OPEN DATA AND OPEN BUDGET READINESS ASSESSMENT

Prepared for

Government of Jamaica

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Executive Summary

Jamaica is the third country in the Caribbean to take part in an Open Data Readiness Assessment and the second to include an Open Budget Data Readiness Assessment, as part of the World Bank's program of assistance to the Caribbean region, and with the partnership and support of the UK Department of International Development.

The Ministers of the Ministry of Science, Technology, Energy and Mining have expressed strong support for an Open Data program in Jamaica, and the Prime Minister has stated her commitment to Open Government throughout her administration.

This assessment shows that Jamaica could achieve a successful Open Data program and makes recommendations on how that could be achieved.

Jamaica has much of the legislation in place that is desirable to underpin an Open Data program, and the implementation of the Access to Information Act a decade ago seems to be widely regarded as successful. A lot of data is already available on government websites, so there is no issue of principle in making it public - the limitation is that it is not in reusable form and the barriers to converting it have already frustrated potential application-builders. Jamaica is home to the Caribbean's most active and vibrant community of data activists and application developers, and so has the skills to readily exploit data as it is made available.

A significant number of datasets could be made available as Open Data quickly - often by publishing the underlying data that was used to generate the printed reports. This includes data important to Jamaica's economy including tourism data, agricultural data, and energy data and to Jamaica's society including education, health, crime and cultural data.

There are however a small number of wide points for the Government to consider:

(1)   The Official Secrets Act is widely believed to cast a cultural cloud over moves to greater transparency. There needs to be a good communication and change management program to overcome this.

(2)   The complexity of the structure of government in Jamaica, with a large number of agencies, means that the implementation program needs to be carefully managed, and that it is probably best done by bringing groups of Ministries and Agencies into Open Data in tranches.

(3)   There are several relevant programs, for instance in developing policies on data sharing and on records and information management, which are moving

relatively slowly. Making quick progress on Open Data will mean supporting those responsible for these other programs to make quick progress too.

(4)   Some Ministries have time lags of five years or more in publishing their data. The report gives examples. Users of Open Data will want up to date data - and that is what is needed for the best decision-making within government as well. A determined program is needed to put data production back on a regular timescale across government, and that may involve some tough decisions on what to do with older information which has not yet been processed.

In short, the Assessment has shown that Jamaica has many of the key components for success in Open Data - not least the capability of its civil society to make good use of data to benefit Jamaica's economy and society. However achieving success in Open Data will mean decisive action to resolve some related issues beyond the immediate focus of opening data itself.

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Introduction and Methodology

This "Open Data Readiness Assessment" was prepared for the Government of Jamaica. It is the product of a team of experts representing the World Bank Group. Mission members included Anat Lewin (ICT Policy Specialist, Transport and ICT Global Practice, Andrew Stott (Senior Open Data Consultant, Transport and ICT Global Practice), Eduardo Andres Estrada (Extended Term Consultant, Governance Global Practice), Ibrahim El Ghandour (Consultant, Governance Global Practice), Mather Pfeiffenberger (Operations Analyst, Transport and ICT Global Practice) and Roza Vasileva (Open Data Consultant, Transport and ICT Global Practice) .

Open Data Readiness Assessment

The purpose of this assessment is to assist the government in diagnosing what actions it could consider in order to establish an Open Data initiative. This means more than just launching an Open Data portal for publishing data in one place or issuing a policy. An Open Data initiative involves addressing both the supply and the reuse of Open Data, as well as other aspects such as skills development, financing for the government's Open Data agenda and targeted innovation financing linked to Open Data.

The World Bank Open Data Readiness Assessment Framework uses an "ecosystem" approach to Open Data, meaning it is designed to look at the larger environment for Open Data – "supply" side issues like the policy/legal framework, 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 (such as developers, the media, civil society organisations and even government agencies themselves).

This Assessment evaluates readiness based on eight dimensions considered essential for an Open Data initiative that builds a sustainable Open Data ecosystem. Its recommendations assume that an Open Data initiative will address various aspects of an Open Data ecosystem.

The readiness assessment is intended to be action-oriented. For each dimension, it proposes a set of actions that can 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 Jamaica to date.

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:

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- Green (G) means there is clear evidence of readiness
- Yellow (Y) means that evidence of readiness is less clear
- Red (R) means there is an absence of evidence for readiness
- Grey (O) means insufficient information to assess readiness

When addressing a particular question, evidence of readiness has a "+" sign. Evidence against readiness has a "-" sign. Evidence that has mixed implications or neither favors nor weighs against readiness has an "o" sign.

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.

Open Budget Data Assessment

The Open Data and Open Budget Readiness Assessment offered the opportunity to include a 'deep dive' into Open Budget Data within the context of a broader Open Data Readiness Assessment. Drawing from the analytical framework of the BOOST Initiative[1], the team focused on identifying opportunities to promote fiscal openness in a structured and usable format, distinguishing both "quick wins" in terms of fiscal transparency efforts that the country can implement in the very short term, to medium and longer term actions needed to have high quality open budget data. Jamaica is the second country in the Caribbean to take part in an Open Data and Open Budget Readiness Assessment.

The purpose of the activity was to provide the Government of Jamaica with clear and actionable policy recommendations on how to improve fiscal transparency through open budget data. This implied the need to first assess what information is available and in what format from financial management information systems and other data sources and cross this against existing public interfaces considering the demand for open budget data both inside and outside of government.

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[1] The BOOST Initiative is a World Bank collaborative effort launched in 2010 to facilitate access to budget data and to support improved fiscal decision making, expenditure analysis and accountability.

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1. **SENIOR LEADERSHIP**

<u>Importance</u>   Very High

<u>Context</u>: 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.

Commentary on Key Issues

1.1 **To what extent is there visible political leadership of Open Data/Open Government/Access to information? (Importance: Very High)**

+   In the Inaugural Address of the Prime Minister on 5 January 2012 she said:

   "The Jamaican people want a more accountable and transparent government which consults them … Our administration will be marked by greater Openness in Government"

-      However we were unable to identify a subsequent coordinated Government program of specific measures to increase accountability, transparency and openness.

+   Ministers Paulwell and Robinson of the Ministry of Science, Technology, Energy and Mining expressed support for Open Data, saying that they saw better access to information leading to better government, to driving economic growth. They also hoped that Open Data could break down siloes within the Government of Jamaica.

+   Minister Robinson expressed public support for the Open Data Readiness Assessment[2].

+   Minister Robinson's address to the stakeholder forum held as part of the Assessment included an expression of the Government's hope that Open Data would drive both economic gain and public sector transparency. He also made a commitment that the Government would follow through on the Assessment's recommendations.

-      Ministers and senior officials were concerned about the cultural issues of openness in government: they cited the Official Secrets Act as setting the mindset of officials. They said that a substantial change management

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[2] http://www.jamaicaobserver.com/latestnews/World-Bank-to-assist-Jamaica-with-open-data-development

program would be needed, and possibly amendment of the Official Secrets Act itself, to give a new cultural signal.

+ The Financial Secretary expressed strong support for the Open Data initiative, citing particularly the potential for data to be re-used within Government:

"I have a dream that in the government we will enter data only once and it can be used by all, which would for example keep the Bank of Jamaica from reconverting the data it receives."

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? (Importance: High)

+ There is an established model of government cross-government initiatives with a Minister in the most appropriate Ministry taking the lead after there had been collective Cabinet agreement.

O It appears likely that a degree of hands-on political leadership on behalf of the Prime Minister would be necessary in order to ensure momentum and engagement across government.

o Ministries and agencies said that the visible support of the Ministry of Finance and Planning was important to the credibility of any cross-government change program.

1.3 What existing political activities or plans are relevant to Open Data? (Importance: Medium)

+ In October 2013 the Government announced its intention to develop more robust, clear and uniform legislation aimed at protecting personal data[3].

+ Also in October 2013 the Government signed an agreement with the Inter-American Development Bank for a public financial and performance management program of policy initiatives and government actions in four key areas: fiscal responsibility, financial management, public procurement and performance management and accountability.[4]

1.4 How does the wider political context of the country help or hinder Open Data? (Importance: High)

+ There are political statements or specific programs directed at all four main areas of potential benefit for Open Data: transparency, economic growth,

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[3] http://jis.gov.jm/legislation-to-protect-personal-data-being-developed-2/
[4] http://www.iadb.org/en/news/announcements/2013-10-11/jamaica-public-financial-and-performance-management,10601.html

improving public service performance and government efficiency. As part of the development of an Open Data policy the potential contribution of Open Data to these objectives could achieve wider political buy-in.

+ Ministers also want to improve data sharing between Ministries and Agencies in the Government of Jamaica.

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

- Jamaica has not joined the Open Government Partnership (OGP) and has no current plans to do so.

- There is no evidence of OGP-style engagement of civil society in the development and implementation of relevant policies.

Assessment

Rating of leadership readiness focuses on three core issues: (i) whether or not top leaders have expressed publicly visible support for Open Data; (ii) support for Open Data among key data-owning agencies; and (iii) whether or not the broader political context and top national priorities/plans help or hinder Open Data.

The rating for Jamaica is considered to be YELLOW. A Yellow rating is justified by a favorable political environment (stated priorities or goals of a government that align with implementing an Open Data policy) even if top-level leaders have not yet publicly committed to Open Data itself. The rating is also supported by clear support for Open Data from the Ministers and senior officials most closely concerned and wider political context/priorities which seem generally likely to be supportive of Open Data.

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Senior Leadership Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A1.1	MSTEM Ministers should secure Cabinet endorsement to a proposal for an Open Data initiative.	MSTEM	Month 1	
A1.2	The Cabinet should explicitly and publicly give leadership of the cross-government initiative to MSTEM Ministers supported by Ministry of Finance Ministers.	MSTEM	Month 1	
A1.3	There should be a small Ministerial Open Data Steering Committee, chaired by a Minister from MSTEM and including a Minister from the Ministry of Finance and Planning	MSTEM	Month 1	
A1.4	To demonstrate its commitment, the Government should include a number of external experts on its Open Data Steering Committee.	MSTEM	Month 2	
A1.5	The Prime Minister should make an early "Open Data Declaration" following the Cabinet decision, signalling the government's intent and linking the initiative to her original inauguration speech.	MSTEM	Month 2	
A1.6	All Ministers - not just MSTEM - should take opportunities to signal their support for Open Data in their Ministry and its associated Agencies.	MSTEM	Month 2-6	

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	Action	Responsibility	Timescale	Comments
A1.7	The Cabinet should be asked to explicitly endorse a program of cultural change on the sharing of information within and outside Government.	MSTEM	Month 1	
A1.8	The Government of Jamaica should consider joining the Open Government Partnership.	Office of PM	Month 2-6	
A1.9	The Government of Jamaica should consider joining international open budget data initiatives and providing data for open budget indices.	MOFP	Month 2-6	

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2. **POLICY/LEGAL FRAMEWORK**

<u>Importance</u>   High

<u>Context</u>: The long-term success and sustainability of an Open Data Program is 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 anonymization of data, privacy/data protection and access to and freedom of information, and licensing of data reuse. It is important to identify at an early stage the existing policies, laws and regulations related 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.

The analysis and recommendations in this Open Data Readiness Assessment are based on information and opinions collected from interviews undertaken and materials provided by the government and other local stakeholders during this study. This Open Data Readiness Assessment 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 Assessment, or recommendations or any actions that might be undertaken resulting therefrom, regarding the enabling policy, legal or regulatory framework (including institutional aspects thereof) for Open Data in the country. It is therefore recommended that, prior to undertaking any action to address any assessment issue raised herein, a formal legal due diligence be performed by competent locally qualified legal counsel assisted by international legal experts with relevant experience and knowledge of these areas.

Commentary on Key Issues

2.1 **What is the legal and policy framework for the protection of personal privacy? (Importance: Very High)**

- There is currently no Data Protection or Privacy Act in Jamaica.

- The Government have announced their intention to introduce a Data Protection Bill[5] but that it would not be effective before 2016 at the earliest. It is understood that this will be designed to safeguard the privacy of individuals in relation to personal data as well as regulate the collection, regulation, processing, keeping, use and disclosure of certain information in physical or electronic form.

- Despite having been announced in October 2013 a draft Bill or White Paper had not been published and was not available to the Assessment team.

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[5] http://jis.gov.jm/legislation-to-protect-personal-data-being-developed-2/

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2.2 **What rights of access to information exist? (Importance: Very High)**

- An Access to Information Act was enacted in 2002 and came into operation on 5 January 2004.

- Ministries may charge applicants for the costs of "reproducing" documents, but the cost may be waived if the Ministry considers it justifiable.

- There is currently no independent Access to Information Commissioner. We were informed that there is consideration of creating a joint, and independent, Data Protection and Access to Information Commissioner as part of the forthcoming Data Protection Bill.

2.3 **What is the legal and policy framework for data security, data archiving and digital preservation? (Importance: High)**

- MSTEM is responsible for the policy on data security.

- The Government announced in June 2013 that it would be establishing a Computer ("Cyber") Emergency Response Team6.

- Under the Archives Act, 1983 the Government Archivist has responsibility for, among other things, the custody, preservation, arrangement, repair and rehabilitation of archives, and facilitating their use.

- The Jamaica Archives and Records Department (JARD) is working with the Office of the Prime Minister and the Office of the Cabinet to begin a Government-wide effort to improve records and information management in keeping with efforts to improve data and strengthen information sharing across Government.

- An assessment of Records and Information Management practices has been completed.

- JARD have started to develop a comprehensive Records and Information Management Policy and Program, including standards for electronic records management. The development of this policy is scheduled to be completed by December 2015.

2.4 **What is the policy on the ownership and licensing of government data? (Importance: Very High)**

- Most information of the Government of Jamaica is "Crown Copyright" and owned by the government as a whole.

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[6] http://www.jamaicaobserver.com/news/Gov-t-to-establish-Cyber-Emergency-Response-Team-_14465047

- Exceptionally some Commissions are constituted in a way which gives them ownership of their own information.

- The Jamaica Intellectual Property Office (JIPO) gives advice on intellectual property to Ministries, with a remit to aid the growth and development of the country. , Ministries are not compelled to accept or act upon it. In practice they decide their own terms and conditions for the reuse of their published information.

- JIPO have indicated that they would support having a standard default license for Government, and could see advantages in using an existing, internationally recognized, standard license (such as Creative Commons Attribution, or similar) rather than having to develop their own.

2.5 To what extent is government data sold by agencies? (Importance: High)

- There is no general policy on charging for government information. Individual Ministries and Agencies may impose charges.

- Some agencies (such as the Registrar General's Department and the National Land Agency) are obliged to attempt to recover their cost by charging for their services.

- The Ministry of Finance and Planning has apparently requested all agencies to look at opportunities for cost recovery, but there does not appear to be any guidance on the basis on which charges should be applied..

- Charges for information sometimes do not distinguish between paper and digital form. For instance the charge for an electronic copy of a registered title from eLand Jamaica was the same as for a paper copy "because the [paper] charge has been gazetted". The same applied to detailed reports from the Planning Institute of Jamaica. Different (lower) charges for digital delivery would be expected because of the lower marginal costs involved.

- Agencies do not always charge other Government Ministries and Agencies in the same way that they charge the private sector. This creates a cross-subsidy from private to public sector, constituting a hidden tax on the private sector and an incentive for public agencies to place a greater demand than they could cost-justify. For instance the National Land Agency gave an automatic 40% discount to other government agencies.

- Socially important services, such as first registration of title, were financed from cross-subsidy from other services. This is likely to distort the market for those other services. Generally it is preferable for social discounts to be financed from general taxation to avoid such distortions.

- Most agencies do not collect a significant proportion of their budget from charges for information. For instance the Companies Office of Jamaica collect less than 0.1% of their budget from the sale of the full company database.

- The Statistics Institute of Jamaica (STATIN) had a strong belief that "data is a public good" and that it would be unethical to charge. They used to sell publications and bulletins, but the sales income was so low and the administrative costs so high that there was no significant net loss of revenue from stopping charging.

- Planning Institute of Jamaica releases some data for free, although it does charge for some of its publications, as well as the release of the underlying data.

- A number of interviewees expressed concern that if government information was made available free then third parties would resell it at a cost.

2.6 What other policies/laws exist that may have significant impact on Open Data? (Importance: High)

- The Official Secrets Acts 1911 and 1920 are in force in Jamaica.

- Officials responsible for the implementation of the Access to Information Act considered that the Official Secrets Act had not, in practice, held back the effective implementation of access to information.

- A cost-benefit and feasibility study of data sharing was completed in January 2012. This showed an 11% internal rate of return for greater data sharing between government agencies. It found however that there would be a need for initial investment.

- Jamaica has a Statistics Act. It provides for statistics to be published[7].

- The Statistics Institute of Jamaica is aware of the issues of anonymization, and the particular difficulties involved in a relatively small country, but would like to develop greater capacity to do so and to be asked to advise other government Ministries.

- The publication of some reports containing data is sometimes delayed until Parliament has approved the reports; this can cause significant delay and by the time the data is more widely available its value may be reduced. It was not clear whether this was a Parliamentary requirement or an administrative practice. Some other countries with similar Parliamentary systems publish government reports as soon as they have been submitted to Parliament, not

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[7] Statistics Act, Section 8(1)

least so that other stakeholders can express their views before Parliament considers the report.

Assessment

The ating of policy/legal readiness focuses on six issues: (i) existence and effectiveness of an access to information law; (ii) privacy protections; (iii) systems security and archiving/preservation; (iv) use of anonymization; (v) ownership and licensing of government data; and (vi) the sale for data.

The rating of Jamaica is considered to be YELLOW. This is based on the existence of certain laws, together with an ability to look at licensing of Crown Copyright information on a cross-government basis and credible plans for developing a Records and Information Management policy. However this is offset by the absence of provisions for proactive disclosure, the Official Secrets Act and the lack of clarity about plans for Data Protection legislation. The position on charging for data also merits a Yellow - while the level of charges is generally low, there is inconsistent practice.

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Policy and Legal Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A2.1	The Government of Jamaica should develop a full Open Data policy for Cabinet endorsement, including criteria for release, licensing, charging, data protection, and anonymization, to implement the recommended Prime Ministerial Declaration. The policy should apply to all Ministries and Agencies.	TBD	TBD	
A2.2	As part of the policy development a full due diligence review of the legal aspects of Open Data should be conducted.			
A2.3	The Policy should address the terms of use of government information.			
A2.4	Policy should address the licensing of all government information ("Crown Copyright on a common basis.			
A2.5	The Government of Jamaica should adopt an international recognized open license for its published information. It should not attempt to draft its own license.			
A2.6	Policy should address the use of a common internationally recognized open license.			

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	Action	Responsibility	Timescale	Comments
A2.7	JIPO should consider a standard form of attribution statement under the Creative Commons Attribution 4.0 license to state that the data was available free from the government, in order to manage the risk that people would be misled into paying third parties for data that was available free from the Government.			
A2.8	JIPO should give clear and detailed guidance to Ministries and Agencies on the implementation of the new approach to the licensing of government information.			
A2.9	The Office of the Prime Minister, with the advice of the Attorney General, should issue guidance on the application of the Official Secrets Act, clarifying that it permits properly authorized pro-active disclosure of information.			
A2.10	The Open Data policy should include model processes to ensure that the release of data is properly authorized. These processes should be effective in protecting individual officials, but light-weight and un-bureaucratic in nature.			

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	Action	Responsibility	Timescale	Comments
A2.11	Fees for information should be on a cost-basis. There should be no charge for raw data delivered over the Internet. Cost recovery policies should clearly distinguish between the provision of data and other information and the provision of value-added services (such as manual searches and copying of documents and certification of copies). Any "gazette" charges should only apply to physical distribution.			
A2.12	Develop a system and fee schedule for services that avoids cross-subsidies between the private and public sectors.			
A2.13	The Open Data policy should make clear, subject to anonymization and privacy concerns, that the use of data for commercial purposes, including resale, is permitted.			
A2.14	The development of the Data Sharing policy should be expedited.			
A2.15	The development of the Records and Information Management policy should be given high-level backing and a clear timetable should be established to move from the current phase into implementation.			
A2.16	Policy principles of the proposed Data Protection Bill should be published as soon as possible.			

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	Action	Responsibility	Timescale	Comments
A2.17	Additional training on anonymization and safeguarding of privacy should be provided.			
A2.18	Timing of publication of reports submitted to Parliament could be reviewed. Specific guidance should be given to Ministries and Agencies.			

3. INSTITUTIONAL STRUCTURES, RESPONSIBILITIES AND CAPABILITIES WITHIN GOVERNMENT

<u>Importance</u>   High

<u>Context</u>

As well as political and senior leadership, middle management level skills and leadership are important to success: creating an Open Data Program 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 to have (or develop) 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, and requires mechanisms for inter-agency collaboration.

In addition to handling the "supply side" of creating an Open Data Program, agencies need the structures and capabilities to engage with communities that reuse Open Data — including developers, companies, non-governmental organizations, other agencies and individual citizens.

Commentary on Key Issues

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? (Importance: Very High)**

+   MSTEM have the relevant capabilities to lead the planning and implementation of an Open Data program. There is no other obvious candidate.

-    Some Ministries doubted the authority of MSTEM to impose cross-government policies. Thus a Cabinet agreement and a Prime Ministerial declaration would be essential to give MSTEM clear authority in this area.

+   While cross-cutting responsibilities for some elements of Open Data policy rest elsewhere in Government (including JIPO, Office of the Prime Minister, STATIN, Attorney General and Ministry of Finance and Planning), they are willing to partner with MSTEM on Open Data policy development and implementation.

-    Within MSTEM there was no existing team responsible for Open Data. Existing staff appeared to be fully committed on other important policy development and implementation projects, including Data Protection and Cybersecurity.

+   e-Gov Jamaica Ltd were seen as a credible technical leader for Open Data and are well placed to support MSTEM's policy and direction-setting role.

-     Other cross-government initiatives, such as Public Service Performance Measurement and Data Sharing appeared to have progressed relatively slowly even with backing from the Cabinet and the Office of the Prime Minister/Cabinet Office.

-     The highly federated nature of the Jamaican public service, which has a very large number of semi-autonomous agencies in addition to the main Ministries, was likely to make it more difficult than in other countries to implement Open Data through a "hub and spoke" model of a Central Team and a focal point in each Ministry. The implementation would need to be designed to make the co-ordination load on the Central Team manageable.

3.2 Which any agencies have a CIO, CTO or permanent official positions dedicated to data management? (Importance: Medium High)

+   MSTEM are appointing a Government CIO (although, initially, it is just a one-year appointment). The Government CIO will have responsibility for providing overarching technology vision and leadership in the development and implementation of Government of Jamaica's ICT strategies and programs.

-     The IT management structures in individual Ministries are ad hoc. Some have a CIO or equivalent; others have little more than a system administrator.

3.3 What inter-agency mechanisms coordinate ICT issues (such as for technical matters)? (Importance: Medium High)

+   ICT standards are set by the ICT Policy Unit in MSTEM (which is expected to be subsumed into the Office of the CIO).

+   In practice eGov Jamaica Ltd provide suggestions and advice on technical matters and standards to the MSTEM Policy Unit and to individual Ministries.

+   Common systems are coordinated by, and usually run by, eGov Jamaica Ltd. Line of business systems are run by individual Ministries (although eGov Jamaica Ltd run the systems for the Ministry of Finance and Planning).

