



United Nations Regional Seminar on Census Data
Dissemination and Spatial Analysis
31 May-3 June 2011, Santiago, Chile

Use of Technological Tools in the
Dissemination of Census Data

Application to CARICOM Region
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Context:

- Censuses in the CARICOM Region are now being conducted
 - 2010
 - Bahamas, Barbados, Belize, Saint Lucia
 - 2011
 - Bermuda, Jamaica, Rest of the OECS, Trinidad & Tobago, Suriname
 - 2012
 - Guyana
- Beginning of the Census Dissemination Efforts – Mostly at the Stage of Planning for Dissemination



Outline

- Technology use to promote the timely release of High Quality Census Data
- Tools used to Disseminate Census Data
 - Reach the Largest possible audience
 - Enhance flexibility in the Use of Data
- Use of GIS technologies in Census Data Dissemination
- Micro Data Dissemination



Timely Release of High Quality Census Data

- Use of image processing software on scanned questionnaires
 - Intelligent Character Recognition (ICR) improves speed of capture
 - Indexing of the images of census questionnaires improves ability to clean data
 - Computer Assisted Coding removes the need for manual coding and speeds up the data capture process



Timely Release of High Quality Census Data

- In CARICOM Region more censuses are being done in 2011
 - Census is in Process
- Two additional methods of capture were either tried or experimented with
 - Capture via the use of Handheld computers
 - Jamaica experiment, Grenada small scale implementation



Timely Release of High Quality Census Data

- Remove need for printing and transportation of hardcopy survey forms
- Remove need for transcribing responses back in office.
- Automatic branching of questions with consistency checks reduce back-end processing efforts with electronically coded data captured directly in the field



Timely Release of High Quality Census Data

- Limited Online Data Capture
 - Trinidad and Tobago, since we use fairly long and detailed questionnaires requiring special training, this may require further development.



Tools used to Disseminate Census Data

- Traditional Tools
 - Hard Copy Publications
 - CDs and DVDs
 - Static Electronic Media (Static Web Pages, PDF, Excel)



Tools used to Disseminate Census Data

- Emerging Tools
 - Online Queryable Databases
 - Standards Based Tools which facilitate Dissemination (SDMX, DDI etc..)
 - Dynamic Geographic Products
 - Dissemination of Census Micro Datasets
 - Social Media Networking Tools (Twitter, FB...)
 - Mobile Technologies (SMS, Mobile Apps.....)



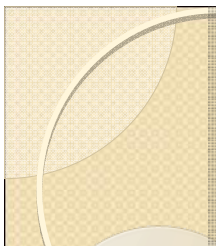
Online Queryable Databases

- Initial deployment of these tools in the 2001 Census and this will again be a means for dissemination of 2010/11 Census
 - CARICOM Region, Belize, Saint Lucia and Trinidad and Tobago, St Vincent and the Grenadines used Redatam+SP Tools, more specifically the Webserver Tools to create this facility with the assistance of CEPAL



Online Queryable Databases

- REDATAM+SP is an interactive system that allows for the on-line processing of any census and other databases sources over the Internet.
 - Data Security of Census Micro-DataSet
 - High Level Language for building customizable interactive webpages
 - Permits in-depth population and demographic analysis at Small Area Level
 - Output, PDF, HTML, EXCEL, Thematic Maps
 - Google Analytics – Information on use from within and outside the country of Redatam database



Online Queryable Databases



SAINT LUCIA

SAINT LUCIA 2001 POPULATION AND HOUSING CENSUS

Census Tabulation Plan (CARICOM Proposal RCCC Meeting November 2002, St. George's, Grenada)

Demography

Age by Sex Distribution

Socio Economic

Demographic General

Education

Formal Training

Economic Activity

Crime

Head of Household

Head Characteristics

Number & Size of Household

Population Characteristics

Migration

Local Migration

Local Migration By District

Education

Children Education

Children Education by Characteristics of Head

Educational Attainment of 15+

Housing

Dwelling Characteristics

Structure Characteristics

Housing Facilities

Housing Equipment

Housing & Population

Housing & Household Head

Health

Long Standing Disability

Disability Ratio

Chronic Illness

Chronic Illness Ratio

Age by Sex Distribution

Define Indicator Parameters

Indicator Title

Age by Sex Distribution

Select Age or Age Group

(None)

