

Project Title: Harnessing Open Data to Achieve Development Results

in Latin America and the Caribbean

IDRC Project Number-Component Number: 107574-004

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***Report Type and #:** *1st Interim Report*

***Period covered by the report:** *March 2014 – April 2015*

***Date:** *Jul 30th, 2015*

***Country/Region:** *The Caribbean*

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Synthesis

This research project “*Harnessing Open Data to Achieve Development Results in Latin America and the Caribbean*”, is being executed by the Caribbean Open Institute as part of a larger collaboration with partners ILDA, Fundacion Avina, ECLAC and the OAS. The project builds on the earlier work and outcomes of the IDRC-funded study “**Open Data in the Caribbean** – 106099-004”, and explores how open data policies and strategies can contribute to the development agenda in the Caribbean.

The overall research program is being conducted in the following structured phases:

1. **Mapping/Scoping Studies** – which examine the existing eco-system in four select sectors in the Caribbean, including the identification of key sector stakeholders, policies or initiatives as well as public data practices and policy that provide potential enablers or constraints for Open Data opportunities and interventions.
2. **Strategic Interventions** - Based on the information gathered through the mapping/scoping exercise in the target sectors, develop strategic interventions in key areas related to one or more of the following issues: governance structures, capacity/community building, standards development and inclusion/cognitive divide. These interventions will be geared towards developing the open data ecosystems and testing core “*theories of change*”
3. **Research Evaluation & Dissemination** – critical evaluation of the outcomes of the interventions will be guided by key indicators defined during the mapping studies and tested during the intervention phase. This will allow for cross-sector / cross-country comparisons and evaluation of the emerging open data ecosystems.

This report covers the period **March 2014 – April 2015** and work that primarily involved the implementation of **Mapping/Scoping Studies** for designated target sector(s) in the Caribbean in order to characterize the data ecosystem and analyze the impact and/or the potential of Open Data as a catalyst for economic growth and development. It should be noted that, although the Grant Agreement was executed by UWI with a commencement date of March 1st, 2014 funding was not available until July 2014 due to delays in the approval of the official Research program. The initial Research consultancies to execute the scoping studies were therefore somewhat delayed and were **mobilized in August 2014**. We expect to make up the delays over the course of the overall research program.

While the identified areas for the larger Americas study were: Urban Governance, Health and Education, Government Transparency and Agriculture and Environment, the unique institutional characteristics and relative sector priorities for the English-speaking Caribbean led to the following sectors designated for study: *Agriculture, Fisheries & Marine Protected Areas, Tourism, Education and National Statistics/Census*. We also found it necessary to adapt the common assessment

framework proposed for the study of open data¹, given the pre-adoption state of Open Data maturity by most Governments in the region. Comprehensive sector studies were completed for Tourism, Fisheries/MPAs and National Statistics, during the reporting period, while work on the Education and Agriculture sectors are well advanced. The studies identified important impact opportunities for open data interventions in the respective sectors, and perhaps more significantly, highlighted the potential for open data to support integrated cross-sector strategic interventions.

This reporting period also included the staging of the fourth edition of the annual “Developing the Caribbean (DevCA2015)” Open Data Conference & Codesprint. The 2015 edition of DevCA saw a deliberate effort to evolve DevCA beyond the goals of the earlier editions, which focused primarily on awareness, engagement and experimentation. DevCA2015 put a greater emphasis on the potential economic impact of open data with keynote presentations from Joel Gurin, Author of "Open Data Now", and Prasanna Lal Das, Lead Program Officer (Knowledge & Innovation), World Bank. The conference continued to secure DevCA’s positioning as the signature Open Data forum in the region, and featured several side events staged through partnerships with the World Bank, Open Knowledge Foundation and the Caribbean Mobile Innovation Program (funded by the Government of Canada through the EPIC fund).