+   For enterprise systems or major projects Ministries are required to get approval from the National Contracts Commission. eGov Jamaica Ltd are the preferred supplier for such systems, although Ministries can go elsewhere if eGov Jamaica Ltd cannot do the work. In the latter case eGov Jamaica Ltd would quality assure the work of the other contractor.

-     There was no recent agreed ICT or Digital strategy for the Government of Jamaica.

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3.4 What process is currently used to measure agency performance or quality of service delivery? (Importance: Medium)

- There is currently no common performance measurement system.

- A project to establish a performance management system, with around 1800 indicators, has been running for 4 years and is expected only to produce its first data after a further 2 years.

- An Open Data Program for Jamaica would therefore need to establish its own performance tracking and reporting system.

3.5 Which agency or ministry is primarily responsible for data or statistics? (Importance: Medium)

+ The Jamaica Statistics Institute (STATIN) has the lead responsibility for statistics.

+ Individual Ministries are responsible for the collection, production and publication of statistics in their sectors.

+ Economic and financial statistics are produced by the Ministry of Finance and Planning and its departments/agencies, including the Accountant General's Department, Bank of Jamaica, and Planning Institute of Jamaica.

- The Planning Institute of Jamaica also maintains and publishes a collection of statistics about Jamaica called "JamStats". These indicators are to satisfy the requirements of the DevInfo program.

- There is no central responsibility for data as a whole: MSTEM (and the new Government CIO) have the lead on ICT, but others, such as the Jamaica Archives and Records Department, have associated responsibilities.

- The new Government CIO role does not have an explicit responsibility for the exploitation of data for the benefit of Jamaica and its government. The Terms of Reference do not encompass the "Chief Data Officer" responsibilities that have recently been defined in other jurisdictions such as France and New York.

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? (Importance: High)

o Concerns expressed by interviewees included:

- The commercial resale of data provided free by the government.

- Data quality, accuracy (often termed "integrity") and timeliness.

- Privacy.

+ Although a number of interviewees mentioned the cultural influence of the Official Secrets Act, no Ministry or Agency said that their own release of information was constrained by the Act or that they had special compliance processes as a result of the Act.

3.7 How strong is the government's overall ICT skill base among senior government leaders and civil servants?   (Importance: High)

+ A number of senior officials interviewed as part of the Assessment had a good appreciation of strategic issues concerning ICT and the use of Data. A common theme expressed by them was the opportunities for the Government of Jamaica if data was shared more readily across organizational boundaries. Greater data sharing was seen as offering potential benefits in both efficiency and effectiveness.

+ ICT leaders saw their business counterparts as generally digitally literate, but saw opportunities for them to do more to recognize the value of their data assets and support its more effective use.

3.8 What is the government's presence on the Web?   (Importance: Medium)

+ Most Ministries have websites.

o Although some Ministries have modern and engaging websites, others were less compelling.

+ The STATIN website is being redesigned for re-launch in mid-2015.

- At the time of the Assessment a number of Ministries' websites were offline due to a hacking attack.

- A very limited amount of web analytic data was available, and there was no evidence of Ministries using advanced web analytics to prioritize the content on their websites. Information about the download of statistical and other data was not available.

- Although many Ministries' statistical and other information were available on their websites, these were usually in PDF form.

Assessment

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Rating of institutional readiness focuses on three core issues: (i) expressed readiness of an agency with sufficient political weight and competency to lead on Open Data; (ii) track record of inter-agency mechanisms coordinating major ICT or Open Government initiatives; and (iii) existence and effectiveness of positions comparable to a CIO/CTO within agencies responsible for strategic ICT decisions and management.

The rating for Jamaica is considered to be YELLOW/RED. A Yellow rating for the Institutional dimension will be associated with a government that has good options for an agency/entity to lead an Open Data Program or at least manage a portal, even if a final decision has not been taken yet. Yellow is also appropriate when a government does not have CIO type positions but at least some key agencies have IT departments with real technical capacity and track record for ICT coordination is mixed. A Red rating is indicated by a relatively poor track record on the management of whole-of-government initiatives and on inter-agency coordination, and in the case of Jamaica by the complexity due to the large number of semi-autonomous agencies.

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Institutional Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A3.1	An Open Data team should be established at MSTEM. This should be a distinct team with a full-time head (at least for the first year). The roles to be covered would be policy, technical, project management and data administration.	MSTEM	Month 1	
A3.2	There should an Open Data Policy Group chaired by the Head of Open Data for MSTEM and comprising empowered representatives from the Office of the CIO, eGov Jamaica Ltd, JIPO, Office of Prime Minister (on ATI and Official Secrets Act), STATIN, Ministry of Finance and Planning and the Geospatial Data Sharing and Access Council Secretariat.	MSTEM	Months 1-2	
A3.3	The Consumer Affairs Commission should be invited to join the policy group in order to continue to contribute its experience from the development and implementation of its own Open Data portal.	MSTEM	Months 1-2	
A3.4	Each Ministry should have two focal points on Open Data - an IT officer on technical implementation and an ATI officer on policy issues and getting formal approval for data release. A clear mandate should be added to their job descriptions to recognize this.	MSTEM	Months 4-6	

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	Action	Responsibility	Timescale	Comments
A3.5	Rather than trying to make progress on all Ministries and Agencies at once, the implementation of Open Data should be designed as a series of phased rollouts, each phase concentrating on a smaller number of selected priority Ministries and Agencies approved by the Steering Committee and guided by the recommended priorities elsewhere in this report. This would enable the central team to focus their resources on specific deliverables at any one time.	MSTEM	Months 4-24	
A3.6	MSTEM in conjunction with OPM and the Ministry of Finance and Planning should develop a cultural change management program for officials on the benefits of Open Data, on ways of mitigating risks and on why Open Data would be compatible with the Official Secrets Act.	MSTEM with OPM and MOFP	Months 2-4	
A3.7	The e-Government Strategy to be developed by the new CIO should incorporate Open Data principles into the design of new systems and the enterprise architecture.	CIO	Months 4-6	
A3.8	The Jamaican Government website policy should be amended to require machine-readable versions of data in any PDFs on a Ministry's website to also be placed on that website and on the Jamaica Open Data portal.	MSTEM	Months 4-6	

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	Action	Responsibility	Timescale	Comments
A3.9	Information on all Ministries' and Agencies' websites should normally be re-usable under the adopted Open License. MSTEM should amend their website standards to enforce this.	MSTEM	Months 4-6	
A3.10	The Government of Jamaica should consider transferring operational responsibility for JAMSTAT from PIOJ to STATIN.	OPM	Months 7-12	
A3.11	MSTEM should commission an Open Data portal and should be its system owner. The aim should be to launch the portal with an initial collection of Open Data within six months of the start of the Open Data program.	MSTEM	Months 1-6	
A3.12	The Open Data program should have a Communications Strategy to ensure that both data owners and data users understand the program and their roles and responsibilities.	MSTEM	Months 2-6	
A3.13	A program of training and capacity building on the use of the portal, including the processes for the publication of datasets, should be created. This will need to cover not only MSTEM staff but also those in other Ministries and Agencies responsible for putting data onto the Portal.	MSTEM	Months 4-24	

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	Action	Responsibility	Timescale	Comments
A3.14	The Government of Jamaica should ensure that it has entries in the Open Knowledge's Open Data Index, the Web Foundation's Open Data Barometer and the International Budget Partnership's Open Budget Survey which accurately and fairly reflect its level of achievement in Open Data.	MSTEM/MOFP	Months 7-24	
A3.15	The Jamaican Government website policy should be amended to require each website to implement advanced web analytics (such as Google Analytics) and publicly report the summary results monthly. These analytics should include the number of downloads of each published report.	MSTEM	Months 4-6	

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4. **GOVERNMENT DATA MANAGEMENT POLICES AND PROCEDURES**

<u>Importance</u>   High

<u>Context</u>: 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.

Commentary on Key Issues

4.1 **What are the policies and practices on the management of government information? (Importance: High)**

- There is no standard governance process for information.

- There is no standard governance process for data security, although standards are to be developed under the Cybersecurity Policy currently with Cabinet.

- There are no standards for data quality (including provenance, accuracy, timeliness and completeness).

- The production of some data is significantly delayed. For instance, the latest published Ministry of Transport and Works Annual Transport Statistics Report is for 2006-07[8] published in 2011[9]; the latest published Ministry of Health Annual Report is for 2007 completed in June 2009 and published on its website on 23 June 2010 (we were shown the 2007-08 report for the Ministry of Health which was only completed on 15 August 2014 and which has not been published).

o Time delays for some other datasets - such as Education Statistics[10] and Tourism Statistics on the STATIN website[11] - are not as significant but

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[8]
http://www.mtw.gov.jm/communications/news_notices/notices/Annual%20Transport%20Statistics%20Report%202006-2007.pdf
[9] According to its metadata
[10] The latest available on the website as at 1 Feb 2015 is 2012-13
http://www.moe.gov.jm/sites/default/files/Education%20Statistics%202012-13.pdf
[11] The latest available on the STATIN website as at 1 Feb 2015 is for 2012.

publication is still around a year behind reasonable expectations for prompt and usable data.

+ Some Ministries and Agencies do however manage to publish regular statistics promptly. For instance the Port Authority had published statistics up to October 2014 at the time of the Assessment mission in early December 2014.

- There is no agreed National Special Data Infrastructure strategy.

4.2 To what extent does the government have a coherent view of its data holdings? (Importance: Medium)

- The Government of Jamaica has no central record of its data holdings.

- The Government of Jamaica has no metadata standards.

o An e-Government Interoperability Framework exists but has not been implemented in all Ministries and Agencies, particularly those who do not use eGov Jamaica Ltd's services.

- There is no inventory of geospatial datasets.

4.3 How and where is government data held? (Importance: High)

+ Most Ministries hold relevant data in electronic form, either as spreadsheets or in databases.

+ Budget information is held on the Jamaica Budget Information System (JaBIS), which is managed by eGov Jamaica Ltd. The Ministry of Finance and Planning, with support from eGov Jamaica Ltd, was able to extract budget data for the Open Budget Data Assessment in Excel following the template provided by the World Bank.

- Expenditure information is held on the Financial Management (FinMan) accounting system. Expenditure data can be extracted from the system in Excel, although the data that were extracted by the Ministry of Finance and Planning did not match the template provided by the World Bank for the Open Budget Data Assessment, making it very difficult to consolidate the budget and expenditure data.

+ eGov Jamaica Ltd keep operational data for seven years, and then archive it.

- There is no current government-wide policy on digital preservation, although the Jamaica Archives and Records Department is developing one.

+ eGov Jamaica Ltd undertakes regular preservation runs for back-up tapes for the Ministry of Finance and Planning beyond the 7-year point.

4.4 **What is the extent of intra- and inter-government actual demand and latent demand for data? (Importance: High)**

- There is less data-sharing within government than senior officers consider would be desirable.

+ A consultancy study has quantified significant benefits which would be obtained from greater data sharing.

- Where data is shared at present, it is often shared in PDF form and so has to be rekeyed.

- The delays in data production within individual departments may lessen the value of the data to other parts of government.

4.5 **What data is already made available outside government - either free or for a fee - and on what conditions? (Importance: High)**

+ A substantial amount of statistical and aggregate data is published in PDF files and/or as printed documents. This includes data on transport, agriculture and tourism.

+ Some item-level data (for example permits and licenses) is already published, albeit as PDFs. This includes data from the National Solid Waste Management Authority and from the Mines and Geology Division.

- There are several geospatial portals (for instance Ministry of Agriculture and Social Development Commission), but key geospatial datasets are not publicly available free of charge.

- There is an additional control on the release of geospatial data by the Geospatial Data Sharing and Access Council. This requires a Ministry to obtain additional permission to release data, but there is no additional permission required to withhold data.

+ The Statistics Institute STATIN are putting all their bulletins online.

+ STATIN are moving towards more proactive publication on the basis that "if you spend less time on data requests there is more time for data analysis".

+ Statistical data from STATIN is available through the Datazoa software platform which allow download in XLS, CSV, Quoted CSV, TSV and Text formats.

- SDMX is not currently used but STATIN are planning to adopt it.

+ STATIN decided in September 2014 to stop selling bulletins. This was on the basis that "Data is a Public Good" and it would be unethical to charge.

+ STATIN allow free use of their published data. They are introducing a requirement to cite the source. They ask (but do not require) that they are sent a copy of any studies or reports using their data.

- Data on Government websites is mainly in PDF format and is not readily scrapable.

4.6 What practical experience does the government have in anonymizing personal data? (Importance: High)

o STATIN have some experience of anonymization but would welcome further assistance and training.

- Currently microdata sets are not put online, partly because of anonymization concerns and skills and resources to address them. Similarly access to detailed census and agricultural census information is limited to high level data.

4.7 Which agencies with established capabilities in data management (e.g. the NSO) could give leadership to a wider program? Useful existing capabilities would include: (Importance: Medium)

+ STATIN and eGov Jamaica Ltd have relevant experience in the collection, curation and management of data.

+ STATIN have relevant experience in the anonymization of data, including the issues in relatively small populations, and are actively seeking to enhance their expertise in this field.

Assessment

Rating of readiness for Government Data Management focuses on three core issues: (i) how and where data is held by government; (ii) the visibility of agencies into their data holdings; and (iii) the existence of key data-owning agencies with demonstrable capabilities in data management.

The rating for Jamaica is considered YELLOW. A Yellow rating is supported when few or no agencies have comprehensive inventories of their data assets, but certain officials nevertheless have a fair understanding of their agency's data assets; when the Government has an agency or body responsible for statistics that has real capabilities in data and data management; when agencies have a mixed record on keeping their data updated in a timely manner.

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Data Management Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A4.1	Data archiving policy and processes should be included within the Records and Information Management policy currently being developed.	JARD	Months 7-12	
A4.2	Until an agreed data archiving policy is in place MSTEM should issue instructions to all Ministries to safeguard their data, drawing on advice and best practice from eGov Jamaica Ltd.	MSTEM	Months 2-3	
A4.3	The Government of Jamaica should develop a National Spatial Data Infrastructure Strategy, and a Geographical Information Strategy and accompanying standards for government itself.	MSTEM	Months 7-12	
A4.4	The Geospatial Data Sharing Policy should be revised to be a balanced set of criteria, protecting sensitive data but also positively promoting the release of non-sensitive geospatial data.	Geospatial Council	Months 3-4	
A4.5	The Geospatial Data Sharing Policy should be revised to require individual Ministries to justify not sharing their data.	Geospatial Council	Months 3-4	
A4.6	The Geospatial Data Sharing and Access Council should urgently introduce and subsequently maintain an inventory of geospatial datasets held by the Ministries and Agencies of the Government of Jamaica.	Geospatial Council	Months 5-12	

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	Action	Responsibility	Timescale	Comments
A4.7	The Office of the Prime Minister, with the advice of STATIN and MSTEM, should require all Ministries and Agencies to publish their Annual Reports and sector Statistics no later than 12 months after the end of the period that is the subject of the report.	OPM	Months 2-3	
A4.8	Ministries and Agencies which are currently lagging in the publication of their Annual Reports and Annual Statistical Digests should publish plans for meeting the requirement and for dealing with the publication of data for previous periods.	MSTEM	Months 4-6	
A4.9	Where it is not feasible to publish processed figures for previous periods within 12 months the relevant Ministries and Agencies should release their raw data (with anonymization as appropriate) so that civil society could use the data in advance of publication of official statistics.	MSTEM	Months 7-12	
A4.10	STATIN, in conjunction with MSTEM, should issue guidance to Ministries and Agencies on safeguarding the raw data and on anonymizing it for publication.	STATIN	Months 2-6	
A4.11	MSTEM, working with STATIN, should produce a framework for Ministries and Agencies to assess the quality of each dataset (including provenance, accuracy, timeliness and completeness) so that this can be published alongside the publication of the dataset itself.	MSTEM	Months 2-4	

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	Action	Responsibility	Timescale	Comments
A4.12	All data currently published as PDF tables should be re-published in re-usable form (probably CSV) within nine months, on both Ministry websites and on the Jamaica Open Data portal when available.	MSTEM	Months 2-9	
A4.13	The Government of Jamaica should compile and publish a program of data release with descriptions of the datasets and the target date of release, taking account of available resources and the recommendations in the key datasets section of this Assessment. The program should be regularly reviewed and updated to take account of experience, growing confidence in data release and requests for datasets from data users.	MSTEM	Months 5-24	

5. DEMAND FOR OPEN DATA

<u>Importance</u>   Very High

<u>Context</u>: 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 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 organisations, donors and individual citizens.

Commentary on Key Issues

5.1 **What is the level and nature of actual demand and latent demand for data from Civil Society, Development Partners and the media? (Importance: High)**

+   Jamaica is a center for civil society champions for Open Data in the Caribbean, including the Caribbean Open Institute and the University of the West Indies.

+   NGOs and think tanks would like to see better access to data, the availability of more detailed data, greater consistency over time, and more timely publication of data.

-   The Access to Information law has not been used significantly to obtain data; many of the requests reported by Ministries were about individual overseas trips, expenses and individual contracts.

+   The Press Association of Jamaica were very keen to have greater access to government data.

-   There is little apparent "data journalism"; day-to-day pressures on journalists leave little time for investigative or data-driven work.

-   There was very low attendance at the consultative forum for civil society organisations arranged as part of this Assessment. Similar forums held in other smaller countries in the region had been much better attended.

-   Universities found the available statistical data "too old for relevant research". Lack of data quality was also seen as an issue in the re-use of data for research.

-   Research into crime had been difficult because "data is in huge books".

-   Academics seeking data were often asked "Why do you want it?".

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+ The priorities of universities for data included major economic and social indicators, agricultural data, tourism data, mapping and geospatial data, weather data, data on diseases, and arts and cultural content.

- Universities could not obtain an inventory of the datasets which the government held, and wanted a common understanding of what datasets were held and which were currently available.

5.2 **What is the level and nature of actual demand and latent demand for data from business/the private sector? (Importance: High)**

- There was little direct evidence of business demand for data.

- Datasets published several years in arrears are unlikely to be of much value to businesses.

+ There was some interest in Open Government Data from innovators at Start-Up Jamaica, although they had not been active in pressing for particular datasets to date.

+ A study by the Caribbean Policy Research Institute found that: "Open Data clearly presents an effective solution to issues of fiscal transparency, public sector efficiency and job creation. Furthermore this analysis demonstrates the potential of Open Data to contribute over JA$ 30 billion to the national economy through initiatives in education, tourism and agriculture."

- A tourism application had been abandoned because getting the data would have involved scraping PDFs, and so the developer decided not to pursue it.

+ Young technologists from UWI had recently approached the Ministry of Tourism with ideas for smartphone applications for tourists.

+ A range of applications have been developed under the Code for the Caribbean initiative[12] with the support of the Ministry of Agriculture and RADA. These include: HarvestAPI[13], an open data portal that will provide software developers with access to open agriculture data and encourage the development of the Agriculture Apps ecosystem; CLIP, a SMS-based mobile App, that will enable the police to have on-demand access to RADA's Farmer Registration and Receipt number database via basic cellular phones, to be able to verify the status of persons carrying produce; and a Commodity Price App[14], a visualization site (Tableau) using data from the JAMIS price database.

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[12] http://www.codeforthecaribbean.org/
[13] http://harvestapi.io/
[14] http://caribbeanopeninstitute.org/jam-agro-prices

5.3 How do public agencies listen to demands for data and respond? (Importance: Medium)

- Ministries did not have estimates of the level of use of existing publications.

- Use of websites and counts of downloads of reports were not readily available.

- There was no evidence of engagement by individual Ministries and Agencies with actual or potential users of data in business, civil society or academic sectors.

5.4 How do external stakeholders view public agencies' willingness to listen to demands for data and respond? (Importance: Medium)

- External stakeholders found it difficult to obtain the data they wanted.

- External stakeholders commented adversely on the Government's lack of transparency.

Assessment

Rating of readiness for Demand for Open Data focuses on two core issues: (i) evidence of data demand by civil society, private sector, research community and media and (ii) existence of agency mechanisms in place to intake and respond to requests for data.

The rating of Jamaica is considered to be YELLOW/RED. A YELLOW rating is supported by the evidence, albeit limited, of expressed data demand by civil society, private sector and media and by the work done by CaPRI on the economic potential of open data to key sectors of the Jamaican economy and society. A RED rating is supported by the poor track record by the government in responding to the limited data/information requests that are made and the lack of evidence that Ministries and Agencies take account of information on the demand for data in planning their collection, maintenance and publication of data.

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Demand for Open Data Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A5.1	MSTEM should work with Start-up Jamaica to promote awareness of open data among the tech/startup sector.	MSTEM	Months 2-24	
A5.2	MSTEM's central team should have a specific post to work on outreach and engagement with potential data users.	MSTEM	Month 2	
A5.3	MSTEM should work with the Caribbean Open Institute to engage and enthuse potential data users and developers in civil society and the academic sector.	MSTEM	Months 2-24	
A5.4	The Government of Jamaica should ensure that a rich collection of new data is released in time for the Caribbean Open Institute's annual regional events. These events are aimed at stimulating innovation and demand for data.	MSTEM	Months 7-24	
A5.5	The Ministry of Education should develop a program to engage with its internal and external stakeholders to realize the potential for Open Data identified in the CaPRI report.	Ministry of Education	Months 3-12	
A5.6	The Ministry of Tourism should develop a program to engage with its internal and external stakeholders to realize the potential for Open Data identified in the CaPRI report.	Ministry of Tourism	Months 3-12	

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	Action	Responsibility	Timescale	Comments
A5.7	The Ministry of Agriculture should develop a program to engage with its internal and external stakeholders to realize the potential for Open Data identified in the CaPRI report.	Ministry of Agriculture	Months 3-12	
A5.8	The Ministry of Finance and Planning should work with Open Knowledge's OpenSpending group to create a Where Does My Money Go visualization of the Jamaican budget data and to feed Jamaican spending data into the OpenSpending database so it will be readily searchable by Jamaicans.	MOFP	Months 7-12	For this particular activity, the MOFP should consider working with the Caribbean Open Institute, which has already developed budget data visualizations using the OpenSpending platform.
A5.9	The Ministry of Finance and Planning should work to include Jamaica in the World Bank's Open Budgets Portal[15], a one-stop shop for budget data with the objective of bringing visibility to countries' efforts in the field of open budgets, facilitate access and promote use of spending data, and motivate other countries into action.	MOFP	Months 12-18	A cost effective option to ensure reliability of the data would be to rely on the development of a BOOST database. The World Bank offers customized support in the development of such databases as well as web based platforms for the dissemination of the data.
A5.10	The Ministry of Finance and Planning should stimulate capacity of think tanks (local and regional) to re-use financial and budgetary information for mass audiences.	MOFP	Months 9-24	

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[15] http://www.worldbank.org/openbudgets

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	Action	Responsibility	Timescale	Comments
A5.11	The Ministry of Finance and Planning should provide financial information dissemination workshops to CSOs, researchers and other users. A particular important role could reside in active partnering in the monitoring and auditing of public finances, specifically in identifying priorities, promoting participatory audits and ensuring proper follow up to audit recommendations.	MOFP	Months 13-24	
A5.12	Each other Ministry and Agency should have a responsibility for working with its sector to promote the use of Open Data and to ensure that the sector is getting the data it needs. This should be part of the Open Data policy. MSTEM should agree targets and actions with each Ministry and Agency as it becomes part of the Open Data program.	MSTEM	Months 7-24	
A5.13	MSTEM should implement a data request procedure so that citizens and businesses can request additional data and that requests are considered quickly and positively within government.	MSTEM	Months 2-6	
A5.14	If a Ministry or Agency intends to decline a request for data MSTEM should refer the case to the Steering Committee for final decision.	MSTEM	Months 7-24	

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6. CIVIC ENGAGEMENT AND CAPABILITIES FOR OPEN DATA

Importance   High

Context 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.

