (1-5)

Average open data awareness: 2.03

### How valuable is government data to your business? (1-5)

Average value of open data for business: 3.26

### What capabilities are most interested in improving or increasing? (Select 1)

Capability	Total	% (out of 66)
Technical skills training	36	54.5%
Data management tools	11	16.7%
Hiring technical staff	6	9.1%
Technical infrastructure	5	7.6%
Data analysis	3	4.5%
(Blank)		7.6%
Grand Total	61	



## Questionnaire Responses - HIGH VALUE DATA

Type of **government data** of greatest interest (select up to 3)

Data Type	Total	% (out of 66)
Business	35	53.0%
Demographics	14	21.2%
Economic	12	18.2%
Agriculture	11	16.7%
Education	11	16.7%
Labor	8	12.1%
Housing/real estate	4	6.1%
Financial	3	4.5%
Manufacturing	2	3.0%
Health	1	1.5%
Tourism	1	1.5%
Weather	1	1.5%
Grand Total	103	

## Questionnaire Responses - BARRIERS

Select the **greatest** barriers to use of government data. (Select top 3)

Barrier	Total	% (out of 66)
Difficulty finding data	26	39.4%
Not up to date	26	39.4%
Inaccurate	23	34.8%
Lack of relevant data	12	18.2%
Lack of data skills	10	15.2%
Formats	5	7.6%
Not specific enough	3	4.5%
Grand Total	105	

## Questionnaire Responses - ENGAGEMENT

Rate the level of responsiveness of government to businesses about data (1-5)

Average level of responsiveness: 1.55

How do you **currently** communicate with government about data? (Select top 3 ways)



Current Communication	Total	%
None	24	36.4%
Visit office	16	24.2%
Hand-written letter	14	21.2%
Individual meetings	6	9.1%
Surveys	4	6.1%
Email	1	1.5%
Letter/email	1	1.5%
Grand Total	66	

What are the **most effective ways** businesses can communicate with government about data? (Select top 3)

Communication channels	Total	% (out of 66)
Public workshops/roundtables	27	40.9%
Phone number	21	31.8%
Formal feedback form	16	24.2%
Email	9	13.6%
Social media	8	12.1%
Media outreach	3	4.5%
Survey	3	4.5%
Hackathon/competition	2	3.0%
Government web portal	1	1.5%
Individual meetings	1	1.5%
Visit office	1	1.5%
Grand Total	92	



## Organizational Capability Analysis

Type of organization +current capabilities (1-5 scale)

Type of org	Average tech capacity	Average of literacy & skills	Average level of awareness	Average of value of govt. data
Large (>100)	4.33	4.17	4.33	4.67
Medium (11-100)	2.64	2.91	2.08	3.00
Small (<10)	2.29	2.47	1.89	3.06
Incubator	5.00	5.00	3.00	4.00
Association	3.00	2.00	2.00	2.00
Academia	3.33	3.60	1.71	4.00
CSO	3.50	4.00	1.50	3.50
Grand Total	2.68	2.84	2.03	3.26

Type of organization + capabilities of greatest interest



## ROUNDTABLES SUMMARY

On November 10, 2015, the RAIC in collaboration with the World Bank co-hosted two Business Roundtable discussions as part of the Open Data Readiness Assessment (ODRA)<sup>42</sup>. The Roundtables are facilitated discussions that bring together current and potential users of government data to (1) raise awareness about open data among the private sector, (2) help identify high-value datasets, and (3) discuss solutions to data problems.

Participants were asked a series of questions in groups about their interest in government data, experience accessing the data, challenges, and potential solutions. The following sections summarize the main points of conversation from the two round table discussions.

### **Total Participants: 52**

**Sectors Represented:** Agriculture, Business and Legal Services, Consumer and Retail, Data and Information Technology, Education, Construction and Real Estate, Finance and Investment, Manufacturing and Distribution, Research and Consulting, Security, Telecom and ISP, Tourism, Transportation and Logistics

## **WHAT TYPES OF DATA ARE YOU MOST INTERESTED IN?**

### **Business and Economy**

- ▶ Business registry that includes type of company, sector, location, etc. We look online on Google because you can't find it from one source. This is critical for our marketing strategy, like understanding potential customers and competitors. If companies are to scale, this information needs to be beyond only Freetown.
- ▶ If you are buying cargo from overseas, then you need to know what the tariffs are. You can't access this current information.
- ▶ Economic outlook of the country and market trends. We want to know basic information about what's happening with our economy, like the scale of services and skills. You can't find this information.
- ▶ How to register a business, what forms are needed, and how much it costs. There aren't common documents. Having a database of information about this is very important.
- ▶ Exchange and interest rates.
- ▶ Taxes and tariffs. What businesses are supposed to pay, how the government arrives at these figures, and so on. We don't understand how much we are supposed to pay and how it changes according to how our business changes.

42 <http://opendatatoolkit.worldbank.org/en/odra.html>



## Labor

- ▶ Labor laws. We had to contact the lawyer and get the full law and how it applies because it isn't publicly available on the websites.
- ▶ Overall job market data is needed, such as how many people are employed. Which kind of employment and jobs are available. Wages of upper, middle, and lower classes.
- ▶ Skills available/needed and corresponding trainings. This helps us understand what kind of trainings we could provide.

## Education

- ▶ How many people graduate and drop-out from different levels of school
- ▶ What kind of vocational trainings are available and what are the skills that are being taught at schools and universities.
- ▶ I wanted to find scholarships online and I found a link to at the Ministry of Education. There were dead links everywhere and unfortunately, I wasn't able to find anything online.

