



UNITED NATIONS

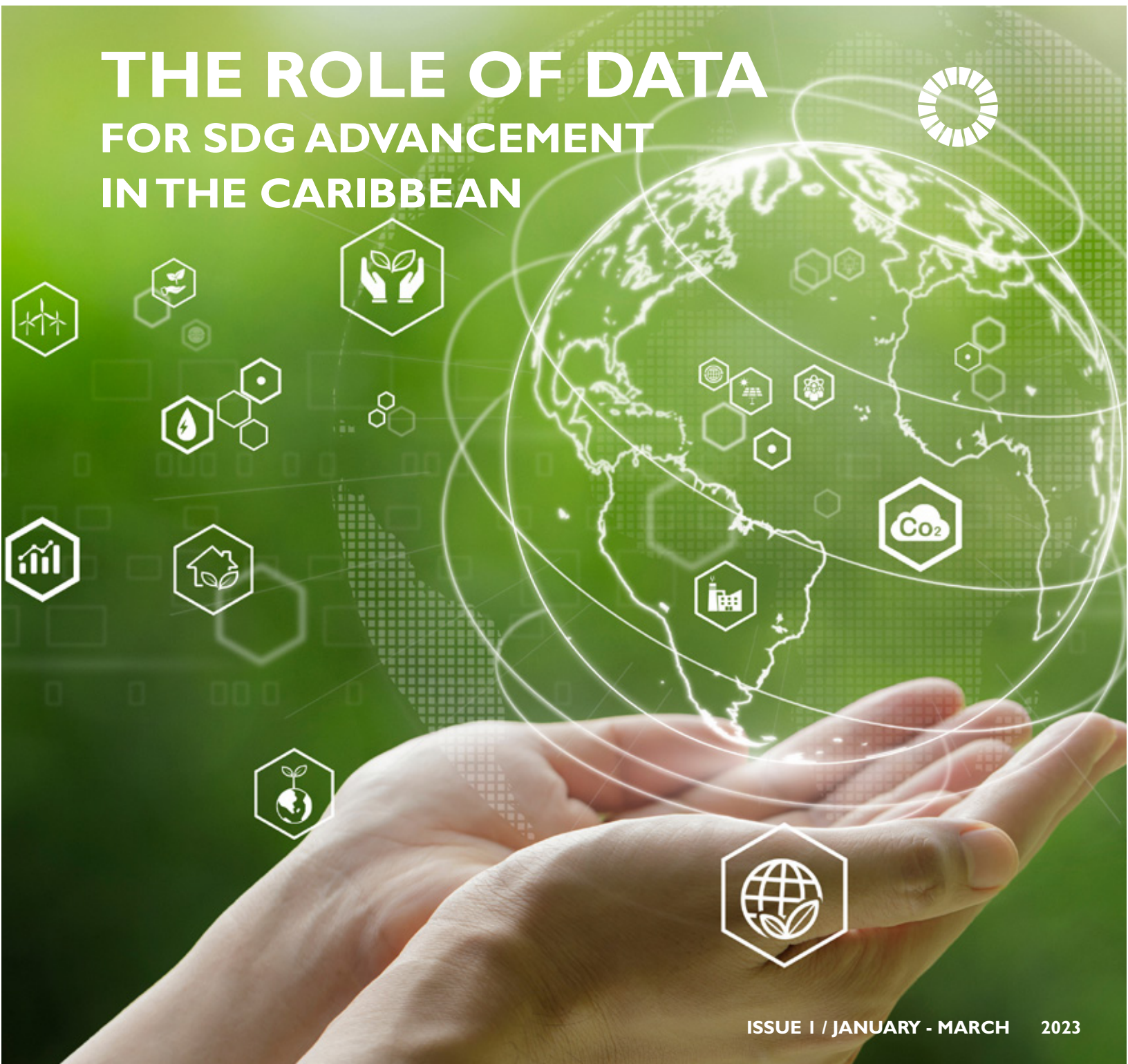


ECLAC SUBREGIONAL HEADQUARTERS FOR THE CARIBBEAN

FOCUS

Magazine of the Caribbean Development and Cooperation Committee (CDCC)

THE ROLE OF DATA FOR SDG ADVANCEMENT IN THE CARIBBEAN



ABOUT ECLAC and the CDCC

The Economic Commission for Latin America and the Caribbean (ECLAC) is one of five regional commissions of the United Nations Economic and Social Council (ECOSOC). It was established in 1948 to support Latin American governments in the economic and social development of that region. Subsequently, in 1966, the Commission (ECLA, at that time) established the subregional headquarters for the Caribbean in Port of Spain to serve all countries of the insular Caribbean, as well as Belize, Guyana and Suriname, making it the largest United Nations body in the subregion.

At its sixteenth session in 1975, the Commission agreed to create the Caribbean Development and Cooperation Committee (CDCC) as a permanent subsidiary body, which would function within the ECLA structure to promote development cooperation among Caribbean countries. Secretariat services to the CDCC would be provided by the subregional headquarters for the Caribbean. Nine years later, the Commission's widened role was officially acknowledged when the Economic Commission for Latin America (ECLA) modified its title to the Economic Commission for Latin America and the Caribbean (ECLAC).

Key Areas of Activity

The ECLAC subregional headquarters for the Caribbean (ECLAC/CDCC secretariat) functions as a subregional think-tank and facilitates increased contact and cooperation among its membership. Complementing the ECLAC/CDCC work programme framework, are the broader directives issued by the United Nations General Assembly when in session, which constitute the Organisation's mandate. At present, the overarching articulation of this mandate is the United Nations Sustainable Development Goals.

Towards meeting these objectives, the Secretariat conducts research; provides technical advice to governments upon request; organizes intergovernmental and expert group meetings; helps to formulate and articulate a regional perspective within global forums; and introduces global concerns at the regional and subregional levels.

Areas of specialization include trade, statistics, social development, science and technology, and sustainable development, while actual operational activities extend to economic and development planning, demography, economic surveys, assessment of the socio-economic impacts of natural disasters, climate change, data collection and analysis, training, and assistance with the management of national economies.

The ECLAC subregional headquarters for the Caribbean also functions as the Secretariat for coordinating the implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. The scope of ECLAC/CDCC activities is documented in the wide range of publications produced by the subregional headquarters in Port of Spain.