Commentary on Key Issues

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 (Importance: High)**

+ There was strong capability associated with UWI and the Caribbean Open Institute, and their activities had already stimulated a number of example applications.

+ In the absence of data from the Government some crowd-sourced applications had been developed, such as CrimeBot. This indicates strong local motivation and good skills.

+ The Caribbean Open Institute have already demonstrated the implementation of an Open Data Portal.

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? (Importance: High)**

- The Government of Jamaica had not actively promoted the re-use of their data - and did not have management information on the extent to which it was downloaded.

+ The Government of Jamaica had had some co-operation with the Caribbean Open Institute.

6.3 **What is the extent of engagement with government through social media and other digital channels? (Importance: Medium)**

- The Jamaica Information Service has a Twitter account, but it appears to be used for announcements to its 9,042 followers. The absence of replies to

others demonstrates a lack of engagement activity. Requests for information from followers do not seem to have been answered.

- A number of Ministries and Agencies, including MSTEM and the Jamaica Defense Force, as well as JAMIS, have Facebook accounts, but again these show no evidence of active engagement.

6.4 To what extent is there an existing Apps Economy? (Importance: Medium High)

+ The annual Digital JAM events and applications competitions demonstrate a thriving interest in applications development.

+ Start-up Jamaica is a strong incubation facility for application entrepreneurs.

+ A mobile innovation challenge in mid-2014 showed a range of developers interested in Open Data.

+ There is a Women Who Code group focusing on female IT entrepreneurs.

6.5 To what extent is there an academic or research community which trains people with technical skills or has capabilities in data analysis? (Importance: Medium)

+ The Universities and Colleges have extensive programs of ICT skills development, reflecting the Government of Jamaica's priority to develop such skills.

- It is reportedly proving difficult to retain those with skills on the island. Those with data skills, including data scientists, have a propensity to migrate.

- Outward migration is said to occur partly because there are perceived to be limited opportunities for the most skilled graduates in Jamaica itself: many local businesses use proprietary packaged software and local jobs tend to be maintenance roles which are unappealing to the most skilled.

Assessment

Rating of readiness for Citizen Engagement and Capabilities focuses on five main issues: (i) government record on citizen engagement; (ii) the capacity of technical universities; (iii) potential infomediaries such as data journalists; (iv) existence of an Apps Economy; and (v) government promotion of reuse of its data.

The rating of Jamaica is considered to be GREEN. There is evidence of a combination of relevant eco-system elements including strong intermediaries, technical universities producing skilled graduates and a real and growing Apps Economy, and agencies with experience in co-creation. However the absence of data journalism and the lack of engagement through social media are areas of concern.

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Civil Engagement and Capability Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A6.1	MSTEM should leverage Start-up Jamaica as a key space for open data engagement and incubation.	MSTEM	Months 3-12	
A6.2	MSTEM should seek assistance from the Caribbean Open Institute in the implementation of an Open Data Portal.	MSTEM	Months 2-6	
A6.3	MSTEM should work with Start-up Jamaica and the Caribbean Open Institute on a program of developer days and competitions to promote innovation using open data.	MSTEM	Months 3-24	
A6.4	MSTEM should seek opportunities to promote Open Data in related programs, including infoDev, EPIC, Public Financial Modernization and the OAS/IADB Cyber Security Programs.	MSTEM	Months 3-12	
A6.5	MSTEM should work with the Caribbean Open Institute, the Caribbean Policy Research Institute and the Press Association of Jamaica to introduce a data journalism development program to widen the base of journalists with data skills in Jamaica. This should be designed in short modules to enable busy journalists to take part and develop their skills over a period of time. To give skills relevant to a range of interests and stories, this should include a specific focus on the use of Open Budget data in journalism.	MSTEM/MOFP	Months 4-12	

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A6.6	MSTEM should work with the Caribbean Open Institute to introduce a wider training program for civil society in the use of open data. This should include a specific focus on the use of data about budgets and about public services by communities.	MSTEM/MOFP	Months 7-12	
A6.7	The Government of Jamaica should work with the Universities and Colleges to have data skills in the curriculum or student activities. In addition to specific courses on relevant subjects, they should be encouraged to engage the wider body of students in community-based use of data.	MSTEM	Months 4-12	
A6.8	The Government of Jamaica should offer student internships to help it tidy up its data, make it available and build data visualizations. Not only would this help the government in its own efforts to publish data but it would also help develop sustainable interest, skills and capability among young people, and encourage them to pursue an ICT career in line with the Government's priority for the sector in Vision 2030.	MSTEM	Months 7-24	

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7. FUNDING AN OPEN DATA PROGRAM

<u>Importance</u>   Medium High

<u>Context</u>

Funding with respect to both the "supply side" and "demand side" of Open Data is important to ensure that the objectives of an Open Data Program are met.

Commentary on Key Issues

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? (Importance: Very High)**

+   Many valuable datasets already exist within the Ministries and Agencies in reusable form, and there is core funding available to update them periodically. Publishing the spreadsheets as well as the PDF files generated from them should involve only very small additional effort which could be managed within existing Ministry budgets.

+   The proactive publication of data could reduce or forestall ATI requests for the same information, giving savings in costs which would have otherwise been incurred on ATI work.

+   Some financing for specific activities would be available under the DFID grant managed by the World Bank if Jamaica has a robust plan for Open Data with senior political backing.

o   The Ministry of Finance and Planning might need to cover any loss of net revenue from data previously charged for. This would be needed if the lost revenue could not be covered by adjusting charges for registration or other value-added services or by increased efficiencies within the Ministry or Agency concerned. This might impact agencies such as Planning Institute of Jamaica, which currently charges for some of its publications.

+   However for most agencies the revenue from sales of data (as distinct from value-added services) was not a substantial part of the budget and there would be offsetting economies from no longer having to administer charges.

7.2 **What any resources exist or have any been identified to fund development of initial apps and e-Services that will use Open Data? (Importance: High)**

+   There is the potential to attract additional donor funding for innovation and incubation if the first phase is deemed successful.

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? (Importance: Medium High)

+ Jamaica already has plans for the development and implementation of policies on data-sharing and on records and information management. The development of the associated skills would contribute to the skills necessary for the implementation of Open Data.

+ There is scope to engage eGov Jamaica Ltd in the implementation of Open Data to ensure that there are common infrastructure elements and that technical data management and manipulation skills are effectively used.

7.4 What funding mechanisms does the government have for innovation? (Importance: Medium High)

+ The Government of Jamaica already has a number of innovation and startup programs including Start-up Jamaica. Open Data could leverage the funding and facilities already in place.

Assessment

Rating of readiness for Funding Open Data focuses on three key issues: (i) existence of resources and personnel for an Open Data Program; (ii) availability of government funding for necessary ICT infrastructure and training; and (iii) government's track record for investing in innovation.

The rating of Jamaica is considered to be YELLOW. A Yellow rating is supported when a government is prepared to consider budgeting for Open Data even if funding is not yet committed, and it has some initial staff dedicated to preparing and managing an Open Data Program. Yellow also applies when a government, even if constrained with limited resources, does manage to make some investment in innovation.

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Funding Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A7.1	The Government of Jamaica should seek implementation support from the World Bank/DFID project, based on a strong political commitment to Open Data and Open Budget, evidence of engagement with data users, and a compelling and achievable project plan reflecting the recommendations of this Assessment.	MSTEM/MOFP	Months 1-3	
A7.2	The Government of Jamaica should leverage existing innovation and incubation components for the purposes of the Open Data program.	MSTEM	Months 4-12	
A7.3	The Government of Jamaica should leverage funding for the ICT Sector Strategy within Vision 2030 to implement a regionally-competitive Open Data program and thus build investor recognition of Jamaica's ICT strengths.	MSTEM/MOFP	Months 7-12	

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8. NATIONAL TECHNOLOGY AND SKILLS INFRASTRUCTURE

Importance   High

Context: 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.

Commentary on Key Issues

8.1 **What is the local ICT "ecosystem"? Which technologies reach what proportion of citizens? (Importance: High)**

+   There are 96 mobile-cellular subscriptions per 100 people in Jamaica, about average for upper middle income countries (although lower than some countries in the Eastern Caribbean) (ITU, 2012)

-      23% of households have an internet connection at home, compared to the upper middle income country average of 36%.

-      33% of households have a computer at home, compared to the upper middle income country average of 41%.

8.2 **What is the level and cost of internet access, both by broadband and by mobile technologies? (Importance: High)**

+   The ITU "sub-basket" of mobile-cellular costs for Jamaica is US$10.50 a month, nearly a third cheaper than an average of US$14.90 a month for upper middle income countries.

-      The ITU "sub-basket" of fixed-broadband costs for Jamaica is US$29.20, nearly twice the average of US$17.80 for upper middle income countries.

8.3 **How readily available is compute and store infrastructure? (Importance: Medium High)**

+   In addition to access to cloud computing located in the USA, there are some on-island cloud services available from firms including Fujitsu Caribbean and Digicel.

+   eGov Jamaica Ltd provides some shared infrastructure for the Government.

8.4 **How strong are the IT industry, developer community and overall digital literacy?   (Importance: High)**

+   The Government of Jamaica are prioritizing the growth of the ICT sector.

+ Jamaica is a net exporter of IT, telecommunications and business process outsourcing services, with average net annual foreign exchange earnings of US$122m in the period 2001-2005.

+ The Government of Jamaica aims to double these earnings as part of Vision 2030 and has set out a number of skills, investment and incubation programs to support the ICT industry in doing so.

+ 30% of the ICT industry venture capital funding sponsored by the Government is set aside for ICT startups.

+ At the opening of the Barnett Tech Park at Montego Bay the Finance Minister said that there were close to 10,000 Jamaicans employed in the ICT industry in the area.[16]

Assessment

Rating of readiness for Technology and Skills Infrastructure focuses on five issues: (i) overall ICT ecosystem and skills; (ii) access to high-speed Internet and mobile; (iii) maturity of government's ICT infrastructure and use of technology, especially use of shared infrastructure and services; (iv) ICT literacy among the population; and (v) strength of ICT industry, local developer community and overall digital literacy.

The rating of Jamaica is considered to be GREEN/YELLOW. A Green rating is merited by a combination of factors such as a vibrant local developer community and digital literacy among a notable segment of the population. A Yellow rating is applicable when mobile penetration is significant and government has a notable number of information management systems even if shared infrastructure/services are limited.

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[16] http://jis.gov.jm/technology-minister-remains-optimistic-growth-potential-ict-sector/

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Infrastructure Recommendations for Action Plan

	Action	Responsibility	Timescale	Comments
A8.1	The Open Data initiative should leverage MSTEM's plans to encourage greater take-up of fixed and mobile broadband.	MSTEM	Months 7-24	
A8.2	The Vision 2030 plan for the ICT Sector should be extended to encompass measures to increase the economic benefit to Jamaica of Open Data and related "data science" skills.	MSTEM	Months 13-24	
A8.3	MSTEM, working with eGov Jamaica Ltd, should explore the provision and use of government-grade cloud facilities, and as a first step should look to hold the Open Data portal on on-island cloud facilities rather than managing their own servers.	MSTEM	Months 3-6	

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KEY DATASET FINDINGS AND RECOMMENDATIONS

Dataset	Feasibility	Key Benefits & Risks	Recommendation
Annual Crime Statistics	Annual crime statistics are already published by the JCF as part of its Annual Report. The spreadsheet of these annual crime statistics used to generate the table in the report could be easily published as well.	This is data regularly sought by journalists and others. Making this data more easily available would help them and it would reduce statistical enquiries which impose an administrative burden on the JCF.	QUICK WIN
Individual Crime Reports	Individual crime reports are stored on a spreadsheet with location information. In principle personal information and sensitive crime (e.g. domestic or sexual violence in the home) could be easily excluded.	The JCF were interested in the potential benefits of making this data available; the CrimeBot application had stimulated innovation including the JCF's own Stay Alert application. JCF particularly wanted to get citizens more engaged in crime prevention and reporting, which would lead to efficiency and effectiveness benefits for the JCF. There would be a number of risks to consider, including whether criminals themselves could make use of the data. Nevertheless the JCF wished to pursue the possibility.	PRIORITY

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Consumer Prices	The Consumer Affairs Commission have a large dataset of information on consumer prices for groceries and petrol. This is already available on their website and they have their own Open Data initiative already underway to make the data available for download or through an API. Once some attention is applied to ensuring that the data is available under an Open License, CAC will have achieved the publication of Open Data themselves.	The Consumer Affairs Commission have recognized the benefits of making their data available as Open Data.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
STATIN statistical tables	The Statistics Institute of Jamaica (STATIN) already publishes a wide range of data as predefined tables. Some individual tables can be downloaded in a range of formats including CSV and QCSV. Although the terms of use permit some commercial uses they do not allow resale. It should be easy to change to a recognized open license with attribution and ensure that the required attribution statement had a link to where the original data was available without charge. The attribution statement would also cover STATIN's understandable desire to be cited in research conducted using their data.	STATIN are phasing out the final elements of charging and are keen to promote the wider use of their free data. STATIN have already applied relevant anonymization techniques to this published data.	QUICK WIN
Census prepared tabular data	The 2011 census summary results are available from STATIN as a series of pre-prepared HTML tables. They are printable but not easily downloadable for re-use. However the data is held internally in digital form and could easily be made available as CSV and Excel files.	This is important data which is already published but difficult to reuse. Relevant anonymization techniques have already been applied to this data.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Census non-prepared tabular data	Users cannot make ad hoc enquiries on the 2011 census or download the results. However this should be possible from the underlying data and other countries in the region (such as St Lucia) provide ad hoc enquiry tools to access their census data.	STATIN would need to consider how to manage any risks to personal privacy through small numbers in cells from ad hoc enquiries. There are a number of methodologies and systems available to do this while preserving a useful service to customers.	LONGER TERM
Company Register	The key registration data for companies is stored on a database and is already made available monthly to three commercial subscribers. It would therefore be easy to put this data freely online.	Company data is key reference data for the economy, and improves the efficiency of capital and other markets as well as having transparency benefits. Currently the bulk data is available for a fee of JA$6,000 a month and Companies of Jamaica gain a gross revenue of about JA$0.2m a year from selling it. This is less than 0.1% of their total revenue of JA$220m. This could be easily covered by the adjustment of other fees if necessary. Companies of Jamaica should continue to charge for genuinely value-added specialist searches.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Estimates of Expenditure	Already published in MOFP website in PDF format. Zip files of the Estimates of Expenditure containing Word files for each head and summary tables could be uploaded as well.	Publication of the Zip files would aide users that need access to the underlying data in a format other than PDF. This would be an interim solution, as ideally the data should be extracted from JaBIS and presented in Excel and open-format CSV files (see below for more details).	QUICK WIN
Estimates of Expenditure (in Excel and open-format CSV files)	The MOFP was able to extract budget and expenditure data from JaBIS following the template provided by the World Bank team. At least five years of budget and expenditure data would be needed. The data should be made available in Excel and open-format CSV files.	Some gaps were identified as part of the assessment that would need to be addressed in order to match the figures in the Estimates of Expenditure (if at all possible). According to discussions with the MOFP team, the most recent financial year for which data are available from JaBIS is 2012-2013. Data presented in the format suggested by the World Bank team could be used to develop a BOOST database for Jamaica, if this is of interest to the authorities.	PRIORITY
In-year budget execution reports broken down by MDAs	At the moment the MOFP does not publish in-year execution reports broken down by MDAs. As noted above, there are some technical limitations with the FinMan software, which prevent extraction of data in Excel for all MDAs.	Expenditure data should be extracted and made available to the public to monitor budget execution of individual MDAs during the course of the financial year and at year-end, without having to wait one year or more for detailed execution figures to be reported in the Estimates of Expenditure. The technical limitations should be addressed through updates of the FinMan software for the MDAs for which data could not be extracted in Excel.	LONGER TERM

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Details of Revenue and Loan Receipts	Included in the Year-End Financial Statements in PDF format, provides detailed information on revenue data by type and source, including Ministries' own sources of revenue. Could be easily presented in Excel and open-format CSV files.	The Details of Revenue and Loan Receipts provide data for Accounts for FY "n-2", Estimates for FY "n-1", Consolidated Fund Receipts for FY "n-1", and Estimates for FY "n." The main challenge is that data on actual receipts (accounts) are available with a two-year time lag. Data from this statement could be used to develop a comprehensive revenue database for Jamaica, if this is of interest to the authorities.	QUICK WIN
Statement of Outstanding Public Debt.	Included in the Year-End Financial Statements in PDF format. The MOFP shared with the World Bank team statements for two financial years in Excel, indicating similar availability for other years. Could be easily presented in Excel and open-format CSV files.	Presents detailed and disaggregated information on short, medium, and long-term loans and securities of the government of Jamaica otherwise only found in aggregate fashion in Bank of Jamaica reports. However, only includes a snapshot of the outstanding public debt balance in March of the financial year.	QUICK WIN
Debt Reports (Bank of Jamaica)	Already published on BOJ website in Excel format with large time series. Could be easily converted into open-format CSV files.	Presents outstanding public debt balance on a monthly basis. Information is presented in multiple reports and not consolidated.	QUICK WIN
Quarterly Contracts Awards	Published in Excel format on the OCG website in a favorable structure. Could be easily converted into an open-format CSV file.	The database lists the particulars of all contracts awarded by public bodies since May 1, 2006, which have been reported to the Office of the Contractor General.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
National Contracts Commission (NCC) Contract Endorsement Spreadsheet Database	Published in Excel format on the OCG and NCC websites in a favorable structure. Could be easily converted into an open-format CSV file.	The database lists the particulars of all NCC-endorsed contracts.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Economic Sector Indicators - Selected Indicators	Published in PDF format on PIOJ's website. Provides access to selected indicators from the Economic and Social Survey Jamaica. Could be easily converted into an open-format CSV file.	This publication includes a wide range of indicators including government revenue and expenditures, GDP, production, exports, imports, balance of payments, and Consumer Price Index.	QUICK WIN
JamStats	The JamStats database is downloadable in CSV format on the DevInfo website[17] but the option to download it in an open format is not highlighted on the JamStats website itself. The "downloads" available from that site are some PDFs of graphics visualizing the data (this does not appear to be a systematic collection). The "Download Database" button gives a compressed file containing the JAMSTATS database in the proprietary format for the Microsoft Access package, which most non-specialist users will not have (or be able to afford). It should be easy to rectify the situation by providing a CSV version of the database.	JamStats has key social and economic indicators produced as part of the international DevInfo program. Making this data more accessible will increase its use.	QUICK WIN

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[17] http://www.devinfo.org/jamstats/libraries/aspx/Home.aspx

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Weather data	Weather observation and forecast data is made freely available on the Meteorological Service's website, although sometimes as graphics rather than figures. The underlying data is in digital form. It should be easy to make this data also available as downloadable files (for historic data) or as an API on the website (for current observations and forecasts) as other countries (including, in the region, Antigua) are already doing.	Weather data has value across Jamaican business, agriculture and society; universities have specifically asked for this data. The Meteorological Office do not currently charge for their data and the information is already available to view on their website so there would be no loss of revenue.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Map data	The National Land Agency has digital raster and vector mapping products at a variety of scales. These are already available to purchase.	Mapping data is one of the most important types of open data, and it is estimated that between 30% and 50% of the potential economic value of open data to a typical country comes from geospatial data. The NLA currently makes modest charges for digital products[18] which are very similar to the charges for equivalent paper products[19]. The costs for paper products appear to reflect largely the costs of printing, stock-holding and distribution, and do not seem to be priced to recover a significant element of surveying costs. The digital products are therefore not priced on a cost-reflective basis; if they were made downloadable on the internet (rather than, say, being distributed on CD) then there should be no significant cost of distribution and they could be made available free. Since paper products are priced only to cover the cost of printing and distribution there should be no net loss of income to the NLA.	QUICK WIN

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[18] http://www.nla.gov.jm/pricelist/mapsfees_07digital.asp
[19] See http://www.nla.gov.jm/pricelist/mapsfees_02topo.asp

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Property Transfers Price Paid Data	Price paid data is already available free for individual properties, and a full dataset is available monthly on paid subscription. This full dataset could be easily made publicly available.	Price paid data has fuelled innovative and valuable real estate services such as Zillow (US) and Zoopla (UK); their services have also made the property market more open and efficient, so benefiting consumers. The data is already available on subscription, so there is no point of principle in making it publicly available for free. There would be a loss of subscription income, but there would also be a saving in administrative costs and any net losses could be covered by adjusting land registration fees.	QUICK WIN
Cadastral/Land Registration Data	iMap Jamaica[20] already makes parcel data available free to view. The database of parcel data used to drive this site, including parcel identification information and parcel boundaries as viewable on the site, could be made available in downloadable and reusable form as well.	This is important geospatial reference information, but currently it can only be visualized on the iMap platform itself. If this information were made available in downloadable and reusable form then Jamaican business and society could make better use of it. Since the information is free to view anyway there should be no loss of revenue.	QUICK WIN

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[20] http://www.nla.gov.jm/map.asp

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
iMap layers	iMap also contains topographical and planimetric layers in its "Land Base" including place names; hotels, attractions and services; civil features; rivers; contours; transportation network; building footprints; land cover; and administrative/parish boundaries. This information could be made available in downloadable and reusable form as well.	This is important geospatial reference information, but currently it can only be visualized on the iMap platform itself. If this information were made available in downloadable and reusable form then Jamaican business and society could make better use of it. Since the information is free to view anyway there should be no loss of revenue.	QUICK WIN
Disaster Risk Information Platform	The Disaster Risk Information Platform (DRIP) already contains 31 datasets from 18 organisations of the Government of Jamaica on a CKAN platform. All that needs to be done is to clarify the licensing of each of the datasets: this is currently not specified.	Making this data explicitly open data on an internationally recognized open license would allow potential re-users to have confidence in the sustainability of their applications.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Annual School Census data down to individual school level	The Ministry of Education conducts an annual school census that feeds education statistics. School-level data is stored in an SQL database. In technical terms it could easily be extracted in CSV format. Digitized data is available back to 2000 (prior to that it is on paper back to the 1970s). The Ministry of Education already publish (as PDFs) parish level summaries.	Detailed education resource and performance data at the level of individual school is important for enabling parents and local communities to press their children's teachers to improve performance; summary data at parish or regional level is not nearly as useful. Countries that publish school level data generally do not have problems with the identification of individual children, but there could be risks where small numbers are involved (for instance children with special needs) and that needs to be considered and, where necessary, that specific data redacted.	QUICK WIN
Locations of Schools	The Ministry of Education has a geospatially referenced digitized list of schools and other educational establishments.	This data is important to be able to visualize other school data, and so should be made available. There are no obvious policy issues in doing so, and the data is already available on request anyway.	QUICK WIN
JAMIS retail price data	The Ministry of Agriculture have weekly retail price data from 2009 onwards. This is in Excel spreadsheets and so could be easily converted to open format for publication.	This data is already published as PDFs so there is no policy issue. However in its current form the data is difficult to use and analyze.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Agricultural data	The Ministry of Agriculture and RADA have a wide variety of data, with digitized data going back to around 2003. Most of it is in databases or Excel files, and it is used to produce PDF files for the MOA website[21]. This data could easily be released in reusable format as well as the PDFs.	Publication of the data in reusable form would allow it to be better and more easily used, increasing the value to Jamaican agriculture of the hard work of MOA, RADA and others in collecting it. Since extension-officer level data is already published, there should be no privacy or commercial sensitivity issues.	QUICK WIN