The demand-side activities emphasized in this research program also provided considerable complementary synergy with parallel open data initiatives in the Caribbean, being conducted and funded by the World Bank/UK DFID. Open Data Readiness Assessment (ODRA) studies conducted by the Governments of Jamaica, Trinidad & Tobago, St. Lucia, and the Dominican Republic highlighted the significance of the influence of DevCA and the work of the Caribbean Open Institute in stimulating the awareness, demand and capacity for Open Data in the region. Follow-on activities in the World Bank-led program, including open data policy formulation and the publishing of government open data portals, for the participating countries will provide important leverage for the planned strategic sector interventions.

The Research Problem

Releasing open data is not an end in and of itself, but becomes the cornerstone of an ecosystem of actors, institutions and information flows that has the potential to create value. As Noveck (2012) argues: *“Creating a participatory innovation ecosystem is about a lot more than just publishing data sets. It requires doing the hosting, convening, persuading, and demonstrating involved in inviting diverse people to participate. The institutional players have to be prepared to collaborate with the innovators; those outside government have to know how to collaborate; civil society activists have to ensure that innovators know the problems that need solving; and **research is needed** to figure out what works. Noveck (2012) ”*

¹ <http://opendataresearch.org/content/2014/646/towards-common-methods-assessing-open-data-workshop-report>

The research project therefore seeks to determine the attributes, value-opportunities, enablers and constraints of an emergent open data ecosystem in specific sectors in the Caribbean. The research objectives are:

- To improve understanding of the demand and use of Open Data for development in the Caribbean
- To support the collaborative development of products and services between government, civil society, academic institutions and entrepreneurs
- To promote the development and adoption of emerging open standards that enable open data initiatives to scale up
- To explore mechanisms for open data to address the needs of marginalized groups, focusing particularly on youth, women and urban poor
- To build the capacity of the Caribbean Open Institute to act as a knowledge sharing platform fostering dialogue with governments that feeds to the initiative

Research Findings

Although still too early in the Research program for conclusive insights, each of the sector studies highlighted important findings from the research to-date, for the respective Sectors:

- a) **Tourism:** the study considered the primary tourism datasets - *tourist arrivals, tourism assets and tourism service providers*, used by the public agencies with responsibility for tourism data in the following countries: Antigua & Barbuda, Barbados, the Dominican Republic, Jamaica, and Trinidad and Tobago. The findings highlight challenges of multi-agency involvement with tourism data and data provenance issues with respect to the sources, owners and custodians of tourism data. Analysis suggests that with more effective policies and access, open data use and re-use can potentially improve the productivity of the Caribbean tourism sector by as much as 10% and facilitate greater linkages between tourism activities and other economic sectors in the region.
- b) **Fisheries/MPAs:** The scoping study identifies the most widely collected data sets (*catch and effort, fishers and vessels, and habitat*), that are important to evidence-based decision making across three key domains (*socio-economic, biophysical and governance*); On examination of the various dimensions of openness for data in five Caribbean territories: Bahamas, Barbados, Dominican Republic, Jamaica and Trinidad and Tobago, It finds that while data are generally stored in some digital form and available at no charge, it does not generally meet other key criteria for openness. While highlighting a number of cultural and practical challenges to open data adoption in Caribbean fisheries and MPAs, the study finds that there is generally no fundamental barrier to open data and identifies points of leverage that it deems both necessary and available for the establishment and maintenance of an open data regime in the sector.

