Angry Health

CARIBDATA

INCEPTION REPORT

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REGISTERED AGENT:
COURSON & STAM LLC, 2398 SADLER ROAD
FERNANDINA BEACH, FL 32034

Executive Summary

This report describes the environment, context, and characteristics of the data handling and data communication ecosystem in the Caribbean, and within the four beneficiary regions of the program, i.e. Belize, Trinidad and Tobago, Jamaica, and Guyana. Its serves as a foundational document to inform and guide project objectives and to provide a clear baseline against which future progress and initiatives can be measured.

The background of the project is comprehensively described including political, economic, social, and other key impacts that have emerged over the last few years, including the COVID pandemic. In the context of these, National Statistical Offices are being asked to do more with less. Especially impactful is the accelerated adoption of new mobile and computing technologies particularly mobile communications and AI. The long-, and short-term impacts of these are investigated and their effect on NSO functions, role, and responsibilities highlighted. Significantly, people now increasingly access information through non-traditional platforms, and from content creators instead of journalists. Based on these emerging changes in the context that NSOs operate, the report recommends nine key areas where NSOs should focus: consumption; demand; collaboration; literacy; accuracy; engagement; and impact.

To understand the realities of achieving significant change, the individual disparities between individual regional NSOs is explored, as well as some shared challenges. The leading differential may be around resources with some NSOs experiencing significant challenges in securing consistent funding, at a time when they most need to replace rapidly outdated infrastructure or inadequate tools. Given the lightning quick technological advances, investment in new data collection technologies and management systems is necessary to just keep pace with global standards. Similarly, the report emphasises the critical need for improved training across the various function of NSO offices.

The report closes with a detailed description of key project deliverables, the delivery team and the planned individual work plans.

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Background

Caribbean Data-Driven Resilience is an Intra-American Development Bank-funded project which aims to improve the regional data collection, sharing capabilities, and impact of dissemination, for four beneficiary regions in the Caribbean, specifically Jamaica, Trinidad & Tobago, Guyana, and Belize. Its main mechanisms to deliver these changes is through the provision of new bespoke training, mentoring and dissemination processes and approaches. These will be designed and implemented alongside an innovative and sustainable business model intended to increase the commercial underpinning of the Region's data handling capacity by increasing the value of the stories that the data describe. The project plan and objectives, evolved over years, during which the economic, political, social, and especially technical landscape has changed. Major developments, including the COVID-19 pandemic, have forced the Caribbean to demonstrate its resilience and adaptability in the face of growing economic uncertainties and social transformations, and have had profound consequences for the role and responsibilities of today's National Statistical Offices (NSOs) across the region.

Political shifts in the Caribbean, including elections and changes in leadership in countries like the Bahamas and Jamaica, a beneficiary country in this project, have led to new policy priorities across the region ranging from economic reforms through to anti-corruption measures. Moreover, on the global stage, diplomatic shifts, such as building stronger economic ties with China, have introduced new dimensions to the type of data that NSOs must capture accurately (Latin America and the Caribbean: Top Three Risks for 2023). These require NSOs to adjust their data collection frameworks to align with new government priorities and ensure the availability of relevant data for policymaking and evaluation (World Justice Project, 2023).

Simultaneously, there is concerted efforts to achieve greater regional integration through CARICOM, necessitating better coordination among NSOs to standardize data collection methodologies and share information effectively across member states.

The economic impact of the COVID-19 pandemic, particularly on the tourism sector, underscored the need for NSOs generally, to develop more resilient and comprehensive data collection systems. As various countries have tried to diversify their own economies into non-tourism sectors, NSOs are expected to expand their data collection to cover new target industries (Caribbean Development Bank, 2022). Furthermore, managing high public debt has been a critical issue for many Caribbean nations for a long time, but the impact of COVID, as well as more frequent instances of extreme weather events presumably as a consequence of global warming, have put significant pressure on NSOs to provide detailed and timely data to support international financial assistance and debt restructuring efforts (Caribbean Development Bank, 2022). So overall, very mixed economic growth and inflation trends across the region have placed increased demands on NSOs to monitor their own respective economic indicators more closely to provide accurate forecasts to guide policy decisions (FocusEconomics, 2023).

Public health initiatives resulting from the pandemic, including vaccination campaigns and healthcare infrastructure enhancements, has meant NSOs have had to find additional resources to support more extensive health data collection for tracking progress and outcomes (Caribbean Development Bank, 2022). Moreover, at the same time, social changes such as gender equality and LGBTQ+ rights have encouraged some NSOs to incorporate more comprehensive social indicators into their data collection frameworks (Economic Commission for Latin America and the Caribbean, 2023). So, driven by these economic, social, and sometimes natural challenges, and the added complexity they have brought to demographic data collection, the Caribbean Data-Driven Resilience project offers very timely support for NSOs to adapt their methodologies to: a) better capture reliable and relevant statistics; b) more accurately assess impacts, and especially; c) more effectively deliver powerful stories to their stakeholders, and to the wider Caribbean, and even global audiences. (FocusEconomics, 2023).

Simultaneous to the demographic changes addressed above, the last two years has seen the most rapid acceleration of digital transformation ever. The unprecedented rate of adoption of many digital technologies, most importantly, artificial intelligence [more accurately generative pre-trained transformer (GPT) models], has ignited a true revolution in how data is collected, processed, accessed, modelled, and disseminated (Think with Google APAC, 2024; IDC, 2022). The long-term effects of this explosion of AI/GPT use are not yet known, but it seems certain they will be profound (Deloitte, 2024).

However, more relevant to this project, the shorter-term effects, many of which are already being experienced in many parts of the world, are significant, and NSOs must address the plethora of issues that we can expect to be imminent, for example related to data security, privacy, and digital access (PTC, 2024; Olive Technologies, 2024). AI offers NSOs the potential to improve their data collection and processing capabilities significantly. Traditional methods of data collection, such as surveys and censuses, can be augmented with AI-driven tools to provide much more efficient and accurate data gathering. AI algorithms can process vast amounts of data from various sources, including social media, satellite imagery, and sensors, providing real-time insights into demographic and economic trends. This means NSOs need to develop expertise in managing and interpreting AI-driven data, as well as expanding their overall technical capabilities (World Economic Forum, 2023; Caribbean Life, 2023).

Also, integrating AI into statistical analysis itself allows NSOs to derive deeper insights from their data. AI can identify patterns and correlations that might be missed by traditional analysis methods, offering more nuanced and comprehensive interpretations of socio-economic data. This enhanced analytical capacity supports evidence-based policymaking, enabling governments to make more informed decisions on issues such as health and education. However, this also means NSOs must invest in upskilling their workforce to handle advanced AI tools and methodologies (World Economic Forum, 2023).

It has already become clear that AI systems are only as good as the data they are trained on, with biased or incomplete data leading to skewed results. Therefore, using AI for data processing and analysis brings challenges related to data quality and ethics. So, NSOs need to implement new data governance frameworks to tackle these, including new protocols for data validation, transparency in AI algorithms, and how to address bias in data collection and analysis processes (Ideas Matter, 2023).

Perhaps, the most important consequence of AI on the roles and responsibilities of NSOs in the Caribbean will be through its impact on employment in the region. AI's potential to automate jobs, particularly in service sectors raises significant concerns about employment and economic inequality in the Caribbean. As AI systems begin to perform tasks traditionally handled by human workers, NSOs will have a critical role in monitoring and reporting on the impact of these changes on the labour market. They must collect and analyse data on job displacement, wage changes, and shifts in employment patterns to inform policies aimed at mitigating the negative effects of AI on the workforce (Business View Caribbean, 2023; Ideas Matter, 2023).

Alongside advances in computing and AI, there has been simultaneous improvement in telecommunications infrastructure which have enhanced NSOs' ability to conduct real-time data collection and analysis, leading to much more timely and accurate data dissemination. As a consequence, there is a greater recognition by some NSOs that innovation, and supporting innovative approaches, is needed for NSOs to track new economic activities and indicators into their data collection frameworks (Economic Commission for Latin America and the Caribbean, 2023).