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[21] http://www.moa.gov.jm/AgriData/index.php

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Health data	In addition to individual patient records (which are of course personal information which should not be published as open data) the Ministry of Health collects and publishes Annual Reports at both national and regional level, regular Epidemiological Profiles and other structured statistical data. In addition to current PDF form these tables could be made available as open data in a reusable format. It would also be valuable to publish a definitive list of health centers and hospitals, together with their addresses and geospatial co-ordinates. The Caribbean Open Institute have previously published some of this data[22], but it is now out of date and should be regularly refreshed from the authoritative source in the Ministry.	Detailed health service information is important to help communities drive improvement in their local health services. The published statistical tables and other information have already been subjected to scrutiny to prevent inadvertent identification of individuals, so the privacy risks of publishing this data as open data are minimal.	QUICK WIN

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[22] http://data.caribbeanopeninstitute.org/dataset/jamaica-health-facilities-data/resource/878749a6-7ebb-4f1f-8720-4dbcc5e2a27c

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Road Accident Data	Data on individual road accidents is collected by the Technical Services Unit of the Ministry of Transport and stored in a standard package. It can be extracted in machine-readable form. Although the database holds some personal information, this is clearly separated into distinct fields and the Ministry were able to supply the Assessment with a sample of the data with the personal information redacted.	This data has proved important in other countries in allowing the development of applications which help road users identify and avoid accident blackspots, such as safe cycle route applications. The personal data currently collected can easily be removed before publication, and the value of the dataset is not diminished by its exclusion.	QUICK WIN
Bus Routes	Information on bus routes is already held on an Excel spreadsheet and could be converted into an open-format CSV file easily. Routes are described by road names rather than by co-ordinates but the descriptions are sufficiently full for the route to be geospatially traced by an application builder or on Open Street Map.	This data is potentially useful for enhancing Open Street Map and for application building. There is no risk associated with its publication and it is already in machine-readable form.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Vehicles which pass or fail safety inspections	Data is currently held manually, but there are plans to computerize it. The design of the computer system could easily include functionality to extract a published file of non-personal information about each vehicle in an open format.	This is important data for buyers of second-hand vehicles, and in other countries applications have been developed to allow buyers to check the safety history of a car. The data can also prove valuable in highlighting makes and models of vehicles which are unreliable or unsafe, and so improve market efficiency and customer satisfaction.	LONGER TERM
Data for Tourists: Tourist Facilities and Services	The Ministry of Tourism and the Jamaica Tourist Board already hold directories of licensed tourist facilities including hotels, guest houses, villas, tours, water services and excursions. They did not see any problems in making it available on line.	Application developers are already asking for this information in order to be able to develop smartphone services aimed at tourists. Better information on tourist services will encourage visitors to spend more on the island and possibly to prolong their stay. There is evidence that application developers have previously been thwarted by information only available as PDFs.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Data about Tourists	The Ministry of Tourism and the Jamaica Tourist Board already collect information about the demographics of visitors, spend of visitors, and hotel utilization. This is held in spreadsheets and made available currently as PDFs. Data is available back to 1952. It would be easy to publish the spreadsheets of recent data alongside the PDFs.	This information is already regarded as very useful by prospective investors, and making it available in reusable form would help them make easier and better use of it.	QUICK WIN
National Library of Jamaica catalogue and national bibliography	The catalogue and bibliography are already in machine-readable form using standard catalogue software and could be easily extracted periodically as a bulk file in a suitable open format and placed on the NLJ's website	The catalogue and bibliography are key data for Jamaican cultural heritage and are compiled as part of the core work of NLJ. Both catalogue and bibliography are already available on CD. Although the CD is charged at JA$1,000 for production and retail mark-up the NLJ say that this does not even cover the production costs. Therefore there would be no loss of net income to the NLJ by making the data freely available in bulk on the internet.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
National Library of Jamaica photograph collection	NLJ already has high-resolution digital scans of its photograph collection. These could be converted into low-resolution versions using standard software where low-resolution copies are not already available.	These photographs are a key part of Jamaican's history and cultural heritage, and could be beneficially used in a wide range of applications including education, research, tourism and community-building. Currently there are modest charges for high resolution images for print and for website use, although there are exceptions for non-commercial use within Jamaica. Making available low-resolution versions (at 640x480) as open data on the internet for free download would enable the images to be used much more widely, in Jamaica and to promote Jamaica abroad, without significant cannibalization of income from the sale of high-resolution images to professional publishers.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Ministry of Youth and Culture pictures and audio and video recordings	The MYC are in the process of digitizing their collection of papers and pictures and of audio and video recordings.	These assets are a key part of Jamaica's cultural heritage. The digitization program is already tax-payer funded in order to preserve and use these assets. There is no current intention to charge for use of this data, apart possibly from the costs of printing and copying. Making these assets available as open data on the internet for free download would enable this important collection to be more widely used within Jamaica and to promote Jamaica and its culture overseas.	QUICK WIN
Mining and Quarrying Licenses	A list of licensed mines and quarries is already published in PDF form. The PDF information is extracted from an SQL database and from Excel spreadsheets, and so it should be easy to extract the same information into CSV files.	This is important transparency data. The Mines and Geology Division were concerned about the web hosting costs: it is not believed that there should be any extra tangible costs, and if there were it could be recovered from license income.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Geological maps	The Mines and Geology Division of MSTEM holds digitized geospatial data including geological maps, fault maps, and mineral maps down to parish level. Metadata is maintained to the guidelines of the Land Information Council of Jamaica. Since this is already digitized it should be easy to release.	This is important information for both general uses and for the efficient operation of the market in extraction licenses. This information is already available at reproduction costs; if the data were made available digitally on the internet the costs would not be significant, and any extra costs of running the website could be recovered from income from extraction licenses. Although these datasets are subject to the Geospatial Data Sharing and Access Council procedures (about which this Assessment makes broader recommendations) it is not considered that there would be national security issues associated with this data.	QUICK WIN
Energy data	Information is already published as PDFs on two websites and the Energy Division told the Assessment that it could easily be provided as Excel spreadsheets.	The Energy Division considered that the wider availability of this data would assist its objective of encouraging greater investment. Investors had already been asking for this data. It did not see any risks, not least because the data was already available in PDF form.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Social Development Community profiles	The Social Development Commission have compiled excellent data packs ("profiles") on individual communities - there are now community profiles for 785 communities, covering socioeconomic data, geospatial data, historical information, demographic data, development data, asset maps, community centers and other facilities, educational data and more. Structured data is stored in Excel and SPSS and SDC could export it to CSV format. However with 785 profiles each with multiple datasets it could take some time to publish them all.	This data collection is a treasure trove of well-curated local data covering 75% of Jamaica. Currently SDC charge for the printed versions of the profiles at the cost of JA$2000 for each, but the charge is designed to cover only printing and distribution costs. SDC consider that if this information were put on line their finances would not suffer in any way and, because more people would have access to the data, their social objectives for curating the data would be even more effectively met.	<mark>PRIORITY</mark>

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Mobile spectrum licenses and auctions	This data is held in detail by the Spectrum Management Agency. It could be extracted relatively easily, although there may need to be consultation with mobile operators on its release, particularly with respect to exact frequencies.	Both the results of auctions and the details of licenses held are important to the transparency of the management of the available spectrum, and the release of the information would also tend to encourage the more efficient use of spectrum by allowing over-provision to be identified. The 2012 amendment to the Telecoms Act removed blanket commercial confidentiality and gave the SMA criteria to balance the public interest and right to know against the commercial interest of individual license holders.	PRIORITY
Spectrum Management Authority approved devices	The list of approved devices is already available as a PDF file, which is extracted from a spreadsheet or database. This could be easily extracted into an open format such as CSV.	This information is already in the public domain and providing it in machine-readable and open format form would make it easier to access and reuse.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Public Service Performance Measurement data	A major system is being built to collect 1800 performance indicators for the public services of Jamaica. As a modern system it should be easy to extract the data into an open format like CSV.	Public Service Performance Measurement information is a key part of accountability and publishing would be an expected part of the Prime Minister's commitment to Open Government. Regular publication of the data would make better use of the six-year development program in which the Government of Jamaica is already investing substantial resources.	PRIORITY

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OPENING BUDGETS IN JAMAICA

Background

The Open Data and Open Budget Readiness Assessment offered the opportunity to include a 'deep dive' into Open Budget Data within the context of a broader Open Data Readiness Assessment. Drawing from the analytical framework of the BOOST Initiative[23], the team focused on identifying opportunities to promote fiscal openness in a structured and usable format, distinguishing both "quick wins" in terms of fiscal transparency efforts that the country can implement in the very short term, to medium and longer term actions needed to have high quality open budget data. Jamaica is the second country in the Caribbean to take part in an Open Data and Open Budget Readiness Assessment.

The purpose of the activity was to provide the Government of Jamaica (GoJ) with clear and actionable policy recommendations on how to improve fiscal transparency through open budget data. This implied the need to first assess what information is available and in what format from financial management information systems and other data sources and cross this against existing public interfaces considering the demand for open budget data both inside and outside of government. From the perspective of fiscal openness, the mission conducted interviews with officials from several divisions[24] of the Ministry of Finance and Planning (MOFP) and its departments/agencies,[25] as well as eGov Jamaica Ltd., to take stock of existing infrastructure in producing, collecting and analyzing open budget data. In addition, the team met with representatives from civil society organizations and think tanks to explore the demand side of open budget data.

The initial diagnostic concludes that there is a strong opportunity for the Government of Jamaica to significantly improve fiscal transparency through open budget data. This could be achieved by opening the following quick win and priority datasets: budget, revenue, public debt, and government contracts. The assessment notes there are important delays in the publication of actual expenditure. In the medium-term, the Government of Jamaica should consider the publication of in-year and year-end budget execution reports broken down by Ministries, Departments and Agencies (MDAs) in open format. Financial Secretary Devon Rowe expressed his full support for implementation of an Open Data initiative in Jamaica and agreed to open datasets from the Ministry of Finance and Planning as part of the program.

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[23] The BOOST Initiative is a World Bank collaborative effort launched in 2010 to facilitate access to budget data and to support improved fiscal decision making, expenditure analysis and accountability.

[24] Corporate Services, Economic Management Division, Public Enterprise Division, Public Expenditure Division, and Public Expenditure Policy Coordination Division.

[25] The Accountant General's Department (AGD), Bank of Jamaica (BOJ), Jamaica Customs, Planning Institute of Jamaica (PIOJ), and Tax Administration Jamaica (TAJ).

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Publication of Open Budget Data

Open Budget Data consists of data on budget, revenues, expenditures and other financial activities that are made freely available - in machine readable formats - for anyone to use, redistribute, and republish as they wish, without restrictions; such as from copyright, patents, or other mechanisms of control.[26]

According to a study from the World Bank[27], only 12 out of 198 economies publish open budget data through a dynamic website linked with the Financial Management Information System (FMIS) database, which allows for interactive query options for the generation of reports. 22 economies publish open budget data through a dynamic website, in some cases linked with the FMIS database, but present data from a predefined list (mainly in PDF and Excel). The vast majority of economies publish open budget data through a static website not linked to the FMIS database from unidentified sources (mainly in PDF). 32 economies do not publish public finance information (see Table 1).

- The study does not provide a detailed listing of the economies in each category, but given the extent of budget information that Jamaica publishes in PDF (see Annex 1: Publication of Public Finance and Contracts Data in Jamaica), it falls under the category of economies that publish budget data through a static website that is not linked to the FMIS database.

The study also groups economies according to their practices in publishing open budget data from FMIS databases. 24 out of 198 economies publish extensive information and are highly visible. 69 economies publish significant information and are visible. 60 economies publish some information and have limited visibility. 45 economies publish minimal or no information at all and have minimal visibility (see Table 2).

- Jamaica falls under the group of economies that disclose some budget information and have limited visibility in terms of open budget data practices.

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[26] PDF (Portable Document Format) are not typically considered machine readable or "open." However, there are tools to extract underlying data from PDF reports which makes this format closer to machine readability than other document formats.

[27] Dener, Cem and Saw Young Min. *Financial Management Information Systems and Open Budget Data: Do Governments Report on Where Money Goes?* Washington, DC: The World Bank, 2013. Accessed January 31, 2015. http://documents.worldbank.org/curated/en/2013/09/18304492/financial-management-information-system-open-budget-data-governments-report-money-goes.

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Table 1. How Are Open Budget Data Published?

Category	Economies
Dynamic website linked with FMIS database: interactive query options for reports	12
Dynamic website some linked with database to present data from predefined list (mainly PDF, XLS)	22
Static website not linked to database to publish data from unidentified sources (mainly PDF)	132
No published public finance information	32

Table 2. Summary of Government Practices in Publishing Open Budget Data

Group	Good Practices in Disclosing OBD from FMIS	Economies	% Economies
A	Highly visible (extensive information)	24	12%
B	Visible (significant information)	69	35%
C	Limited visibility (some information)	60	30%
D	Minimal visibility (minimal or no information)	45	23%
Totals >		198	100%

+ The Government of Jamaica makes comprehensive public finance information available to the public through the websites of the MOFP, PIOJ, and BOJ (see Annex 1: Publication of Public Finance and Contracts Data in Jamaica).

+ Contracts data are published through the Office of the Contractor General (OCG) and the National Contracts Commission (NCC) (see Annex 1: Publication of Public Finance and Contracts Data in Jamaica).

− The team noted the existence of a 'legacy' practice of sharing data in PDF format, even between government agencies, creating inefficiencies due to time and resources spent reconverting data into accessible formats.

International Open Budget Initiatives

Government participation in international initiatives on open budget and transparency issues sends a strong signal to local and international communities of serious government commitment to increase civic participation and make government more open, effective, and accountable. There is also empirical evidence on the beneficial effects of fiscal transparency for improved budgetary outcomes, lower sovereign borrowing costs, and decreased corruption.[28]

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[28] http://www.sciencedirect.com/science/article/pii/S0305750X12001647

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In the Caribbean region, Dominican Republic and Trinidad and Tobago were the only two countries that participated in the International Budget Partnership's (IBP) 2012 Open Budget Survey[29]. Dominican Republic also appears in the IBP's Open Budget Survey Tracker[30], which can be used to quickly review the country's Open Budget Index (21 out of 100 points) and track which of the eight key budget documents[31] it has produced and/or published.

Dominican Republic and Trinidad and Tobago are also the only two countries in the Caribbean participating in the Open Government Partnership.[32] Both countries' open government action plans include commitments related to open data.

Work is underway to develop BOOST databases in Haiti and Saint Lucia, which will enable better and user-friendlier access to budget and expenditure data[33].

Currently there are no Caribbean countries in the World Bank's Open Budgets Portal,[34] which serves as a one stop shop for budget data worldwide. The Portal's objective is to bring visibility to countries' efforts in the field of open budgets, facilitate access and promote use of spending data, and motivate other countries into action.

- The Government of Jamaica is currently not a member of any international open budget initiatives.

National Budget Structure and Revised Budget Calendar

To map out feasible government interventions and actions, the team identified what documents the Government of Jamaica already publishes and in what format (see Annex 1: Publication of Public Finance and Contracts Data in Jamaica). In addition, it requested information from the MOFP to understand the national budget structure, as well as the main activities, responsibilities and timelines related to the budget calendar.

+ The budget classification system in Jamaica seems to be broadly inspired in internationally recognized standards, mainly the Government Finance Statistics (GFS) 2001 and the Classification of the Functions of Government (COFOG).

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[29] http://internationalbudget.org/wp-content/uploads/OBI2012-Report-English.pdf
[30] http://www.obstracker.org/
[31] The eight key budget documents are: Pre-Budget Statement, Executive's Budget Proposal, Enacted Budget, Citizens Budget, In-Year Report, Mid-Year Review, Year-End Report and Audit Report.
[32] http://www.opengovpartnership.org/countries
[33] BOOST databases can be used to promote fiscal transparency by giving citizens access to detailed budget and expenditure data.
[34] http://www.worldbank.org/openbudgets

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+ The budget is organized according to the following classifications:

- Administrative, which is broken down in heads
- Functional, which includes two levels: function and sub function
- Economic, which includes three levels: object, sub object, and sub sub object (an additional level was added in the most recent version of the Chart of Accounts, further detailed sub object, which applies for 2014-2015 and 2015-2016)
- Programmatic, which includes two levels: program and sub program
- Project/activity (the most recent version of the Chart of Accounts displays two levels below project/activity: sub project and sub sub project)
- Pattern, which can be used to distinguish between Recurrent, Capital A (Government of Jamaica funded projects), and Capital B (multilateral/bilateral projects).

+ The functional classification used to comprise of 25 functions, although in the most recent version of the Chart of Accounts the number of functions was narrowed down to 10 to coincide with COFOG.

+ This is the first year that the MOFP presents the Government of Jamaica's Estimates of Revenue and Expenditure for parliamentary approval before the beginning of the financial year, which goes from April to March of the following year. In the past, the Estimates of Expenditure would be tabled in Parliament at the beginning of the financial year. Within weeks, the MOFP would indicate how the presented budget would be financed. According to the MOFP, this created a "wait-and-see" approach by businesses in the country, which would hold on additional investments until further details of the budget would be known. The changes in the budget cycle are a "significant step to foster greater participation by the Parliamentary Opposition, the public, and interest groups in the budget process."[35]

+ This year the Estimates of Revenue and Expenditure were presented in Parliament and published in the MOFP website in a timely fashion. If both Houses of Parliament approve them no later than March 31st, it would signify a positive change in Jamaica's Public Financial Management practices. According to a document from the Public Expenditure Division of the MOFP, the PEFA Review for 2012 highlighted "increasing delays in completion of the budget process" as a result of the absence of a fixed budget calendar.[36]

+ The Estimates of Expenditure are structured by Heads of Estimates and reflect the Government of Jamaica's development policies and priorities. The Estimates present both recurrent and capital accounts:

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[35] http://jis.gov.jm/media/ad2-budget-cycle.pdf
[36] http://www.mof.gov.jm/documents/documents-publications/document-centre/file/882.html

- Recurrent account: "Represents the costs of maintaining the permanent administrative structure of government."
- Capital account: "Cost of maintaining the national infrastructure, and implementing projects that enhance the country's ability to pursue growth and development."[37]

\+ The Estimates of Expenditure also provide the revised and approved estimates for the previous financial year, which makes it easy to compare budget allocations from one financial year to the next (see Table 3).

\- Actual expenditure, while presented in the same format as the estimates, is published with a two-year lag (see Table 3). In addition, actual expenditure is marked as provisional. The significant delay in the publication of actual expenditure makes it very difficult for accountability institutions and the public at large to monitor the spending of individual MDAs.

\+ Data on externally funded projects (Capital B) are reported in the Estimates of Expenditure according to GFS standards and in-line with recurrent and domestically funded projects (Capital A).

Table 3. Excerpt from Estimates of Expenditure 2012-2013, Recurrent

Head No. and Title	Estimates, 2012-2013	Revised Estimates, 2011-2012	Approved Estimates, 2011-2012	Actual (Provisional) Expenditure, 2010-2011
0100 His Excellency the Governor-General and Staff	121,637.0	114,952.0	100,492.0	91,854.0
0200 Houses of Parliament	712,782.0	701,929.0	645,342.0	665,005.0
0300 Office of the Public Defender	76,561.0	68,557.0	73,425.0	87,881.0
0400 Office of the Contractor-General	209,695.0	208,712.0	198,672.0	184,537.0
0500 Auditor General	346,598.0	329,179.0	337,613.0	293,471.0
0600 Office of the Services Commissions	148,592.0	151,414.0	144,773.0	141,854.0
0700 Office of the Children's Advocate	84,078.0	71,608.0	75,435.0	54,151.0
0800 Independent Commission of Investigations	288,000.0	236,710.0	200,000.0	37,934.0
1500 Office of the Prime Minister	1,354,588.0	1,991,651.0	2,520,657.0	2,525,258.0
1510 Jamaica Information Service	283,368.0	293,825.0	278,251.0	280,343.0
Total Office of the Prime Minister and Departments	1,637,956.0	2,285,476.0	2,798,908.0	2,805,601.0

\+ Interim figures for Consolidated Fund[38] receipts (actuals) are presented in the Financial Statements & Revenue Estimates with a one-year lag. Final figures are presented with a two-year lag. For example, the 2015-2016 edition presents the estimates for financial years 2014-2015 and 2015-2016. Consolidated Fund receipts are available for financial year 2014-2015 with a December cutoff date

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[37] http://www.mof.gov.jm/budgets/budget-speech.html
[38] All revenues collected by the Government of Jamaica must be placed in the Consolidated Fund.

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(the financial year ends in March). Information on receipts is not available for the entire financial year, as the Revenue Estimates must be published before the end of the financial year in light of the revised budget calendar. Final figures (accounts) are available for financial year 2013-2014.

+ The MOFP does publish a Central Government Operations Table on a monthly basis, which provides aggregate figures of "Revenue and Grants," as well as "Expenditure" broken down by Recurrent and Capital. This is the only publication that provides nearly up-to-date information about revenue collection and government spending.

- The team was unable to find in-year execution reports broken down by MDAs. As noted above, detailed execution reports are only available with a two-year lag.

Analysis of Datasets

This section presents an analysis of key datasets that the MOFP shared with the World Bank team. In addition, it presents an analysis of public debt data that are published in the website of the BOJ and contracts data that are published in the websites of the OCG and the NCC.

The MOFP shared the following documents with the World Bank team. The format of the file is indicated in parenthesis:

- Chart of Accounts[39]
  - Head group (PDF)
  - Function group (PDF)
  - Object group, including codes used prior to changes in 2014-2015 (PDF and Excel)
  - Program group (PDF)
  - Project/Activity group (PDF)
  - Pattern group (PDF)
- Estimates of Expenditure 2012-2013 and 2013-2014 (Zip file with Word files for each Head, plus summary tables)
- Budget and expenditure data from the Jamaica Budget Information System (JaBIS) for financial year 2012-2013 (Excel)
- Expenditure data from the FinMan system for financial year 2013-2014 (Excel)
- Details of Revenue and Loan Receipts for financial years 2012-2013 and 2013-2014 (draft version in Excel)
- Comparative Collections Report from Tax Administration Jamaica (Excel)[40]

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[39] A description of the national budget structure based on the Chart of Accounts for the Government of Jamaica is presented above.
[40] This document was not analyzed in detail, since information on tax revenue is available in the Details of Revenue and Loan Receipts.

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- Statement of Outstanding Public Debt (Local) for financial years 2012-2013 and 2013-2014 (Excel)
- Statement of Outstanding Public Debt (Foreign) for financial years 2012-2013 and 2013-2014 (Excel)
- List of Access to Information Requests, January 2004-April 2014 (PDF)

Estimates of Expenditure 2012-2013 and 2013-2014

The Public Expenditure (PEX) Division of the MOFP (formerly the Budget Division) prepares "camera-ready" documents required for printing of the Estimates of Expenditure. Individual Word documents are prepared for each Head for Recurrent, Capital A, and Capital B where applicable. Summary tables are produced for Recurrent, Capital A, Capital B, as well as statutory provisions (both recurrent and capital). The PEX Division assembles the Word documents in one PDF file for printing and publication through the MOFP website.

