Caribbean Data-Driven Resilience

Landscape Report

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Executive Summary

The CaribData project, funded by the Intra-American Development Bank, aims to strengthen data collection, sharing, and dissemination capabilities across four Caribbean nations—Jamaica, Trinidad and Tobago, Guyana, and Belize. A series of in-depth interviews with National Statistical Offices (NSOs) has identified regional challenges and opportunities and provided valuable insights that directly inform the project's key deliverables. The process has highlighted the clear need for an accessible and engaging communication platform to serve as a repository for statistical information and a dynamic tool for audience engagement. The NSOs wish to enhance the visibility and impact of statistical information by leveraging public relations and communication channels to amplify reach and influence. To achieve this, the CaribData team will ensure a specific focus on user experience design into the platform's development, ensuring it meets both internal data quality standards and external user engagement expectations. Tailored training programs also emerged as a significant priority, with stakeholders emphasizing the importance of equipping staff with skills in data management, storytelling, and visualization. Effective training must cater to various roles, from statisticians to journalists, blending hands-on, in-person sessions with virtual and hybrid components for broader accessibility. Leadership development was also highlighted, focusing on senior personnel managing complex datasets, adopting new technologies, and navigating ethical considerations. Flexibility of training schedules must align with operational demands and address varying levels of expertise. Developing a sustainable business model ties together the project's training, technology, and communication objectives by monetizing advanced training programs and offering subscription-based services, such as curated datasets or customized analytics tools, as potential revenue streams. Partnerships were seen as critical to expand capacity and attract funding, as well as the adoption of modern technology and tools to improve efficiency and enhance the reputation of NSOs as leaders in statistical innovation, fostering opportunities for collaboration, funding, and long-term sustainability. By addressing technical, operational, and communicative challenges, the CaribData project will align its efforts with the evolving needs of the region, ensuring that statistical systems remain relevant and impactful in addressing contemporary societal demands.

Introduction

CaribData: Caribbean Data-Driven Resilience is an Intra-American Development Bank-funded project aimed at improving regional data collection, sharing capabilities, and the impact of data dissemination, of four beneficiary regions in the Caribbean, specifically Jamaica, Trinidad & Tobago, Guyana, and Belize.

The Project commenced in early June 2024, with an initial Inception Report submitted at the end of June detailing the specific environment, context, and characteristics of data handling and data communication ecosystem in the Caribbean generally, and within the four beneficiary regions of the Program, i.e. Belize, Trinidad and Tobago, Jamaica, and Guyana. That Report described our current understanding of stakeholder skills, needs, and potential capacity gaps, but lacked recent direct knowledge from those organisations that would be necessary to underpin the subsequent project objectives, tasks, and decisions.

Therefore, to build on the baseline information that the Inception Report provided, Angry Health initiated a mixed-method strategy to collect further, more detailed, and actionable information. This specifically involved initial in-depth interviews with selected staff members of the four different regional National Statistical Offices. The interviews were carried out between August 2024 and November 2024, using a “semi-structured” methodology designed to probe deeper and wider around the internal concepts and opinions of the different organizations. The semi-structured approach used had two components – beginning with a fixed series of questions asked to all four Offices to provide a level of consistency and allow reasonable comparisons to be made between the different regions. However, the design also allowed for spontaneous conversations to arise, allowing them to evolve into open discussions providing valuable specific insights and more in-depth opinions, that would have otherwise been hidden within a fully structured format. The use of open-ended, semi-structured interviews is a well-establish qualitative research strategy to collect stakeholder’s ideas and to explore more “descriptive” topics.

To expand the value of these interactions further, and to ensure that points of contention might be validated, the interviews were recorded and transcribed, and these used to inform the design of a secondary methodology, a brief survey questionnaire. These were distributed to the NSOs alongside an email inviting the recipient to invite others to complete. This "snowball" sampling technique is again, a common tool used to expand the information collection net and has been shown to provide useful additional information.