- c) **National Statistics:** The peculiarities of Small Island Developing States (SIDS), small land masses and low population numbers, influence the approach to open data and official statistics in the Caribbean, given that existing statistical processes are anchored in the precepts of protection of the identity of individual data provider, being a natural person or a corporate entity. The review of four (4) countries in the Caribbean (Jamaica, Trinidad & Tobago, Dominican Republic & St. Lucia) to determine their readiness for the publication of Official Statistics in an open data format reveals a number of challenges associated with data collection and sharing practices within both the private and public sectors and well as the cultural disposition within the organizations themselves. Necessary steps to mitigate these barriers include: (a) review and modernization of the legal framework covering the collection, analyzing and dissemination of official statistics; (b) Implementing change management procedures to transform a culture of secrecy and privacy towards confidentiality; (c) Developing a dissemination strategy that identifies those products that could be published at a lower level of disaggregation without breaching the legal requirements and publish them as open data.
- d) **Agriculture:** the initial baseline research underscored general consensus across key stakeholder institutions on the importance of data and information within the agriculture sector, and recognition of the value-add that open agricultural data offers, including (i) greater access to information for academic research, policy or entrepreneurship; (ii) catalyst for economic activity and entrepreneurship; and (iii) increased farmer productivity. While many institutional agriculture stakeholders are accustomed to data and information sharing practices amongst themselves and understand its value, opening data more broadly for consumption by innovators or the general public is not a common practice with only a few agriculture focused data sets were being published online, with fewer still classifiable as open data. Nevertheless there was strong recognition and interest among these key stakeholders on the potential for open data-related initiatives to tackle problems ranging from the effects of climate change on crop yield, managing farmer registration information, praedial larceny, and the control of pests and invasive species. A key factor in advancing these initiatives is providing mechanisms for stakeholders to be more aware of what data assets are available, how to access them, and Meta data specifics, such as frequency of updates, data sources, formats and accuracy.

A collateral study conducted by the Principal Investigator in collaboration with the Caribbean Policy Research Institute (CaPRI), UWI underscored the significant, potential economic value of Open Data in Jamaica for Agriculture, Tourism and Education sectors.

The sector studies and these initial findings have considerably advanced understanding of the demand and use of Open Data for development in the Caribbean. They have also enhanced the research capacity and productive output of the Caribbean Open Institute towards becoming an important knowledge broker for fostering dialogue and policy advice with emerging government-led open data initiatives in the region. Planning for strategic interventions to evaluate discrete

hypotheses and “theories of change” arising from the sector studies, is well advanced and these are expected to be mobilized during August 2015.

Project Implementation and Management

Researchers with domain expertise in the respective sectors were engaged to conduct the studies as follows:

- **Tourism** - Michelle McLeod, PhD - Mona School of Business & Management, UWI
- **Fisheries and Marine protected areas** - Kim Mallalieu, PhD - CIRP, UWI, St. Augustine, Trinidad and Tobago / Patrick McConney, PhD - CERMES, UWI Cave Hill, Barbados
- **National Statistics** - Sonia Jackson - Former head of STATIN, Jamaica
- **Agriculture** - Matthew McNaughton / Slashroots Foundation, Jamaica
- **Education** - Valerie Gordon, Development Consultant, Fundación Taigüey

The sector studies were conducted using a combination of desk research, surveys and semi-structured interviews. A modified version of the common assessment framework proposed for the study of open data, by World Wide Web Foundation and The Governance Lab at NYU, adapted for the Caribbean context, was employed across all studies. A survey instrument, designed based on this framework, was also administered by several of the researchers. A common report template for the final reports was provided to each of the researchers to facilitate sufficient consistency and comparability across the main sector research outputs. Several of the sector studies also benefitted from other, related collateral research being done on Open Data in the Caribbean².

Given the importance of Marine Protected Areas (MPAs) in the Caribbean, the sector study originally planned for Agriculture and Fisheries was split into two separate studies – with Fisheries/MPAs being conducted as a separate study. Comprehensive sector studies were completed for Tourism, Fisheries/MPAs and National Statistics, during the reporting period, while work on the Education and Agriculture sectors are well advanced.

Although the Grant Agreement was executed by UWI with a commencement date of March 1st, 2014 the initial funding was not received until July 2014 due to delays in the approval of the official Research program. As a result, the initial research consultancies to execute the scoping studies were somewhat delayed and were mobilized in August 2014. These delays account for the financial variances (under-expenditures) reflected in budget item relating to “4 Strategic Interventions” in the interim financial report. We expect to make up the delays over the course of the overall research program.