Together, digital technology and telecommunications advances are changing how people engage with data stories. There is strong evidence indicating a significant portion of adults, especially younger ones, increasingly obtain their news about current affairs from “content creators” on social media platforms rather than from

government or journalist-originated releases from traditional media channels. In 2023, a third of U.S. adults under 30 years old regularly got their news from TikTok. This number had quadrupled from 3% in 2020 to 14% in 2023 and points to a major shift in how people consume information generally with a growing preference for independent influencers over traditional news outlets (Pew Research Center, 2023). A new Report from the Harvard Institute of Politics in 2024 [Figure 1] shows that this trend is not restricted to one platform with Instagram and YouTube similarly popular [Harvard Institute of Politics, 2024]. This trend is further supported by other reliable reports showing user-created content (UCC) on digital and social media now surpassing traditional media for younger demographics, (Marketing Dive, 2023). Additionally, research by the Reuters Institute indicates this shift is specifically driven by a preference for more personalized and engaging content (Reuters Institute, 2023). This is a key indicator that Caribbean Data-Driven Resilience will seek to understand better, in order to leverage it in its development of a new business model approach.

FIGURE 1. WHERE YOUNG AMERICANS CONSUME NEWS MEDIA (HARVARD INSTITUTE OF POLITICS)

Overall, the developments described in this section clearly indicate that NSOs must adapt their methodologies, expand their data coverage, and leverage new technologies to meet the evolving needs of policymakers and stakeholders. The evolving landscape of information consumption, where platforms like TikTok, YouTube, and Instagram are becoming key sources of information at the expense of traditional media channels now appears to be embedded behaviour and we can expect this kind of influence to continue to grow. As the Caribbean increasingly embraces its unique position in the world's ecosystem and becomes more vocal and influential in the critical debates of the future, it must be enabled by efficient and trustworthy information, and it must have the sophistication and confidence in its understanding of global challenges, such as health pandemics, and climate change. The evolving role of NSOs in providing reliable and timely data continues to be crucial in shaping the region's future. It is in this context, that the IDB's Caribbean Data-Driven Resilience project will play a significant role in supporting the urgent need for relevant NSO training, dissemination, storytelling, and financial innovation.

In summary, the Caribbean Data-Driven Resilience project recognises all of these key transition elements and will focus on the most critical impact points in consumption, impact, demand, accuracy, collaboration, literacy, and engagement [Figure 2.]. To remain effective, NSOs must now adapt their strategies to leverage new platforms for data dissemination, enhance public engagement, and promote data literacy. It is only by responding to this rapidly evolving landscape that NSOs can continue to deliver their responsibilities to deliver accurate and timely information to their populations.

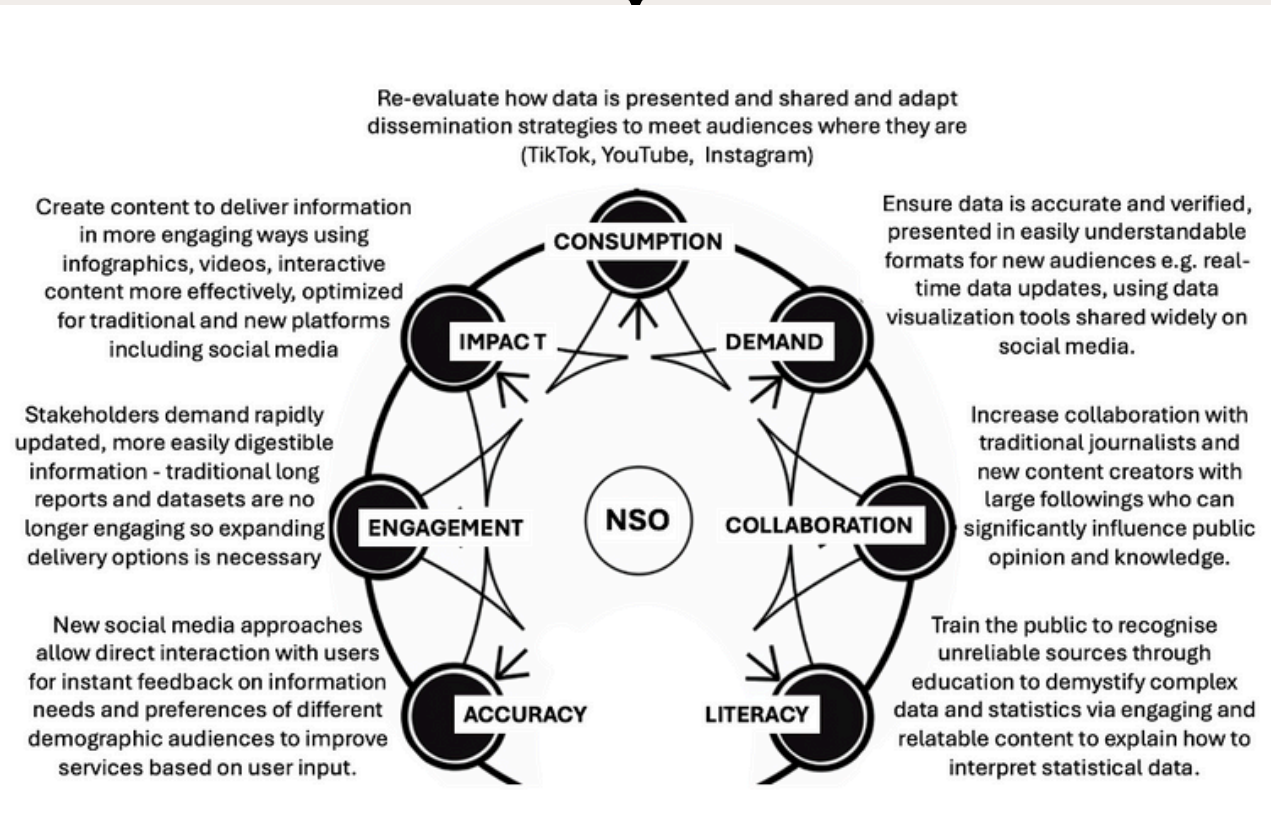

FIGURE 2. DIAGRAM DESCRIBING KEY TRANSITION ELEMENTS OF FOCUS FOR CARIBBEAN DATA-DRIVEN RESILIENCE.

Current State of Data Handling and Communication

Beneficiary Regions

The Caribbean Data-Driven Resilience project is focused on four beneficiary regions namely, Jamaica, Trinidad & Tobago, Guyana, and Belize. Other than all being Caribbean countries, there are large variations between them across many dimensions. This variation provides a great opportunity to examine how different approaches may, or may not, be optimal in specific regions, and provide incredibly valuable information on what might be the optimal business model to support NSOs in each specific area. Jamaica is an island |