Each of the Zip files that the MOFP shared with the World Bank team contains over one hundred Word files. The files are clearly marked with the code for each Head as well as the content of the summary tables. While Microsoft Word is proprietary software, the tables contained in the file can be pulled out of the Word files and copied in a spreadsheet in a structured format. This is certainly easier than copying individual cells for analysis from the PDF version that is made available through the MOFP website.

+ The team recommends uploading the Zip files of the Estimates of Expenditure in the MOFP website to aide users that need access to the underlying data in a format other than PDF. This would be an interim solution, as ideally the data should be extracted from JaBIS and presented in Excel and open-format CSV files.

Budget and expenditure data from the Jamaica Budget Information System (JaBIS) for financial year 2012-2013

The MOFP shared with the World Bank team a file named 'Open Data - Budget - Jamaica - 2012-13.xlsx,' which contains budget and expenditure data from JaBIS.

+ The file follows the template provided by the World Bank team to the MOFP and presents budget and expenditure data for financial year 2012-2013. It includes data for recurrent, Capital A (Government of Jamaica Funded Projects), and Capital B (Multilateral/Bilateral Projects). The file includes all the necessary variables to match the structure of the Estimates of Expenditure (Pattern, Head, Function, Sub Function, Programme, Sub Programme, Activity, Object, and Source). It also includes Sub Object and Sub Sub Object, which are not reported in the Estimates of Expenditure, but are variables contained in JaBIS. Figures are available for the entire budget and expenditure chain: budget division estimates, approved, revised, and actual expenditure. Figures are also available for statutory provisions and appropriations-in-aid.

o   There are two variables that could be included in future extractions of budget and expenditure data to provide additional detail regarding the project/activity classification, provided they are available for the financial year of interest. These variables are Sub Project and Sub Sub Project.[41] That said, according to the MOFP team, data source issues will affect agreement beyond Activity level.

–   The codes and descriptions for Source, which is one of the variables included in the file, contain characters that must be cleaned from the data before publication.

+   The structure of the spreadsheet makes it ideal for budget analysis (see Figure 1), as a Pivot Table in Excel can be created from the data. Pivot Tables can be used to summarize the data and create customized reports. BOOST databases are usually created by extracting budget and expenditure data from a country's FMIS in this particular format.

Figure 1. Format of Budget and Expenditure Data Extracted from JaBIS

year	pattern_cod	pattern_desc	head_code	head_desc	function_cod	function_des	subfunction_	subfunction_	program_co	program_de
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge
2012	1	Recurrent	100	His Excellen	1	General Gov	1	Executive ar	140	Governor Ge

The figures in the file were summarized and compared with the figures from the summary tables that appear in the Estimates of Expenditure. Table 4 indicates what versions of the Estimates of Expenditure were used for the reconciliation. While the data provided by the MOFP correspond to financial year 2012-2013, figures for approved and revised estimates and actual expenditure for financial year 2012-2013 appear in the Estimates of Expenditure 2013-2014 and 2014-2015 respectively.

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[41] Please note that these variables only apply to financial year 2014-2015 onwards.

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Table 4. Guidelines for Reconciliation against Estimates of Expenditure

Name of Variable in File Provided by the MOFP	Version of the Estimates of Expenditure Used for Reconciliation	Name of Column Used for Reconciliation
budget_division_est	2012-2013	Estimates, 2012-2013
approved	2013-2014	Approved Estimates, 2012-2013
revised	2013-2014	Revised Estimates, 2012-2013
actual_expenditure	2014-2015	Actual (Provisional) Expenditure, 2012-2013
statutory	2012-2013	Statutory
appro_in_aid	2012-2013	Appropriations in Aid

There are some important gaps in the data, particularly in the figures for approved, revised and actual expenditure, which are presented below:

o There are Heads that appear in the Estimates of Expenditure, but do not appear in the file that the MOFP provided to the World Bank (see below). The figures for these particular Heads are always zero, thus whether they appear or not in the file does not affect aggregate budget figures.[42]

Recurrent

2015 Inland Revenue Department
2041 Taxpayer Audit and Assessment Department
2042 Taxpayer Appeals Department
2044 Tax Administration Services Department

Capital B

1700 Ministry of Tourism and Entertainment

o The file that the MOFP provided to the World Bank also includes data for Heads that do not appear in the Estimates of Expenditure (see below). The budget for

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[42] Please refer to the reconciliation files for more detail (see Annex 2: Reconciliation of Budget and Expenditure Data from JaBIS). The rows highlighted in green represent Heads that appear in the Estimates of Expenditure, but do not appear in the file that the MOFP provided to the World Bank.

these particular Heads is always zero, which might be the reason why they are not reported in the Estimates of Expenditure.[43]

Recurrent

1800 Office of the Prime Minister
6300 Ministry of Housing, Environment and Water
6400 Ministry of Housing, Environment, Water and Local Government

Capital A

1800 Office of the Prime Minister
6300 Ministry of Housing, Environment and Water
6400 Ministry of Housing, Environment, Water and Local Government

–   The figures for budget division estimates were compared with the 'Estimates, 2012-2013' (available in the Estimates of Expenditure 2012-2013). While the aggregate figures are similar, there are differences in most of the Heads. That said, when the figures for budget division estimates are compared with the 'Revised Estimates, 2012-2013' (available in the Estimates of Expenditure 2013-2014), there is a 100% match in almost all of the Heads for Recurrent, and a 100% match in all of the Heads for Capital A and Capital B.[44] The World Bank team will seek clarification from the MOFP to confirm whether budget division estimates (the name that appears in the file) correspond to Estimates or Revised Estimates (the names that appear in the Estimates of Expenditure).

–   There are differences between the figures reported in the Estimates of Expenditure and the figures reported in the file that the MOFP provided to the World Bank. The differences are not systematic. There are instances where the figures match what is presented in the Estimates of Expenditure, but there are differences for Recurrent, Capital A, and Capital B, particularly for approved, revised and actual expenditure. For example, there are several Heads for which the figures for approved, revised and actual expenditure appear as zero (see below).[45] The differences might be due to issues with the extraction of the data,

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[43] Please refer to the reconciliation files for more detail (see Annex 2: Reconciliation of Budget and Expenditure Data from JaBIS). The rows highlighted in yellow represent Heads that do not appear in the Estimates of Expenditure, but appear in the file that the MOFP provided to the World Bank.
[44] Please refer to the reconciliation files for more detail (see Annex 2: Reconciliation of Budget and Expenditure Data from JaBIS). The cells highlighted in red represent Heads for which differences were identified by the World Bank team.
[45] Please refer to the reconciliation files for more detail (see Annex 2: Reconciliation of Budget and Expenditure Data from JaBIS). The cells highlighted in red represent Heads for which differences were identified by the World Bank team.

rather than inconsistent data from JaBIS. This is something that the World Bank team would like to confirm with the MOFP.

Recurrent

100 His Excellency the Governor-General and Staff
200 Houses of Parliament
300 Office of the Public Defender
400 Office of the Contractor-General
500 Auditor General
600 Office of the Services Commissions
700 Office of the Children's Advocate
800 Independent Commission of Investigations
1500 Office of the Prime Minister
1510 Jamaica Information Service
1600 Office of the Cabinet
1649 Management Institute for National Development
1700 Ministry of Tourism and Entertainment
2000 Ministry of Finance and Planning
2830 Administrator General
2831 Attorney General
2833 Office of the Parliamentary Counsel

Capital A

1500 Office of the Prime Minister
1600 Office of the Cabinet
2000 Ministry of Finance and Planning

Capital B

1500 Office of the Prime Minister
1600 Office of the Cabinet
2000 Ministry of Finance and Planning

- The figures for 'Actual (Provisional) Expenditure, 2012-2013' reported by the MOFP (available in the Estimates of Expenditure 2014-2015) are exactly the same as the figures for 'Revised Estimates, 2012-2013' (available in the Estimates of Expenditure 2013-2014). This means that the Estimates of Expenditure 2014-2015 cannot be used as a reconciliation source for actual expenditure (this is evident from the results of the reconciliation). The MOFP explained that actual expenditure figures for 2012-2013 were not available in JaBIS before compilation of the Estimates of Expenditure 2014-2015. In addition, the coding schema for the Estimates of Expenditure 2014-2015 is not compatible

with that for 2012-2013 due to revisions implemented in the Chart of Accounts. The MOFP will need to confirm whether actual expenditure data from JaBIS can be used for open budget data purposes, since there is no reconciliation source to guarantee the quality and consistency of the data.

+ The team recommends extracting budget and expenditure data from JaBIS in the same format as the file that was shared with the World Bank team. The MOFP would need to address the gaps presented above in order to match the figures in the Estimates of Expenditure (if at all possible). According to discussions with the MOFP team, the most recent financial year for which data are available from JaBIS is 2012-2013. It would be useful to extract at least five years of budget and expenditure data. The data should be made available in Excel and open-format CSV files and could be used to develop a BOOST database.

Analysis of expenditure data from FinMan

The MOFP shared with the World Bank team three files named 'Master Recurr.xls,' 'Master - CapA.xls,' and 'Master - CapB.xls,' which contain expenditure data from the FinMan software for financial year 2012-2013.

– The format of the files bears no resemblance to the budget and expenditure data extracted from JaBIS. In particular, in some cases the data correspond to financial year 2012-2013, and in others to financial year 2013-2014. In addition, data are not available for all MDAs. In the data extracted from JaBIS, there is information for sixty Heads for Recurrent. In the data extracted from the FinMan software, there is mention of thirty-three Heads for Recurrent, although data are not available for all of them. Data are presented for each Head in individual spreadsheets. The MOFP team noted that not all MDAs were included, as their FinMan software has not been updated.

– The structure of the individual spreadsheets is not consistent either. In most cases, the files provide the breakdown by Activity/Project and Object for each MDA. There are some instances where the data are available by Sub-Activity, Detailed Sub-Activity, and Sub Object. Figures are available for Original Estimate, Supplementary Estimates (First, Second, and Third), and Total Net Expenditure.

– Unlike the budget and expenditure data from JaBIS, there is no information for Function, Sub Function, Programme, Sub Programme, and Source. The data are not structured in a way that it can be aggregated and summarized using Pivot Tables.

Details of Revenue and Loan Receipts

Details of Revenue and Loan Receipts is a detailed statement of revenue estimates that the MOFP publishes in the Year-End Financial Statements and Revenue Estimates,

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which it presents to Parliament each year. The Year-End Financial Statements and Revenue Estimates are available in PDF format on the website of the MOFP, covering financial year 2004-2005 until 2015-2016.[46]

+ The Details of Revenue and Loan Receipts provides comprehensive and disaggregated data on revenue and loan receipts according to the revenue Chart of Accounts. The data provided are structured according to four main categories: I. Recurrent Revenue, II. Capital Revenue, III. Transfers from Capital Development Fund; IV. Loan Receipts. Each category is composed of a Head which can be interpreted as the specific budget line under which a type of revenue is classified i.e. Income Tax, Land and Property tax, Stamp Duties, etc.

+ The Details of Revenue and Loan Receipts provide data for Accounts for FY "n-2", Estimates for FY "n-1", Consolidated Fund Receipts for FY "n-1", and Estimates for FY "n."[47]

In financial year 2012-2013, Recurrent Revenue accounted for approximately 68% of Total Revenue and Loan Receipts while Loan Receipts taking up 30% of the total receipts. Under recurrent revenue, Head 24: Departmental and Other Miscellaneous Revenues tracks and details revenues received by different government departments from miscellaneous sources such as processing and compliance fees, commissions, contributions to pension funds amongst others. Head 31: Loan Receipts classifies loans received by source (multilateral, bilateral, and domestic) and by donor or type.

– The Year-End Financial Statements and Revenue Estimates are published in PDF Format.

+ Details of Revenue and Loan Receipts is included in the Year-End Financial Statements and Revenue Estimates and published on the MOFP website with coverage spanning 10 years. A consolidated revenue dataset with a large time-series could be developed from these data, provided the information is available in Excel.

+ The team received a draft version of the Details of Revenue and Loan Receipts for financial years 2012-2013 and 2013-2014 in Excel. The data are presented in a favorable structure. The team believes this is a quick win dataset that the MOFP can publish in the short term.

Debt Data

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[46] http://www.mof.gov.jm/budgets/financial-statements.html
[47] The Consolidated Fund is the primary account to which all Government revenue is deposited and from which expenditure, through warrants, is withdrawn.

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The MOFP and the BOJ publish data on public debt. The MOFP publishes public debt data in PDF format. The BOJ processes data it receives from the MOFP, but publishes it in Excel format.

Statement of Outstanding Public Debt

Statement of Outstanding Public Debt is a detailed statement presenting the internal and external outstanding public debt balance as of March 31 of the financial year that the MOFP publishes in the Year-End Financial Statements and Revenue Estimates that it presents to Parliament each year. The statement presents short, medium, and long-term loans and securities of the Government of Jamaica. The Year-End Financial Statements and Revenue Estimates are available in PDF format on the website of the MOFP, covering financial years 2004-2005 to 2015-2016.

+ Statement of Outstanding Public Debt presents the outstanding balance for (i) internally held public debt and (ii) externally held public debt. Internally held public debt is shown according to:

  - Perpetual Annuities
  - Market Loans (Treasury Bills Issues, US$ denominated Bonds, Jamaica Dollar Benchmark Investment Notes, US Dollar Benchmark Investment Notes, CPI-Indexed Investment Note)
  - Institutional Loans (Commercial Banks, Public Sector Entities)

  Externally held public debt identifies the specific bonds, projects and programs under which the debt was incurred by:

  - Foreign currency obligations to commercial enterprises
  - Foreign government and government agencies
  - International and multilateral institutions

– As noted earlier, the Year-End Financial Statements and Revenue Estimates are published in PDF Format.

+ Statement of Outstanding Public Debt is included in the Year-End Financial Statements and Revenue Estimates and published on the MOFP website with coverage spanning 10 years. A consolidated public debt dataset with a large time-series could be developed from these data, provided the information is available in Excel.

+ The team received Statement of Outstanding Public Debt for financial years 2012-2013 and 2014-2015 in Excel. The data are presented in a favorable structure. The team believes this is a quick win dataset that the MOFP can publish in the short term.

Debt data published by the Bank of Jamaica

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As part of the statistics and other information provided on its website, the Bank of Jamaica publishes in Excel format public debt data on a monthly basis starting from 1983. The data encompasses the information provided in the Statement of Outstanding Public Debt mentioned above but presents it in a different structure.[48] In fact, Bank of Jamaica compiles and prepares its reports on public debt based on records from the MOFP.

+ Public debt reports on the BOJ website include:

- National Debt – Internal
- Direct External Debt
- Government Guaranteed External Debt
- Medium & Long-term Public & Publicity Guaranteed External Debt
- Medium & Long-term Public & Publicity Guaranteed External Debt (by Creditor category)

The reports present monthly data by type and holder of the debt covering almost thirty years in some cases.

+ Bank of Jamaica publishes its public debt reports in Excel format.

– The team was informed that the MOFP shares its records on public debt via PDF documents resulting in time and effort spent by BOJ officials to scrape the data and make it available in Excel format.

Contracts

The Office of Contractor General publishes data on contracts awarded by public bodies. The National Contracts Commission also publishes data on the contracts they have endorsed. This information is also made available to the public in Excel format.

Quarterly Contracts Award

The Office of the Contractor General (OCG) requires all public bodies that have awarded a contract to submit a report containing the particulars of contracts awarded to OCG Quarterly Contracts Awards (QCA) database Web Portal. As of July 1, 2012, all contracts within a value range of J$500,001 to infinity are reported in the QCA database.[49]

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[48] http://www.boj.org.jm/statistics/econdata/stats_list.php?type=8
[49] For prior years, please see http://www.ocg.gov.jm/ocg/view/qca-consol

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+ The QCA Database, published on the OCG website in Excel format, lists the particulars of all contracts awarded by public bodies since May 1, 2006 which have been reported to the Office of the Contractor General.[50] It includes the year, quarter, and month in which a public body has awarded a contract. In addition, it lists the particulars of the contract i.e. description, name of contractor, contract type, value of contract, procurement method, number of tenders requested/received and the procurement committee approval date.

+ Public bodies prepare and submit their QCA reports using OCG QCA Web Portal. This reduces delays in making these data available in a timely fashion.

+ The QCA publishes data in a timely manner; the database includes contracts up to December 2014.

+ The QCA database is published on the OCG website in Excel format. The data are presented in a favorable structure. The team has marked this as quick win dataset, as the QCA database could be easily converted into an open-format CSV file.

National Contracts Commission (NCC) Endorsed Contracts

Government contracts that are above J$15 million in value are reviewed and endorsed by the NCC before the public body in question can award the contract.[51] The OCG has compiled a database of NCC-endorsed contracts, which is published through its website as well as the NCC's.[52]

+ The NCC endorsed contracts database includes contracts from June 2000 until November 2013 that are identifiable by government agency, source of fund, contract description, contractor, procurement method, and contract value.

+ The NCC endorsed contracts database is available in Excel format and covers 13 years of data.

– The database published on the NCC website has information until October 2013, while the database published on the OCG website includes data until November 2013.

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[50] http://www.ocg.gov.jm/ocg/view/qca-consol
[51] Prior to September 22, 2008, all contract awards that were of a value of J$4 Million and above, required the prior endorsement of the NCC. However, effective May 14, 2012, the NCC endorsement threshold was elevated to $15 Million.
[52] http://www.ocg.gov.jm/ocg/view/ncc-endorsements or http://www.ncc.gov.jm/ncc/ncc_listing.php

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+ The data from the NCC endorsed contracts database are presented in a favorable structure. The team has marked this as quick win dataset, as the database could be easily converted into an open-format CSV file.

ODRA Pillars

This section presents analysis and recommendations that emerged from the interviews and consultations held with key counterparts, as well as desk research where appropriate. They are presented following the structure of the ODRA pillars.

1. Senior Leadership

   + Financial Secretary Devon Rowe confirmed his full support for an Open Data initiative in Jamaica and noted he would provide his backing for a Cabinet-level Open Data Declaration. In particular, he highlighted that implementation of an Open Data initiative (and having access to government data through a central location) would reduce inefficiencies and significantly improve how government data are used in the public sector.

   + The Accountant General, Ms. Carlene Murdock, Mr. Jide Lewis, Chief Economist at the BOJ, and Ms. Janelle Cox, Chief Information Officer at PIOJ also showed strong interest and support.

   + The publication of the budget as well as the broadcasting of the budget debates that take place in Parliament confirms the Government of Jamaica's commitment to fiscal transparency.[53]

   – As noted earlier, the Government of Jamaica is currently not a member of any international open budget initiatives. The MOFP should work with IBP and the World Bank to have an entry in the Open Budget Survey and join the Open Budgets Portal.

2. Policy/Legal Framework

   + The Access to Information Act was enacted in 2002 and came into operation in 2004.

   – Overall, there is lack of a clear and well-articulated policy framework surrounding data sharing across government. As noted earlier, the team noted the existence

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[53] This year the Estimates of Revenue and Expenditure were tabled in Parliament on February 19, 2015. The reviews and debates are scheduled for March 12-25, 2015. The discussions are conducted in the public domain and the budget figures are accessible through the MOFP website. The debates will also be aired live on Jamaica's public broadcasting television, Public Broadcasting Commission (PBC).

of a 'legacy' practice of sharing data in PDF format, even between government agencies, creating inefficiencies due to time and resources spent reconverting data into accessible formats.

o The main reason given by government officials for publishing information in PDF format stemmed from data security concerns. The World Bank team addressed these concerns by drawing on country-specific examples to explain steps that can be taken to protect government data.

– Generally, there seems to be no cost recovery policy. Overall, MDAs are sharing via their websites or providing data based on requests submitted by government and non-government stakeholders. The main exception is PIOJ which charges for some data requests depending on formats requested or specific reports considered to be providing value-added analytical services.[54] Given the above, it would be advisable for the MOFP to develop a whole-of-government approach on data charging.

– Relevant examples of publications for which PIOJ charges a fee include the Economic and Social Survey Jamaica,[55] Jamaica Survey of Living Conditions,[56] and Economic Update and Outlook. [57]

o Government officials raised concerns about the fiscal implications of offering data at no cost. In response to these concerns, the World Bank team noted that (i) government cost recovery programs for data requests rarely cover more than 10 percent of the cost of collecting data and making it available; (ii) the use of data rises significantly when it is made free and government can explore charging for value-added services; and (iii) information economics shows that national welfare is maximized if information is charged at the marginal cost of distribution, which, on the Internet, is essentially zero.

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[54] PIOJ provides consulting services to organizations in Jamaica and the Caribbean in the following topics: economic, sociological, and demographic research; project preparation, evaluation and feasibility studies; preparation of workshops and seminars; information searches; and other services such as Geographic Information Systems (GIS) mapping, among others. More information about PIOJ's consulting services is available at http://www.pioj.gov.jm/ConsultingServices/tabid/83/Default.aspx.
[55] PIOJ's premier publication, it provides information on Jamaica's social and economic development.
[56] Measures the living standards of Jamaicans and tracks Jamaica's progress over time. It is comprised of six modules: demographic characteristics, household consumption, health, education, housing and social protection. The 2012 edition of the survey also includes modules on early childhood development and the elderly.
[57] Provides data as well as projections on the performance of the macroeconomy and real sectors.

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- The Terms of Use, Terms and Conditions, and Disclaimer of the MOFP, PIOJ, and BOJ websites restrict the use of the data for commercial purposes (either overtly or indirectly). The text would have to be updated as part of the Open Data initiative to conform to Open Data terms of use. An excerpt from the text available though each website is provided below (emphasis added):

  - MOFP Terms of Use: "The information contained in this website is for general information purposes only."[58]
  - PIOJ Terms and Conditions: "Except where otherwise stated, this site and all its contents are the sole property of the Planning Institute of Jamaica. You may not modify, reproduce, publish, sell or distribute its content, or exploit it in any way other than for personal use, without the PIOJ's prior consent.[59]
  - BOJ Disclaimer: "The information published on this site, except otherwise indicated is the property of the Bank of Jamaica and all are protected by copyright, trademark or other intellectual property laws. Information may therefore be downloaded displayed or printed for personal or non-commercial use only or extracted and reproduced provided the source of the information is acknowledged."[60]

o On several occasions, reference was made to existing data sharing restrictions under the Official Secrets Act. That said and as noted above, Jamaica has had an Access to Information Act in place since 2002.

o Financial Secretary Devon Rowe expressed concern on how an Open Data policy would relate to the Official Secrets Act. He emphasized that a legal due-diligence review would be necessary, and added that if the review found that a constitutional amendment would be required, this could present a challenge for implementation of an Open Data initiative in Jamaica.

3. Institutional Structures, Responsibilities and Capabilities within Government

+ Economic and financial statistics are produced by the MOFP and its departments/agencies, including the AGD, BOJ, and PIOJ.

- Government expenditures are published on the MOFP website with a two-year time lag. This is a result of bottlenecks at different stages of the reporting chain. Actual expenditures are made public only after they are audited by the Auditor General and tabled in Parliament.

+ eGov Jamaica Ltd. is entrusted with providing government-wide IT solutions. It is likely that it could assume a critical role in developing and implementing an Open

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[58] http://www.mof.gov.jm/terms-of-use.html
[59] http://www.pioj.gov.jm/TermsConditions/tabid/171/Default.aspx
[60] http://boj.org.jm/bank/disclaimer.php

Data portal. From the perspective of Open Budget Data, eGov Jamaica Ltd. is a key stakeholder for the extraction of budget and expenditure data from JaBIS, in coordination with the MOFP.