Initial findings from the sector studies also contributed to discussions at the Canada-Caribbean Twinning Initiative Conference on Open Government and Open Data, organized by the Commonwealth Parliamentary Association and the IDRC, which was hosted in Ottawa in April 2015.

² Notably, CaPRI / McNaughton - Estimating the Potential Value of Open Data to the Jamaican Economy & CTA / McNaughton / Soutar - Open Data Baseline Study: Institutional Stakeholder Report

Project Outputs and Dissemination

The following table provides a summary of various project outputs thus far. We are currently in the process of redeveloping/ upgrading the COI's website (<http://caribbeanopeninstitute.org/>) to become a more effective reference and resource repository for all things Open Data in the Caribbean. All project and research outputs will be disseminated through the new COI Website, which will feed content to the global OD4D platform.

Information sharing and dissemination	
DevCA2015 Caribbean Open Data Conference	<p>http://developingcaribbean.org/ Executive Summary Conference Report: <i>upcoming</i></p> <p>Blogs: http://yogobierno.org/devca-2015-and-the-caribbean-open-data-community/ http://yogobierno.org/devca-2015-and-the-caribbean-open-data-community-part-two/ http://blogs.iadb.org/caribbean-dev-trends/2015/02/08/devca-2015-open-data-conference-code-sprint/ http://www.siliconcaribe.com/2015/03/25/devca-2015-and-the-caribbean-open-data-community/ http://www.uci.cu/?q=inaugurado-devca-2015-0</p> <p>News Items: http://www.jamaicaobserver.com/business/Local-software-developers-ready-for-DevCa-2015_18497283 http://www.jamaicaobserver.com/news/DevCa-winners-point-the-way-for-Caribbean-entrepreneurs_18729985</p>
Sector Studies	<p>Sector Studies: <i>to be published</i> Sector Study Blogs: <i>to be published</i></p> <p>Articles: McLeod, M. T., & McNaughton, M. L. (2015). A methodological approach for understanding an emergent Caribbean Open Data ecosystem. In Open Data Research Symposium. Ottawa. McLeod, M. T., & McNaughton, M. L. (2015). Knowledge-based tourism policy formulation as an Application of Open Data in Caribbean tourism. In <i>ICOT 2015</i>. University of Westminster London.</p> <p>Related Research: CaPRI / McNaughton - Estimating the Potential Value of Open Data to the Jamaican Economy CTA / McNaughton / Soutar - Open Data Baseline Study: Institutional Stakeholder Report</p>
Canada-Caribbean Parliamentary Twinning Conference	Initial findings from the sector studies also contributed to discussions at the Canada-Caribbean Twinning Initiative Conference on Open Government and Open Data, organized by the Commonwealth Parliamentary Association and the IDRC, which was hosted in Ottawa in April 2015.
Caribbean Open Data Census Website	http://caribbean.census.okfn.org/ This is a customized Caribbean instance of the Open Data Index created by the Open Knowledge Foundation. The datasets and their "openness" status will be informed by the various sector studies conducted.
Caribbean Open Data Portal	http://opencaribbean.org/ In support of the DevCA codesprint, and other regional open data initiatives, the COI

	has established the <i>openCaribbean</i> portal as a centralized open data repository for Government, Civil Society, Corporate and Donor Agency Data in the Caribbean. This serves as a placeholder while the various Caribbean governments pursue open data initiatives and establish their own open data portals.
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Capacity-building

The sector studies have contributed to expanding the research capacity of the Caribbean Open Institute, both by increasing the number of experienced researchers actively involved in the open data research agenda, as well as adding to the COI's library of research production output. We will be actively participating in the World Bank's capacity-building activities as follow-on to the recent ODRA engagements, which will include: Open Data policy formulation, open data portals – technical capacity building, data journalism / data literacy.