MEMBER COUNTRIES

Antigua and Barbuda	Haiti
The Bahamas	Jamaica
Barbados	Saint Kitts and Nevis
Belize	Saint Lucia
Cuba	Saint Vincent
Dominica	and the Grenadines
Dominican Republic	Suriname
Grenada	Trinidad and Tobago
Guyana	

ASSOCIATE MEMBERS

Anguilla
Aruba
Bermuda
British Virgin Islands
Cayman Islands
Curaçao
Guadeloupe
Martinique
Montserrat
Puerto Rico
Sint Maarten
Turks and Caicos Islands
United States Virgin Islands

CONTENTS

Director's Desk:

Addressing key challenges to sustainable growth and development in the Caribbean	3
Poverty in the Caribbean: what do we know about the post-COVID situation?	4
Non-traditional data sources: A boost for SDG reporting in the Caribbean	6
Embracing Big Data to support development-How Trinidad and Tobago's innovative Big Data approach can be a model for Caribbean data ecosystem modernization	8
Guarding the Caribbean's Digital Future: A focus on Data Security	10
Short-changing Development: The Underutilization of Youth and Data in Regional Development	12
Regular Features	
Recent and upcoming meetings	15
List of Recent ECLAC Documents and Publications	15

FOCUS: ECLAC in the Caribbean is a publication of the Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters for the Caribbean/Caribbean Development and Cooperation Committee (CDCC).

EDITORIAL TEAM:

Director	Diane Quarless, ECLAC
Editor	Jabari Fraser, ECLAC
Copy Editor	Denise Balgobin, ECLAC
Coordinator	Abdullahi Abdulkadri, ECLAC
Proof Reader	Veera Deokiesingh-Fraser, ECLAC
Design and Layout	Liseanne Martin-Subero, ECLAC

Produced by ECLAC

CONTACT INFORMATION

ECLAC Subregional Headquarters for the Caribbean
PO Box 1113, Port of Spain, Trinidad and Tobago
Tel: (868) 224-8000
E-mail: spou-pos@eclac.org Website: www.eclac.org/portofspain



THE ROLE OF DATA FOR SDG ADVANCEMENT IN THE CARIBBEAN

This year marks the mid-point of the 2030 Agenda for Sustainable Development. Member States have implemented the Sustainable Development Goals (SDGs) for the past seven years and took time to take stock of the progress made so far at the SDG Summit held under the auspices of the United Nations General Assembly in September. During the High-level Political Forum on Sustainable Development (HLPF) in July, three Caribbean countries presented their Voluntary National Reviews (VNRs) – Saint Kitts and Nevis for the first time, and Barbados and Guyana for the second time.

The HLPF and the SDG Summit provided good opportunities for candid reflection on our progress towards the global Goals. This reflection is critical in ensuring that we redouble efforts on the Goals and targets that are lagging and safeguard the gains made on the Goals and targets where our progress is on track. An essential tool in making such assessments is data.

Data and statistics produced from them remain our close ally in the global aspiration to transform our world. Coincidentally, the 2030 Agenda has been a great champion of data, producing, arguably, the most consequential data-friendly environment for development purposes in this century. The 2030 Agenda, in the context of the data revolution for sustainable development, has facilitated the incorporation of innovation in data collection, analysis, dissemination and use. Modern methodologies and approaches have been developed to allow the use of a broader scope of data sources for development purposes. The significance of these developments is underscored in the 2023 special edition of the Sustainable Development Report which states: “The increased openness, accessibility, and effective use of data have played a crucial role in achieving better data impact. Since the adoption of the 2030 Agenda, significant progress has been made by countries in opening up official statistics.”¹

At ECLAC, we have always advocated for the widest dissemination of official

statistics. We have observed that a lot more data are collected in the subregion than are utilized to produce national and regional statistics, or made available to other users to inform decisions and policies. The modernization of statistical ecosystems globally and in the Caribbean is bearing dividends. Many national statistical offices (NSOs) of the Caribbean now have a functional web portal for data dissemination. Caribbean NSOs have also widely adopted computer-assisted personal interview (CAPI) devices in conducting enumeration for the 2020 round of population and housing censuses. Furthermore, there is a growing interest in the use of geospatial technology for data collection. This augurs well for more and better data, as well as greater access to and use of data in the Caribbean.

In this edition of the FOCUS Magazine, we highlight the many ways in which the scope of data for development work in the Caribbean can be expanded. The first article highlights the long-standing challenge of sourcing current data on poverty in the subregion. The article discusses this challenge in the context of the COVID-19 pandemic that forced more people and households into poverty, and makes the case for more timely production of poverty statistics to help inform poverty reduction strategies. As a way of tackling the data gap in socioeconomic indicators, including poverty data that form part of the SDG indicators, the second article discusses the benefit of incorporating non-traditional data sources, including citizen-generated

data, in official statistics. Along the same line, the third article presents a practical view of big data in the Caribbean, using Trinidad and Tobago in case study, and it makes the case for a greater embrace of big data in the modernization of the data ecosystem. So as not to paint a utopian view of the embrace of technology in official statistics, the next article points to the threats that modern technology poses to governments, institutions, business, and individuals in the form of data breaches, and argues for greater data governance and security as we leverage the benefits of the data revolution. The last article is cross-cutting and alerts us to the knowledge and value that the youth can bring to bear in addressing the many areas of data gaps discussed in the previous articles. It is an opinion piece contributed by a tertiary student which calls for greater involvement of youth in finding solutions and provides useful tips for youth to engage productively in the development sphere.

I trust that you will enjoy reading these articles and find them informative. We count on you as statistics stakeholders to support our efforts to open-up official statistics and make data on the Caribbean more widely-accessible.

Yours in focus,

Diane Quarless

¹ The Sustainable Development Report 2023: Special edition -- Towards a Rescue Plan for People and Planet, page 10. Available at <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>.



POVERTY IN THE CARIBBEAN: WHAT DO WE KNOW ABOUT THE POST-COVID SITUATION?

Francis Jones*

There was a temporary spike in poverty during the COVID-19 pandemic due to a reduction in economic activity, although its magnitude is difficult to quantify precisely due to the lack of timely official statistics on poverty. For countries where there is a recent survey-based estimate of poverty, the World Bank, in its Macro Poverty Outlook publication, estimates how poverty is likely to have been affected by the latest economic data (World Bank, 2023).

For Jamaica, it was estimated that poverty increased from 11% in 2019 to over 20% in 2020, declining to 16.8% in 2021 and to 12.6% in 2022. The Planning Institute of Jamaica recently reported an estimate of 16.7% for 2021, essentially identical to that of the World Bank (JIS, 2023). In Grenada, where the poverty rate was 25.0% in 2018/19 (World Bank, 2021), it was estimated to have risen to 31.7 percent in 2020. In Saint Lucia, about 25% of Saint Lucians were poor in 2019, increasing to over 30% in 2020, returning to about 25% by 2022. In Barbados, poverty has fallen since the pandemic but was still thought to be above its pre-COVID level, last measured as 25.7% in 2016. In Belize, the pre-COVID poverty rate was estimated to be 52% in 2018/19, on top of which the pandemic was adjudged to have had a “severe social impact,” presumably worsening an already dire situation.

