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National capacity building workshops in statistical analysis and cost-benefit analysis

Saint George's, Grenada, 5-14 May 2025.

CONCEPT NOTE

Background

The Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters for the Caribbean is currently implementing a Development Account (DA) project titled “**Strengthened capacity to design and implement policies to enhance resilience in Caribbean SIDS.**” Under the 16th tranche of the Development Account, the objective of this DA16 project is to strengthen national capacities of Caribbean countries to design and implement policies and strategies for accelerating the achievement of the Sustainable Development Goals (SDGs) and building resilient economies. Six Caribbean countries, namely, Antigua and Barbuda, Belize, Grenada, Saint Kitts and Nevis, Saint Lucia, and Suriname will benefit from the project, which is expected to enhance the technical skills of decision-makers of the target countries in the development of policies and projects to promote sustainable development and build resilience to shocks while strengthening national institutional capacity to facilitate greater synergy in the implementation of the SDGs and the Antigua and Barbuda Agenda for Small Island Developing States (ABAS).

The midterm review of progress in the implementation of the 2030 Agenda for Sustainable Development provides a sobering account of the slow pace of achievement of the SDGs. The COVID-19 pandemic and geopolitical conflicts have negatively affected progress on SDG targets related to poverty, hunger, and climate action, while earlier gains recorded in promoting health and wellbeing, advancing quality education, and reducing inequalities are seriously threatened, if not reversed.¹ More recently, higher tariff regime being pursued by the new United States administration is disrupting global financial markets and has introduced new uncertainties for global trade that could constitute barriers to trade in goods and services for Caribbean SIDS. These events have severe implications for foreign exchange reserves of nations. Furthermore, global crises and their impacts exacerbate the subregion’s existing vulnerabilities, which include susceptibility to the impacts of climate change, exposure to natural hazards and disasters, increasingly unsustainable public debt, and limited technical and institutional capacity to effectively manage development challenges.

Considering the global environment in which Caribbean SIDS operate and noting that the timeline for the 2030 Agenda is now just five years away, there is an urgency to accelerate action in implementing the SDGs. This will require strengthening national and subnational capacity, accountability, and public institutions to deliver accelerated progress towards achieving the Sustainable Development Goals. In its call to action for the transformation required to fully achieve the global Goals and their targets in the remaining years of the 2030 Agenda, the Global Sustainable Development Report 2023 underscores the need for capacity building at individual, institutional and network levels.² Capacity development is also prominently emphasized across thematic areas in ABAS, the Outcome Document of the Fourth International Conference on SIDS.

Due to the human capital limitations that Caribbean countries face, there have been notable implementation gaps relating to sustainable development initiatives in sectors critical to resilience building. Therefore, capacity strengthening at institutional and individual levels is crucial for resilience building in the Caribbean. Of particular importance is the consistency with which Caribbean countries acknowledge in their Voluntary National Review (VNR) reports presented to the High-level Political Forum on Sustainable Development their need for capacity strengthening. Furthermore, countries have also acknowledged

¹ While this represents a global trend, developing countries and the poorest and most vulnerable in society have been the most affected, see The Sustainable Development Goals Report 2023; Special edition. Towards a Rescue Plan for People and Planet at <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>.

² See Independent Group of Scientists appointed by the Secretary-General, Global Sustainable Development Report 2023: Times of crisis, times of change: Science for accelerating transformations to sustainable development, (United Nations, New York, 2023). <https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>.

significant data gaps in their VNRs, an outcome that ECLAC has attributed, in part, to low statistical literacy in the public sector. Therefore, the current DA16 project is designed to respond to the institutional capacity needs of Caribbean member States, including capacity strengthening in data-informed policy formulation and implementation through the provision of training in statistical analysis and cost-benefit analysis.

To this end, and in fulfilment of OP1.2 of the DA16 project, ECLAC is organising capacity-building workshops in Grenada for policy makers and technical officers of the Government of Grenada during 5-14 May 2025.

Rationale

Grenada has identified limited statistical capacities as a major barrier to the implementation of, and reporting on, the SDGs. In its first VNR presented in 2022, the country identified the need to develop a proper Monitoring and Evaluation system to generate, record and analyse data, as well as the need for increased technical expertise in areas such as project identification, development, management, and implementation as critical in advancing the 2030 Agenda.