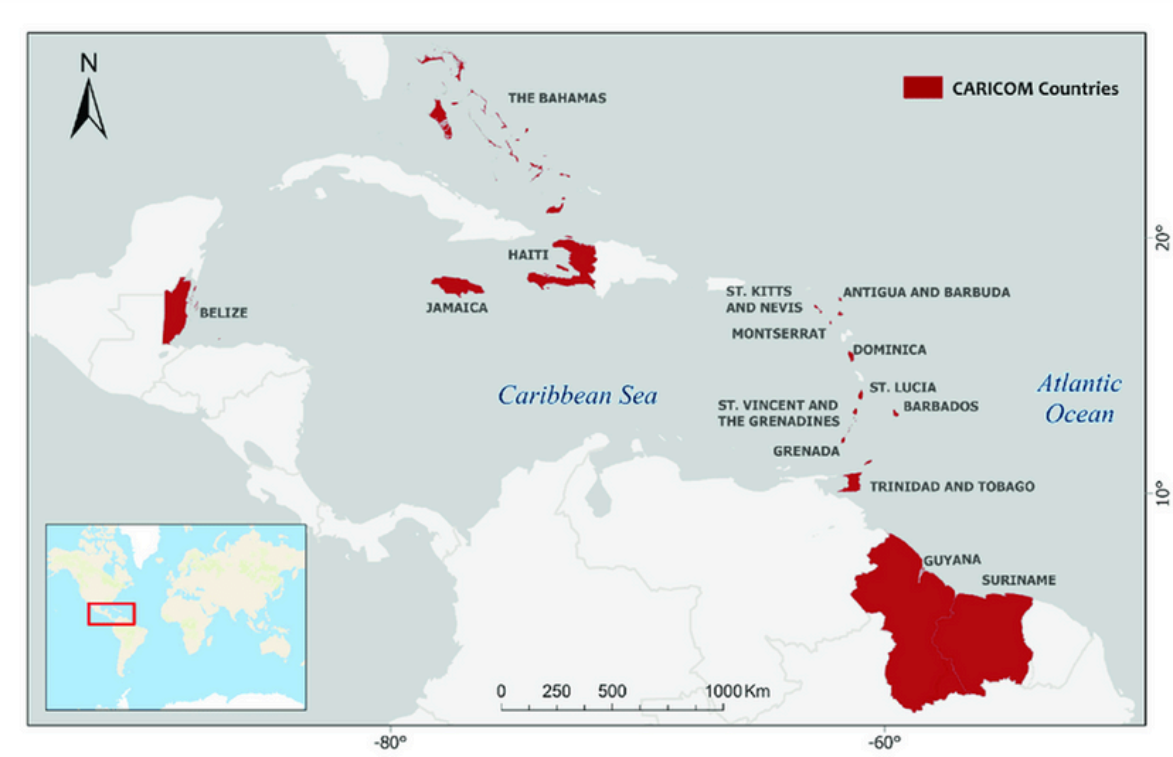

FIGURE 3. MAP OF THE CARIBBEAN SHOWING BELIZE, AT LEFT ON THE COAST OF CENTRAL AMERICA; JAMAICA TO THE EAST OF BELIZE; TRINIDAD & TOBAGO AT THE LOWER RIGHT TO THE SOUTH-WEST; AND GUYANA, THE FARTHEST SOUTH ON THE COAST OF SOUTH AMERICA.

Figure 3 provides a useful visual to demonstrate the vast distance between each beneficiary region, and Table 1. below provides a good summary of demographics. Guyana is by far the largest country by area, followed by Belize, then Jamaica, and Trinidad & Tobago. Despite its scale Guyana is not the most populous. This falls to Jamaica, followed by Trinidad & Tobago, then Guyana, and lastly Belize. In terms of economic wealth, it is Trinidad & Tobago, mainly through its oil revenues, that has the highest GDP per capita more than twice that of Guyana, a new oil country still heavily dependent on agriculture, and Jamaica and Belize that rely heavily on tourism. Other domains such as life expectancy, also show differences with Jamaica and Belize having the highest life expectancy, followed by Trinidad & Tobago and Guyana. For crime it is Jamaica that suffers from the highest crime rate, followed by Belize, Trinidad & Tobago, and Guyana, while for literacy Trinidad & Tobago has the highest literacy rate, followed by Jamaica, Guyana, and Belize.

Country	Area (sq km)	Population (millions)	GDP per Capita (USD)	Life Expectancy (years)	Crime Rate (per 100,000)	Literacy Rate (%)
Jamaica	10,991	2.9	5,230	74	46.5	88
Trinidad & Tobago	5,130	1.4	15,530	73	30.4	99
Guyana	214,970	0.787	7,220	70	24.0	85
Belize	22,966	0.419	4,900	74	39.3	82

TABLE 1: SHOWING JAMAICA, TRINIDAD & TOBAGO, GUYANA, AND BELIZE, IN TERMS OF VARIOUS DEMOGRAPHICS, INCLUDING SIZE, POPULATION, WEALTH, HEALTH, CRIME, AND LITERACY RATE.

However, one thing these countries have in common is that they are all being significantly impacted by climate change mostly through rising sea levels, flooding, coastal erosion, coral reef degradation, increased frequency of hurricanes, water scarcity, and deforestation; and all have some level of concern regarding high levels of crime and violence, corruption, some territorial disputes, and ethnic tensions although to different extents.

Therefore, it is clear that these are very different countries and should not be treated in any way as having homogenous regional similarities. Similarly, there are differences on the impact of climate change to their region, or their most pressing healthcare challenges, or most important political issues.

Resource Gaps in the Caribbean NSO Ecosystem

As described above, National Statistical Offices (NSOs) play a crucial role in collecting, analysing, and disseminating statistical data in the Caribbean. This data is vital for informed decision-making by governments, businesses, and international organizations, therefore the functionality and efficiency of NSOs are paramount. The previous Section described the wider influences of politics, economics, social and technological changes, and how they influence the objectives of the Caribbean Data-Driven Resilience project, and delineated the regional differences between the four beneficiary countries on which the project is focused. In order to understand the unique needs and challenges of individual NSOs, it is necessary to understand the more detailed nuances of the functions they carry out (summarised in Table 2. Below).

Function	Description
Collection and Analysis	Censuses, surveys, demographics, health and economic statistics.
Dissemination	Reports, databases, providing data on request.
Policy Support	Evidence-based insights, planning support, evaluating programs.
Capacity Building	Train statistical staff, support quality, reliable data infrastructure.
Quality and Standards	Special Data Dissemination Standard; Geographic Information Systems (GIS), mobile data collection tools.
Resource Allocation	Resource variability: Jamaica, Trinidad and Tobago well-funded; smaller regions have limited budgets and staff, regular training programs and workshops.
Dissemination and Accessibility	Most NSOs have online databases and interactive access tools, some user groups, particularly in remote areas with limited internet access, are not reached effectively, some data literacy programs in place to enhance usability of data.

TABLE 2: AN OVERVIEW OF PRIMARY ROLES AND FUNCTIONS OF NATIONAL STATISTICAL OFFICES (NSOS) IN THE CARIBBEAN, EMPHASIZING KEY ASPECTS OF THEIR OPERATIONS AND THE CHALLENGES THEY FACE (IMF, 2021; UNECLAC, 2020; CARICOM, 2018; WORLD BANK, 2019; UNSD, 2021)

It is clear that smaller NSOs face significant challenges in securing consistent funding, which leads to them having relatively more outdated infrastructure and inadequate tools for data collection and analysis than their larger neighbours (CARICOM, 2018). This is occurring at a time when investment in modern data collection technologies and data management systems is even more necessary to keep pace with global standards and improve data accuracy. Additionally, there is a pressing need for continuous professional development (CPD) of NSO's workforce to keep up with the technology changes already described, but also with the evolving methodologies within the field of statistics itself. The rapid evolution in data science and the increasing availability of large data resources now require statisticians to adopt new techniques and methodologies to handle and analyze these datasets effectively (NIHR Statistics Group, 2023).

Similar to the need to maintain a well-trained staff, there are also many NSOs with insufficient staff capacity generally, which is hindering their ability to produce timely and high-quality statistics (UNECLAC, 2020). Furthermore, the de novo recruitment and retention of skilled statisticians, is becoming more challenging due to competitive salaries offered to similarly educated staff by other sectors. One potential partial solution that may provide some respite could be improving collaboration across the Caribbean between NSOs as well as other government agencies to improve data integration and so reduce duplication of efforts. These do occur but are more often than not ad-hoc, lacking any formal structure or arrangement (World Bank, 2019). Strengthening regional cooperation among Caribbean NSOs would facilitate the sharing of best practices and resources, particularly through platforms provided by CARICOM and UNECLAC.

So, while there is evidence of successful efforts to adhere to international standards and improve data dissemination, there are still significant resource gaps, particularly in funding, infrastructure, and human resources. Addressing these gaps requires coordinated efforts at national and regional levels, with support from international organizations.