Other than for these countries, there is relatively little data available on levels of poverty and inequality in Caribbean countries over the last decade. For many countries, poverty assessments were carried out through the Caribbean Development Bank’s (CDB) Country Poverty Assessment programme and, by 2012, most countries had carried out at least two surveys of living conditions/country poverty assessments as part of this broad programme (Table 1). There was then a period of pause and review before the programme was relaunched as the Enhanced Country Poverty Assessment Programme, which now includes not only estimates of monetary

poverty but also multidimensional poverty, taking into account material deprivations relating, for example, to education, health, housing, empowerment, personal security, and more (CDB, 2016). However, the pause in the programme seemed to lead to a loss of momentum, which was then compounded by the pandemic, with the result that relatively few countries have recent data on poverty.

Jamaica is the only Caribbean country which measures poverty annually (or almost every year). Over the last two decades, the poverty rate has risen and fallen along with the economic cycle, reaching its lowest level of 9.9%, in 2007, a level it has yet to recapture (figure 1A). After the global financial crisis (GFC), GDP per capita fell, and poverty increased reaching a high of 24.6%, in 2013. Between 2013 and 2019, GDP per capita gradually recovered, while the poverty rate declined to 11% by 2019 (returning close to its 2007 level), before spiking again during the pandemic.

This stagnation in economic growth has been mirrored across the subregion more widely over the last two decades. Caribbean GDP per capita grew relatively strongly in the 1990s and 2000s, reaching US\$10,716 in 2008 (in constant 2018 prices). However, in subsequent years, GDP per capita remained below this level, falling significantly below US\$10,000 during the pandemic, only recovering in 2022 (Figure 1B). Aside from Jamaica, the relatively few countries that did carry

out poverty assessments in the 2010s all recorded poverty levels at elevated levels, around 25% in the case of Barbados, Grenada and Saint Lucia and above 50% in Belize.

Some countries have also developed multidimensional measures of poverty, specifically Belize (SIB, 2023), Grenada (World Bank, 2021), and Saint Lucia (Kairi Consultants Ltd., 2018). Belize recorded a multidimensional poverty headcount ratio of 35.7% (2021), Grenada 34.3% (2018/19), and Saint Lucia 28% (2016). These estimates are based on 15 to 20 dimensions of poverty (or material deprivations) which may or may not affect a household. They include things like long-term unemployment, food insecurity, housing quality, overcrowding, ownership of certain assets (e.g. a washing machine), access to the internet and health insurance. These are primarily national datasets, rather than for international comparisons. They provide information about the prevalence of each of the dimensions of poverty and are intended to inform the development of policy measures which can address these individual material deprivations.

To reduce the persistently high levels of poverty in the subregion, more timely statistics will be essential to inform the development of poverty reduction measures and monitor their effectiveness. Those statistical offices which have not carried out surveys of living conditions and poverty assessments in recent years should

* Francis Jones is a Statistician in the Statistics and Social Development Unit of ECLAC Subregional Headquarters for the Caribbean.

endeavour to do so. There will always be some demands for data that Caribbean statistical systems are unable to meet, but surveys of living conditions should be part of a core suite of outputs produced by all statistical offices at regular intervals. ■

REFERENCES

CDB (Caribbean Development Bank) (2016), “The Changing Nature of Poverty and Inequality in the Caribbean: New Issues, New Solutions”, St. Michael, Barbados, May.

JIS (Jamaica Information Service) (2023), “PIOJ Projects Fall in Poverty Rate”, Kingston, Jamaica, 18 August.

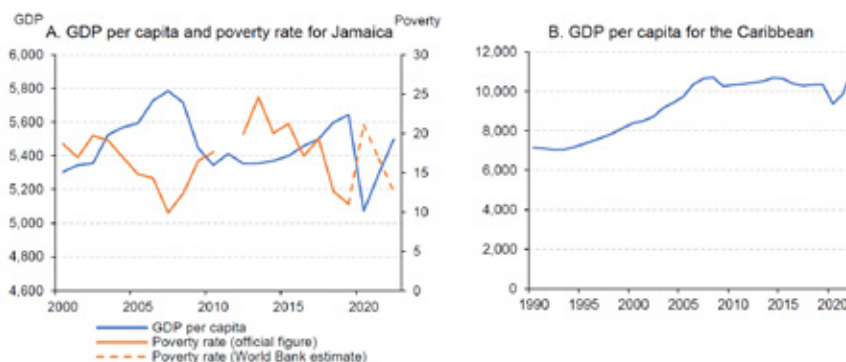
Kairi Consultants Limited (2018), "Saint Lucia National Report of Living Conditions 2016 - Final Report", Tunapuna, Trinidad and Tobago, December.

SIB (Statistical Institute of Belize) (2023), “Multidimensional Poverty in Belize, 2021”, Belmopan, Belize.

World Bank (2023), “Macro Poverty Outlook”, Washington D.C., April.

World Bank (2021), “Living Conditions in Grenada - Poverty and Equity Update”, Washington D.C.

Figure 1
GDP per capita in constant prices and poverty rate for Jamaica; GDP per capita for the Caribbean (13 countries)
(Constant 2018 prices in dollars and percentages)



Source: ECLAC on the basis of national sources (CEPALSTAT) and the Statistical Institute of Jamaica (STATIN).