+ Staff from the MOFP and its departments/agencies and eGov Jamaica Ltd. is well trained and equipped with the appropriate technical skills to support an Open Data program.

− Current financial management systems are not yet fully integrated, which strains capacities of relevant technical staff in different agencies.

+ The MOFP and its departments/agencies have focal points that receive and process access to information requests.

+ Financial Secretary Devon Rowe designated Ms. Helen Rumbolt, Director, Documentation Information and Access Services, as the focal point at the MOFP for implementation of an Open Budget Data program in Jamaica.

4. Government Data Management Policies and Procedures

o The MOFP, PIOJ, and BOJ publish data on their websites in a variety of formats. MOFP publishes data predominantly in PDF format while BOJ publishes most of its data in Excel. PIOJ uses a hybrid approach with its data available in Excel, PDF, Access, etc.

+ Data owning agencies appear to have sufficient knowledge regarding who uses their data. The MOFP recently restructured its website to make it easier for users to access the budget. The new website features dedicated sections for publications related to budgets and revenues. PIOJ maintains comprehensive statistics regarding the number of downloads of their main publications and databases such as JamStats.

+ Budget information is held on JaBIS, which is managed by eGov Jamaica Ltd. The MOFP, with support from eGov Jamaica Ltd., was able to extract budget data for the Open Budget Data Assessment in Excel following the template provided by the World Bank.

− Expenditure information is held on the Financial Management (FinMan) accounting system. Expenditure data can be extracted from the system in Excel, although the data that were extracted by the MOFP did not match the template provided by the World Bank for the Open Budget Data Assessment, making it very difficult to consolidate the budget and expenditure data.

− At the end of the financial year, expenditure data from the FinMan software is exported to JaBIS. The systems are not integrated, thus the data are exported manually.

+ At the time of assessment, the Government of Jamaica was in the process of procuring a FMIS, which will replace the FinMan system. According to the Staff Report for the 2014 Article IV Consultation, which is prepared by the International Monetary Fund, the FMIS will be introduced during financial year 2016-2017.[61] The Government of Jamaica has recently procured systems for tax and human resource management.

+ eGov Jamaica Ltd. undertakes regular preservation runs for back-up tapes for the Ministry of Finance and Planning. These go beyond the 7-year point, which is the standard back-up procedure for other government agencies.

5. <u>Demand for Open Data</u>

+ A large number of users of government data appear to be government agencies and institutions.

+ During the Assessment mission, media representatives (RJR Group and Press Association of Jamaica) noted they would welcome the release of all government data possible, and highlighted the importance of making financial data (unemployment, jobs, deficit, surplus, budget, expenditure) as well as data on financial expenditures of GoJ officials available to the public.

+ Media outlets such as The Gleaner[62] and the Jamaica Observer[63] produce detailed analyses of the budget after it is submitted to Parliament.

− Representatives from two civil society organizations, Caribbean Policy Research Institute (CaPRI) and Jamaica Civil Society Coalition (JCSC), confirmed that while data would usually be made available upon request, it is not readily available to the public in open formats. Requests for data seemed not always to be met in a timely fashion while data published on government websites are sometimes produced with significant delays.

− In fact, the participant from CaPRI mentioned that current reporting on government expenditure (Actuals) has a one- to two-year time lag. Her organization would welcome the release of higher frequency budget execution

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[61] https://www.imf.org/external/pubs/ft/scr/2014/cr14169.pdf

[62] The following is an example of a column that appeared in The Gleaner after the publication of the 2015-2016 budget: Hill, Aubyn, "Budget 2015-16 Is Two-Sided Optimism," March 1, 2015, http://jamaica-gleaner.com/article/focus/20150301/budget-2015-16-two-sided-optimism.

[63] The following is an example of a column that appeared in the Jamaica Observer after the publication of the 2015-2016 budget: Collister, Keith, "A Closer Look at Jamaica's 2015/2016 Budget," February 25, 2015, http://www.jamaicaobserver.com/business/A-closer-look-at-Jamaica-s-2015-2016-budget_18465926.

data. She noted that CaPRI would be interested in having a program to monitor government expenditure on a regular basis, in light of the Government of Jamaica's agreement with the International Monetary Fund, but given the time-lag with which expenditure data are released, that is not possible at the moment.

+ JCSC published the Jamaica Governance Scorecard 2012-2013,[64] which takes stock of the GoJ's performance based on commitments outlined in the Governor General's Throne Speech for financial year 2012-2013 and promises made in the People's National Party (PNP) Manifesto 2011. JSCS also prepared the Governance and Education Scorecard 2013-2014, which follows a similar methodology, but focuses on the Governor General's Throne Speech for financial year 2013-2014 and takes an in-depth look at government promises in the education sector. The World Bank team also received a draft publication of "People Participation in the Creation of Jamaica's National Budget: A Position of the Jamaica Civil Society Coalition," a publication funded by CIDA.

+ A study by the CaPRI found that: "Open Data clearly presents an effective solution to issues of fiscal transparency, public sector efficiency and job creation."

+ According to government records shared with the World Bank team, the MOFP received 316 access to information requests between January 2004 and April 2014. Requests were received from a variety of stakeholders (academia, business, civil society, diplomatic corps, government, media, organization, public, and students). The following are a few examples of access to information requests received by the MOFP:

  - "Information relating to the relationship between IMF and Jamaica"
  - "Copy of the tender documents related to the divestment of Air Jamaica"
  - "Copy of Jamaica Public Bodies: Estimates of Revenue and Expenditure"
  - "Jamaica's total debt to the Petrocaribe programme/Petrocaribe Development Fund"
  - "Functional Classification of Expenditure 2003-2011"
  - "Compensation packages for all Members of Parliament"
  - "All expenditure from Government funds for Christmas events 2013"

  The number and variety of access to information requests confirms the interest from non-government stakeholders in having access to public finance and contracts data.

+ The Caribbean Open Institute has experience developing budget data visualizations using the OpenSpending platform (see Figure 2 and Figure 3). Budget data for the visualizations are scraped from the Estimates of Expenditure,

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[64] http://jamaicacsc.com/index.php/library/category/2-reports?download=2:jcsc-jamaica-governance-scorecard-2012-2013

which are published by the Ministry of Finance and Planning in PDF format. The visualizations present the budget from different perspectives and are meant to "encourage and build capacity for more effective data journalism."[65]

+ Professor Maurice McNaughton from the Mona School of Business and Management (MSBM), which is part of the University of the West Indies, who spearheaded the development of the budget data visualizations, noted that Jamaica would greatly benefit from the dissemination of budget data in open formats from a transparency and accountability perspective.

+ MSBM hosted Open Data Day[66] on February 21, 2015, as a precursor to the Developing Caribbean (DevCa) Open Data Conference 2015. The objective of the event was to write applications, liberate data, create visualizations and publish analyses using open data. The creation of visualizations from the 2014-2015 budget for the Government of Jamaica was one of three data visualization challenges that were proposed for the event:

> *Jamaica's upcoming 2015-16 Budget debates will be intensely scrutinized and discussed. An important aspect of this debate is making budget information available and accessible to Civil Society (NGOs, journalists, citizens, etc.) in such a way that it provides a basis for discussions, participation and provides mechanisms for greater media / civil society engagement in the entire budget process. The available 2014/15 GOJ Budget was published online as a large pdf document. Teams will create more visually appealing and interesting views of the budget using the open spending platform.*

+ One of the challenges submitted by participants of DevCa included the creation of a Government Expenditure Monitor, an app that is meant to provide a "user-friendly view of the year's budget and the government expenditure for that year, showing variances (surpluses and deficits)." The submission noted that the app would require access to "budget and expenditure open data."[67]

+ openCaribbean, a website based on the CKAN platform, provides access to one dataset of Jamaican budget data. It features four CSV files with budget data for the Government of Jamaica for financial years 2010-2011 through 2014-2015.[68]

+ The assessment confirmed that Jamaica has organizations with the capacity to undertake budget work such as CaPRI, JCSC, and the Caribbean Open Institute. That said, the MOFP should stimulate the capacity of think tanks (both local and regional) to re-use financial and budgetary information for mass audiences.

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[65] http://caribbeanopeninstitute.org/gojbudget_Functions
[66] http://caribbeanopeninstitute.org/msbm-opendata-day
[67] http://developingcaribbean.org/government-expenditure-monitor
[68] http://opencaribbean.org/dataset/jamaica-budget-data

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+ Given the interest from non-government stakeholders in budget data, the MOFP should organize financial information dissemination workshops to civil society organizations, researchers and other users such as media. A particularly important role could reside in active partnering in the monitoring and auditing of public finances, specifically in identifying priorities, promoting participatory audits and ensuring proper follow up to audit recommendations.

6. Civic Engagement and Capabilities for Open Data

+ The Gleaner has an information website called diG Jamaica (**d**igital **i**nformation from The **G**leaner), which uses technology to make information available and accessible to the public. It features a blog with periodic entries about the budget, including summary tables and charts (see Figure 4 and

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+ Figure 5). The resources section has an entry for the budget 2014-2015.[69] The data section has an entry for the budget[70] with a selection of over forty charts that explain the budget in a visual format. Finally, it includes a special section on the agreement between Jamaica and the International Monetary Fund with relevant articles, tables, and charts.[71]

+ The Jamaica Information Service, a media outlet from the Government of Jamaica, has a website called "Budget Watch"[72] which provides useful information related to the budget. The tabling of the 2015/2016 Estimates by the Minister of Finance and Planning, Dr. Peter Phillips, was lived streamed through this website. It also contains brief sections that explain the budget debate, Jamaica's debt management strategy and a glossary of key terms used during the budget debate. It provides a copy of the Throne Speech and other relevant speeches.[73] Finally, it provides news from Jamaica Information Service related to the budget and facts about the new budget cycle, public financial management, and the budget debate schedule, among others.

+ As noted above, the Caribbean Open Institute has the capacity and experience to develop budget data visualizations using the OpenSpending platform.

+ The major media outlets in Jamaica have some experience in data journalism, as evidenced in the examples provided above. That said, the country would benefit

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[69] http://digjamaica.com/budget_2014_2015
[70] http://digjamaica.com/data/category/budget
[71] http://www.digjamaica.com/imf
[72] http://jis.gov.jm/budget-watch/
[73] At the time of writing, only the Throne Speech 2015-2016 was available. The website will eventually feature budget-related speeches from the Prime Minister, the Minister of Finance, the Opposition, and sectoral perspectives from line ministries.

from the introduction of a data journalism development program to widen the base of journalists with data skills. The program should include a specific focus on the use of Open Budget data in journalism.

7. Funding an Open Data Program

+ Dissemination of key datasets in formats other than PDF would not require a significant investment in time and resources for the MOFP and related agencies. Doing so, however, requires a cultural change in terms of how government information is shared inside and outside of government and clear instructions from the top reflected in policy and directives.

+ As noted above, the MOFP and its departments/agencies have focal points that receive and process access to information requests. This also applies for other MDAs. Building on this model could work for implementing the technical and content side of Open Data (including Open Budget Data).

+ Some financing for specific activities would be available under the DFID grant managed by the World Bank if Jamaica has a robust plan for Open Data (including Open Budget Data) with senior political backing.

8. National Technologies and Skills Infrastructure

+ The MOFP was able to organize a successful Open Budget Data Assessment mission as part of the Open Data Readiness Assessment. The World Bank team met with officials in several divisions of the MOFP and its departments/agencies, including the AGD, BOJ, and PIOJ, as well as eGov Jamaica Ltd. The MOFP seems to have the organizational capacity and technical skills to push the Open Budget Data agenda forward.

+ The MOFP recently implemented a new website. The new layout makes it easy for users to identify and access budget-related news and publications.

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Figure 2. Jamaica Budget Financial Year 2012-2013 – Budget Allocation by Government Functional Services (TreeMap)
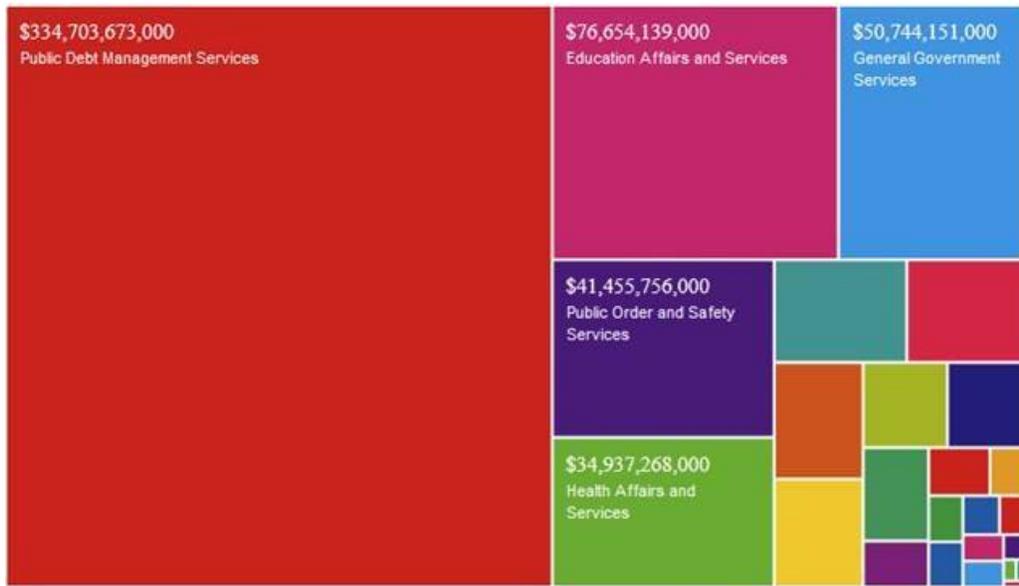
Source: Caribbean Open Institute, The GOJ 2012-13 Budget (for discussion purposes only),
http://caribbeanopeninstitute.org/gojbudget_Functions

Figure 3. Jamaica Budget Financial Year 2012-2013 – Recurrent Budget, Budget Allocation by Object (BubbleTree)
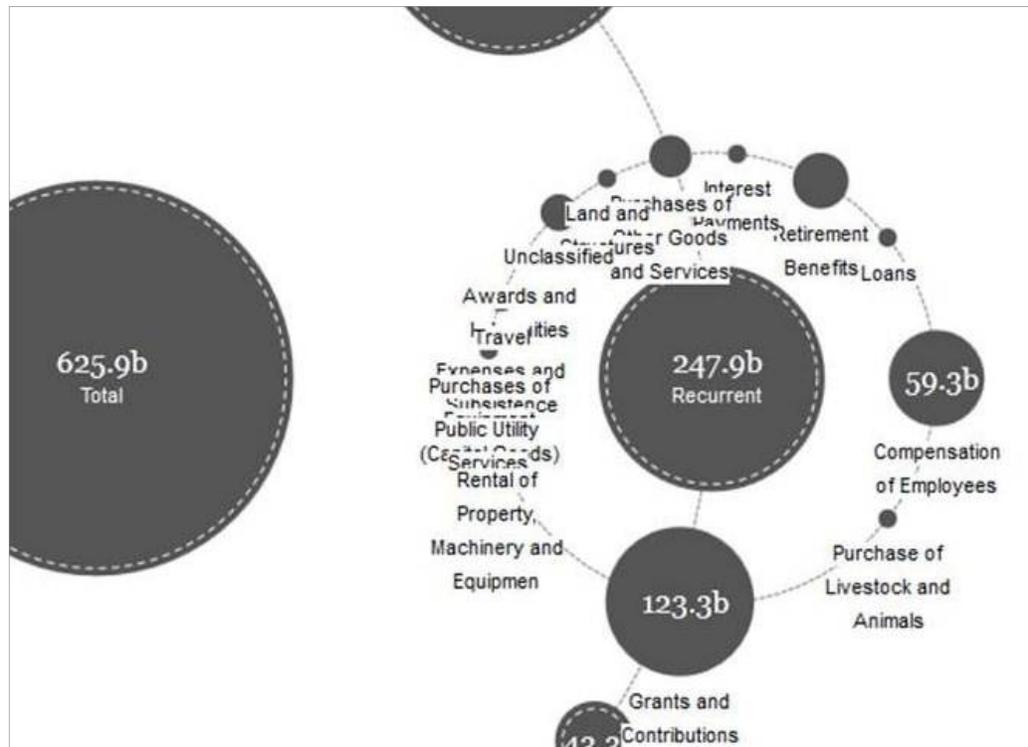
Source: Caribbean Open Institute, The GOJ 2012-13 Budget (for discussion purposes only),
http://caribbeanopeninstitute.org/gojbudget_Expenses

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Figure 4. Chart Displaying Actual Intake vs. Projected Intake for Income Tax Revenue

Source: http://digjamaica.com/blog/2015/03/04/projected-tax-revenue-intake-for-201516-budget-by-category/
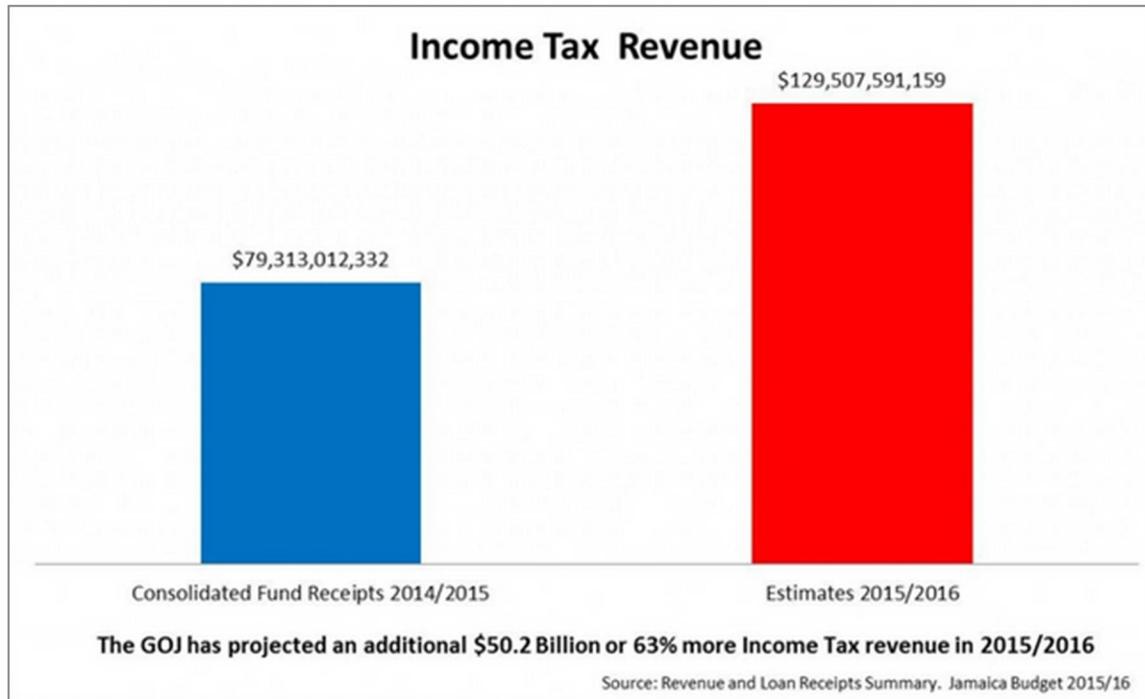
Figure 5. Chart Displaying Actual Intake vs. Projected Intake for General Consumption Tax Revenue

Source: http://digjamaica.com/blog/2015/03/04/projected-tax-revenue-intake-for-201516-budget-by-category/

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Key Dataset Findings and Recommendations

Dataset	Feasibility	Key Benefits & Risks	Recommendation
Estimates of Expenditure	Already published in MOFP website in PDF format. Zip files of the Estimates of Expenditure containing Word files for each head and summary tables could be uploaded as well.	Publication of the Zip files would aide users that need access to the underlying data in a format other than PDF. This would be an interim solution, as ideally the data should be extracted from JaBIS and presented in Excel and open-format CSV files (see below for more details).	<mark>QUICK WIN</mark>
Estimates of Expenditure (in Excel and open-format CSV files)	The MOFP was able to extract budget and expenditure data from JaBIS following the template provided by the World Bank team. At least five years of budget and expenditure data would be needed. The data should be made available in Excel and open-format CSV files.	Some gaps were identified as part of the assessment that would need to be addressed in order to match the figures in the Estimates of Expenditure (if at all possible). According to discussions with the MOFP team, the most recent financial year for which data are available from JaBIS is 2012-2013. Data presented in the format suggested by the World Bank team could be used to develop a BOOST database for Jamaica, if this is of interest to the authorities.	<mark>PRIORITY</mark>

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
In-year budget execution reports broken down by MDAs	At the moment the MOFP does not publish in-year execution reports broken down by MDAs. As noted above, there are some technical limitations with the FinMan software, which prevent extraction of data in Excel for all MDAs.	Expenditure data should be extracted and made available to the public to monitor budget execution of individual MDAs during the course of the financial year and at year-end, without having to wait one year or more for detailed execution figures to be reported in the Estimates of Expenditure. The technical limitations should be addressed through updates of the FinMan software for the MDAs for which data could not be extracted in Excel.	LONGER TERM
Details of Revenue and Loan Receipts	Included in the Year-End Financial Statements in PDF format, provides detailed information on revenue data by type and source, including Ministries' own sources of revenue. Could be easily presented in Excel and open-format CSV files.	The Details of Revenue and Loan Receipts provide data for Accounts for FY "n-2", Estimates for FY "n-1", Consolidated Fund Receipts for FY "n-1", and Estimates for FY "n." The main challenge is that data on actual receipts (accounts) are available with a two-year time lag. Data from this statement could be used to develop a comprehensive revenue database for Jamaica, if this is of interest to the authorities.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Statement of Outstanding Public Debt.	Included in the Year-End Financial Statements in PDF format. The MOFP shared with the World Bank team statements for two financial years in Excel, indicating similar availability for other years. Could be easily presented in Excel and open-format CSV files.	Presents detailed and disaggregated information on short, medium, and long-term loans and securities of the government of Jamaica otherwise only found in aggregate fashion in Bank of Jamaica reports. However, only includes a snapshot of the outstanding public debt balance in March of the financial year.	QUICK WIN
Debt Reports (Bank of Jamaica)	Already published on BOJ website in Excel format with large time series. Could be easily converted into open-format CSV files.	Presents outstanding public debt balance on a monthly basis. Information is presented in multiple reports and not consolidated.	QUICK WIN
Quarterly Contracts Awards	Published in Excel format on the OCG website in a favorable structure. Could be easily converted into an open-format CSV file.	The database lists the particulars of all contracts awarded by public bodies since May 1, 2006, which have been reported to the Office of the Contractor General.	QUICK WIN
National Contracts Commission (NCC) Contract Endorsement Spreadsheet Database	Published in Excel format on the OCG and NCC websites in a favorable structure. Could be easily converted into an open-format CSV file.	The database lists the particulars of all NCC-endorsed contracts.	QUICK WIN

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Dataset	Feasibility	Key Benefits & Risks	Recommendation
Economic Sector Indicators - Selected Indicators	Published in PDF format on PIOJ's website. Provides access to selected indicators from the Economic and Social Survey Jamaica. Could be easily converted into an open-format CSV file.	This publication includes a wide range of indicators including government revenue and expenditures, GDP, production, exports, imports, balance of payments, and Consumer Price Index.	QUICK WIN

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Annex 1: Publication of Public Finance and Contracts Data in Jamaica
The following is a stocktaking of public finance and contracts data available in
Jamaica through the Ministry of Finance and Planning (MOFP) website, as wells as
other relevant sources:

- **Jamaica Memorandum on the Budget**: Provides a summary review of the
  macro-economy, the performance of central government's budget in the
  previous fiscal year as well as the aims and objectives of the new budget.
  Coverage/Format: Starting 2005-06 until 2012-13 (PDF). Replaced by the
  Fiscal Policy Paper.
  Published by: MOFP.