This project will examine opportunities to design a new business model that can be tested to both increase funding and reduce costs. This is a key deliverable and will form a major component throughout the project's activities.

Jamaica and Trinidad and Tobago are two of the larger and more economically diverse island nations in the Caribbean, and so serve as benchmarks for understanding the role and impact of NSOs in those kinds of ecosystems. Jamaica, with a population of approximately 2.9 million people, and Trinidad and Tobago, with about 1.4 million residents, have both demonstrated significant efforts in modernizing their statistical systems to meet international standards (World Bank, 2022; United Nations, 2021). Comparatively, much smaller Caribbean nations such as Grenada and Saint Kitts and Nevis face very distinct challenges due to limited resources and smaller populations. For instance, Grenada, with a population of just over 112,000, and Saint Kitts and Nevis, with around 53,000 people, often struggle with funding and capacity constraints that can impede their statistical capabilities (CARICOM, 2018).

The unique socio-economic landscapes of Jamaica and Trinidad and Tobago also highlight diverse needs and priorities. Jamaica's focus on sectors like tourism and agriculture contrasts with Trinidad and Tobago's emphasis on the oil and gas industry, influencing the types of data collected and analysed. This diversity underscores the importance of tailored statistical approaches to address specific national and regional needs effectively (IMF, 2021).

The NSOs in both Jamaica and Trinidad and Tobago have numerous responsibilities critical for the effective functioning of their respective national statistical systems. They conduct national censuses and various surveys to gather demographic, economic, and social data including household income and expenditure surveys, labour force surveys, and agricultural censuses. Additionally, they compile and analyze data from administrative sources such as birth and death records, education statistics, and health data.

They publish detailed statistical reports and bulletins that cover multiple sectors, providing stakeholders with essential data for planning and evaluation. Both maintain online databases that offer easy access to data for researchers, policymakers, and the general public.

The Statistical Institute of Jamaica (STATIN) is the principal organization responsible for producing and disseminating official statistics in Jamaica. STATIN follows international standards and best practices to ensure data quality and comparability. The institute has integrated Geographic Information Systems (GIS) and Computer-Assisted Personal Interviewing (CAPI) to enhance the efficiency of data collection and analysis. STATIN maintains a robust online presence, providing access to a wide array of statistical data through its website and social media platforms. Regular press releases and publications keep the public informed about the latest statistical findings. Additionally, STATIN collaborates with international organizations like the United Nations and the Caribbean Community (CARICOM) to improve its methodologies and practices. Similarly, the Central Statistical Office (CSO) of Trinidad and Tobago has been modernizing its data collection processes by incorporating digital tools and methodologies to improve data accuracy and timeliness. The office emphasizes the continuous training of its staff and collaborates with academic institutions to build statistical capacity. Through its online portal, the CSO provides comprehensive statistical data, making information accessible to a wide audience.

Both NSOs deliver quality work when needed. In Jamaica, one of the most comprehensive reports produced by STATIN, the "Jamaica Survey of Living Conditions (JSLC) 2019 provided valuable insights into the living conditions of the Jamaican population, covering aspects such as income, education, health, and housing. It serves as a critical tool for policymakers to design and implement social programs.

Another significant publication is the "Labour Force Survey 2020," which provides a detailed analysis of employment trends, labor market participation, and unemployment rates in Jamaica, aiding in understanding labor market dynamics and formulating employment policies.

Similarly, in Trinidad and Tobago, the CSO's "Household Budgetary Survey (HBS) 2008/2009" provided a detailed, in-depth analysis of household income and expenditure patterns, offering insights into the economic behaviour of households. Similarly, the "Vital and Health Statistics 2012-2018" presented comprehensive data on vital events such as births, deaths, marriages, and divorces, along with health statistics. This report was crucial for public health planning and policymaking.

Both STATIN and the CSO face significant challenges in securing consistent funding, which affects their ability to invest in modern data collection technologies and infrastructure. This can lead to delays in data processing and dissemination. Continuous investment in technology and infrastructure is necessary to maintain data quality and relevance. Furthermore, there is a pressing need for continuous professional development to keep up with evolving statistical methodologies and technologies. Limited staff capacity can hinder the production of timely and high-quality statistics. Recruitment and retention of skilled statisticians are challenging due to competitive salaries in other sectors, impacting the ability of both offices to maintain a robust and skilled workforce.

Similar to Jamaica and Trinidad & Tobago, the mainland nations of Guyana and Belize have made some effort to adopt technological advancements to enhance data collection and processing capabilities. The Bureau of Statistics in Guyana have made recent efforts to improve data collection through digital surveys and enhancing data processing with advanced software tools (Guyana Bureau of Statistics, 2021), whereas the Statistical Institute of Belize (SIB) also successfully adheres to international standards and has implemented several initiatives to modernize its operations such as

the use of electronic data collection methods, including Computer-Assisted Personal Interviewing (CAPI) which has improved the efficiency and accuracy of their data collection (Statistical Institute of Belize, 2021).

However, both Guyana and Belize face challenges related to resource allocation, which has impacted the effectiveness of their NSOs. In Guyana, the Bureau of Statistics has a relatively small budget, however, it has received support from international agencies to bolster its capacity-building efforts (CARICOM, 2018). The SIB in Belize faces similar challenges with limited funding and human resources but has made some progress through partnering with international organizations to provide technical assistance and training (UNECLAC, 2020). Both countries have moved towards digital dissemination methods, but challenges remain in ensuring broad access to their data. Guyana's Bureau of Statistics developed an online database to facilitate easier access to data, however, internet connectivity issues in remote areas posed a challenge to effective data dissemination (World Bank, 2019). Whereas, the SIB in Belize implemented an online data portal to allows users better access various datasets but despite these efforts, there is still a need to improve data literacy among their users to ensure that the data is actually used effectively (UNSD, 2021). Recruitment and retention of skilled statisticians challenge both countries (Guyana Bureau of Statistics, 2021, Statistical Institute of Belize, 2021).

Comparative Analysis of Four Caribbean Regions

The four regions described above each present unique socio-economic landscapes and challenges that shape their national development. A comparative analysis of these four countries provides a useful reference point on their commonalities and differences.

Jamaica and Trinidad and Tobago are the most economically diverse nations of the four. Jamaica is known for its significant reliance on tourism, bauxite mining, and agriculture (World Bank, 2022) whereas Trinidad and Tobago is dominated by its oil and gas

interests and associated industries such as petrochemicals and manufacturing (IMF, 2021). In contrast, Guyana and Belize are both similarly reliant on traditional agriculture and, only very recently for Guyana, oil and gas extraction (World Bank, 2022; United Nations, 2021). These economic differences highlight the varying levels of diversification and resource dependency across these countries.

Healthcare issues also vary across these regions, reflecting their unique public health landscapes. Jamaica and Belize share concerns over their high levels of non-communicable diseases especially cardiovascular disease and diabetes, challenges around access to healthcare and specific issues such as maternal and child health (CARICOM, 2018). Trinidad and Tobago do face similar challenges with non-communicable diseases and healthcare infrastructure, but more recently have highlighted emerging mental health issues as a significant concern (World Bank, 2019). Guyana, on the other hand, being very much a continental South American mainland country with close proximity to the Amazon basin is in many ways more representative of neighbouring countries like Brazil. As such it struggles much more with issues such as infectious diseases, many mosquito borne. As well as sharing issues of healthcare accessibility, which seems ubiquitous across the Caribbean, they still suffer from what might be described as third world health issues for example a prevalence of poor maternal and child health (United Nations, 2021). These differing patterns of health disparities underline the need for tailored public health strategies and resource allocation to address specific national health priorities effectively. This should be reflected in the data-driven news stories that will be generated and disseminated as part of the Caribbean Data-Driven Resilience project.