Notably, the Government has committed to enhancing the statistical literacy of its public sector staff as a means of accelerating the implementation of the SDGs. This has assumed a significantly higher importance with the country's post-disaster experience after the passing of Hurricane Beryl on 1 July 2024. In the conduct of the Post Disaster Needs Assessment, there was a significant gap in the types of data needed to inform recovery and reconstruction, especially relating to official statistics for estimating the value of loss and damage caused by the hurricane. Relatedly, in the post-disaster reconstruction phase, the costs and benefits of reconstruction options as well as investments in resilience must be appropriately considered to ensure that the government and households are making cost-effective decisions now for greater benefits and higher savings in the future.

Although, decision-makers and senior technical officers are not expected to be experts in statistics or economics, gaining some basic understanding of statistical analysis and cost-benefit analysis will improve their decision-making ability, as the knowledge gained on these topics will enable them to “ask the right questions” and competently interpret and understand statistical and economic ratios presented to them in briefs and study reports. Furthermore, technical officers across the public sector are not uniform in their background knowledge of or expertise in statistics and economics. However, statistical and economic literacy, especially in data and cost-benefit analyses is critical in enhancing their functionality. Based on lessons learned in a previous DA12 project in Grenada, there is benefit in peer-learning when technical officers from different backgrounds participate in technical training workshops such as the ones being proposed.

Objectives

The overall objective of the training is to strengthen the skills level of policymakers and technical officers of the Government of Grenada in statistical analysis and cost-benefit analysis which will enhance their ability to design and implement data-informed policies and strategies for accelerating the achievement of the Sustainable Development Goals (SDGs) and building a resilient economy.

Participants

The workshop will target three main groups of participants:

Cabinet and Members of Parliament

The Cabinet as policy makers and Members of Parliament as law makers play essential roles in decision-making and require quality, timely, disaggregated data to inform their decision-making. Therefore, it is essential to highlight their roles in providing an enabling legislative and policy environment for the production, dissemination and use of official statistics for better decision-making in the public sector.

Senior Government Officials

Government officials at the level of Permanent Secretary, Deputy Permanent Secretary, Director, Chief Technical Officer, and Chief Administrative Officer are the most senior career professionals in the public service. They provide strategic direction and oversight for their ministry/department and take decisions that require the use of data and that have budget implications for the public sector. Therefore, having functional understanding of statistics and knowledge of return on investment will enhance their management skills and improve the performance of public projects and initiatives.

Technical Staff of Government Ministries, Departments and Agencies (MDAs)

Technical staff, at various levels, have institutional knowledge and function as custodians of official data. However, not all technical staff that handle data are trained in statistics. Similarly, technical staff are routinely tasked with implementing policies and executing public projects without necessarily having the background training in the economic appraisal of alternative ways of implementing such policies and projects. Therefore, for greater efficiency and optimal decision-making in the public sector, training in statistical analysis and cost-benefit analysis will enhance the skills of public sector workers in designing and implementing data-informed policies and strategies.

Format

The workshops will be delivered using a variety of methods.

A dedicated **masterclass** will be held with Cabinet and members of both houses of the Parliament. The masterclass will include a plenary presentation highlighting the following topics, followed by a Question-and-Answer session and an open discussion:

- Structure of the National Statistical System
- The United Nations Fundamental Principles of Official Statistics
- The role of the legislature in the establishment and functioning of a National Statistical System
- The value of quality, disaggregated data and statistics in effective decision-making
- Non-traditional data sources and official statistics
- Gender statistics and time-use

A **seminar** will be held with Senior Government Officials to provide an appreciation of the role and contribution of each Ministry, Department and Agency of the Government of Grenada in the effective functioning of the National Statistical System. The seminar, which will feature presentations and interactive discussions based on lessons learned from ECLAC's activities in the region and the World Bank-sponsored project on **Data for Decision-Making** being implemented by the OECS, is designed to sensitize senior management to how data have been used locally to improve decision-making and highlight greater opportunities for using data to improve decision-making and sustainable development, including SDG implementation.