- **Fiscal Policy Paper:** Presents a medium term macroeconomic framework
  and forecasts of revenue and expenditure up to three years.
  Coverage/Format: Starting 2011-12 until 2014-15 (PDF).
  Published by: MOFP.

- **Central Government Estimates of Expenditure**: Shows allocations to
  government ministries, departments, and agencies.
  Coverage/Format: Only 2005-06 then starting 2012-13 until 2015-16,
  estimates with two-year lag on actual expenditures, "rigid" structure (PDF).
  Published by: MOFP.

- **Central Government Budget Tables**: Shows monthly budgeted amount of
  "Revenues and Grants" expected to be received by the government and
  "Expenditures" expected to be undertaken broken into Recurrent and Capital.
  Coverage/Format: Starting 2004-05 until 2014-15 (PDF).
  Published by: MOFP.

- **Central Government Operation Tables**: Shows monthly actual amounts of
  "Revenues and Grants" received by the government and "Expenditures"
  undertaken broken into Recurrent and Capital.
  Coverage/Format: Starting 2008 until 2015 (PDF).
  Published by: MOFP.

- **Estimates of Revenues and Expenditures of Public Bodies**: Shows
  projected and estimated revenues and expenditures and detailed financial
  plans of public bodies.
  Coverage/Format: Starting 2006 until 2016 (PDF).
  Note: 2008 missing.
  Published by: MOFP.

- **Tax Expenditure Statements**: Presents Jamaica's tax expenditure
  estimates for the major tax types.
  Coverage/Format: Starting 2007 until 2014 (PDF).
  Note: 2010 missing.
  Published by: MOFP.

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- **Year-End Financial Statements**: Provides year-end financial statements on revenue and expenditure estimates, gross public debt, and statements outturn of the consolidated fund.
Coverage/Format: Starting 2004-05 until 2015-16 (PDF).
Published by: MOFP.

- **Debt Management Strategies**: provides a review of the achievements and developments during the previous year, taking into account the composition of the debt portfolio, the fiscal operations, developments in the macro-economy and the domestic and international capital
Markets.
Coverage/Format: Starting 2004-05 until 2014-15 (PDF).
Note: Missing 2007-08.
Published by: MOFP.

- **Debt data**: Includes National Debt - Internal, Direct External Debt, Government Guaranteed External Debt, Medium & Long-term Public & Publicity Guaranteed External Debt, Medium & Long-term Public & Publicity Guaranteed External Debt (by Creditor Category), Debt & Debt Service Indicators.
Coverage/Format: 1983-2014 (Excel).
Note: Multiple Excel spreadsheets with different coverage (most starting in the 1980s).
Published by: Bank of Jamaica.

- **Quarterly Contract Awards**: Lists the particulars of all contracts awarded by Public Bodies since May 1, 2006, which have been reported to the Office of the Contractor General (OCG) by way of Quarterly Contract Award (QCA) Reports
Coverage/Format: Starting 2006 (Excel)
Published by: Office of the Contractor General.

- **National Contracts Commission Endorsed Contracts:** Includes government contracts that are above J$15 million in value and need to be reviewed and endorsed by the NCC before the contract can be awarded.[74]
Coverage/Format: Starting June 2000 (Excel)
Published by: Office of the Contractor General and National Contracts Commission.

- **Economic Sector Indicators - Selected Indicators:** Reports a wide range of indicators including government revenue and expenditures, GDP, production, exports, imports, balance of payments, and Consumer Price Index.
Coverage/Format: 2004-2013 (PDF)
Published by: Planning Institute of Jamaica.

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[74] Prior to September 22, 2008, all contract awards that were of a value of J$4 million and above, required the prior endorsement of the NCC. However, effective May 14, 2012, the NCC endorsement threshold was elevated to J$15 million.

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Annex 2: Reconciliation of Budget and Expenditure Data from JaBIS

This section presents the reconciliation of the budget and expenditure data from JaBIS that the MOFP provided to the World Bank team for the Open Budget Data assessment. Figures were compared to the Estimates of Expenditure. Summary tables displaying the total amounts by head for Recurrent, Capital A, Capital B, and statutory provisions were used for the reconciliation. Tables appear below for Recurrent. The complete reconciliation, including comparative tables for Capital A, Capital B, and statutory provisions will be shared with the MOFP in Excel.

The rows highlighted in green represent Heads that appear in the Estimates of Expenditure, but do not appear in the file that the MOFP provided to the World Bank. The rows highlighted in yellow represent Heads that do not appear in the Estimates of Expenditure, but appear in the file that the MOFP provided to the World Bank. The cells highlighted in red represent Heads for which differences were identified by the World Bank team.

Table 5. Reconciliation of Estimates, 2012-2013, Recurrent

Head No.	Title	Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
100	His Excellency the Governor-General and Staff	121,637.00	0100 - His Excellency the Governor-General and Staff	154,475	-32,838
200	Houses of Parliament	712,782.00	0200 - Houses of Parliament	762,380	-49,598
300	Office of the Public Defender	76,561.00	0300 - Office of the Public Defender	76,561	0
400	Office of the Contractor-General	209,695.00	0400 - Office of the Contractor-General	227,584	-17,889
500	Auditor General	346,598.00	0500 - Auditor General	346,598	0
600	Office of the Services Commissions	148,592.00	0600 - Office of the Services Commissions	163,702	-15,110
700	Office of the Children's Advocate	84,078.00	0700 - Office of the Children's Advocate	84,078	0
800	Independent Commission of Investigations	288,000.00	0800 - Independent Commission of Investigations	280,000	8,000
1500	Office of the Prime Minister	1,354,588.00	1500 - Office of the Prime Minister	1,339,588	15,000
1510	Jamaica Information Service	283,368.00	1510 - Jamaica Information Service	298,478	-15,110
1600	Office of the Cabinet	383,910.00	1600 - Office of the Cabinet	383,910	0
1649	Management Institute for National Development	130,986.00	1649 - Management Institute for National Development	141,513	-10,527
1700	Ministry of Tourism and Entertainment	1,517,514.00	1700 - Ministry of Tourism and Entertainment	1,531,488	-13,974

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Head No.	Title	Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
1800	Office of the Prime Minister (Local Government)	0.00	1800 - Office of the Prime Minister (Local Government)	0	0
2000	Ministry of Finance and Planning	19,846,358.00	2000 - Ministry of Finance and Planning	7,803,755	12,042,603
2011	Accountant General	393,951.00	2011 - Accountant General	398,301	-4,350
2012	Jamaica Customs Department	2,450,248.00	2012 - Jamaica Customs Department	2,563,287	-113,039
2015	Inland Revenue Department	0.00			0
2018	Public Debt Charges (Interest Payments)	136,533,516.00	2018 - Public Debt (Interest Payments)	129,486,411	7,047,105
2019	Pensions	24,090,000.00	2019 - Pensions	24,090,000	0
2041	Taxpayer Audit and Assessment Department	0.00			0
2042	Taxpayer Appeals Department	0.00			0
2044	Tax Administration Services Department	0.00			0
2056	Tax Administration Jamaica	4,201,779.00	2056 - Tax Administration Jamaica	4,525,808	-324,029
2600	Ministry of National Security	12,013,857.00	2600 - Ministry of National Security	13,109,146	-1,095,289
2622	Police Department	27,369,358.00	2622 - Police Department	29,037,358	-1,668,000
2624	Department of Correctional Services	4,409,348.00	2624 - Department of Correctional Services	4,608,283	-198,935
2653	Passport, Immigration and Citizenship Agency	300,000.00	2653 - Passport, Immigration and Citizenship Agency	329,500	-29,500
2800	Ministry of Justice	726,116.00	2800 - Ministry of Justice	756,944	-30,828
2823	Court of Appeal	134,318.00	2823 - Court of Appeal	141,740	-7,422
2825	Director of Public Prosecutions	243,612.00	2825 - Director of Public Prosecutions	257,827	-14,215
2826	Family Courts	156,755.00	2826 - Family Courts	169,192	-12,437
2827	Resident Magistrates' Courts	974,514.00	2827 - Resident Magistrates' Courts	1,039,308	-64,794
2828	Revenue Court	2,709.00	2828 - Revenue Court	2,833	-124
2829	Supreme Court	654,244.00	2829 - Supreme Court	719,488	-65,244
2830	Administrator General	96,500.00	2830 - Administrator General	113,913	-17,413
2831	Attorney General	360,148.00	2831 - Attorney General	456,682	-96,534
2832	Trustee in Bankruptcy	36,112.00	2832 - Trustee in Bankruptcy	38,355	-2,243
2833	Office of the Parliamentary Counsel	83,225.00	2833 - Office of the Parliamentary Counsel	84,775	-1,550
2852	Legal Reform Department	41,948.00	2852 - Legal Reform Department	44,025	-2,077
2854	Court Management Services	181,113.00	2854 - Court Management Services	194,613	-13,500

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Head No.	Title	Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
3000	Ministry of Foreign Affairs and Foreign Trade	2,609,102.00	3000 - Ministry of Foreign Affairs and Foreign Trade	2,696,293	-87,191
4000	Ministry of Labour and Social Security	2,136,426.00	4000 - Ministry of Labour and Social Security	2,277,788	-141,362
4100	Ministry of Education	73,828,972.00	4100 - Ministry of Education	79,155,517	-5,326,545
4200	Ministry of Health	31,066,208.00	4200 - Ministry of Health	32,408,704	-1,342,496
4220	Registrar General's Department and Island Records Office	0.00	4220 - Registrar General's Department and Island Records Office	29,598	-29,598
4234	Bellevue Hospital	1,097,734.00	4234 - Bellevue Hospital	1,148,647	-50,913
4235	Government Chemist	27,963.00	4235 - Government Chemist	28,925	-962
4500	Ministry of Youth and Culture	1,390,263.00	4500 - Ministry of Youth and Culture	1,454,292	-64,029
4551	Child Development Agency	1,634,916.00	4551 - Child Development Agency	1,672,104	-37,188
5100	Ministry of Agriculture and Fisheries	3,113,086.00	5100 - Ministry of Agriculture and Fisheries	3,343,130	-230,044
5300	Ministry of Industry, Investment and Commerce	1,603,835.00	5300 - Ministry of Industry, Investment and Commerce	1,682,363	-78,528
5338	The Companies Office of Jamaica	0.00	5338 - The Companies Office of Jamaica	0	0
5600	Ministry of Science, Technology, Energy and Mining	1,968,024.00	5600 - Ministry of Science, Technology, Energy and Mining	1,871,894	96,130
5639	Post and Telecommunications Department	1,497,000.00	5639 - Post and Telecommunications Department	1,573,725	-76,725
6300	Ministry of Housing, Environment and Water	0.00	6300 - Ministry of Housing, Environment and Water	0	0
6400	Ministry of Housing, Environment, Water and Local Government	0.00	6400 - Ministry of Housing, Environment, Water and Local Government	0	0
6500	Ministry of Transport, Works and Housing	1,690,567.00	6500 - Ministry of Transport, Works and Housing	1,742,583	-52,016
6550	National Works Agency	489,841.00	6550 - National Works Agency	552,702	-62,861
6700	Ministry of Water, Land, Environment and Climate Change	740,794.00	6700 - Ministry of Water, Land, Environment and Climate Change	769,760	-28,966
6746	Forestry Department	401,248.00	6746 - Forestry Department	432,599	-31,351
6747	National Land Agency	393,697.00	6747 - National Land Agency	450,501	-56,804
6748	National Environment and Planning Agency	602,616.00	6748 - National Environment and Planning Agency	634,401	-31,785
7200	Ministry of Local Government and Community Development	7,514,316.00	7200 - Ministry of Local Government and Community Development	8,048,993	-534,677
	Total Recurrent	**374,764,646.00**	**Grand Total**	**367,736,418**	**7,028,228**

Source: Estimates of Expenditure 2012-2013, Summary table for Recurrent, column for Estimates, 2012-2013 (Left); Budget and expenditure data from JaBIS for financial year 2012-2013 (Center); authors' calculations (Right).

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Table 6. Reconciliation of Revised Estimates, 2012-2013, Recurrent (against Budget Division Estimates)

Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
100	His Excellency the Governor-General and Staff	154,475.00	0100 - His Excellency the Governor-General and Staff	154,475	0
200	Houses of Parliament	762,380.00	0200 - Houses of Parliament	762,380	0
300	Office of the Public Defender	76,561.00	0300 - Office of the Public Defender	76,561	0
400	Office of the Contractor-General	227,584.00	0400 - Office of the Contractor-General	227,584	0
500	Auditor General	346,598.00	0500 - Auditor General	346,598	0
600	Office of the Services Commissions	163,702.00	0600 - Office of the Services Commissions	163,702	0
700	Office of the Children's Advocate	84,078.00	0700 - Office of the Children's Advocate	84,078	0
800	Independent Commission of Investigations	280,000.00	0800 - Independent Commission of Investigations	280,000	0
1500	Office of the Prime Minister	1,339,588.00	1500 - Office of the Prime Minister	1,339,588	0
1510	Jamaica Information Service	298,478.00	1510 - Jamaica Information Service	298,478	0
1600	Office of the Cabinet	383,910.00	1600 - Office of the Cabinet	383,910	0
1649	Management Institute for National Development	141,513.00	1649 - Management Institute for National Development	141,513	0
1700	Ministry of Tourism and Entertainment	1,531,488.00	1700 - Ministry of Tourism and Entertainment	1,531,488	0
1800	Office of the Prime Minister (Local Government)	0.00	1800 - Office of the Prime Minister (Local Government)	0	0
2000	Ministry of Finance and Planning	7,803,755.00	2000 - Ministry of Finance and Planning	7,803,755	0
2011	Accountant General	398,301.00	2011 - Accountant General	398,301	0
2012	Jamaica Customs Department	2,563,287.00	2012 - Jamaica Customs Department	2,563,287	0
2018	Public Debt (Interest Payments)	129,486,411.00	2018 - Public Debt (Interest Payments)	129,486,411	0
2019	Pensions	24,090,000.00	2019 - Pensions	24,090,000	0
2056	Tax Administration Jamaica	4,525,808.00	2056 - Tax Administration Jamaica	4,525,808	0
2600	Ministry of National Security	13,109,146.00	2600 - Ministry of National Security	13,109,146	0
2622	Police Department	29,037,358.00	2622 - Police Department	29,037,358	0
2624	Department of Correctional Services	4,608,283.00	2624 - Department of Correctional Services	4,608,283	0

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Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
2653	Passport, Immigration and Citizenship Agency	329,500.00	2653 - Passport, Immigration and Citizenship Agency	329,500	0
2800	Ministry of Justice	756,944.00	2800 - Ministry of Justice	756,944	0
2823	Court of Appeal	141,740.00	2823 - Court of Appeal	141,740	0
2825	Director of Public Prosecutions	257,827.00	2825 - Director of Public Prosecutions	257,827	0
2826	Family Courts	169,192.00	2826 - Family Courts	169,192	0
2827	Resident Magistrates' Courts	1,039,308.00	2827 - Resident Magistrates' Courts	1,039,308	0
2828	Revenue Court	2,833.00	2828 - Revenue Court	2,833	0
2829	Supreme Court	719,488.00	2829 - Supreme Court	719,488	0
2830	Administrator General	113,913.00	2830 - Administrator General	113,913	0
2831	Attorney General	456,682.00	2831 - Attorney General	456,682	0
2832	Trustee in Bankruptcy	38,355.00	2832 - Trustee in Bankruptcy	38,355	0
2833	Office of the Parliamentary Counsel	84,775.00	2833 - Office of the Parliamentary Counsel	84,775	0
2852	Legal Reform Department	44,025.00	2852 - Legal Reform Department	44,025	0
2854	Court Management Services	194,613.00	2854 - Court Management Services	194,613	0
3000	Ministry of Foreign Affairs and Foreign Trade	2,696,293.00	3000 - Ministry of Foreign Affairs and Foreign Trade	2,696,293	0
4000	Ministry of Labour and Social Security	2,277,788.00	4000 - Ministry of Labour and Social Security	2,277,788	0
4100	Ministry of Education	79,155,517.00	4100 - Ministry of Education	79,155,517	0
4200	Ministry of Health	32,408,704.00	4200 - Ministry of Health	32,408,704	0
4220	Registrar General's Department and Island Records Office	29,598.00	4220 - Registrar General's Department and Island Records Office	29,598	0
4234	Bellevue Hospital	1,148,647.00	4234 - Bellevue Hospital	1,148,647	0
4235	Government Chemist	28,925.00	4235 - Government Chemist	28,925	0
4500	Ministry of Youth and Culture	1,454,292.00	4500 - Ministry of Youth and Culture	1,454,292	0
4551	Child Development Agency	1,672,104.00	4551 - Child Development Agency	1,672,104	0
5100	Ministry of Agriculture and Fisheries	3,343,130.00	5100 - Ministry of Agriculture and Fisheries	3,343,130	0
5300	Ministry of Industry, Investment and Commerce	1,682,363.00	5300 - Ministry of Industry, Investment and Commerce	1,682,363	0
5338	The Companies Office of Jamaica	0.00	5338 - The Companies Office of Jamaica	0	0
5600	Ministry of Science, Technology, Energy and Mining	1,871,894.00	5600 - Ministry of Science, Technology, Energy and	1,871,894	0

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Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of budget_division_est (B)	Difference (A) – (B)
			Mining		
5639	Post and Telecommunications Department	1,573,725.00	5639 - Post and Telecommunications Department	1,573,725	0
6300	Ministry of Housing, Environment and Water	0.00	6300 - Ministry of Housing, Environment and Water	0	0
6400	Ministry of Housing, Environment, Water and Local Government	0.00	6400 - Ministry of Housing, Environment, Water and Local Government	0	0
6500	Ministry of Transport, Works and Housing	1,742,583.00	6500 - Ministry of Transport, Works and Housing	1,742,583	0
6550	National Works Agency	552,702.00	6550 - National Works Agency	552,702	0
6700	Ministry of Water, Land, Environment and Climate Change	766,994.00	6700 - Ministry of Water, Land, Environment and Climate Change	769,760	-2,766
6746	Forestry Department	432,599.00	6746 - Forestry Department	432,599	0
6747	National Land Agency	450,501.00	6747 - National Land Agency	450,501	0
6748	National Environment and Planning Agency	634,401.00	6748 - National Environment and Planning Agency	634,401	0
7200	Ministry of Local Government and Community Development	8,048,993.00	7200 - Ministry of Local Government and Community Development	8,048,993	0
	Total Recurrent	**367,733,652.00**	**Grand Total**	**367,736,418**	**-2,766**

Source: Estimates of Expenditure 2013-2014, Summary table for Recurrent, column for Revised Estimates, 2012-2013 (Left); Budget and expenditure data from JaBIS for financial year 2012-2013 (Center); authors' calculations (Right).

Table 7. Reconciliation of Revised Estimates, 2012-2013, Recurrent (against Revised)

Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of revised (B)	Difference (A) – (B)
100	His Excellency the Governor-General and Staff	154,475.00	0100 - His Excellency the Governor-General and Staff	0	154,475
200	Houses of Parliament	762,380.00	0200 - Houses of Parliament	0	762,380
300	Office of the Public Defender	76,561.00	0300 - Office of the Public Defender	0	76,561
400	Office of the Contractor-General	227,584.00	0400 - Office of the Contractor-General	0	227,584
500	Auditor General	346,598.00	0500 - Auditor General	0	346,598
600	Office of the Services Commissions	163,702.00	0600 - Office of the Services Commissions	0	163,702

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Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of revised (B)	Difference (A) – (B)
700	Office of the Children's Advocate	84,078.00	0700 - Office of the Children's Advocate	0	84,078
800	Independent Commission of Investigations	280,000.00	0800 - Independent Commission of Investigations	0	280,000
1500	Office of the Prime Minister	1,339,588.00	1500 - Office of the Prime Minister	0	1,339,588
1510	Jamaica Information Service	298,478.00	1510 - Jamaica Information Service	0	298,478
1600	Office of the Cabinet	383,910.00	1600 - Office of the Cabinet	0	383,910
1649	Management Institute for National Development	141,513.00	1649 - Management Institute for National Development	0	141,513
1700	Ministry of Tourism and Entertainment	1,531,488.00	1700 - Ministry of Tourism and Entertainment	0	1,531,488
1800	Office of the Prime Minister (Local Government)	0.00	1800 - Office of the Prime Minister (Local Government)	0	0
2000	Ministry of Finance and Planning	7,803,755.00	2000 - Ministry of Finance and Planning	0	7,803,755
2011	Accountant General	398,301.00	2011 - Accountant General	398,301	0
2012	Jamaica Customs Department	2,563,287.00	2012 - Jamaica Customs Department	2,563,287	0
2018	Public Debt (Interest Payments)	129,486,411.00	2018 - Public Debt (Interest Payments)	129,486,411	0
2019	Pensions	24,090,000.00	2019 - Pensions	24,090,000	0
2056	Tax Administration Jamaica	4,525,808.00	2056 - Tax Administration Jamaica	4,525,808	0
2600	Ministry of National Security	13,109,146.00	2600 - Ministry of National Security	13,109,146	0
2622	Police Department	29,037,358.00	2622 - Police Department	29,037,358	0
2624	Department of Correctional Services	4,608,283.00	2624 - Department of Correctional Services	4,608,283	0
2653	Passport, Immigration and Citizenship Agency	329,500.00	2653 - Passport, Immigration and Citizenship Agency	329,500	0
2800	Ministry of Justice	756,944.00	2800 - Ministry of Justice	756,944	0
2823	Court of Appeal	141,740.00	2823 - Court of Appeal	141,740	0
2825	Director of Public Prosecutions	257,827.00	2825 - Director of Public Prosecutions	257,827	0
2826	Family Courts	169,192.00	2826 - Family Courts	169,192	0
2827	Resident Magistrates' Courts	1,039,308.00	2827 - Resident Magistrates' Courts	1,039,308	0
2828	Revenue Court	2,833.00	2828 - Revenue Court	2,833	0
2829	Supreme Court	719,488.00	2829 - Supreme Court	719,488	0
2830	Administrator General	113,913.00	2830 - Administrator General	0	113,913
2831	Attorney General	456,682.00	2831 - Attorney General	0	456,682

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Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of revised (B)	Difference (A) – (B)
2832	Trustee in Bankruptcy	38,355.00	2832 - Trustee in Bankruptcy	38,355	0
2833	Office of the Parliamentary Counsel	84,775.00	2833 - Office of the Parliamentary Counsel	0	84,775
2852	Legal Reform Department	44,025.00	2852 - Legal Reform Department	44,025	0
2854	Court Management Services	194,613.00	2854 - Court Management Services	194,613	0
3000	Ministry of Foreign Affairs and Foreign Trade	2,696,293.00	3000 - Ministry of Foreign Affairs and Foreign Trade	2,696,293	0
4000	Ministry of Labour and Social Security	2,277,788.00	4000 - Ministry of Labour and Social Security	2,277,788	0
4100	Ministry of Education	79,155,517.00	4100 - Ministry of Education	79,155,517	0
4200	Ministry of Health	32,408,704.00	4200 - Ministry of Health	32,408,704	0
4220	Registrar General's Department and Island Records Office	29,598.00	4220 - Registrar General's Department and Island Records Office	29,598	0
4234	Bellevue Hospital	1,148,647.00	4234 - Bellevue Hospital	1,148,647	0
4235	Government Chemist	28,925.00	4235 - Government Chemist	28,925	0
4500	Ministry of Youth and Culture	1,454,292.00	4500 - Ministry of Youth and Culture	1,454,292	0
4551	Child Development Agency	1,672,104.00	4551 - Child Development Agency	1,672,104	0
5100	Ministry of Agriculture and Fisheries	3,343,130.00	5100 - Ministry of Agriculture and Fisheries	3,343,130	0
5300	Ministry of Industry, Investment and Commerce	1,682,363.00	5300 - Ministry of Industry, Investment and Commerce	1,682,363	0
5338	The Companies Office of Jamaica	0.00	5338 - The Companies Office of Jamaica	0	0
5600	Ministry of Science, Technology, Energy and Mining	1,871,894.00	5600 - Ministry of Science, Technology, Energy and Mining	1,871,894	0
5639	Post and Telecommunications Department	1,573,725.00	5639 - Post and Telecommunications Department	1,573,725	0
6300	Ministry of Housing, Environment and Water	0.00	6300 - Ministry of Housing, Environment and Water	0	0
6400	Ministry of Housing, Environment, Water and Local Government	0.00	6400 - Ministry of Housing, Environment, Water and Local Government	0	0
6500	Ministry of Transport, Works and Housing	1,742,583.00	6500 - Ministry of Transport, Works and Housing	1,742,583	0
6550	National Works Agency	552,702.00	6550 - National Works Agency	552,702	0
6700	Ministry of Water, Land, Environment and Climate Change	766,994.00	6700 - Ministry of Water, Land, Environment and Climate Change	769,760	-2,766
6746	Forestry Department	432,599.00	6746 - Forestry Department	432,599	0
6747	National Land Agency	450,501.00	6747 - National Land Agency	450,501	0
6748	National Environment and Planning Agency	634,401.00	6748 - National Environment and Planning Agency	634,401	0

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Head No.	Title	Revised Estimates, 2012-2013 (A)	Head No. - Title	Sum of revised (B)	Difference (A) – (B)
7200	Ministry of Local Government and Community Development	8,048,993.00	7200 - Ministry of Local Government and Community Development	8,048,993	0
	Total Recurrent	**367,733,652.00**	**Grand Total**	**353,486,938**	**14,246,714**

Source: Estimates of Expenditure 2013-2014, Summary table for Recurrent, column for Revised Estimates, 2012-2013 (Left); Budget and expenditure data from JaBIS for financial year 2012-2013 (Center); authors' calculations (Right).