## Demographics

- ▶ Census data to better understand Sierra Leoneans and what kind of products they might want. This is very important for market segmentation and to match the services that we provide. Having statistical data helps to diversify and expand nationwide if you know more about the population.

## Agriculture

- ▶ Availability of tools and equipment around the country to enhance production
- ▶ Commodity prices

## Health

- ▶ Better information about facilities and overall health statistics would be very helpful. Also would like data about what public services are available, especially after the Ebola outbreak.

## Environment

- ▶ Waste management systems or any basic environmental information. We tried the internet and the government website, but no luck. We then went to the EPA and made a formal request, but no response.



## HOW DO YOU CURRENTLY ACCESS THIS INFORMATION?

### Formal request

- ▶ You have to write endless letters or emails. You still don't get the information. The new commission needs to force the agencies to respond with the information. There is currently no follow-up or consequence if you don't get a response.
- ▶ When writing letters to RAIC, they acknowledge the letter and say they have asked the Ministry to release the information, but they don't follow up. I've already asked the Ministry for the information and they didn't release it. This is not helpful. Nobody forces them to give up the information.

### Government website

- ▶ You can't find the information most of the time, so I usually don't check here. There's no central place that I know of. If you do find something, it isn't usually correct or up to date.
- ▶ Many of the government websites are empty and poorly designed.

### Internet search

- ▶ Google for most of the information I need, but it isn't specific enough most times. The data isn't relevant for Sierra Leone or it's not up to date.
- ▶ Content online is very misleading according to the source. It's difficult to get objective data to do business when you are just doing a Google search.
- ▶ [XE.com](#) for exchange rates, but the online exchange rate isn't the same thing as what it is on the ground. Sometimes you can go directly to the bank.
- ▶ Downloading large data files takes a long time and I usually have to do it overnight.

### Professional Network

- ▶ Asking some other companies that are doing similar business. We can exchange information about the prices of different products or how much tariffs are. The problem is that the information is usually estimated and limited.

### Personal Network

- ▶ You usually call your friend or family and they can give you some information based on knowing the community and Sierra Leoneans. Most of the time you can't get the specific information you are looking for.



## WHAT ARE THE BARRIERS TO DATA USE?

### Quality

- ▶ Time is very important for the business community. Many of us would prefer to make a call and get somewhat accurate information, as opposed to waiting for the correct information or relying on data that isn't correct.
- ▶ Timeliness of the data is really important. Many times we hear things in the news, but there isn't any actual information on the government website about these items. For example, environmental impact assessments are not online and when you ask the government, they say it you have to get someone's approval and then it will take 3-4 months to get the information.
- ▶ The biggest problem is the fact that the data isn't up to date. A lot of the information is wrong, especially contact information.
- ▶ Accuracy of the data is a major issue. We don't know if we can trust the information enough to make a business decision.

### Internet connectivity and cost of data

- ▶ The data isn't really free because we have to pay so much for Internet and data.
- ▶ It takes a very long time to access data, so many people won't use it in the first place.
- ▶ There is actually a lot of information out there, but the main problem is the cost of data. We pay so much for Internet access. Access to data or 3G networks is so expensive.

### Lack of skills

- ▶ Most of the SMEs don't have the required skillsets to understand and use this data. Training is needed badly. Many people are illiterate and the Internet is a new concept for some people.
- ▶ Overall capacity building is definitely needed. It should be part of the curriculum from high school through university. Many people have never sat behind a computer.
- ▶ Government people also need training, so they can set up the systems properly for citizens.

### Finding relevant data

- ▶ It is very difficult to find the data you are looking for. Sometimes you can find some information on one website, but then the link is dead that provides the rest of it. Many times it isn't specific enough. There should be online access for all government data in one place. I am unaware of any such place as of now.



- ▶ We haven't been able to find any historical data on the country and certain events. It is very hard to find any archival information.
- ▶ I don't know where you begin accessing government data. I assume that you can only access it from newspapers and radio because I haven't heard otherwise.
- ▶ No contextual data. There is no information about how to understand it and know if it's relevant. There should be enough information, so that an average person can understand what they are looking at.

## RECOMMENDATIONS FROM PARTICIPANTS

### Presentation of data

- ▶ One stop shop is needed.
- ▶ Data needs to be presented in a different way. If a farmer in the remote part of the country needs information displayed so they can use it. Information depends on who needs it, why they need it, and their skill sets.
- ▶ Building mobile apps can help people give access to information (push notification). A competition to build mobile apps for the government would be good.
- ▶ RAIC should collaborate with key ministry (trade, agriculture, income tax administration, and register general) should all coordinate their data efforts.

### Timeliness and accuracy

- ▶ People can help contribute information about what's happening in their areas. A system that allows citizens to contribute from all over the country (not just Freetown) would make the information more accurate.
- ▶ A data validation system would help make sure the information is consistent.
- ▶ There should be one place for all of the data, so if there's an update, it's reflected everywhere.
- ▶ If I could depend on the data, I would use it much more often for my projects. I also think it would give rise to many new ones.

### Engagement

- ▶ **Awareness** – I need to know the information is there in the first place. Radio, TV, and newspaper are things that everyone has access to. The government should promote what they are doing through these channels. It's good to send messages on cell phones. Because of Ebola, people still get it and it works.



- ▶ **Data Hotline** – In Sierra Leone, the best way to communicate is to call someone directly. There should be a number to call to get more information because some people are illiterate and can't write. One help hotline for information that is promoted would be good.
- ▶ **Feedback** – There needs to be a feedback or a suggestion box or a place on the Internet where you can share your experience or give ideas.
- ▶ **Trainings** – The government should hold trainings or partner with universities to get more people using this.