Table 1
Indicators of poverty and inequality

Country	Year conducted	% below poverty line	% below indigence line	Poverty Gap	Poverty Severity	Poverty Line USD per year	Indigence Line USD per year	Gini Coef. (for consumption)
Anguilla	2002	23.0	2.0	6.9	3.2	2,937	1,135	0.31
	2008/09	5.8	0.0	1.1	0.2	6,055	964	0.39
Antigua and Barbuda	2006	18.3	3.7	6.5	3.8	2,366	917	0.48
Bahamas	2001	9.3	5.1	2.8	1.3	2,863	964	0.57
	2013	12.5	..	3.2	1.2	4,247	..	0.41
Barbados	1997	13.9	..	2.3	..	2,751	1,448	0.39
	2010	19.3	9.1	6.0	3.2	3,931	1,985	0.47
Belize	2016/17	25.7	..	..	..	3,855	1,784	0.32
	1996	33.0	13.4	8.7	4.3	644	377	..
Belize	2002	33.5	10.8	11.2	6.1	..	..	0.40
	2009	41.3	15.8	11.0	5.0	1,715	1,003	0.42
	2018/19	52	9	..	..	3,981	1,341	0.49
British Virgin Islands	2002	22.0	<0.5	4.1	1.7	6,300	1,700	0.23
Cayman Islands	2007	1.9	..	0.4	0.2	3,319	..	0.40
Dominica	2002	39.0	15.0	10.2	4.8	1,260	740	0.35
	2008/09	28.8	3.1	8.9	4.0	2,307	902	0.44
Grenada	1996	32.1	12.9	15.3	9.9	1,208	530	0.45
	2008	37.7	2.4	10.1	4.0	2,164	887	0.37
	2018/19	25.0	3.5	..	..	2,512	1,074	0.40
Guyana	1993	43.0	29.0	16.2	..	380	281	0.44
	1999	35.0	19.0	12.4	..	510	..	0.41
	2006	36.1	18.6	11.5	..	..	..	0.35
Jamaica	1990	28.4	8.3	..	..	..	..	0.38
	2000	18.7	5.0	..	..	..	..	0.40
	2010	17.6	6.3	5.0	..	..	..	0.39
	2019	11.0	4.0	..	..	..	..	0.37
Montserrat	2008/09	36.0	3.0	10.2	4.8	5,333	1,754	0.39
Saint Kitts and Nevis	2000	30.5	11.0	2.5	0.9	1,244	791	0.39
	2008	23.7	1.4	6.4	2.6	2,714	961	0.38
Nevis	2000	32.0	17.0	2.9	1.0	1,450	908	0.37
	2008	15.9	0.0	2.7	0.8	3,625	1,086	0.38
Saint Lucia	1996	25.1	7.1	8.5	4.4	695	371	0.50
	2006	28.8	1.6	9.0	4.1	1,905	588	0.42
	2016	25.0	1.3	7.5	3.4	2,306	786	0.43
Saint Vincent and the Grenadines	1996	37.5	25.7	12.5	6.9	450	353	0.56
	2008	30.2	2.9	7.5	3.0	2,046	906	0.40
Suriname ^a	2000	44.2	..	17.8	..	..	..	0.47
	2008	51.3	..	13.5	..	..	..	0.44
Trinidad and Tobago	1992	21.2	11.2	..	..	570	420	0.42
	1997	24.0	8.3	5.3	2.8	753	457	0.39
	2005	16.7	1.2	4.5	2.0	..	..	0.39
Turks and Caicos Islands	1999	25.9	3.2	5.7	2.5	2,424	880	0.37
	2012	21.6	0.0	4.0	1.4	6,050	2,000	0.36

Source: National Surveys of Living Conditions/Household Budget Surveys; MDG Progress Reports (Guyana and Suriname).

Note: This table shows poverty rates calculated using national poverty lines whose value (purchasing power) differs from country to country.

^a Urban areas only



NON-TRADITIONAL DATA SOURCES: A BOOST FOR SDG REPORTING IN THE CARIBBEAN

Daniel Leon*

As the Caribbean makes strides to advance and reach the Sustainable Development Goals (SDGs) by 2030, data on the progress of many indicators are lacking or insufficient. The lack of data to report on all SDGs is a global issue, as traditional data are insufficient to report on development indicators. All governmental agencies and ministries that provide data to National Statistical Offices (NSOs) constitute the National Statistical System (NSS).

These entities collect and report data based on traditional sources which include periodic censuses, labour force surveys, household surveys, and administrative data, such as migration data provided by the national border authority, or epidemiological data provided by the health ministry.

Non-traditional data, which are those collected outside the NSS, can complement and boost the capacities of Caribbean NSOs to report on and evaluate the progress made by countries in meeting the 2030 Agenda for Sustainable Development and the SDGs (Fritz and others, 2019). Non-traditional data sources include mobile phones, the internet of things, geospatial technologies, and social media. Many forms of non-traditional data overlap, such as social media information from mobile devices. Such data sources can produce big data, which are large and complex datasets that cannot be analysed by traditional analytical methods.

In the current state of affairs, non-traditional data sources are more often used to generate unofficial data than produce official statistics. One very useful unofficial source of information is citizen-generated data. For example, allowing citizens to generate and complement official data on a country's consumer price index (CPI) by providing price scanners to a country's residents is a practical idea for generating real-time price data. This approach can generate valid and non-trivial information on yearly price changes with greater granularity in the price changes in products and services than the traditional CPI surveys conducted by NSOs, thus helping

countries to produce information for SDG target 2.c – part of SDG's aim to eliminate hunger (ESCAP, 2020).

The private sector is also a rich source of unofficial data, such as information gathered by mobile network operators (MNOs). This data can inform SDG indicators related to mobility and socioeconomic status. Data from MNOs provide information on the urbanization and commuting patterns of a population, thus providing data on SDG 11 indicators related to sustainable cities. Data from MNOs can also give countries information on the mobility patterns of a population after natural disasters, which can better inform emergency response policies (ESCAP, 2021). Furthermore, tapping into mobile data, a type of big data, can help NSOs report on SDG 1 (no poverty). Using geolocation data and internet search data from mobile devices, NSOs can mine data to estimate consumption patterns according to socioeconomic status and geographical location based on user data (Halderen and others, 2021). Crucially, mining big data can allow NSOs to forecast different trends in consumer behaviour that can impact socioeconomic status, such as after natural disasters, and provide timely information to policymakers. Researchers can use open-source tools, such as Google Trends, to mine big data on information searches (Blazquez and Domenech, 2018).

Furthermore, spatial data provides NSOs with another important non-traditional source of data. The analysis of open-source GIS data allows policymakers to collect

information on several environmental and social SDG targets. For example, analysis of Landsat data from NASA and Google Earth allows one to assess water migration patterns. Researchers can correlate such data with climate and socioeconomic indicators, such as temperature changes and migration patterns, respectively, to monitor progress on SDGs 6, 11, and 16 – goals related to sustainable water usage, sustainable urbanization, and political stability, respectively (Nagabhatla and Brahmabhatt, 2020). In epidemiology and healthcare, spatial data can be combined with traditional data sources to report on SDG 3 on good health and well-being. NSOs can use notifications from local health authorities, in times of a disease outbreak, to run spatial autocorrelation analyses with other indicators, such as poverty rates, testing rates of the infectious disease, and treatment rates to allow for the identification of geographical areas where the infectious disease is being underreported (Rood and others, 2019).

Using big data also involves risks, such as excluding older persons and other subpopulations that do not have access to digital platforms and private sector services, such as mobile and internet services, which can reduce the representativeness of the samples collected. However, non-probability samples gathered from non-traditional sources, such as online or social media surveys, can provide representative samples of subpopulations, such as the unemployed, people suffering from a certain disease, or migrants, when demographic characteristics are not of paramount importance (Lehdonvirta and others, 2020). Moreover, the use of big

* Daniel Leon is an Associate Social Affairs Officer in the Statistics and Social Development Unit of ECLAC Subregional Headquarters for the Caribbean.

data produced by non-traditional sources raises concerns about data privacy and the necessity to ascertain the informed consent of the stakeholders. However, policymakers can reduce the risks of using non-traditional data sources, by clarifying the involvement of stakeholders and conducting data protection impact assessments (Sievers and others, 2022).