The **formal training in statistical analysis and cost-benefit analysis** will be delivered to nominated Technical and Administrative Officers of various MDAs. This training sessions will involve class-room style delivery of technical materials, with each training lasting three days. Day 1 of the statistical analysis training will involve training in basic statistics to those with little to no academic background in statistics. The level of statistical preparation of training participants will be determined through a pre-training survey that ECLAC will conduct. Days 2 and 3 of the statistical training will then be devoted to delivering modules focused on the application of statistical methods. The following topics will be covered during the training:

Topics to be covered during the sessions include:

- Introduction to Statistics and Statistical Terminologies
- Data Sources
- Data Presentation
- Data Disaggregation
- Survey Design
- Trend Analysis
- Correlation and Regression Analysis
- Inferential Statistics

The training in cost-benefit analysis will also be delivered over a 3-day period, however, all participants will participate in the three days. The topics that will be covered in the training are:

- Fundamentals of Cost-Benefit Analysis
- Methods and Techniques in Cost-Benefit Analysis
- Applying Cost-Benefit Analysis in Caribbean SIDS
- Using Excel to conduct Cost-Benefit Analysis

The workshops will also embed a formal launch of the DA16 project in Grenada with high-level participation from the Government, development partners resident in Grenada and the UN system.

Expected outputs

The policymakers and government officials in Grenada have improved knowledge of, and better appreciation for, the value of quality, disaggregated data and statistics that are produced and disseminated in a timely manner for policy purposes, including for programming, financing, and monitoring and reporting of the SDGs and ABAS. Additionally, policymakers and government officials in Grenada have a functioning knowledge and able to apply return of investment criteria in appraising policy and project options in the public service. With the knowledge gained, a strengthened environment for best practices in data-informed decision-making is Grenada.

Venue, date and language of instruction

The workshops will take place in Saint George's, Grenada from 5 May to 14 May 2025, and will be conducted in English.

Required ICT Facility for Training

Training participants are required to have a laptop with Microsoft Excel or any other spreadsheet application such as Google Sheets installed.

AGENDA

Workshop in Statistical Analysis

5 May 2025: Training in Introductory Statistics	
Morning session	Module 1: Introduction to Statistics and Statistical Terminologies
Afternoon session	Module 2: Data Sources Module 3: Data Presentation
6 May 2025: Official Launch of DA16 project and Masterclass/Training in Introductory Statistics	
Morning session	<ul style="list-style-type: none"> Official Launch of DA16 project in Grenada with High-level Government Officials Module 4: Descriptive Statistics
Afternoon session	<ul style="list-style-type: none"> Masterclass in Data and Statistics for Decision Making
7 May 2025: Training in Statistical Analysis	
Morning session	Module 5: Data Disaggregation Module 6: Data Imputation
Afternoon session	Module 7: Survey Design
8 May 2025: Training in Statistical Analysis	
Morning session	Module 8: Trend Analysis Module 9: Regression Analysis
Afternoon session	Module 10: Inferential Statistics
9 May 2025: Seminar in Data and Statistics for Decision-Making	
Morning session	<ul style="list-style-type: none"> The National Statistical System in Grenada Interactive session on data literacy Open Discussion on Importance of data in ensuring that no one is left behind

Workshop in Cost-Benefit Analysis

12 May 2025: Training in Cost-Benefit Analysis	
Morning session	Module 1: Introduction to Cost-Benefit Analysis Module 2: Fundamental of Cost-Benefit Analysis
Afternoon session	Module 3: Methods and Techniques in Cost-Benefit Analysis
13 May 2025: Training in Cost-Benefit Analysis	
Morning session	Module 3: Methods and Techniques in Cost-Benefit Analysis
Afternoon session	Module 4: Applying Cost-Benefit Analysis in Caribbean SIDS
14 May 2025: Training in Cost-Benefit Analysis	
Morning session	Module 4: Applying Cost-Benefit Analysis in Caribbean SIDS
Afternoon session	Module 5: Using Excel to conduct Cost-Benefit Analysis