Similarly, although climate change poses significant threats to all four countries, the nature of these threats varies. Jamaica and Belize are particularly vulnerable to coastal erosion, increased frequency of hurricanes, and water scarcity, which has knock-on economic impact on both their tourism and agricultural sectors (World Economic Forum, 2023).

Trinidad and Tobago are facing rising sea levels, flooding, and deforestation, which threaten its environmental sustainability and economic infrastructure (UNECLAC, 2020). Guyana also contends with rising sea levels and flooding, with additional concerns about agricultural vulnerability due to climate change (World Bank, 2022). These environmental challenges necessitate robust climate adaptation and mitigation strategies again, tailored to each country's specific vulnerabilities. Just as with health, and healthcare, a tailored approach should be reflected in the data-driven news stories generated and disseminated by NSOs as part of the Caribbean Data-Driven Resilience project.

The roles and resource gaps of NSOs in these countries are critical in supporting data-driven decision-making. Both the Statistical Institute of Jamaica (STATIN) and the Central Statistical Office (CSO) of Trinidad and Tobago face challenges in securing consistent funding and require continuous investment in technology and infrastructure to maintain data accuracy and relevance (UNECLAC, 2020). In Guyana and Belize, NSOs also struggle with limited resources and the need for continuous professional development to keep up with evolving statistical methodologies and technologies (World Bank, 2019). Each deliverable of the Caribbean Data-Driven Resilience project must balance an understanding of both the similarities between, and the uniqueness of, each individual Region. Therefore, a bespoke approach to components like training and storytelling need to be very aware of the need for standardisation, where it matters e.g. cybersecurity, access, ethics; and a variable approach, where it is most appropriate e.g. data dissemination and business modelling. Jamaica, Trinidad and Tobago, Guyana, and Belize each face challenges and opportunities, they share common goals of improving statistical capacity, addressing healthcare issues, and combating climate change. Collaborative efforts at national and regional levels, supported by international organizations, are essential to enhancing the effectiveness of NSOs and fostering sustainable development across these Caribbean nations but only by also understanding and addressing their unique specific needs and contexts, can NSOs be optimised as critical tools in building a more resilient and prosperous future for their respective countries.

Implementation Plan

Objectives

The Caribbean Data-Driven Resilience program proposes a holistic and sustainable approach to data handling and communication within the Caribbean that is able to significantly, and positively, impact the Region's data handling capabilities, and subsequently improve the region's ability to respond rapidly and appropriately to future "shocks". It focuses on four unique regions Jamaica, Trinidad, Guyana, and Belize, that each demonstrate different needs and also NSOs that have different starting states of resource and capability.

In order to deliver improved, and more robust data-handling and dissemination processes, the project must reflect and respond to the clear disparities, gaps and challenges highlighted in the previous Sections. However, it must continue to evolve its knowledgebase through close engagement with a wide range of NSO stakeholders, continuously adapting and iterating its design and deployment of solutions. It must also encourage and facilitate collaboration wherever feasible and where clear mutual benefits can be demonstrated. Similarly, it must deliver a new approach to training that recognises the differences between NSOs and regions, but also understands the requirements for meeting international standards and standardisation generally across the region. Finally, in order to develop a powerful and compelling value proposition that can be exploited to generate revenues, it must build a new approach to controlling and taking ownership, sometimes literally, of the compelling stories that both provide sources for new data analysis opportunities, as well as being themselves derived from the analytic results.

These analytic results derived from local datasets may be descriptive, predictive, or even proscriptive, however, they will all contain nuggets of life experiences and stories of a world undergoing immense change, that if told in an emotive and engaging manner, will be able to drive behaviours, including purchasing and policy behaviours, that can generate a positive feedback loop with

substantial and sustainable outcomes and impacts. Therefore, the overall Objective of this project is to deliver the building blocks of these ambitions.

These will specifically focus on a) deeply understanding the context of the four beneficiary regions; b) delivering and disseminating impactful stories based on data from each region ; c) training and mentoring the next generation of data analysts and managers; d) build mechanisms that facilitate innovation, collaboration, and engagement; and lastly e) a sustainable business model to support ongoing improvement without requiring additional financial support from government or development organizations. This is described in the "virtuous cycle" represented in Figure 4.

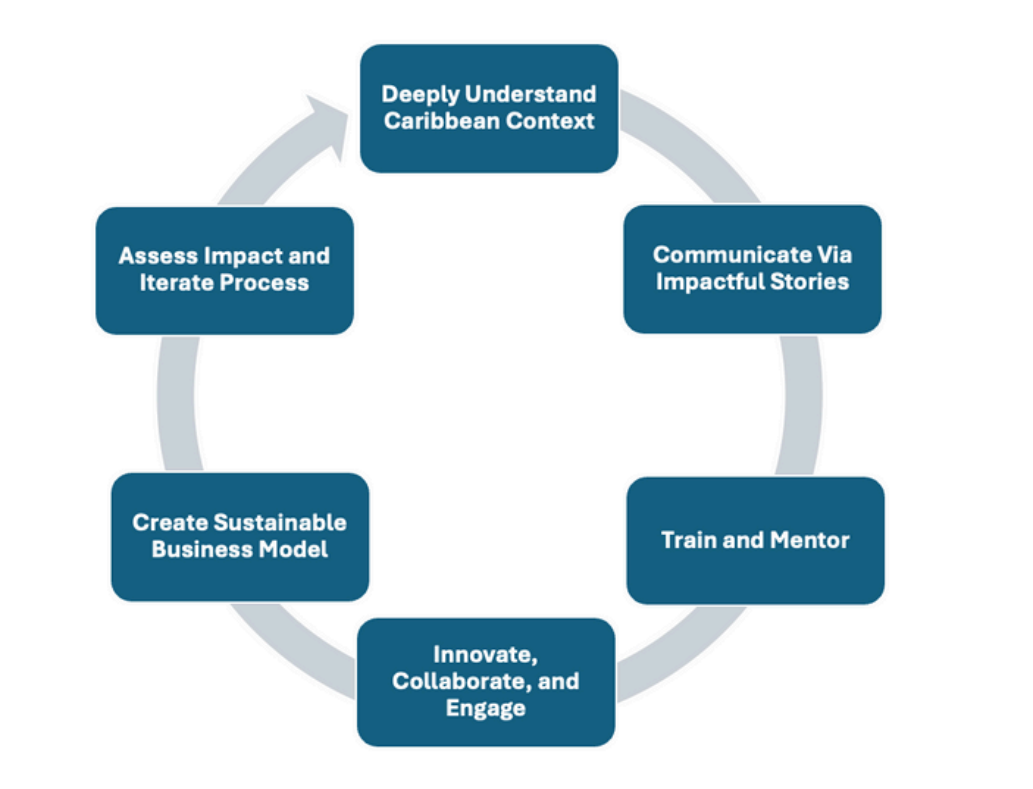

FIGURE 4. THE CARIBBEAN DATA-DRIVEN RESILIENCE PROGRAM CREATES A VIRTUOUS CYCLE

Each of these will be achieved by integrating a network of improvements that, each independently provide immediate benefit, but together additionally generate significant synergy that will drive a growing momentum to support its future iterations.

Website

One of these key improvements involves the creation of a new website designed to leverage the latest digital communication methods. The website should be optimized for mobile devices and integrated with popular social media platforms to allow effective dissemination of the powerful data-driven stories created. In all four beneficiary regions mobile device usage is prevalent with a significant percentage of the population accessing social media exclusively through mobile phones. For instance, in Jamaica, 99% of Facebook users access the platform via mobile devices with similar trends being observed in other Caribbean nations. Given this trend, the new website should be mobile-friendly, ensuring that content is easily accessible on smartphones and tablets.