The initial Inception Report comprehensively described the broader context political, economic, social, healthcare, climate, and other variables arising over the last few years, including the COVID pandemic, and their resulting impact on the region. It then discussed how these impacted the regions of interest. Of special focus was the accelerated adoption of technology in the regions, especially mobile technologies and computing, particularly artificial intelligence. The long-, and short-term impacts of this on NSO function, role, and responsibilities was explored in a broad sense, and how a combination of these with simultaneous social changes had led to more people sourcing information from non-traditional platforms, as opposed to traditional news channels, and from "content creators" and "opinion leaders" instead of traditional journalists. This current Landscape Report builds on this with a new layer of contemporary and directed information derived from the Interviews and the Survey results.

Interviews

The semi-structured interviews centered on exploring key aspects of the project's objectives, challenges, and aspirations. The questions aimed to uncover insights into the inspiration behind the initiative, and the state of data-related challenges in the four beneficiary regions. They probed for the NSO's opinions on the creation of a data-powered storytelling website as an interface between their output and their stakeholders. It sought to identify clues to guide who its intended audiences should be, and its potential role in shaping public perception and understanding of their regions, but also of their Offices and their work. Furthermore, the interviews explored how they envisioned a "successful" long-term impact, and how that might be measured, e.g. media mentions, and delved into the goals and values that they would like to underpin the proposed training and mentorship programs, with an emphasis on

capacity building and sustainability. Additional questions similarly addressed the intended purpose and success indicators of the proposed Datathon [now renamed Storython] and sought to understand how synergies between various project components [e.g. communication platform; training; and business model], could enhance overall impact.

The semi-structured approach generated useful open dialogue, with interviewers using "active listening" approaches to enabling participants to share their insights freely while ensuring all key topics were addressed. Questions delved into the NSOs' roles, operational challenges, training needs, and opportunities for growth, alongside their current methods and barriers in data dissemination. The interviews were conducted via Zoom, adhering to professional settings for audio, video, and interaction, with follow-up steps including transcription, and post-hoc analysis for patterns and themes. This qualitative approach allowed for a more nuanced understanding of the varied regional contexts informing the design of subsequent project components and the survey questionnaires.

Belize

The interview with the Statistics Office in Belize provided a detailed understanding of their data ecosystem, challenges, and training needs. Discussions focused on creating an end-to-end data communication process, addressing incomplete metadata, and improving storytelling capabilities. Key insights included the need for more resources to manage and analyze data, seasonality impacting workloads and training schedules, and gaps in communication skills for public engagement. The team explored the potential for capacity-building through tailored training courses and integrating innovative tools such as digital newsrooms for data storytelling. They expressed significant interest in the proposed training program to address these gaps and proposed collaboration with other government agencies where necessary. The interview underscored the importance of practical, sustainable training solutions and engagement activities, such as Caribbean Statistics Week, to promote regional initiatives and build stakeholder networks.

Jamaica

Similarly, the NSO team in Jamaica wanted to discuss the CaribData project's aim to strengthen NSO capacity through data storytelling and especially dissemination through

hybrid training modules and asynchronous learning tools like online video courses, perhaps integrate with the digital newsroom concept. Jamaica's Statistical Institute, is the largest of the regional offices taking part in the CaribData project with around 300 staff. They discussed challenges they faced such as staff shortages, time constraints, and collaboration gaps between teams e.g. technical and communication teams. They liked the proposed training that would integrate data science and storytelling to improve overall public engagement, foster media relations, and support general capacity building. They informed the interviewers that strategic restructuring is already underway in Jamaica to address resource gaps, expand training capabilities, and align overall organizational efforts with succession planning. They also discussed collaborative opportunities including engaging students during the upcoming Caribbean Statistics Week and joint training sessions with journalists. They discussed the preference for flexible training formats and schedules, and consider operational demands would require a mix of virtual, hybrid, and asynchronous options where possible.