APPENDIX: OUTLINES OF TRAINING COURSES

Course Outline of Statistical Analysis

- **Module 1: Introduction to Statistics and Statistical terminologies**
 - Unit 1: Introduction to Statistics
 - Unit 2: Variables
 - Unit 3: Concept of probability and probability distributions
- **Module 2: Data Sources**
 - Unit 1: Importance and Sources of Data Collection
 - Unit 2: Types of Data and Variables in Data Collection
 - Unit 3: Methods of Data Collection
 - Unit 4: Data Quality and Minimizing Errors
 - Unit 5: Ethical and Legal Considerations in Data Collection
- **Module 3: Data Presentation**
 - Unit 1: Principle of Data Presentation
 - Unit 2: Numerical and Tabular presentation of Data
 - Unit 3: Graphical Presentation of Data
- **Module 4: Descriptive Statistics (grouped and ungrouped data)**
 - Unit 1: Introduction to Descriptive Statistics
 - Unit 2: Measures of Central Tendency (grouped and ungrouped data)
 - Unit 3: Measures of Dispersion (grouped and ungrouped data)
 - Unit 4: Data Distribution
- **Module 5: Data Disaggregation**
 - Unit 1: What is Data Disaggregation and Why is It Important?
 - Unit 2: Application Areas of Data Disaggregation
 - Unit 3: Identifying Relevant Subgroups for Data Disaggregation
- **Module 6: Data Imputation**
 - Unit 1: Introduction to Missing Data
 - Unit 2: Types of Missing Data
 - Unit 3: Introduction to Data Imputation
 - Unit 4: Simple Imputation Methods
- **Module 7: Survey Design**
 - Unit 1: Introduction, Importance and designing of Surveys
 - Unit 2: Defining Survey Objectives and Research Questions
 - Unit 3: Survey Questions and Common Pitfalls

Unit 4: Response Formats and Scaling Techniques

Unit 5: Sampling Techniques for Surveys

Unit 6: Analyzing and Interpreting Survey Data

- **Module 8: Trend Analysis**

Unit 1: Introduction to Trend Analysis

Unit 2: Types of Trends

Unit 3: Time Series method for Trend Analysis

Unit 4: Basic Statistical Techniques for Trend Analysis

- **Module 9: Correlation and Regression Analysis**

Unit 1: Correlation Analysis

Unit 2: Regression Analysis

- **Module 10: Inferential Statistics**

Unit 1: Point and Interval Estimation

Unit 2: Hypothesis Testing

Unit 3: t-tests and z-tests for Numerical Data

Unit 4: Chi-Square, Fisher Exact tests and Odds ratio for Categorical Data

Unit 5: Analysis of Variance (ANOVA)

Course Outline of Cost-Benefit Analysis

Module 1: Introduction

- 1.1 Purpose of the Manual
- 1.2 Target Audience (Public Sector Workers & Non-Economists)
- 1.3 Overview of CBA in Policy Decision-Making
- 1.4 Importance of CBA for Caribbean Small Island Developing States (SIDS)

Module 2: Fundamentals of Cost-Benefit Analysis

- 2.1 Definition and Purpose
- 2.2 Key Concepts and Principles
- 2.3 Steps in Conducting CBA
 - Defining the Decision Problem and Objectives
 - Identifying the Set of Policy Options (including for example, 'Do-Nothing or the Business-As-Usual' vs. Competing/Alternative Policy Options)
 - Specifying types of Costs & Benefits and Boundaries of the Analysis
 - Identification of Impacts for Policy Alternatives
 - Quantification of Benefits & Costs over the Project's Life Cycle
 - Discounting Future Benefits & Costs and Performing Sensitivity Analyses
 - Presenting Findings and Making Recommendations
- 2.4 Exercises and Quizzes

Module 3: Methods and Techniques in Cost-Benefit Analysis

- 3.1 Monetizing Costs & Benefits: Issues and Perspectives
- 3.2 Approaches to Valuation (e.g. Market Prices, Shadow Pricing, Willingness to Pay)
- 3.3 Discount Rate Selection and Sensitivity Analysis
- 3.4 Dealing with Uncertainty, Risk and Data Quality
- 3.5 Exercises and Quizzes

Module 4: Applying Cost-Benefit Analysis in Caribbean SIDS

- 4.1 Case Study Examples include:
 - Energy, Environment & Biodiversity (Ecosystem Valuation, Climate Resilience Projects)
 - Tourism (Sustainable Tourism Development)
 - Agriculture (Agricultural Investment and Productivity)
 - Health (Public Health Interventions)
 - Mining (Natural Resource Management)
- 4.2 Country-specific Examples from Antigua & Barbuda, Belize, Grenada, Saint Kitts & Nevis, Saint Lucia, and Suriname

Module 5: Using Excel to Conduct Cost-Benefit Analysis

- 5.1 Set Up the Analysis
- 5.2 Collect and Validate Data
- 5.3 Develop and Build a CBA framework
- 5.4 Conduct Sensitivity Analyses
- 5.5 Interpret Results and Make Policy Recommendations