Additionally, integrating social media platforms like TikTok, Facebook, Instagram, and Twitter will help reach a wider audience. Social media is a powerful tool for engaging users with visual and interactive content that can simplify complex statistical data and make it much more engaging. By using these social platforms with high penetration rates in the Caribbean, the website can deliver data stories that are both informative and visually appealing. This approach not only broadens the reach of statistical information but also increases public engagement and understanding, fostering more informed and connected stakeholders

Training Program

The second component of the program, intended to enhance the national statistics approach of the beneficiary countries, involves creating and implementing a new training program focused on data science but critically with a clear distinction from previous courses by having a very strong emphasis on data storytelling. This program will need to include an all-new set of comprehensive training materials designed to equip participants with the latest skills in data analysis, visualization, and effective communication strategies for presenting statistical information.

The process of designing this training course will ensure it is cognizant of existing regional exemplars including the Caribbean School of Data, (Caribbean School of Data (CSOD).
which currently offers a sustainable digital and data literacy program, although mostly aimed at underserved populations across the Caribbean. Where the CSOD focuses on creating essential employment skills necessary for the emerging digital economy, the Caribbean Data-Driven Resilience training program will be more focused on professional qualifications and continuous professional development.

Both the University of the West Indies, Mona campus in Jamaica (UWI The University of the West Indies), and the University of the Commonwealth Caribbean (UCC UCC Jamaica) also in Jamaica, offer Bachelor of Arts qualifications in Journalism. UWI's course, designed to meet the growing demand for skilled media professionals in the Caribbean, includes mandatory internships covering print, radio, television, and digital journalism. This course will provide an important baseline for the new proposed course as UWI are already administrators for the Caribbean Data-Driven Resilience program and so already work closely on the program. This relationship is important as UWI can provide guidance on how to ensure the new course follows their quality assurance processes, and accreditation requirements, as they will also likely be the primary delivery organization for the course.

As alluded to earlier, the new content being created for the Caribbean Data-Driven Resilience program will cover various aspects of data science, including geospatial data analysis, data visualization, and data management, ensuring participants are well-prepared for data-centric roles but will differ significantly from other current offerings due to its additional focus on powerful storytelling, and skills that usually require training normally associated with journalism institutions. This dual approach is entirely novel, especially as it is part of an integrated business model approach as well.

In order to ensure that the new program delivers a state-of-the-art curriculum that covers both data management and storytelling, its design will explore current offerings from institutions outside of the Caribbean e.g. the University of Amsterdam, currently ranked as the best university in the world for communication and media studies (Top Universities); the London School of Economics (LSE), and the University of Southern California's (USC) Annenberg School for Communication and Journalism (USC Catalog).

Datathons

The third component of the program is the organization of an annual datathon designed brings together data scientists and researchers to solve pressing health and climate issues in the beneficiary regions. The primary objective of the datathon is to generate actionable insights that can inform policy and decision-making. For the first datathon event, tentatively scheduled for February 2025, the domain of interest will be either healthcare, climate change, or both. Each subsequent year's event will have a different specific theme aligned with other current regional challenges, such as improving disaster preparedness and response.

We will strive to ensure broad participation by targeting data scientists, researchers, students, and professionals from various sectors. We will achieve this through extensive outreach and partnerships with universities, research institutions, government offices, and private sector organizations. We will also provide prizes, recognition, and opportunities for publication as further motivate participation. A critical task for this project is to ensure we can provide participants with access to relevant datasets, computational tools, and expert mentors. Clearly, partnership with the specific regional NSOs as well as international organizations, will significantly facilitate the availability of the high-quality data and technical support needed. We may also provide additionally virtual workshops and training sessions before the event to help participants enhance their data analysis skills if considered necessary.

The success of any datathon depends significantly on the level of participants' proficiency in data science, as well as an element of innovative, creative thinking. Thus, it is important that the datathon is not seen as a stand-alone project but rather an extension of the work that began with the development of the bespoke training program discussed earlier. The training program will provide both fundamental, and advanced, topics in data analysis, and statistical methods. Domain-specific knowledge related to health and climate may attract participants already involved in those areas, however that will not be a necessary requirement for participation. The datathon should also be seen in context of other continuous professional development opportunities, such as webinars and online courses, that may be introduced during the program to ensure participants remain updated with the latest methodologies and tools (United Nations Economic Commission for Latin America and the Caribbean, 2020).

To maximize the impact of the datathon, a post-event news storytelling competition may be organized so that journalists, content creators, and communication professionals can be invited to develop compelling narratives based on the datathon's findings. The aim will be to translate the technical insights from the data analysis into stories that are accessible and engaging for the general public and policymakers. Effective storytelling can highlight the significance of the findings, and provide a strong advocate for evidence-based decision-making, as well as showcasing the region's growing data expertise as a result of the Caribbean Data-Driven Resilience program (Inter-American Development Bank, 2019).

To further demonstrate the overall improvement in regional data expertise from the Caribbean Data-Driven Resilience program, it will be essential to measure the impact of both the datathon as well as the integrated training program together. That is, we need to identify key performance indicators that provide evidence of the impact of both the datathon and training independently, but also some measure of the synergy between them. These could include some measure of the number of participants and if the participants had engaged with the training.

We might expect this KPI to increase each year the training is run. We may also measure some aspect of the quality, and perhaps the applicability of any solutions developed, and the extent to which these solutions are ultimately implemented by NSOs or other stakeholders.

To collect this data, we can use methodologies such as surveys or interviews to elicit feedback from participants and partners in order to gain insights into the effectiveness of the training, the datathon, and the subsequent storytelling (World Bank, 2021). Success stories and case studies from the datathon will be documented and shared widely so that they can also serve as evidence of the region's enhanced capacity to tackle health and climate challenges through data-driven approaches.

Sustainable Business Model

It has been highlighted above that many NSOs in the Caribbean are struggling to fund the necessary technological and training improvements needed to stay apace with the changes in data science management and delivery. Although this is not necessarily true for the individual beneficiary regional NSOs participating in the Caribbean Data-Driven Resilience program, it is likely that they can also benefit from additional sources of funding. It is common for programs, like this IDB-funded program, to seek follow-on funding, or to consider the project as stand-alone, one-off, point-in-time, and in most ways, discreet. The intention for Caribbean Data-Driven Resilience is to buck that trend and instead seek to develop a self-sustaining business approach from the start. This allows the project to "begin with the end in mind" and integrate the end vision throughout every aspect of the program. To this end, the last key deliverable of the program is providing a robust, tested sustainable business model. This is an ambitious and innovative approach to the challenge of sustaining improvement, capacity, and potential-to-scale, that is ambiguous in most programs.

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In the evolving landscape of national statistics, perhaps incorporating an innovative business model is not considered essential, however, this might be more easily supported if considered as simply a different approach to maximizing the impact of the NSO data assets that this project aims to improve. CaribData is dedicated to improving the capacity of the Caribbean to gather and analyse data from across the Caribbean, with the potential to transform the region. Leveraging data assets to generate impactful insights and compelling narratives to attract funding seems obvious.

The Cape Fear Collective (CFC) in Wilmington, North Carolina, USA, provides a successful example of how to leverage data to generate funding. In that instance, CFC used data analytics to identify community needs, and then drive collaborative solutions informed by the analytics, but funded by a host of external stakeholders including local governments, non-profits, and private enterprises (Cape Fear Collective, 2022). It is absolutely clear that CFC's incredible success lies in its ability to present data-driven insights through compelling narratives. For instance, their analysis of housing data revealed a significant shortage of affordable housing in Wilmington. By telling the stories of families affected by this shortage, CFC galvanized support from local businesses and philanthropists to fund affordable housing projects (Cape Fear Collective, 2022). CFC has attracted significant investment and achieved notable impacts through its data-driven initiatives. For instance, CFC has now invested over USS17 million in affordable housing, resulting in the preservation of more than 100 housing units primarily in New Hanover County, N.C. This effort is part of a broader initiative to protect Naturally Occurring Affordable Housing (NOAH) and provide affordable housing options for low- to moderate-income households (Cape Fear Collective, 2022; WilmingtonBiz, 2024). Additionally, CFC's Pay It Forward Fund (PIFF) focuses on workforce development, financing short-term, high-yield training programs in healthcare, technology, and skilled trades. This initiative addresses the social determinants of economic prosperity, such as housing and transportation, ensuring that workers can maximize their earning potential (Cape Fear Collective, 2022).