Trinidad & Tobago

Trinidad and Tobago's National Statistical Office explored their operational structure, challenges, and future aspirations, indicating their primary role is to produce macroeconomic data, such as employment rates, GDP, and inflation statistics, which primarily serve government needs. However, the office also recognized the growing demand for social statistics, which they aim to expand to better serve their research, NGO, and general public stakeholders. They listed a number of current challenges including the lack of an independent communication unit to effectively disseminate data. They assessed current engagement with the public as "minimal", and that their data presentation is often "mundane" and inaccessible. They accepted that partly, data dissemination is constrained by a lack of staff dedicated to creativity, visualization, and interactive platforms and that current efforts rely on outdated practices, such as static reports and basic infographics. In terms of data sharing across Ministries, they stated that this is hindered by inconsistent formats, incomplete datasets, and sometimes, bureaucratic obstacles. The need for legislative reforms to mandate data sharing was suggested. They considered large volumes of collected data is either unused or inaccessible due to organizational and resource limitations. Staff training was seen as vital to evolving their capabilities with a tailored training program focusing on data storytelling and visualization felt to be potentially beneficial to staff across all levels. They specifically

suggested that training cohorts of 14-20 participants, ideally conducted in the last quarter of the year, would be optimal. In terms of technology, they indicated that innovative approaches to data storytelling, such as AI-generated, and avatar-delivered, interactive visualizations would provide user-friendly interfaces and be able to cater to varying literacy levels. They indicated a desire to improve both reputation and relevance by "marketing" data more effectively to the general public and showcasing timely, impactful stories. A specific suggestion to leverage Geographic Information System (GIS) data to produce interactive socio-economic maps and stories, could offer more engaging and actionable insights. Overall, they see potential in participating in regional initiatives, to enhance visibility and collaboration and welcome the external support from the IDB and other partnerships to develop cutting-edge dissemination tools and strategies.

Guyana

The Bureau of Statistics in Guyana described their role as the county's central statistical authority, responsible for economic, socio-economic, and demographic data. They discussed how they were in the process of developing a new National Statistical System to coordinate all data-gathering agencies, including digitizing physical records. They also indicated their interest in the use of Power BI dashboards for data visualization and dissemination through PR channels, and their challenges with declining response rates and interest in alternative methods such as machine learning and remote sensing. The need for leadership training was discussed, with the potential for ongoing courses. There was a broad interest in technology adoption but this was balanced with concerns over data security and privacy. Gaps in technical staff and expertise, particularly in managing large datasets [e.g. transitioning from MS Access to SQL] was a concern. The interview went on to explore the proposed data storytelling course for journalists and stakeholders, possibly involving their Department of Public Information (DPI), and the potential use of AI tools and interactive platforms to improve public engagement with statistical data. They agreed that they would be willing to evaluate alternative data collection methods to address declining survey response rates. A potential leadership training program for senior statisticians was also discussed, as well as optimal timing for training sessions, with a preference for Q1 or Q2 to avoid year-end pressures.

Analysis

Overall, these meetings with the four regional statistical offices collectively highlight the critical role of capacity building, technological advancement, and innovative approaches to data collection and dissemination in strengthening the work of National Statistical Offices (NSOs). Across the discussions, a recurring theme was the need to balance traditional methods with modern tools such as machine learning, remote sensing, and interactive dashboards to address challenges like declining survey response rates and increasing demand for timely, accurate, and accessible data. Leadership training, technical upskilling, and data storytelling emerged as key areas for investment to improve the quality and impact of statistical work therefore confirming the strategic need for IDB's support of the CaribData project.

A strong emphasis on collaboration and stakeholder engagement was evident throughout, with all NSOs looking to connect better with the public, journalists, and government departments. The use of data for storytelling and decision-making underscored the importance of making statistical information relevant and accessible. Across the discussions, there was a recognition of the value of continuous learning—whether through pilot courses, leadership programs, or exploring new technologies—and fostering a shared vision for integrating statistical systems. This integration should aim to enhance efficiency, resource allocation, and the overall quality of insights delivered to stakeholders.