The existence of a variety of non-traditional data sources allows countries to collect, analyse, and report on SDG indicators in ways that traditional methods do not facilitate, or when they do, are prohibitively expensive. Some types of unofficial data, such as citizen-generated data, impose costs on individuals and entities outside of the NSS, but are often more cost-effective than traditional methods, such as national surveys. Therefore, Caribbean NSOs can boost their SDG reporting capacity by incorporating non-traditional data sources, with due consideration given to their methodological soundness, in the national data collection efforts for SDG indicators. ■

REFERENCES

- Blazquez, D. & Domenech, J. (2018), "Big Data sources and methods for social and economic analyses," *Technological Forecasting and Social Change*, vol. 130.
- ESCAP (2020), "Incorporating Non-traditional Data Source into Official Statistics - Lessons and experiences from Australia, Japan and New Zealand," United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).
- (2021), "Big data for population and social statistics," *Stats Brief*, no. 29, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).
- Fritz, S. and others (2019), "Citizen science and the United Nations Sustainable Development Goals," *Nature Sustainability*, vol. 2, No. 10, Nature Publishing Group, October 1.
- Halderen, G. Van and others (2021), "Big Data for the SDGs: Country examples in compiling SDG indicators using non-traditional data sources," *Working Paper Series*, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).
- Lehdonvirta, V. and others (2020), "Social Media, Web, and Panel Surveys: Using Non-Probability Samples in Social and Policy Research," *Policy & Internet*, vol. 13, no. 1.
- Nagabhatla, N. & Brahmabhatt, R. (2020), "Geospatial Assessment of water-migration scenarios in the context of sustainable development goals (SDGs) 6, 11, and 16," *Remote Sensing*, vol. 12, no. 9.
- Rood, E. and others (2019), "A spatial analysis framework to monitor and accelerate progress towards SDG 3 to end TB in Bangladesh," *ISPRS International Journal of Geo-Information*, vol. 8, no. 1.
- Sievers, N. and others (2022), *Ethical considerations in re-using private sector data for migration-related policy: A practitioners' perspective*, Berlin, International Organization for Migration (IOM).



EMBRACING BIG DATA TO SUPPORT DEVELOPMENT- HOW TRINIDAD AND TOBAGO'S INNOVATIVE BIG DATA APPROACH CAN BE A MODEL FOR CARIBBEAN DATA ECOSYSTEM MODERNIZATION

Anand Maraj*

The arrival of new technologies, digital platforms and modern innovations, significantly influenced the data revolution resulting in global data in greater volume, veracity, variety and at higher velocity; produced by government, the business sector, researchers, civil society and private citizens.

The arrival of new technologies, digital platforms and modern innovations, significantly influenced the data revolution resulting in global data in greater volume, veracity, variety and at higher velocity; produced by government, the business sector, researchers, civil society and private citizens. However, like many other Small Island Developing States (SIDS), significant challenges and gaps exist in the local data ecosystem regarding collection, access and effective use of data and big data as part of official statistics for sustainable development in Trinidad and Tobago. In some instances, data required to inform the national development agenda may not be available or may be dated and unusable. These challenges are further compounded by dated legislation from the 1950s which governs the National Statistical System (NSS); the Statistics Act, Chap. 19:02 of 1982 (Statistics Act) represents the most updated amendment to the parent legislation of 1952.

Data from the World Bank from 2009 to 2018 show a steady decline in Trinidad and Tobago's statistical capacity. According to the World Bank, the country's National Statistical System has performed unfavorably with respect to periodicity, methodology and quality of source data." Although both the supply of and demand for data in the country are expanding, the data ecosystem remains relatively diverse but underdeveloped with the capacity to provide appropriate and reliable data. Many advanced potential alternative sources and applications remain conjecture rather than integrated as part of official statistics.

Recognizing the need for a more modernized data ecosystem, Trinidad and Tobago has embraced an innovative pathway towards the modernization and strengthening of the national statistical system, to meet the demands and opportunities of modern data ecosystems. The need for high quality development data to support decision-making, good governance, accountability, and the sustainable development agenda is underscored by proposed changes to the legislative and regulatory frameworks, and the establishment of processes and mechanisms to harness big data as part of the country's overall ecosystem. The draft National Statistical Institute of Trinidad and Tobago Bill, 2018 with technical input and support provided by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), was developed with a view to improving the legislative landscape that governs, inter alia, the incorporation of big data into official statistics.

Where traditional forms of data were insufficient, the country previously demonstrated a willingness to utilize big data as a viable option to better address national challenges and inform interventions. In 2014, geospatial applications for smart phones assisted the Ministry of Health in identifying the location of infected persons and to contain the outbreak of the Chikungunya virus. The production and availability of high frequency, low-cost data generated from mobile phone records, social media and other digital platforms in the country is evidenced by the growing digital footprint.

Source: Digital 2023; Trinidad And Tobago

With clear indicators of readiness to participate in the global digital data revolution, and in support of the reformed legislative and regulatory framework, Trinidad and Tobago is further embracing big data through two key initiatives in support of the NSS.

In 2016 ECLAC Subregional Headquarters for the Caribbean embarked on a study titled An assessment of big data for official statistics in the Caribbean, to gain an understanding of the state of affairs of big data in the Caribbean and to examine the potential for integrating big data in official statistics in the subregion. This study first identified the potential of establishing a center of excellence for big data in the subregion, noting that: "Creating a Centre of Excellence in Big Data Analytics in one of the regional institutions would be an efficient way to concentrate available skills and help develop new expertise in this critical area. Such a center must be developed through public-private partnership where big data producers are integrally involved in research to derive value from the data that they generate. The Centre, once fully established, would serve as a training facility for statisticians in the NSOs and other organizations in the subregion."

Trinidad and Tobago has taken on this charge. In 2020 and 2021, local, regional and global experts examined the feasibility of establishing a center of excellence for big data analytics in the country, as a model that can be replicated across the region. Discussions established that a center for big data analytics locally, represents an untapped opportunity

* Anand Maraj is a Development Coordination Officer for Data Management and Results Monitoring/Reporting in the Office of the United Nations Resident Coordinator for Trinidad and Tobago.

to formalize big data analytics and make it more accessible to planners, developers and policy makers. Consensus identified that:

- i. A Center of Excellence for Big Data Analytics should be established in Trinidad and Tobago which connects data scientists, academia, private sector and Government;
- ii. The Center be the primary hub of big data analytics that produces analyses and correlations to support evidence-based interventions for better service delivery, sustainable sectoral development, and building stronger communities;
- iii. That an appropriate, adaptive model be readily defined, including a coordinating mechanism integrating all key partnerships needed to operationalize the Center and ensure its sustainability.

Accordingly, a coordinating mechanism and proposed model for the Center of Excellence (CoE), and two options for the establishment of the CoE have been developed, with the launch of the Center proposed for 2024. As part of its mandate, the Center will promote the greater use of data, including big data, to improve public policy, coordinate with the business sector on big data initiatives that improve the efficiency of the private sector, and be at the forefront of big data informational awareness of the population.