Percent Options

Total Counts

Geographic Selection

Entire Country

Edit Selection

User Defined Filter

(none) No filter

Build Filter

Output Type

Table only

Process Table

WebMaster statsdept@candw.lc



Standards Based Tools

- Standards Based Tools which facilitate Dissemination (SDMX, DDI, etc..)
- DevInfo/Census Info is especially important for Small Island Developing States since it gives them access to technologies through the use of simple implementation tools, allowing for
 - Organizing, storing and presenting data in a uniform way to facilitate data sharing at the country level across government departments, UN agencies and development partners.
- Dev Info, Census Info work to maintain and store data in a form which allows for easy exchange and dissemination through the use of standards, such as, SDMX (Statistical Data and Meta Data Exchange) and DDI (Data Documentation Initiative)

At the 39th Session of the UN Statistical Commission, attended by delegations from about 130 countries and 40 international agencies, SDMX was recognized as the preferred standard for the exchange and sharing of data and metadata. The Commission also encouraged implementation by national and international statistical organizations.



Standards Based Tools

- CARICOM Region:
 - Training workshop in the use of DEVINFO and CENSUS INFO to assist in the dissemination of Census Data, a number of the CARICOM countries have implementations of Census Info for 2001 done on CD/DVD
 - For 2010/11 Censuses challenge will be to enhance this implementation with online versions of Census Info
 - From CD/DVD Publication to use of Census Info Database running on an SQL Server Backend to allow for user-driven output of Census Data, Indicators and Meta-data, CTTinfo, JAMStats, HelenInfo....

Standards Based Tools - IHSN Microdata Management Toolkit

▼ A specialized DDI/Dublin Core metadata editor

Metadata Editor v1.0 Beta 5

Dates of Collection

Start	End	Cycle
2000 06 01	2000 07 30	

Variables

Number	Name	Label	Width	StartCol	EndCol	Record	Decimal
v66	ht10c	Have Car/ Jeep / Van	1	*	*	*	0
v67	ht10d	Have Motorized bicycle / boat	1	*	*	*	0
v68	ht10e	Have Tractor	1	*	*	*	0
v69	ht0	Number of rooms in dwelling	2	*	*	*	0
v70	ht0	Main material of the floor	1	*	*	*	0
v71	ht0a	Main material of the roof	1	*	*	*	0
v72	ht0b	Main material of the walls	1	*	*	*	0
v73	st0	Type of soil for cooking	1	*	*	*	0
v74	st0a	Do you use the same for table soil	1	*	*	*	0
v75	st0b	Type of soil for cooking	1	*	*	*	0
v76	st0c	Type of soil for cooking	2	*	*	*	0
v77	st0d	Type of soil for cooking	1	*	*	*	0

Documentation

Frequencies:

Value	Label	N	%
1	lodged with color	690	23.0%
2	Not lodged (no color)	1816	72.1%
3	No soil in home	29	1.2%
4	Soil not tested	74	2.9%
7	Missing	0	0%

End Decade Assessment
Popstan Multiple Indicators Cluster Survey 2000

Questionnaires

Overview

A survey questionnaire has been developed to help each country monitor progress towards the WDC goals. Like the mid-decade MICS questionnaire, the master questionnaire provides the basic set of questions needed to obtain population-based estimates of the goal indicators. Several practice modules are designed to monitor other (non-health) indicators of child rights.

Working with the World Health Organization (WHO), UNICEF and the WEASURE project, additional modules have been designed for...

Household

Household: Data collected at the household level (characteristics of the head of household)

Data Dictionary

Var. Name	Label	Type
ht0	Number of rooms	Continuous
ht0a	Main material of the floor	Continuous
ht0b	Main material of the walls	Continuous
ht0c	Main material of the roof	Continuous
st0	Type of soil for cooking	Continuous
st0a	Do you use the same for table soil	Continuous
st0b	Type of soil for cooking	Continuous
st0c	Type of soil for cooking	Continuous
st0d	Type of soil for cooking	Continuous

Multiple Indicators Cluster Survey 3 (MICS 3)

Overview

Type: Multiple Indicator Cluster Survey - Round 3 (MICS-3)

Abstract: The UNICEF initiative on a process of helping countries assess progress for children at end-of-decade in relation to the recent Summit for Children gave New York, 1990.

The list of goal indicators being used to assess progress at end-of-decade was developed through extensive consultation. Data within UNICEF, particularly with Programme Division and the Regional Office, and with WHO, UNESCO and the ILO. The goal indicator list can be found in Annex 1 of the Executive Directive D/1996/2 dated 23 April 1996.

There are numerous sources of data for measuring progress at country level, but many either do not function well enough to give current and quality data, or do not provide the data required for assessing progress. Household surveys are capable of filling many of these data gaps.