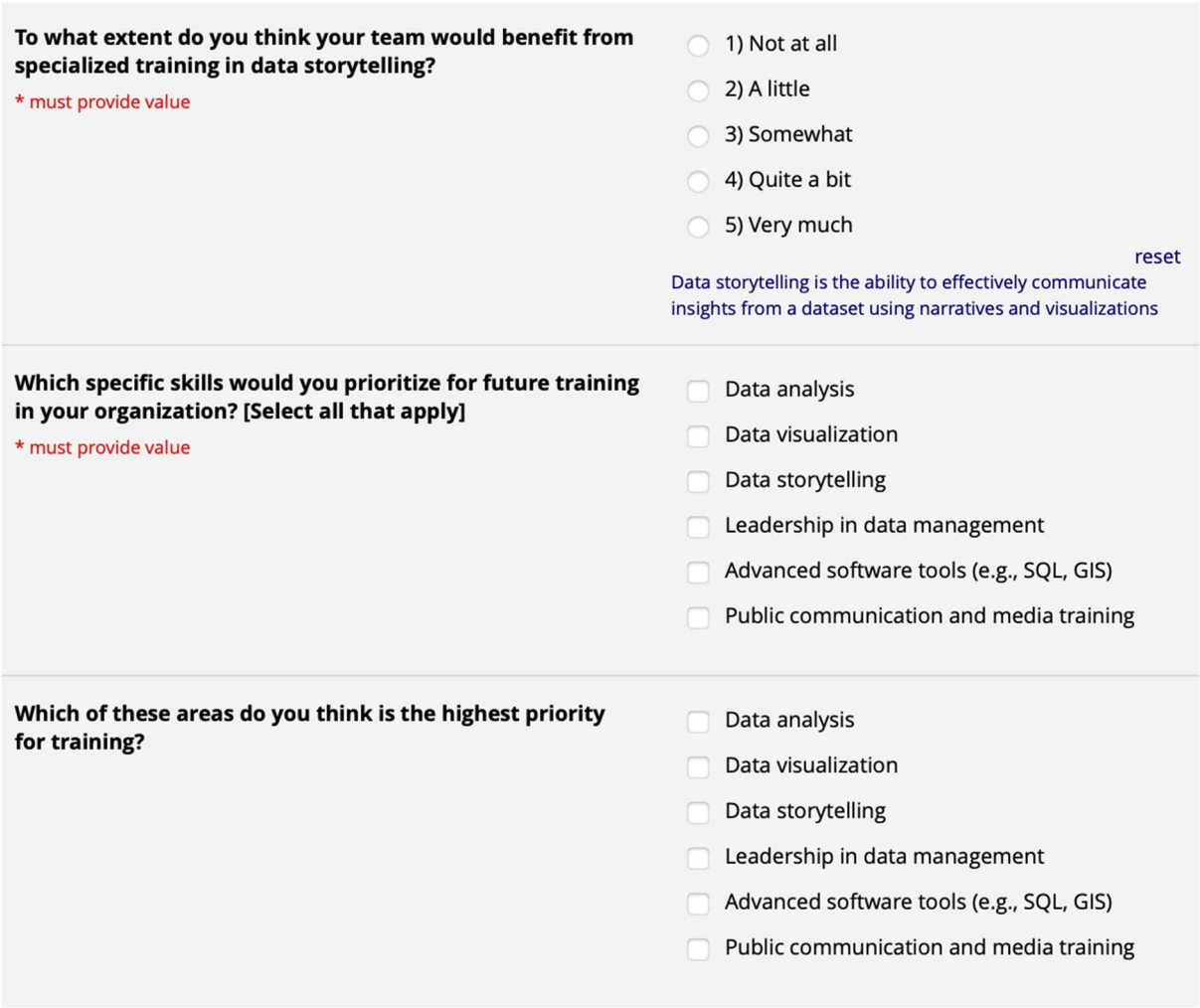
Together, these interviews shared a common commitment to modernize statistical systems, foster leadership, and enhance communication to meet both current and future demands. All participants agreed that by addressing technical, operational, and communicative challenges together as a package of work, would allow their NSOs to position themselves as pivotal players in national development, capable of responding to the evolving needs of their societies.