In furtherance of the CoE, in 2020, *the United Nations in Trinidad and Tobago conceptualized and developed the Big Data Forum* Initiative as a signature event that creates an environment that fosters research, promotes discussion, strengthens partnerships and advances strategies for harnessing and integrating big data as part of official sustainable development statistics. An annual two-day conference, the forum provides a medium to bring together stakeholders to examine new ideas, and to better understand an effective use of alternative data as part of the local data ecosystem. *The first edition, titled A Smarter Future: Exploring Big data Opportunities for Trinidad and Tobago*, held in December 2020, attended by 1,200+ participants from various spheres, including the Attorney General, examined the existing legislative landscape for big data, its potentials for the country, and the country's pathway to a smarter future. Significant outcomes included consensus to establish a Center of Excellence for Big Data Analytics in Trinidad and Tobago which connects data scientists, academia, private sector and Government; a tripartite partnership among student researchers, academicians and the United Nations Country Team, which led to a first local business readiness assessment on big data technology, an assessment that explored opportunities to re-engineer business systems and industries; and big data capacity-building and awareness with

parliamentarians and senior public service officers.

In 2021, under the theme of *Exploring the Science of Big Data: A smarter future for Trinidad and Tobago* the second installment brought over 950 participants from Government, international corporations and multinationals, local experts and data scientists. In his opening remarks at the Forum, the Acting Prime Minister and Minister of Finance underscored the continuous interest and support of the Government to integrating big data as part of the local data ecosystem. The Forum concluded with an agreement to enhance credibility, accessibility and reliability of alternative data, and to strengthen data partnerships and coordination among stakeholders in producing big data and statistics for sustainable development. Partnerships with international social media organizations that will allow the use of anonymized data for local research interventions are ongoing.

Through these and other big data initiatives, Trinidad and Tobago is sustaining the momentum to leverage the potential of big data through partnerships with Government, academia, civil society, business, youth, and leading international corporations like Meta, Google, Amazon, Global Pulse and iFLYTEK to close the data gap. ■



GUARDING THE CARIBBEAN'S DIGITAL FUTURE: A FOCUS ON DATA SECURITY

Nyasha Skerrette*

The data revolution has undeniably reshaped society. It is driven by the open data movement, a rise in crowdsourcing, new ICTs for data collection, vast pools of big data, artificial intelligence¹ (AI), the evolution of Internet of Things, data analytics, and the adoption of data-driven decision-making.

Data, now considered a priceless asset, fuel critical decisions across industries through advanced computing and data science. Caribbean governments, policymakers, and industry leaders are actively exploring these opportunities. However, amid remarkable technological progress and rapid data expansion, the Caribbean stands at the crossroad of innovation and vulnerability. The data surge presents unprecedented challenges in safeguarding digital information. Beyond data's potential benefits lie the urgent need to protect them from unauthorized access, breaches, and cyberattacks.

Caribbean countries have embraced this digital transformation, exemplified by initiatives aimed at maximizing data utilization in the workforce and decision-making. For instance, Jamaica has made significant improvements in their ease of doing business ranking. This achievement stems from enhanced access to credit information, facilitated by the distribution of data from utility companies. In a collaborative effort, banks, telecommunication providers, utility firms, and the government share information with credit bureaus. These bureaus, in turn, analyze this data to assess creditworthiness and provide their findings to banks and telecommunication providers, with the consent of service applicants. In Antigua and Barbuda, telecommunications companies are harnessing the power of AI to analyse network traffic, thereby enhancing network optimization. Additionally, AI-driven chatbots are employed to provide customer support services.

These examples highlight the substantial quantity of data involved, necessitating robust data mining, secure storage, and protection. However, the subregion's current data landscape is a blend of progress and challenges. While it reflects ongoing efforts to adapt to the digital age, Caribbean countries are grappling with limited resources in terms of funding and specialized cybersecurity personnel, and evolving cyber threats to governments, businesses, and individuals alike.

Over the years, cyber threats have ranged from common issues such as phishing attacks and malware infections to more sophisticated challenges like ransomware, data breaches, and cyber espionage. In 2022, regional conglomerate Massy Stores fell victim to a cybersecurity attack, causing technical disruptions across all Trinidad and Tobago stores. Hackers subsequently leaked thousands of company files, including staff salaries, photos, personal details, customer passports, and financial documents, classifying it as the largest Caribbean data breach to date. The financial costs of this breach were enormous. Events such as these underscore the increasing risk of data breaches to the Caribbean's digital landscape, emphasizing the need for heightened data security². Furthermore, as big data and AI usage grow, cyberattacks gain potency. Big data's vastness provides cybercriminals with more targets, while AI enables advanced and evasive malware, making detection challenging. AI can also create convincing deepfake content for social engineering or disinformation campaigns.

Caribbean governments and regulatory bodies are prioritizing data security and are either implementing or planning cyber security and data protection regulations. They are increasingly collaborating with international and regional partners to tap into expertise and resources for strengthening cybersecurity. Efforts to raise awareness about cybersecurity best practices include workshops, seminars, and educational campaigns. Building a skilled cybersecurity workforce is a focus through partnerships with educational institutions and training programs. However, there's work ahead, as seen in the relatively low 2020 Global Cybersecurity Index (GCI) rankings³, with most Caribbean countries having low scores (Table 1). Among Caribbean countries assessed, the median overall GCI score stood at 14.50 out of total of 100 and falls to 12.91 if Dominican Republic and Cuba are excluded.

To address these gaps effectively, the Caribbean must adopt a comprehensive, multi-level approach to data security. At the national level, countries should prioritize the establishment of robust cybersecurity frameworks, encompassing comprehensive laws, regulations, and policies. Collaboration and information-sharing among government agencies, businesses, and educational institutions are paramount to fortify cyber resilience. Equally crucial is the emphasis on enforcement mechanisms, as well as investment in cybersecurity education and training programs.

* Nyasha Skerrette is a Statistics Assistant in the Statistics and Social Development Unit of ECLAC Subregional Headquarters for the Caribbean.

¹ Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems.

² Data security, also known as information security or cybersecurity, is the practice of protecting digital data, such as databases, files, and communication channels, from unauthorized access, disclosure, alteration, or destruction. It encompasses a range of measures, including technical safeguards, policies, and procedures, aimed at ensuring the confidentiality, integrity, and availability of data.

³ The Global Cybersecurity Index (GCI) is a composite index of indicators that monitors the level of cybersecurity commitment in the five pillars of the Global Cybersecurity Agenda (GCA). The index maps 82 questions on cybersecurity commitments across five pillars: legal, technical, organizational, capacity, and cooperative. A higher GCI score is better as it indicates that a country has a stronger commitment and more advanced capabilities in the field of cybersecurity.

