

**TWENTY-THIRD MEETING OF THE  
REGIONAL CENSUS COORDINATING  
COMMITTEE**

**RCCC/2013/23/4**

**Frigate Bay, St. Kitts and Nevis**

**31 October 2013**

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**CONCEPT NOTE FOR REGIONAL CAPACITY BUILDING  
IN DEMOGRAPHIC ANALYSIS**

**Introduction**

Due to their size, Caribbean statistical offices often find it difficult to build and maintain a critical mass of expertise in many areas including demography and population statistics. Census taking has been well established for many years, although Caribbean statistical offices have limited capacity for analysing and publishing census results and other population statistics derived from census data such as indirect estimates of infant and maternal mortality, inter-censal population estimates and population projections.

To try and address this deficit and to increase the number of people in the subregion with expertise in demography, subregional Workshops on Demographic Analysis were carried out annually under the aegis of CARICOM between 2006 and 2009. Before that, a similar workshop had been organised by the Latin American and Caribbean Demographic Centre – Population Division of ECLAC (CELADE) in 1983.

With nearly all countries having carried out a census as part of the 2010 round, and being at varying stages in the process of compiling, publishing, and disseminating census results, now is an ideal moment to organise further training in demographic analysis to fully exploit the recent census's. Indeed, at the twenty-second Regional Census Coordinating Committee held in St Georges, Grenada in November 2012, Directors of Statistics called for ECLAC and UNFPA to explore the possibility of conducting further training in demographic analysis.

**A brief history of regional demographic analysis training in the Caribbean**

The 2006-2009 workshops were designed to strengthen the capacity of trainees in “collecting, collating, analyzing, interpreting and disseminating demographic statistics”. Each workshop covered a broad range of demographic analysis techniques and was intended to provide a complete training in the subject, insofar as this was possible in the time available. They were typically delivered to around twenty participants who were expected to be present throughout the duration of the workshop.

The 2006 workshop lasted six weeks and was carried out in collaboration with ECLAC and the University of the West Indies (UWI) with funding provided by the Canadian International Development Agency (CIDA). The 2007 - 2009 workshops were seven weeks in duration and organised by CARICOM and UWI with funding provided by the Caribbean Development Bank (CDB). Courses have taken place at the Sir Arthur Lewis Institute of Social and Economic Studies

(SALISES), UWI, St. Augustine, Trinidad and Tobago. In 2009 there was also a 2 week course on 'Principles of Demography' aimed at more senior staff in national statistical offices.

The most recent courses had a modular structure covering the following topics: sources of demographic data, demographic theories, assessment of the quality of data, fertility measures, mortality measures, nuptiality measures, internal and international migration measures, population estimates and projections, stable populations and model life tables, and indirect techniques of estimation. Typically these subjects were covered sequentially with between 2 and 5 days allocated to each topic. Participants were assessed based on ten assignments, each corresponding roughly to an individual topic, and two examinations, one at the half-way point and one at the end.

The lecturers and the tutor were from the University of the West Indies and each module was either delivered by a single lecturer or delivered jointly by two lecturers. Delivering the modules sequentially made it possible to draw on a wider range of lecturers with expertise in different aspects of demographic analysis since those lecturers not resident in Trinidad and Tobago were able to visit for a few days to deliver individual modules.

### **Demographic analysis training to fully exploit the 2010 Round of census's: some issues for consideration**

#### Duration of workshops

At the Regional Census Coordinating Committee meeting last year, it was suggested that consideration should be given to offering a four month course along similar lines to that run by CELADE in Santiago. While a longer course would clearly offer more in-depth training, it is proposed that, bearing in mind factors such as the ability of small statistical offices in the Caribbean to release staff for that length of time, and the additional cost involved, it is proposed that future course(s) should not exceed 8 weeks.

#### Workshop content

Feedback received from previous workshops suggested that it was a challenge to cover such a wide range of topics, in-depth, in six or seven weeks (see appendix 1 for more detailed information on the topics covered in the most recent workshop in 2009). Directors of Statistics have also emphasised the need to focus more tightly on the topics of most practical relevance to those working in statistical offices. It is therefore proposed that future courses should focus more on topics such as: fertility, mortality, migration, deriving mid-year estimates and projections, and evaluating data quality. Some of the more advanced topics such as indirect techniques of estimation and stationary populations could be excluded.

#### Mode of delivery

Some consideration has been given to whether parts of the course could be delivered online reducing the amount of time that participants would need to spend physically present at the course location. While this would reduce costs it would also reduce contact time with lecturers and fellow course participants, both fundamental parts of the learning process. It would also deny participants the opportunity to study without being expected to simultaneously fulfil their day-to-day responsibilities which could seriously impact upon learning outcomes.

#### Maximising impact

With high rates of staff turnover in statistical offices, the effectiveness of previous training courses were reduced because staff that had been trained did not necessarily return and put into practice that which they had learned. While to a certain extent this is inevitable, it points to the need for statistical offices to carefully select participants for the workshop, and plan for the learning to be put into

practice. It is also important to recognise that certain minimum requirements in respect of academic and professional experience are necessary in order for participants to participate fully and get the most out of the training. With this in mind, particular attention should be paid to both the selection and screening of participants for future workshops.