Survey

The follow-up survey to the in-depth interviews was disseminated via email to the relevant offices who were invited to invite others to create a "snowball" effect in recruitment. The

initial text of the REDCap-hosted survey, described the CaribData project, funding, purpose and different work packages. It then described the reason for the survey especially its aim to help tailor CaribData activities to the needs of each participating agency. It listed the four main areas covered [data training; data management & access; data dissemination & public engagement; and data policy & institutional framework], and who was being asked to complete the survey [NSO staff, key NSO stakeholders, data producers]. A "Consent" statement confirmed no identifiable information would be collected, and that the data collected would be used solely to help develop training, guidelines and data stories best suited to NSO needs. Finally, it stated that the information would be aggregated and not used in any public fora. The web-based, REDCap-hosted survey questions were grouped into Data Training; Data Management & Access; Data Dissemination & Public Engagement; and Data Policy and Institutional Framework [see below for screenshots]

DATA TRAINING



Are there any stakeholders you would recommend for this training?
Please provide roles or organisations or departments (avoid naming individuals)

Expand

Do you sometimes feel that you don't know how to best present the data?
* must provide value

- 1) Not at all
- 2) A little
- 3) Somewhat
- 4) Quite a bit
- 5) Very much

reset

Please explain.

Expand

How effective do you think your organization is at using data to engage the public?
* must provide value

- 1) Not effective
- 2) Slightly effective
- 3) Moderately effective
- 4) Effective
- 5) Very effective

reset

Please explain.

Expand

Is there some data you feel is underutilized?
* must provide value

- Yes
- No

reset

DATA MANAGEMENT & ACCESS

Which data collection methods do you currently use? [Select all that apply]
* must provide value

- [ ] 1) Traditional surveys
- [ ] 2) Machine learning models
- [ ] 3) Remote sensing
- [ ] 4) Social media analysis
- [ ] 5) Data supplied by other government departments
- [ ] 6) Other

Does your organization have sufficient human resources to handle the volume of data produced/collated?
* must provide value

- ( ) Yes
- ( ) No

reset

How would you rate your organization's readiness to adopt new data management technologies?
* must provide value

- ( ) Not ready at all
- ( ) Slightly ready
- ( ) Moderately ready
- ( ) Mostly ready
- ( ) Completely ready

reset

e.g., AI tools, cloud platforms

Do you think new technologies (e.g., AI, remote sensing) would improve data collection processes in your NSO?
* must provide value

- ( ) 1) Not at all
- ( ) 2) A little
- ( ) 3) Somewhat
- ( ) 4) Quite a bit
- ( ) 5) Very much

reset

I am confident in the use of most data visualization tools.
* must provide value

- ( ) 1) Not at all
- ( ) 2) A little
- ( ) 3) Somewhat
- ( ) 4) Quite a bit
- ( ) 5) Very much

reset

DATA DISSEMINATION & PUBLIC ENGAGEMENT

Which public engagement methods might you explore to better disseminate data? [Select all that apply]
* must provide value

- [ ] Interactive dashboards
- [ ] Press briefings
- [ ] Social media platforms
- [ ] Digital human avatars for news stories
- [ ] Collaborations with journalists
- [ ] Other methods

DATA POLICY & INSTITUTIONAL FRAMEWORK

Are you aware of any national legislation that could impact your organization's ability to share data?
* must provide value

- ( ) Yes
- ( ) No

reset

Are you aware of any institutional policies that could impact your organization's ability to share data?
* must provide value

- ( ) Yes
- ( ) No

reset

Have you encountered difficulties in accessing data from other government departments or organizations in your collaborative network?
* must provide value

- ( ) 1) Not at all
- ( ) 2) A little
- ( ) 3) Somewhat
- ( ) 4) Quite a bit
- ( ) 5) Very much

reset

If you can please provide more information

Expand

Who is the best person in your organization to talk to about policies that could affect data sharing?
Please provide roles rather than names
* must provide value

Expand

The

Insights

The CaribData project has a number of key deliverables outlined for the project. Each of these has been, in some way, impacted by the results of the in0depth interviews and survey responses. These have reflected a range of themes and priorities across stakeholders.