The mid-decade assessment led to 100 countries conducting data using the Multiple Indicator Cluster Survey (MICS). MICS-3 questionnaire developers to obtain accurate mid-decade data, or its MICS questionnaire modules carries by other surveys. By 1996, 40 developing countries had carried out mid-decade MICS, and another 40 had incorporated some of the MICS modules into their surveys. The mid-decade questionnaire and manual, the countries where a questionnaire MICS was implemented, and a selection of country reports are attached.

The end-of-decade MICS questionnaire and manual have been developed specifically to obtain the data for 63 of the 71 end-of-decade indicators. These data heavily on experiences with the mid-decade MICS and the subsequent MICS installation.

The development of the end-of-decade MICS questionnaire and manual has drawn on an even wider spread of experience than the mid-decade MICS. They involve: UNICEF, ILO, UNESCO, the World Bank, Programme Division, CDC Atlanta, MEASURE (ICAD), Johns Hopkins University, Columbia University, the London School of Hygiene and Tropical Medicine and others. To assess the current version of the questionnaire and manual please visit the site.

Kind of Data: Sample survey data

Unit of Analysis: Household, individual (including adult women and children aged 5 and below)

Scope & Coverage

Access

- To include indicator Cluster Survey had as its primary objective.
- To assess the situation of women and children in general.
- To evaluate progress towards achieving the goals of the World Summit for Children.
- To strengthen national monitoring of the country.
- To provide a basis for future action.

The report covers the survey instrument.

At country level: HOUSEHOLD CHARACTERISTICS, EDUCATION, CHILD LABOR, SOIL FERTILITY, AND WATER (15-40) AND HEALTH (40-100), MATERNAL AND CHILD HEALTH, POPULATION AND CHILD MORTALITY, RURAL REGISTRATION, VIOLENCE, AND CHILD ABUSE.

Geographical Coverage: The survey was conducted to provide estimates of the indicators at the national level, both in urban and rural areas.

Comments: The survey covered the whole resident population, with the exception of nomads.

with transformation and cataloguing tools ►

Tools to Create Standard Documentation for Dissemination of Census Data ►

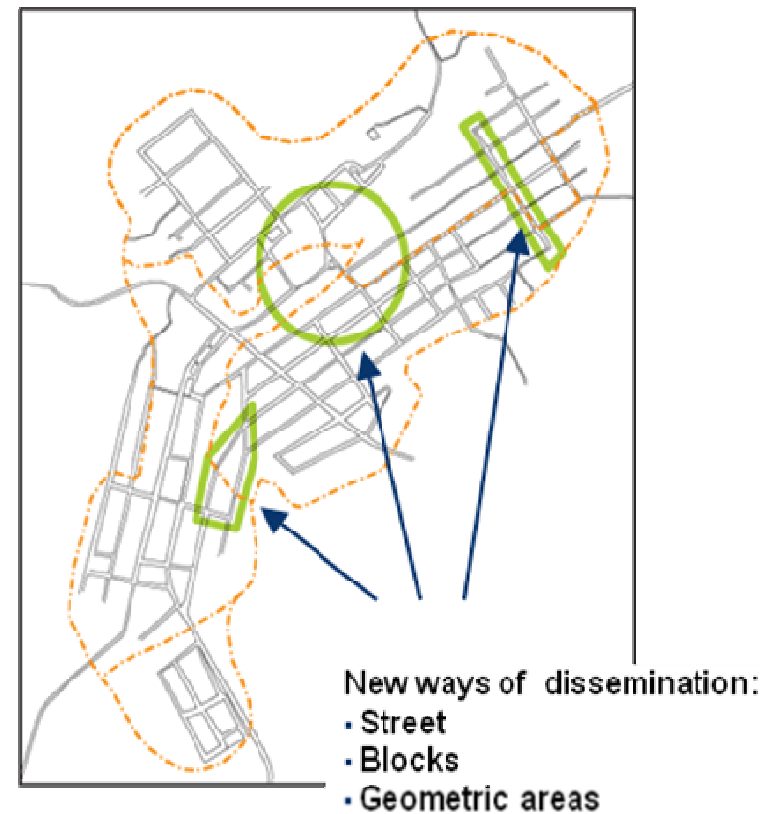
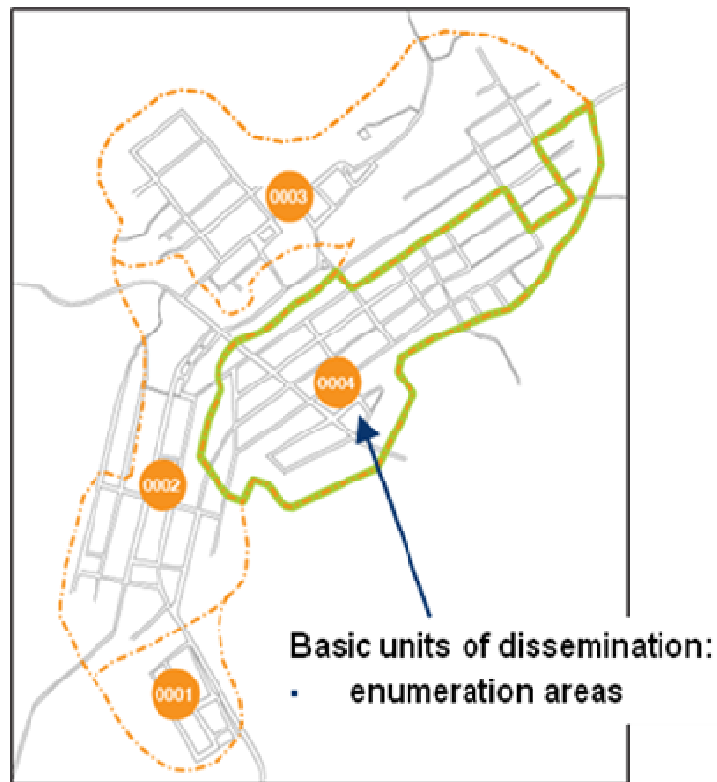