### Looking forward

As has been seen, provision of regional training in the Caribbean has been rather intermittent over the years, with annual workshops between 2006 and 2009, but nothing since then. While workshops maybe not be necessary annually on an ongoing basis, nearly five years have elapsed since the most recent workshop which is probably a little too long of an interval. Aiming to deliver at least one workshop every three years is perhaps a useful goal.

## **An initial proposal for a Demographic Analysis Workshop in 2014**

### General Objective

The primary goal of the workshop would be to improve current regional capacity in demographic analysis by providing in-depth training in demographic methods and techniques. The training would contribute to the development of a cadre of trained experts who are better able to apply the basic techniques for analyzing demographic data.

### Target audience

The target group for the training would therefore be statisticians and experts from national statistical offices in the region wishing to develop their knowledge of demographic analysis methods.

### Cooperating agencies and organizations

It is proposed that the course would be organized and coordinated by regional institutions and agencies which would most likely include CARICOM, Economic Commission for Latin America and the Caribbean (ECLAC), United Nations Population Fund (UNFPA) and the University of the West Indies (UWI). UWI would maintain substantive responsibility for the development of the course curriculum and all content-related aspects of the course including the identification of three to five facilitators. Notwithstanding this, regional agencies would be expected to contribute to the review and approval of all aspects of the workshop.

### Content

The content of the course would be based largely on the core components of the curriculum used for previous waves of the regional workshop held between 2006 and 2009. However as mentioned above, to enable a tighter focus on the topics of most practical relevance to statistical offices, some course content could be removed. This would imply allocating more time to core topics such as: fertility, mortality, migration, deriving mid-year estimates and population projections, and evaluating the quality of data. More advanced topics such as indirect techniques of estimation and stationary populations could be excluded. Comments are invited on the content of the proposed workshop: which of the topics listed in annex 1 are high priorities and which are lower priorities that could potentially be dropped from future workshops?

### Proposed Venue and Dates

As the main facilitators for the course are affiliated with UWI, the course would be offered either in Jamaica (Mona Campus) or Trinidad and Tobago (St. Augustine Campus). It is proposed that a workshop would take place for a maximum of 8 weeks during the period June-August 2014.

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## APPENDIX 1

Modules and topics covered in the most recent CARICOM Regional Workshop on Demographic Analysis held over seven weeks in 2009:

### **TOPICS COVERED**

- (1) Sources of Demographic Data
- (2) Demographic Theories
- (3) Assessing the Quality of Demographic Data
- (4) Measures of Fertility
- (5) Measures of Mortality
- (6) Measures of Nuptiality
- (7) Measures of Migration (Internal and International)
- (8) Population Estimates and Projections
- (9) Stable Populations and Model Life Tables
- (10) Indirect Techniques of Estimation of Fertility and Mortality

### **DETAILS**

#### **(1a) Sources of Demographic Data**

- a) Population Censuses
- b) Vital Registration Systems
- c) Sample Surveys
- d) Others, for example, agencies/ministries of government.

A review of current instruments for (a) to (d) to indicate scope, merits and demerits.

#### **(1b) Basic Measures**

- a) Ratios
- b) Proportions (Age structure of population, sex composition)
- c) Population Pyramid
- d) Standardization of rates and ratios (direct and indirect standardization, decomposition of rates)

#### **(2) Demographic Theories**

- a) Malthusian Perspectives
- b) Theory of Demographic Transition
- c) Proximate Determinants of Fertility
- d) Other Selected Fertility Theories
- e) Epidemiological Transition
- f) Proximate Determinants of Mortality
- g) Migration Theories

#### **(3) Assessing the Quality of Census Data**

- a) Errors in Demographic Data
- b) Indices (Simple Indexes of Age Preference, Whipple Index, Myers' Blended Index, Age Ratio Analysis, UN Joint Score or Age-Sex Accuracy Index)
- c) Interpolation and Graduation of Age Data

#### **(4) Measures of Fertility and Reproductivity**

- a) **Period Measures** (child-woman ratio, crude birth rate, general fertility rate, age-specific birth rate, Coale's indices)

- b) **Synthetic Cohort Measures** (total fertility rate, Gross Reproduction rate, net reproduction rate)
- c) **Real Cohort Measures** (parity progression ratio, completed fertility rate)

(5) **Measures of Mortality** (crude death rate, age-specific death rate, causes of death, life tables)

(6) **Measures of Nuptiality** (crude marriage rate, general marriage rate, age-specific marriage rate, total marriage rate, mean/median age at marriage, singulate men age at marriage; crude divorce rate, general divorce rate, age-specific divorce rate, duration-specific divorce rate, median age at divorce).

(7) **Measures of Migration (Internal and International)**

- a) **Internal Migration** (in-migration rate, out-migration rate, net migration rate, gross migration rate, age-specific migration rate)
- b) **International Migration** (crude immigration rate, crude emigration rate, crude net migration, crude gross migration rate)

(8) **Population Estimates and Projections**

- a) **Population Estimates** (mathematical methods)
- b) **Population Projections** (cohort component methods)

(9) **Stable Populations and Model Life Tables**

- a) **Stable Population** (calculation and analysis)
- b) **Model life tables** (U.N. model life tables, Coale-Demeny model life tables, Brass Relational model life tables)

(10) **Indirect Techniques for Estimation of Fertility and Mortality**

Brass techniques

**SOFTWARE**

- a) U.S. Bureau of the Census, PAS
- b) U.N. Mortpak4