Primarily, the results indicate that the development of a communication platform, including a website, is a fundamental and significantly important target. The participants indicated that for this to be achieved satisfactorily, it would require a focus on accessibility, transparency, and, especially engagement.

Participants consistently emphasized the importance of making data both user-friendly and impactful, particularly through effective storytelling. The interviews indicate that, in the opinion of the NSOs themselves, a well-designed website should not only serve as a repository for statistical information but also act as a dynamic tool for engaging with diverse audiences. Interactive features, such as dashboards and multimedia content, were identified as essential elements to ensure that data is not merely presented but contextualized in a way that is meaningful to users.

Furthermore, leveraging existing public relations structures to amplify reach was identified as a way to enhance the platform's visibility and influence, making it a central hub for statistical innovation and public engagement.

In response to this component there have been numerous adjustmetns to the approach the CaribData team is taking. Most significantly, is the creation of a specific responsibility for user experience so that each step of the communication platform development is simultaneously measured from both an internal quality [data, presentation, veracity, etc] but also from the users perspective [attractive, contextual, informative, interesting, etc].

Of similar importance was the need for specific and relevant training programs. These emerged over the course of the interviews as a critical priority, with stakeholders expressing

the need for both foundational and advanced learning opportunities. In the opinion of NSOs, effective training must cater to a wide range of roles, from statisticians and data collectors to journalists and policymakers, ensuring that tailored content meets the varying skill levels and professional needs. A preference for hands-on, in-person sessions was repeatedly noted, with participants highlighting the value of practical exercises and interactive workshops. However, it was accepted that from the perspective of costs and scaling, integrating virtual components would extend accessibility and foster broader participation.

Leadership development also emerged as an area of interest, with particular emphasis on equipping senior personnel with the skills to manage complex datasets, adopt new technologies, and navigate ethical considerations in data handling. Scheduling flexibility and alignment with organizational calendars were identified as practical considerations to maximize participation and impact.

The concept of a datathon was viewed as a valuable opportunity to drive innovation and collaboration. Themes for such an event could draw from the shared challenges identified in the interviews, such as declining response rates in traditional surveys and the need for more efficient data integration. A datathon would engage a diverse range of participants, including statisticians, technologists, and communicators, to encourage multidisciplinary problem-solving. Practical outcomes were highlighted as an essential component, with participants advocating for solutions that address real-world challenges, such as improved data visualization, enhanced interoperability between datasets, and the application of alternative data collection methods like machine learning and remote sensing. By fostering collaboration and creativity, the datathon could position itself as a flagship initiative for advancing statistical practices.

In response to this component the original training objectives have been redesigned to include a more nuanced approach to the broad range of skills between data scientist and journalist. Initially, the assumption will be to train data scientist in storytelling, however, future iterations and courses will be geared for journalists needing to understand more about how data is managed to inform stories. Also, a two-level version of the courses with

we aimed at senior staff with significant experience wishing to understand the more complex aspects of truthful and impactful storytelling.

Finally, the development of a sustainable business model was deeply interconnected with the insights provided by stakeholders. How to monetize training programs, particularly advanced courses in data storytelling, was identified as a potential revenue stream. The unique position of the statistical agencies as central hubs for data collection and analysis were seen as potential areas to be leveraged perhaps through subscription-based news services, or access to curated datasets or customized analytics tools. Consistent with this approach was participants' recognition of the value of cross-sector, and cross-national partnerships with both public and private entities, to expand capacity and also to attract a broader range of funding option. Furthermore, the integration of modern technologies and tools was seen, not only as a way to improve efficiency, but also to elevate each agency's reputation as a leader in statistical innovation, thereby opening avenues for additional collaboration, support, and potentially revenues/funding.

Conclusions

Across all of these deliverables, several recurring themes emerged. Effective communication and data storytelling were universally recognized as priorities, underscoring the importance of making statistical insights accessible and impactful. Collaboration, both within and beyond organizational boundaries, was seen as essential for maximizing the value of these initiatives. Finally, a consistent focus on innovation, whether through technology, training, or engagement strategies, reflects a shared commitment to enhancing the relevance and utility of statistical work in addressing contemporary challenges.