Regionally, a heightened focus on fostering cooperation, supporting, and investing in dedicated cybersecurity centers is essential. Additionally, harmonizing cybersecurity legislation across the region can significantly bolster collective efforts. On the international front, Caribbean countries should actively engage in partnerships with organizations like the ITU and Interpol. Participation in global cybersecurity conferences and forums is vital, allowing them to advocate for the adoption of global cybersecurity standards.

These measures ensure a unified approach to combat cyber threats comprehensively. By implementing or reinforcing these measures, Caribbean countries can take substantial steps towards mitigating risks and safeguarding their valuable data assets and digital infrastructure.

A discussion on data security is incomplete without coverage of the vital role of data governance. Both share the goal of protecting and managing data effectively. Data governance outlines how data are

collected, stored, shared, and protected. It sets policies for accountability, transparency, and responsibility. It defines who can participate and under what conditions. In the Caribbean, data governance is vital. It ensures compliance with data protection regulations, bolstering trust in the digital ecosystem. It promotes data accuracy, integrity, and accessibility, minimizing misinformation, enabling better decision-making. It also counters data breaches and cyber threats, safeguarding critical sectors such as government services and finance. In essence, it is the first line of defence in navigating data security while promoting responsible data management.

The Caribbean’s journey toward data security, while marked by challenges, is also replete with opportunities. Leaders, organizations, businesses, and individuals across the subregion must continue to adapt, collaborate, and innovate to protect their digital future. By prioritizing the establishment of resilient cybersecurity frameworks, the harmonization of

legislation, fostering collaboration and education, and engaging in regional and international cooperation, the Caribbean has the potential to become a beacon of data security excellence. This commitment will not only protect valuable data assets but also pave the way for a resilient and prosperous digital future. ■

REFERENCES

Caribbean Council (2022), “Massy Rocked by One of the Caribbean's Largest Ever Data Breach Dumps” [online]. <https://www.caribbean-council.org/massy-rocked-by-one-of-the-caribbeans-largest-ever-data-breach-dumps/>

Caribbean Telecommunications Union (2021), “CARICOM Cyber Security and Cybercrime Action Plan” [online] (Final Ver3). <https://ctu.int/wp-content/uploads/2021/02/CARICOM-Cyber-Security-and-Cybercrime-Action-Plan_Final_Ver3-copy.pdf>

International Telecommunication Union (2021), “Global Cybersecurity Index 2020” [online] < https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-GCI.01-2021-PDF-E.pdf>

Jamaica Observer(2021), “Data Use Becoming the Game Changer in Jamaica” [online], Jamaica <<https://www.jamaicaobserver.com/columns/data-use-becoming-the-game-changer-in-jamaica/>>

My Great Learning “What Is the Global Cybersecurity Index (GCI)?” <<https://medium.com/@mygreatlearning/what-is-the-global-cybersecurity-index-gci794b0eefa247>>

McDowell, J and others (2019), “Data Governance and Data Security in the Financial Services Industry”, Journal of Business & Finance Librarianship, 24(1-2), 120-139. doi:10.1080/08963568.2019.1582572

Table 1:
Caribbean's Global Cybersecurity index ranking, 2020

Country	Cybersecurity measures					Overall score ¹	Global Ranking ²
	Legal	Technical	Organizational	Capacity Development	Cooperative		
Antigua and Barbuda	11.36	0.00	0.00	0.00	4.26	15.62	142
The Bahamas	12.85	0.00	0.00	0.00	0.52	13.37	147
Barbados	12.63	0.00	0.00	0.00	4.26	16.89	139
Belize		5.77	3.01	1.52	0.00	10.29	159
Cuba	14.85	10.87	13.91	10.52	8.61	58.76	82
Dominica	0.85	0.00	3.35	0.00	0.00	4.20	174
Dominican Republic	16.38	18.42	18.52	9.94	11.81	75.07	66
Grenada	9.41	0.00	0.00	0.00	0.00	9.41	163
Guyana	13.12	2.50	6.47	2.24	3.78	28.11	114
Haiti	0.85	0.00	1.46	4.09	0.00	6.40	167
Jamaica*	11.54	2.18	7.87	6.68	4.26	32.53	106
St. Kitts and Nevis*	5.00	0.00	0.00	3.18	4.26	12.44	153
St. Lucia*	6.70	0.00	0.00	0.00	4.26	10.96	158
St. Vincent and the Grenadines*	10.95	0.00	0.00	1.23	0.00	12.18	154
Suriname	11.13	7.04	1.69	7.08	4.26	31.20	108
Trinidad and Tobago	7.94	7.38	3.18	3.69	0.00	22.18	125

Source: International Telecommunication Union, Global Cybersecurity Index 2020.

¹ Highest possible score is 100. The highest score for each measure is 20.

² Global rankings based on 194 countries.

*No response to questionnaire. Data collected by GCI Team



SHORT-CHANGING DEVELOPMENT: THE UNDERUTILIZATION OF YOUTH AND DATA IN REGIONAL DEVELOPMENT

Tehilla Maloney*

Digital development or Information and Communication Technology for Development (ICT4D) can be used to describe “the use and application of technology and digital tools in international development”.

According to ChatGPT, “In the modern age, data is not just the foundation of development; it's the compass guiding us toward progress and innovation.” The quote cannot be attributed to any one person but is a paraphrase of the importance of integrating digital transformation and digitization into any development framework orchestrated by our government systems. The Fourth Industrial Revolution has brought increased connectivity, advanced analytics, digitally advanced manufacturing, automation and data-driven consumer interactions that have radically changed the global landscape¹. At present, the region is faced with unique development challenges related to climate change, agriculture, education and urban planning that can be mitigated with increased prioritization of data and digitization in legislative agenda and decision-making.

Young people often possess the adaptability and knowledge to contribute positively to the mitigation of these challenges due to their familiarity with the latest digital trends, engagement with alternative learning platforms and user-centric approach to products and services. However, because their perspectives are not always sought and integrated well enough, the journey to digitalization in the region could be further delayed. Thus, it can be said that through greater prioritization of digitalization in strategic areas, via the inclusion of youth voices in development planning, the region may find that the solutions to some of our most pressing issues are within our borders. The impact of government-led digital

transformation must be felt by all to achieve the intended outcome. Digital transformation powered by young professionals can play a meaningful role in business, climate change and food security. For example, Caribbean youth are currently breaking boundaries through the co-creation of solar-powered greenhouse parks in Tobago and utilizing and developing e-payment apps (WiPay, Lynk, EndCash, PayWise). They are becoming involved as business analysts to improve data-driven User Experience Design for some of the region's largest businesses and engaging 3D printing solutions to improve healthcare outcomes.