Table 8. Reconciliation of Approved Estimates, 2012-2013, Recurrent

Head No.	Title	Approved Estimates, 2012-2013 (A)	Head No. - Title	Sum of approved (B)	Difference (A) – (B)
100	His Excellency the Governor-General and Staff	121,637.00	0100 - His Excellency the Governor-General and Staff	0	121,637
200	Houses of Parliament	712,782.00	0200 - Houses of Parliament	0	712,782
300	Office of the Public Defender	76,561.00	0300 - Office of the Public Defender	0	76,561
400	Office of the Contractor-General	209,695.00	0400 - Office of the Contractor-General	0	209,695
500	Auditor General	346,598.00	0500 - Auditor General	0	346,598
600	Office of the Services Commissions	148,592.00	0600 - Office of the Services Commissions	0	148,592
700	Office of the Children's Advocate	84,078.00	0700 - Office of the Children's Advocate	0	84,078
800	Independent Commission of Investigations	288,000.00	0800 - Independent Commission of Investigations	0	288,000
1500	Office of the Prime Minister	1,354,588.00	1500 - Office of the Prime Minister	0	1,354,588
1510	Jamaica Information Service	283,368.00	1510 - Jamaica Information Service	0	283,368
1600	Office of the Cabinet	383,910.00	1600 - Office of the Cabinet	0	383,910
1649	Management Institute for National Development	130,986.00	1649 - Management Institute for National Development	0	130,986
1700	Ministry of Tourism and Entertainment	1,517,514.00	1700 - Ministry of Tourism and Entertainment	0	1,517,514
1800	Office of the Prime Minister (Local Government)	0.00	1800 - Office of the Prime Minister (Local Government)	0	0
2000	Ministry of Finance and Planning	19,846,358.00	2000 - Ministry of Finance and Planning	0	19,846,358
2011	Accountant General	393,951.00	2011 - Accountant General	393,951	0
2012	Jamaica Customs Department	2,450,248.00	2012 - Jamaica Customs Department	2,450,248	0

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Head No.	Title	Approved Estimates, 2012-2013 (A)	Head No. - Title	Sum of approved (B)	Difference (A) – (B)
2018	Public Debt (Interest Payments)	136,533,516.00	2018 - Public Debt (Interest Payments)	136,533,516	0
2019	Pensions	24,090,000.00	2019 - Pensions	24,090,000	0
2056	Tax Administration Jamaica	4,201,779.00	2056 - Tax Administration Jamaica	4,201,779	0
2600	Ministry of National Security	12,013,857.00	2600 - Ministry of National Security	12,013,857	0
2622	Police Department	27,369,358.00	2622 - Police Department	27,369,358	0
2624	Department of Correctional Services	4,409,348.00	2624 - Department of Correctional Services	4,409,348	0
2653	Passport, Immigration and Citizenship Agency	300,000.00	2653 - Passport, Immigration and Citizenship Agency	300,000	0
2800	Ministry of Justice	726,116.00	2800 - Ministry of Justice	726,116	0
2823	Court of Appeal	134,318.00	2823 - Court of Appeal	134,318	0
2825	Director of Public Prosecutions	243,612.00	2825 - Director of Public Prosecutions	243,612	0
2826	Family Courts	156,755.00	2826 - Family Courts	156,755	0
2827	Resident Magistrates' Courts	974,514.00	2827 - Resident Magistrates' Courts	974,514	0
2828	Revenue Court	2,709.00	2828 - Revenue Court	2,709	0
2829	Supreme Court	654,244.00	2829 - Supreme Court	654,244	0
2830	Administrator General	96,500.00	2830 - Administrator General	0	96,500
2831	Attorney General	360,148.00	2831 - Attorney General	0	360,148
2832	Trustee in Bankruptcy	36,112.00	2832 - Trustee in Bankruptcy	36,112	0
2833	Office of the Parliamentary Counsel	83,225.00	2833 - Office of the Parliamentary Counsel	0	83,225
2852	Legal Reform Department	41,948.00	2852 - Legal Reform Department	41,948	0
2854	Court Management Services	181,113.00	2854 - Court Management Services	181,113	0
3000	Ministry of Foreign Affairs and Foreign Trade	2,609,102.00	3000 - Ministry of Foreign Affairs and Foreign Trade	2,609,102	0
4000	Ministry of Labour and Social Security	2,136,426.00	4000 - Ministry of Labour and Social Security	2,136,426	0
4100	Ministry of Education	73,828,972.00	4100 - Ministry of Education	73,828,972	0
4200	Ministry of Health	31,066,208.00	4200 - Ministry of Health	31,066,208	0
4220	Registrar General's Department and Island Records Office	0.00	4220 - Registrar General's Department and Island Records Office	0	0
4234	Bellevue Hospital	1,097,734.00	4234 - Bellevue Hospital	1,097,734	0
4235	Government Chemist	27,963.00	4235 - Government Chemist	27,963	0

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Head No.	Title	Approved Estimates, 2012-2013 (A)		Head No. - Title	Sum of approved (B)		Difference (A) – (B)
4500	Ministry of Youth and Culture	1,390,263.00		4500 - Ministry of Youth and Culture	1,390,263		0
4551	Child Development Agency	1,634,916.00		4551 - Child Development Agency	1,634,916		0
5100	Ministry of Agriculture and Fisheries	3,113,086.00		5100 - Ministry of Agriculture and Fisheries	3,113,086		0
5300	Ministry of Industry, Investment and Commerce	1,603,835.00		5300 - Ministry of Industry, Investment and Commerce	1,603,835		0
5338	The Companies Office of Jamaica	0.00		5338 - The Companies Office of Jamaica	0		0
5600	Ministry of Science, Technology, Energy and Mining	1,968,024.00		5600 - Ministry of Science, Technology, Energy and Mining	1,968,024		0
5639	Post and Telecommunications Department	1,497,000.00		5639 - Post and Telecommunications Department	1,497,000		0
6300	Ministry of Housing, Environment and Water	0.00		6300 - Ministry of Housing, Environment and Water	0		0
6400	Ministry of Housing, Environment, Water and Local Government	0.00		6400 - Ministry of Housing, Environment, Water and Local Government	0		0
6500	Ministry of Transport, Works and Housing	1,690,567.00		6500 - Ministry of Transport, Works and Housing	1,690,567		0
6550	National Works Agency	489,841.00		6550 - National Works Agency	489,841		0
6700	Ministry of Water, Land, Environment and Climate Change	740,794.00		6700 - Ministry of Water, Land, Environment and Climate Change	740,794		0
6746	Forestry Department	401,248.00		6746 - Forestry Department	401,248		0
6747	National Land Agency	393,697.00		6747 - National Land Agency	393,697		0
6748	National Environment and Planning Agency	602,616.00		6748 - National Environment and Planning Agency	602,616		0
7200	Ministry of Local Government and Community Development	7,514,316.00		7200 - Ministry of Local Government and Community Development	7,514,316		0
	Total Recurrent	374,764,646.00		Grand Total	348,720,106		26,044,540

Source: Estimates of Expenditure 2013-2014, Summary table for Recurrent, column for Approved Estimates, 2012-2013 (Left); Budget and expenditure data from JaBIS for financial year 2012-2013 (Center); authors' calculations (Right).

Table 9. Reconciliation of Actual Expenditure, 2012-2013, Recurrent

Head No.	Title	Actual (Provisional) Expenditure, 2012-2013 (A)		Head No. - Title	Sum of actual_expenditure (B)		Difference (A) – (B)

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Head No.	Title	Actual (Provisional) Expenditure, 2012-2013 (A)	Head No. - Title	Sum of actual_expenditure (B)	Difference (A) – (B)
100	His Excellency the Governor-General and Staff	154,475.00	0100 - His Excellency the Governor-General and Staff	0	154,475
200	Houses of Parliament	762,380.00	0200 - Houses of Parliament	0	762,380
300	Office of the Public Defender	76,561.00	0300 - Office of the Public Defender	0	76,561
400	Office of the Contractor-General	227,584.00	0400 - Office of the Contractor-General	0	227,584
500	Auditor General	346,598.00	0500 - Auditor General	0	346,598
600	Office of the Services Commissions	163,702.00	0600 - Office of the Services Commissions	0	163,702
700	Office of the Children's Advocate	84,078.00	0700 - Office of the Children's Advocate	0	84,078
800	Independent Commission of Investigations	280,000.00	0800 - Independent Commission of Investigations	0	280,000
1500	Office of the Prime Minister	1,339,588.00	1500 - Office of the Prime Minister	0	1,339,588
1510	Jamaica Information Service	298,478.00	1510 - Jamaica Information Service	0	298,478
1600	Office of the Cabinet	383,910.00	1600 - Office of the Cabinet	0	383,910
1649	Management Institute for National Development	141,513.00	1649 - Management Institute for National Development	0	141,513
1700	Ministry of Tourism and Entertainment	1,531,488.00	1700 - Ministry of Tourism and Entertainment	0	1,531,488
			1800 - Office of the Prime Minister (Local Government)	3,923,939	-3,923,939
2000	Ministry of Finance and Planning	7,803,755.00	2000 - Ministry of Finance and Planning	0	7,803,755
2011	Accountant General	398,301.00	2011 - Accountant General	377,415	20,886
2012	Jamaica Customs Department	2,563,287.00	2012 - Jamaica Customs Department	2,381,714	181,573
2018	Public Debt Charges (Interest Payments)	129,486,411.00	2018 - Public Debt (Interest Payments)	131,083,884	-1,597,473
2019	Pensions	24,090,000.00	2019 - Pensions	22,222,572	1,867,428
2056	Tax Administration Jamaica	4,525,808.00	2056 - Tax Administration Jamaica	4,300,384	225,424
2600	Ministry of National Security	13,109,146.00	2600 - Ministry of National Security	12,776,478	332,668
2622	Police Department	29,037,358.00	2622 - Police Department	26,951,014	2,086,344
2624	Department of Correctional Services	4,608,283.00	2624 - Department of Correctional Services	4,462,768	145,515
2653	Passport, Immigration and Citizenship Agency	329,500.00	2653 - Passport, Immigration and Citizenship Agency	249,899	79,601
2800	Ministry of Justice	756,944.00	2800 - Ministry of Justice	1,965,594	-1,208,650
2823	Court of Appeal	141,740.00	2823 - Court of Appeal	151,429	-9,689

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Head No.	Title	Actual (Provisional) Expenditure, 2012-2013 (A)	Head No. - Title	Sum of actual_expenditure (B)	Difference (A) – (B)
2825	Director of Public Prosecutions	257,827.00	2825 - Director of Public Prosecutions	244,001	13,826
2826	Family Courts	169,192.00	2826 - Family Courts	165,897	3,295
2827	Resident Magistrates' Courts	1,039,308.00	2827 - Resident Magistrates' Courts	1,045,469	-6,161
2828	Revenue Court	2,833.00	2828 - Revenue Court	3,534	-701
2829	Supreme Court	719,488.00	2829 - Supreme Court	705,655	13,833
2830	Administrator General	113,913.00	2830 - Administrator General	0	113,913
2831	Attorney General	456,682.00	2831 - Attorney General	0	456,682
2832	Trustee in Bankruptcy	38,355.00	2832 - Trustee in Bankruptcy	33,520	4,835
2833	Office of the Parliamentary Counsel	84,775.00	2833 - Office of the Parliamentary Counsel	0	84,775
2852	Legal Reform Department	44,025.00	2852 - Legal Reform Department	49,249	-5,224
2854	Court Management Services	194,613.00	2854 - Court Management Services	152,871	41,742
3000	Ministry of Foreign Affairs and Foreign Trade	2,696,293.00	3000 - Ministry of Foreign Affairs and Foreign Trade	2,538,401	157,892
4000	Ministry of Labour and Social Security	2,277,788.00	4000 - Ministry of Labour and Social Security	1,968,181	309,607
4100	Ministry of Education	79,155,517.00	4100 - Ministry of Education	75,741,557	3,413,960
4200	Ministry of Health	32,408,704.00	4200 - Ministry of Health	33,109,152	-700,448
4220	Registrar General's Department and Island Records Office	29,598.00	4220 - Registrar General's Department and Island Records Office	24,518	5,080
4234	Bellevue Hospital	1,148,647.00	4234 - Bellevue Hospital	1,195,930	-47,283
4235	Government Chemist	28,925.00	4235 - Government Chemist	25,891	3,034
4500	Ministry of Youth and Culture	1,454,292.00	4500 - Ministry of Youth and Culture	1,956,352	-502,060
4551	Child Development Agency	1,672,104.00	4551 - Child Development Agency	1,569,916	102,188
5100	Ministry of Agriculture and Fisheries	3,343,130.00	5100 - Ministry of Agriculture and Fisheries	3,217,355	125,775
5300	Ministry of Industry, Investment and Commerce	1,682,363.00	5300 - Ministry of Industry, Investment and Commerce	1,786,954	-104,591
5338	The Companies Office of Jamaica	0.00	5338 - The Companies Office of Jamaica	0	0
5600	Ministry of Science, Technology, Energy and Mining	1,871,894.00	5600 - Ministry of Science, Technology, Energy and Mining	1,768,562	103,332
5639	Post and Telecommunications Department	1,573,725.00	5639 - Post and Telecommunications Department	1,487,046	86,679
			6300 - Ministry of Housing, Environment and Water	615,171	-615,171

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Head No.	Title	Actual (Provisional) Expenditure, 2012-2013 (A)	Head No. - Title	Sum of actual_expenditure (B)	Difference (A) – (B)
			6400 - Ministry of Housing, Environment, Water and Local Government	1,977,747	-1,977,747
6500	Ministry of Transport, Works and Housing	1,742,583.00	6500 - Ministry of Transport, Works and Housing	1,358,493	384,090
6550	National Works Agency	552,702.00	6550 - National Works Agency	512,604	40,098
6700	Ministry of Water, Land, Environment and Climate Change	766,994.00	6700 - Ministry of Water, Land, Environment and Climate Change	144,128	622,866
6746	Forestry Department	432,599.00	6746 - Forestry Department	367,545	65,054
6747	National Land Agency	450,501.00	6747 - National Land Agency	333,321	117,180
6748	National Environment and Planning Agency	634,401.00	6748 - National Environment and Planning Agency	583,958	50,443
7200	Ministry of Local Government and Community Development	8,048,993.00	7200 - Ministry of Local Government and Community Development	3,771,656	4,277,337
	Total Recurrent	**367,733,652.00**	**Grand Total**	**349,301,724**	**18,431,928**

Source: Estimates of Expenditure 2014-2015, Summary table for Recurrent, column for Actual Expenditure, 2012-2013 (Left); Budget and expenditure data from JaBIS for financial year 2012-2013 (Center); authors' calculations (Right).

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CONCLUSION

This Open Data Readiness Assessment is designed to produce a rapid evaluation of a government's readiness to sustain an Open Data initiative. In doing this, the Assessment looks at key dimensions. While each dimension is important, the Assessment methodology gives each a weighted rating of relative importance.

DIMENSION	IMPORTANCE	RATING
Leadership	VERY HIGH	Yellow
Policy/Legal Framework	HIGH	Yellow
Institutional Preparedness	MEDIUM HIGH	Yellow/Red
Data within Government	HIGH	Yellow
Demand for Data	HIGH	Yellow/Red
Open Data Ecosystem	MEDIUM HIGH	Green
Financing	HIGH	Yellow
Technology & Skills Infrastructure	HIGH	Green/Yellow
Key Datasets	HIGH	Analysis & Recommendations Provided

It is important to note that all governments have their own combination of challenges and comparative advantages as they implement Open Data initiatives. Open Data offers opportunities for every government to drive innovation, improve public services and engage citizens in new ways.

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OUTLINE IMPLEMENTATION PLAN

A3.1   Establish Open Data Team in MSTEM
A2.3   Strengthen role of JIPO
A2.4   Cabinet agree common licensing
A3.2   Establish Open Data Policy Group
A3.3   Involve Consumer Affairs Commission
A2.2   Attorney General to do full legal due diligence
A2.9   Guidance on Official Secrets Act
A2.11 Clarify cost recovery policy
A2.12 Remove cross-subsidies
A2.16 Publish principles of data protection legislation
A7.1   Seek implementation support from World Bank
A2.1   Develop full Open Data policy for Cabinet
A3.11 Commission Open Data Portal
A1.4   External experts for Steering Committee
A1.5   Open Data Declaration by Prime Minister
A5.2   Central Team to have outreach post
A2.6   Consider Creative Commons Attribution
A4.2   Interim guidance on data safeguarding
A4.7   Direct no more than 12 months delay in reports
A3.6   Develop culture change management program
A4.11 Data quality framework
A1.6   Other Ministers signal their support
A1.8   Consider joining Open Government Partnership
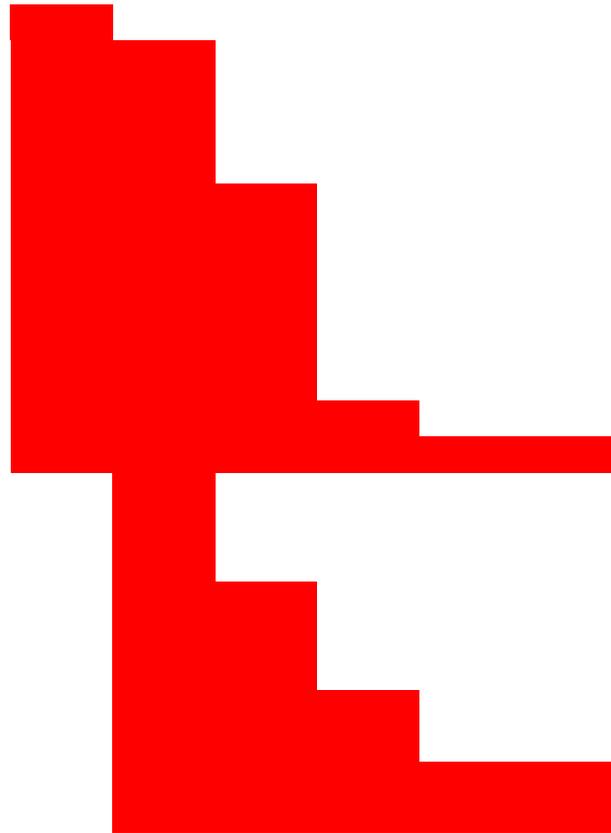
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Ref	Action	M1	M2	M3	M4	M5	M6	M7-9	M10-12	Y2
A1.9	Consider joining Open Budget organisations									
A3.12	Communications Strategy									
A4.10	STATIN guidance on publishing raw data									
A5.13	Implement data request process									
A6.2	COI assistance in implementing portal									
A4.12	Republish existing website PDFs in CSV									
A5.1	Promote open data among startups									
A5.3	Enthuse users in civil society and academic sector									
A2.7	Standard attribution statement									
A4.4	Revise Geospatial Data Sharing Policy									
A4.5	Require justification not to share geospatial data									
A2.10	Processes for proper authorisation of release									
A2.13	Enable commercial reuse									
A8.3	Explore Cloud									
A5.5	Ministry of Education to engage with stakeholders									
A5.6	Ministry of Tourism to engage with stakeholders									
A5.7	Ministry of Agriculture to engage with stakeholders									
A6.1	Leverage Start-up Jamaica space for incubation									
A6.4	Promote Open Data in related programs									
A6.3	Developer data and competitions									
A2.5	Adopt recognised international license									
A2.8	JIPO guidance to Ministries									
A2.17	Additional training on anonymization									
A3.4	Establish focal points in each Ministry									
A3.7	e-Government Strategy to include Open Data									
A3.8	Website policy to require reusable data									
A3.9	Website policy to require open license									
A3.15	Website pollicy to require advanced analytics									
A2.18	Review publication of reports to Parliament									

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Ref	Action	M1	M2	M3	M4	M5	M6	M7-9	M10-12	Y2
A4.8	Ministry to have plans to meet publication targets									
A2.14	Expedite data sharing policy development									
A6.5	Introduce data journalism development program									
A6.7	Data skills in Universities									
A7.2	Leverage existing innovation components									
A3.5	Phased rollout									
A3.13	Program of training on use of portal									
A4.6	Inventory of geospatial datasets									
A4.13	Publish and update data release program									
A2.15	Expedite records management policy									
A3.10	Transfer JamStats to STATIN									
A4.1	RIM policy to include data archiving									
A4.3	Develop National Spatial Data Strategy									
A4.9	Release unprocessed raw data									
A5.8	Ministry of Finance to work with Open Spending									
A5.9	Include Jamaica in WB Open Budget Portal									
A6.6	Civil Society capability building									
A7.3	Leverage ICT funding in Vision 2030									
A3.14	Get entries in Open Data Index etc.									
A5.4	Release rich data for COI events									
A5.12	Each Ministry to work with its sector									
A5.14	Escalate declined requests to Steering Committee									
A6.8	Data Internships									
A8.1	Leverage plans for greater takeup of broadband									
A5.10	Stimulate capability of think tanks									
A5.11	Finance data workshops for CSOs									
A8.2	Include data science in ICT part of Vision 2030									