Similar to CFC, CaribData's innovative business model will hinge on three core elements: data-driven insights, emotive storytelling, and strategic dissemination. By focusing on these areas, CaribData can create a self-sustaining ecosystem, similar to that created by CFC, that not only addresses regional issues but also attracts funding to support its operations from various stakeholders, including philanthropists, governments, and private enterprises with corporate social responsibility (CSR) budgets. The Cape Fear Collective project in Wilmington, North Carolina, serves as an exemplar of how data-driven stories can mobilize resources to address societal issues.

The Business Model Canvas

To systematically develop and test CaribData's innovative business model, we will extensively use the Business Model Canvas (BMC) as the key tool. The BMC is relatively universally accepted as the gold standard approach to business model development and is almost always included in wider programs involving business startups, transitions, or scaling as it allows the structured identification and evaluation of key components necessary for creating a viable business model (Osterwalder & Pigneur, 2010).

Each section of the canvas can be iteratively refined to ensure a robust and sustainable strategy. In summary, it starts with one or more value propositions. For the Caribbean Data-Driven Resilience program this might be something around data-driven policy recommendations for government, or for private enterprises, it may be CSR-aligned projects that enhance brand reputation. The VP leads to identifying target customers, then tailoring services and storytelling to these diverse audiences to maximize engagement and funding opportunities. The canvas goes on to elaborate on effective channels for reaching each customer, building and maintaining relationships with customers, and identifying diverse revenue streams to ensure sustainability. On the cost side it explores key activities, resource needs, and partnerships to derive a concise model of costs.

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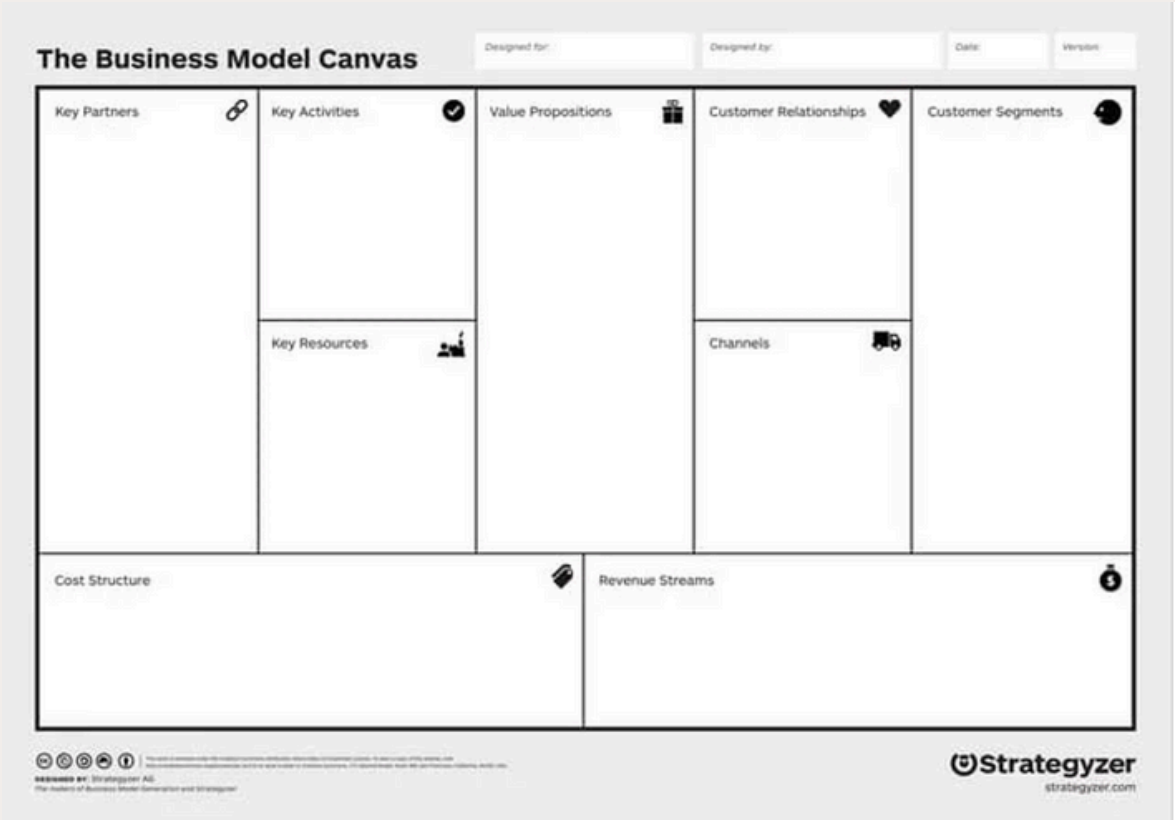

FIGURE 5. THE BUSINESS MODEL CANVAS (SOURCE: STRATEGYSER)

Empathy Maps and Value Proposition Canvases

Additional but associated tools like Empathy Maps and Value Proposition Canvases will further refine CaribData's approach to its business model. Empathy Maps will help in understanding the needs, desires, and pain points of different customer segments (Gray et al., 2010) whereas the Value Proposition Canvas, allows a more nuanced examination of how CaribData's offerings meets the needs of potential clients. (Osterwalder et al., 2014).

The BMC provides a comprehensive and visually intuitive framework that will help CaribData describe, design, challenge, and pivot its business model (Strategyzer, 2024; SM Insight, 2024). It has been used extensively across different types of organizations and leading global companies like MasterCard, General Electric, and Nestlé use the BMC for managing strategy and creating new growth engines (Visual Paradigm, 2024). Its visual, one-page format is also highly effective in encouraging team members and stakeholders to engage in structured conversations about the business's strategic direction. This collaborative approach is crucial for ensuring that all aspects of the business model are thoroughly considered and aligned with the overall strategic goals (Cleverism, 2024). It is this evidence of the BMC's popularity and effectiveness that makes it compelling to include it in CaribData's business development approach.

Work Plan and Staffing

This Section outlines the operations framework and personnel deployment structure for the execution of the Caribbean Data-Driven Resilience program. It serves as a roadmap, detailing the systematic approach we will employ to ensure each deliverable of the project is meticulously planned and executed with precision. It delineates the skills, roles and responsibilities of our multidisciplinary team, and shows where individual, and collective, expertise is used to achieve specific project objectives effectively. The Plan also emphasises our commitment to operational excellence, keeping to timelines and deadlines, and making optimal use of resources.

The Angry Health Team

Lead Consultant – Dr. Chris Hillier

Highly experienced executive, and consultant, with experience in the UK, US, and the Caribbean. Has extensive expertise in academia and industry, and brings specific expertise in business data science, analytics, visualization, strategy, sustainable business modelling, training, capacity building, culture change in large networks.

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Project Manager – Dr. Sascha Olinsson
Highly experienced Project Manager and business educator, with extensive experience in managing large-scale, multidisciplinary projects, particularly in data-intensive environments. Expertise in agile and traditional project management methodologies, risk management, stakeholder engagement, and sustainable business development

Data Scientist – Dr. Ali Yalcin
Award-winning senior academic with global consulting experience, 20+ yrs of online and hybrid teaching experience in linear systems, system dynamics, operations research, simulation, programming, and data analytics. Specific expertise in data analytics, ambient intelligence, time-series data mining, analytics applications in healthcare.

Journalist – Mr. Kevin Maurer
Pulitzer Prize winning author and media specialist. New York Times bestselling co-author, distinguished career in journalism marked by expertise in data-driven storytelling and investigative reporting, >17yrs of experience working in internationally including Afghanistan, Iraq, Haiti, Africa. Has featured in GQ, Men's Journal, The Daily Beast, The Washington Post.