Despite their capacity for innovation, ageism and youth discrimination in hiring practices and in the workplace, continue to disadvantage youth in the labour market and play a major role in the high and increasing youth unemployment rates seen in the Caribbean. These regressive practices potentially keep the bright minds and skillset needed for improved productivity, diversity effectiveness and competitiveness in the workforce - ingredients necessary for participation of the Caribbean in the global digital transformation² - at bay. The situation is made worse when the same highly skilled young person, after failing to secure a gainful job at home, is recruited by another private, foreign-owned entity, whose corporate purpose does not necessarily include the sustainable development of the Caribbean. Currently, the Caribbean has one of the world's highest rates of brain drain. The IMF reports that “Caribbean countries have lost 10 - 40 per

cent of their labour force due to emigration to OECD member countries. The migration rates are particularly striking for the highly skilled. Many countries have lost more than 70 per cent of their labour force that have completed more than 12 years of schooling. This is among the highest emigration rates in the world.”³

Arguably, greater investment in youth and their involvement in digital transformation can result in economic growth, technological innovation and knowledge sharing. The reality of our situation is that there is not a large pool of data analysts and digitalization specialists in the Caribbean. In any emerging field such as those in ICT4D, many people, not just the youth, lack the requisite experience, and holding the lack of experience against youth in their job searched is only going to hinder our progress towards digitization. Communication, cultural and language barriers that often divide generations in the workspace and in social dialogue must be addressed. Greater trust and open-mindedness are necessary in embracing these young, educated minds who can use their casually and educationally acquired technical skills toward solving social and economic problems in the Caribbean. The impact of this is sure to be widespread as our global-minded Caribbean youth are often engaged in knowledge sharing practices on social networks. Conversations about common social problems across regional borders through these young voices may stimulate online dialogues that can bring about meaningful change. Therefore, it is imperative to explore how we can position the region's

* Tehilla Maloney is a student in the M.Sc. degree programme in Development Statistics at the Sir Arthur Lewis Institute for Social and Economic Studies (SALISES), The University of the West Indies, St. Augustine Campus, Trinidad and Tobago. Ms. Maloney Note is thankful to Kevin Faveck for his valuable insight in shaping her narrative.

¹ “Harnessing Digital Transformation to Boost Socio-Economic Development in the Caribbean | Caribbean Development Bank,” November 20, 2019. <https://www.caribank.org/newsroom/news-and-events/speeches/harnessing-digital-transformation-boost-socio-economic-development-caribbean>.

² Rasmussen University, “The Top Advantages of Having Gen Z in the Workplace,” n.d. <https://www.rasmussen.edu/student-experience/college-life/the-top-advantages-of-having-gen-z-in-the-workplace/>

³ Mishra, Prachi, “Emigration and Brain Drain: Evidence from the Caribbean.” (pp 1, 13) IMF, December 31, 2016. <https://www.imf.org/en/Publications/WPI/Issues/2016/12/31/Emigration-and-Brain-Drain-Evidence-From-the-Caribbean-18662>.

⁴ UNDP, “Positioning Africa's Youth to Win by Harnessing AI for Development | United Nations Development Programme,” n.d. <https://www.undp.org/ghana/blog/positioning-africas-youth-win-harnessing-ai-development>.

youth to leverage their digital knowledge and skills to transform our societies and strengthen our economies.

Overall, inclusive digital transformation is a mechanism for attaining sustainable development. Some of the examples presented earlier in this article will lead to more sustainable cities, consumption patterns, environmental conservation and improved digital service delivery by our governments and businesses. Data driven decision-making aids in the reduction of bias in digital transformation and contributes to reducing the digital divide, youth marginalization, and economic deprivation in our countries. It can guide the allocation of resources to those who need them most. Looking forward, as data sharing for business solutions, cybersecurity advancements, environmentally sustainable power sourcing, cloud computing, Artificial Intelligence (AI) and Machine Learning grow in popularity, digital transformation may be more attainable than ever before. These technologies, once limited to specialized fields populated only by the most talented professionals represent an unprecedented opportunity for today's West Indian youth. Therefore, decision makers should be encouraged to:

- Create learning opportunities for Caribbean youth to gain knowledge and awareness of the importance of data science for their personal and professional development
- Improve data-gathering and research capabilities within the region to empower young innovators and entrepreneurs with the high-quality data sets necessary to drive digital innovation as well as training regionally based AI algorithms[4]. Building Capacity in ICT4D, Machine Learning and Artificial Intelligence among young persons who comprise approximately 25% of the Caribbean workforce can enable young people to engage with complex problem-solving, creative thinking, create more jobs and foster innovation.
- Include intergenerational communication and socializing workshops within Change Management and Human Resource operations

in regional workplaces to improve labour force harmony.

- Devise quotas for hiring young people to ensure that businesses are able to take advantage of youth willingness, adaptability, familiarity of emerging technological trends and global consciousness to improve their business operations.

Young people interested in becoming more involved in data and digitization should be encouraged to work on developing a background in report writing, mathematics, research, data science, statistics, communication studies, and Caribbean studies. This can be done through high school, university, short courses, online learning platforms and bootcamps. This helps develop both the technical skill and social context necessary to identify a social problem and solve it. For those already involved and looking to improve, resources such as 'Storytelling with Data' by Cole Nussbaumer Knaflic and the 'International Business Communication Standards: IBCS' can be employed to increase the overall quality of their data analysis and report writing so that they can better market themselves to their current or future employer.

As we enter into the second half of the 2030 Agenda for Sustainable Development Agenda, as a youth, I look forward to embracing the inevitable path of digitization in the Caribbean subregion with young touch bearers guiding the way. ■



RECENT AND UPCOMING MEETINGS

2023

FEBRUARY

28 FEBRUARY 2023

54th Session of the United Nations Statistical Commission

MARCH

16 MARCH 2023

Implementing Global Principles on Responsible Business Conduct: transparency, human rights and anti-corruption obligations in practice

APRIL

4 APRIL 2023

Joint ECLAC and ESCWA regional webinar on Prices: innovation and integration of statistical operations

12 APRIL 2023

Seminar-workshop on instruments for strengthening official statistics: code of good practice and peer review mechanisms

List of Recent ECLAC Documents and Publications

Listed by Symbol Number, Date and Title

LC/CAR/TS.2023/6

August 2023

A study on challenges and opportunities in financing Sustainable Development Goals 4 and 9 in three Caribbean countries: an exploratory analysis

LC/CAR/TS.2023/4

March 2023

The importance of time-use surveys in guiding social policies: the gendered impact of COVID-19 on paid and unpaid work in the Caribbean

LC/CAR/TS.2023/3

February 2023

Policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency. Barbados, the British Virgin Islands and Jamaica



UNITED NATIONS



The Magazine of the Caribbean Development and Cooperation Committee
ECLAC Subregional Headquarters for the Caribbean

PO Box 1113, Port of Spain, Trinidad and Tobago

Tel: 868-224-8000

E-mail: eclac-spou-pos@eclac.org

vrb.al/eclaccaribbean