Dynamic Geographic Products

- **Dynamic/Static Geographic Products**
 - Online Database dissemination builds in this aspect to a limited extent
 - CensusInfo for Indicators at the Community Level
 - Redatam with Map Generation based on the submission of specific area selections
- **Dissemination of Census Geographic Data in the CARICOM Region**
 - Some moves towards the collection of GPS points for buildings and by extension households
 - Opportunity to free the census data dissemination from the basic unit of collection, the EA (Enumeration Area)

Dynamic Geographic Products

- **Brazil Example:**





Dissemination of Micro Datasets

- The 35th Standing Committee Caribbean Statisticians
- **Adopts** the following position:
- Access to all statistical data, whether microdata or tabular data, shall be strictly in accordance with the Statistics Acts of CARICOM Member States and Associate Members;
- Encourages Member States and Associate Members to establish mechanisms for disclosure prevention, such as data anonymisation and to provide access to microdata under controlled conditions, such as microdata laboratories; and
- Encourages international organisations to build capacity at the national level and support the establishment of these mechanisms in CARICOM Member States and Associate Members.



Dissemination of Micro Datasets

- In Pursuit of the Objective of disseminating Micro Datasets within the context of the position adopted by the 35th SCCS:
 - Work with ECLAC/World Bank on training Caribbean Statisticians in the development of anonymized census datasets.
 - Work with partner agencies (IPMUS) to make available limited Public Use sample data for download from the Internet given the small size of CARICOM Countries



Social Media Networking Tools, SMS

- SMS is an option especially given its wide reach over the cellular network,
 - requires work to push out results
 - SMS have been used to inform the public of need for census,
 - TELCOS donated this service to the Statistics Office in St Lucia
 - Use of SMS can certainly be extended



Social Media Networking Tools,

SMS

- Potential Tools for the Dissemination of Census 2010/11/12 Data to be Discussed at RCC
 - Facebook Pages are used to promote participation in the Census
 - Twitter is free compared to SMS, requires payment to TELCOS
 - Twitter Accounts to post on a periodic basis facts of interest to the public about the main results of the Census
 - Statistics Office Twitter Handles will have to be built into web pages of the Offices
 - Twitter Handle Sent via Email to all major users of Statistics Office Data
 - Users of Twitter clients will see through twitter facts on the Census and links to the results of the census online as they are updated



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@gregorykorte Watch live at 2 PM EDT... and send our demographers questions during the broadcast @ #Census .
5 minutes ago
- uscensusbureau** U.S. Census Bureau
What state has the youngest population? Watch our live @Ustream video event @ 2PM EDT today to find out: <http://tiny.cc/skt28>
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<http://pewrsr.ch/jmQmVp>
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Mobile Dissemination

- Redatam Census App for Android open platform which we could adapt for use at the regional level.
- CARICOM Level there is the possibility of putting an Android App in Google's Marketplace for higher end professional users in the longer term