I**ndividual Work Plans**

Each individual workplan is detailed here. It should be noted that all workplan are concurrent to some extent and only paused if there is a critical dependency task/objective necessary. This approach is deliverables-focused and facilitates the most efficient use of resources to achieve the maximal effectiveness.

Understand Caribbean Context

Chris Hillier, Sascha Olinsson

Assess environment, context, characteristics of data handling and data communication processes in Belize, Trinidad and Tobago, Jamaica, and Guyana, incl. stakeholder skills, needs, and capacity gaps, construct comprehensive 'landscape analysis.' to serve as foundational framework used to inform and guide subsequent project objectives and tasks. Provides a clear understanding of current state and serves as baseline against which future progress and initiatives can be measured, continuously iterated.

- Review reports, studies, policies, infrastructure, stakeholders
- Select stakeholder interviews
- Data practice analysis, needs assessment, challenges, capacity gaps
- Review socio-economic, political, cultural, legal, regulatory, privacy, security, access
- Recommendations
- Feedback Survey

Impactful Storytelling

Kevin Maurer, Chris Hillier, Sascha Olinsson

Create, disseminate, leverage impactful, engaging, compelling regional data-stories through new website, digital communication tools, other communication and social media platforms, present complex data sets as impactful stories to capture attention, and stimulate engagement, make data accessible, relatable, useful to wider audience for policymaking, business decisions, and community initiatives.

- Identify regional data sets and sources to create compelling data stories
- Remotely mentor regional storytellers to effectively tailor stories to different audiences
- Develop guidelines/templates for creating impactful data stories
- Guidance on storytelling techniques, data interpretation, narrative development
- Ensure diversity and relevance to target audience
- Quality control and editing data stories [one per month]

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Website Development
Chris Hillier, Sascha Olinsson
in partnership with CaribData Team

Dedicated, user-friendly, centralized, website to host and manage data stories, optimized for dissemination, analytics, search, social media, and other digital marketing strategies, create community, encourage participation, enhance CaribData's regional credibility.

- Set up website structure, design, content management, dissemination process, UX
- Digital communication tools/platforms for disseminating data stories to target audiences
- Email, interactive data visualization, social media incl. traffic analytic and SEO
- Data stories dissemination strategy across digital channels and social media platforms
- Interactive features [polls, surveys, comments] to encourage engagement/feedback
- Build CaribData community around the data stories.

Train and Mentor Data Professionals
Ali Yalcin, Chris Hillier, Sascha Olinsson

Design and deploy training program inclusive of participant selection methodology, address resource needs/gaps in NSOs in beneficiary countries, purpose-built curriculum, selection method to ensure diversity, inclusivity, relevance.

- Needs assessment and gap analysis
- Identify key stakeholders involved in data-related activities
- Design surveys, questionnaires, interview guides, to capture info. from stakeholders.
- Understand training needs, capacity limitations, gaps desired competencies
- Prioritize gaps by severity, urgency, and impact on strategic priorities
- Mentorship program to strengthen impact of training

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Datathon

Chris Hillier, Ali Yalcin, Sascha Olinsson

Source data, co-design datathon to solve real-world Caribbean challenges in the fields of health and environment, highly publicised and region-wide annual event attracting wide and diverse participation delivering real insights and solutions, stimulating collaboration

- Select theme related to healthcare or environmental sustainability
- Assemble team of organizers, select virtual event platform, setup online registration
- Seek sponsorship in exchange for exposure and networking opportunity
- Publicize event through social media, mailing lists, and local communities
- Clean, pre-process, accessible datasets with sample code and tutorials sessions
- Plan agenda, judges, judging criteria, prize-giving to winners

Sustainable Business Model

Chris Hillier, Sascha Olinsson

Sustainable business model, compelling value proposition, attractive to Govt, NGOs, Academia, and the private sector, package data analysis, storytelling, value creation

- Measure impact of emotive storytelling on engagement
- Targeted marketing to attract investment, sponsorship, other funding
- Demonstrate data-derived real-world insights can create impactful stories
- Design process to leverage insights to stimulate new revenue-generating partnerships
- Identify which type of stories generate most engagement and feedback
- Continuously test, validate, and iterate

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Appendix

Several reports have been produced over the years that provide detailed insights into the state and development of statistical offices in the Caribbean, highlighting efforts to enhance statistical capacity and literacy in the region. Some, such as the ECLAC Statistical Yearbook: published annually by the Economic Commission for Latin America and the Caribbean (ECLAC) include wide ranging and fairly comprehensive data on social, economic, and environmental statistics highlighting the varying economic growth rates within the region and presenting detailed demographic and socio-economic data useful for understanding the broader context in which statistical offices operate (CEPAL). Similarly, the Statistical Literacy and Capacity Development study, also carried out by ECLAC, emphasizes the importance of statistical literacy as a foundation for enhancing the capacity of the National Statistical Systems in the Caribbean. This report is more interested in the skills and competencies of the staff within these offices and suggests improvement areas they believe essential for better data management and policy formulation. The study is part of a broader initiative under the CARICOM Regional Strategy for the Development of Statistics (RSDS) (CEPAL). Also, the Caribbean Development Bank (CDB) provides insights through its publications. The "2023 Caribbean Economic Review and 2024 Outlook" includes economic performance statistics and projections which can help contextualize the work of statistical offices by linking economic data with broader development goals (Caribbean Development Bank)

Project for the Regional Advancement of Statistics in the Caribbean (PRASC)

These resources collectively offer a comprehensive view of the current state, challenges, and advancements in statistical systems across the Caribbean, underscoring the ongoing efforts to improve data handling and utilization in the region. However, the most important and relevant Report from the perspective of the Caribbean Data-Driven Resilience program, is The Project for the Regional Advancement of Statistics in the Caribbean (PRASC) a statistical capacity-building initiative funded by the Government of Canada, that aimed to strengthen the statistical systems across 14 CARICOM countries. The project ran from 2015 to 2023 and focused on improving socio-economic measures and supporting evidence-based policymaking. Training and bilateral assistance were provided in order to develop robust statistical methods and approaches that were tailored to the region's needs (Caribbean Development Bank).

FIGURE 6. THE LOGO AND BRANDING USED FOR PRASC

There are some similarities in the aims and objectives of PRASC and the current project however they are very different in terms of level of funding and timeframe. The PRASC project ran for eight years, involved 14 Member States of CARICOM, and was awarded CADS19.5M. The PRASC project has successfully provided technical assistance, training, and resources to National Statistical Offices (NSOs) in the region and so is very relevant at this time. The project only ended officially in September 2023.

One significant outcome of the project is the PRASC Knowledge Base, a comprehensive resource hub launched by ECLAC. The platform was intended to ensure the sustainability of the capacity developed and so is available for both data producers and users in the Caribbean. The PRASC Knowledge Base is a collaborative effort between ECLAC, the ECLAC Hernán Santa Cruz Library, and Statistics Canada. The PRASC project focused on four key priorities: enhancing the Systems of National Accounts, ensuring accurate and comprehensive data collection; improving business statistics by establishing a robust business survey infrastructure; enhancing

household statistics, including sex-disaggregated socio-economic indicators, by establishing a robust survey infrastructure for household surveys; and lastly improving the sharing of statistical information and expertise at both national and regional levels. It is in this last area where there is the most overlap. Just like PRASC, this current project aims to benefit from a wide range of stakeholders including policy and lawmakers, academics, private and public institutions, and even individual data users in the Caribbean region. ECLAC provided technical infrastructure, hosting PRASC resources in the Knowledge Base including training materials, tools, templates, how-to guides, and other reference documents. Other outcomes of PRASC included identifying a need for a greater focus on using Administrative Data; media training with STATIN, a spin-off advocacy project with OECS, the CCS website and knowledge base, a Leadership workshop.

The current project will seek to examine PRASC materials and access its Reports and related materials in order to derive as much insight as possible from its data.