TYPES OF DATA SOURCES FOR ENVIRONMENT STATISTICS USED IN SAINT LUCIA

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CSO, SAINT LUCIA

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ENVIRONMENT STATISTICS ARE STATISTICS THAT DESCRIBE THE STATE AND TRENDS OF THE ENVIRONMENT, COVERING THE MEDIA OF THE NATURAL ENVIRONMENT (AIR/CLIMATE, WATER, LAND/SOIL), THE BIOTA WITHIN THE MEDIA, AND HUMAN SETTLEMENTS.

DEFINITION ACCORDING TO OECD

THE IMPORTANCE OF ENVIRONMENT STATISTICS

- To provide evidence base decision-making to monitor progress
- To support public awareness with respect to the environment
- To identify potential threats as early as possible
- To plan and secure funding
- To adhere to international obligations that monitor environmental agreements

TYPES OF SOURCES OF ENVIRONMENT STATISTICS

- **Statistical surveys** – Population census, agricultural census or sample surveys like the Climate Adaptation Financing Survey
- **Administrative records –** These records come from our various government and non-government agencies in the form of publications, online databases and thematic reports
- **Remote sensing and thematic mapping** – Satellite-based remote sensing has been a widely adopted method for land cover mapping and monitoring by our Physical Planning Department. This is also used by the CSO since 2007 to produce poverty, health and crime maps,
- **Monitoring systems -** Using GPRS transmissions, the multi hazard early warning system transmits a signal when thresholds are breached due to water level rises or increasing rainfall to the RDS encoders that are installed at two radio stations. Through a voice interrupt of normal broadcasting, an 10 | P a g e alert is relayed to RDS receivers thereby warning residents and essential services of an impending hazard.

STRENGTHS AND WEAKNESSES OF STATISTICAL SURVEYS

A statistical survey is any structured inquiry designed to obtain aggregated data, which may be qualitative or quantitative

Strengths

- Is scientific with low level of objectivity
- Provide a high level of representation of a large population
- Relatively easy to administer
- Can be administered using various means including online, face to face and telephone

Weaknesses

- Respondents may provide inaccurate information if the questions make them uncomfortable
- Respondent burden from having answered several surveys or a recurring survey several times
- Misinterpretation of questions which leads to inaccurate results

World Bank

FAO
FIAT PANIS

Survey Solutions

Survey Solutions CAPI
for large surveys & censuses
Michael Lokshin

SURVEY SOLUTIONS

Survey Solutions is a free software developed in the Data group of The World Bank to capture any type of data with ease.

STRENGTHS AND WEAKNESSES OF ADMINISTRATIVE RECORDS

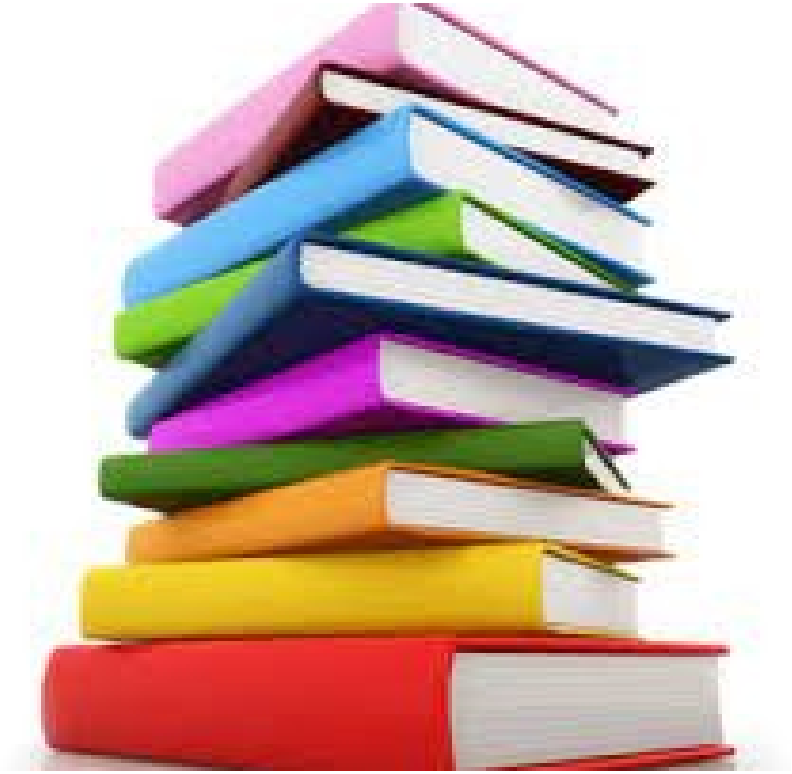
The Administrative Record (AR) is a collection of documents that have been used or relied upon to select an environmental response action. The AR includes a variety of documents including reports, correspondence, and publications.

Strengths

- Make possible analyses that are rarely possible in the absence of survey data
- Is cheaper to obtain administrative data than to collect data directly on the same group
- Potential of linking data from various sources for validation

Weaknesses

- The data was collected for a different purpose and may not fit the required criteria
- Measurement error such as missing values and inaccurate classification can pose a substantial challenge to analysts using administrative data
- Procedures for accessing the data for research purposes can be time consuming and difficult



ADMINISTRATIVE DATA

This is usually found in documents , publications and on websites

STRENGTHS AND WEAKNESSES OF REMOTE SENSING AND THEMATIC MAPPING

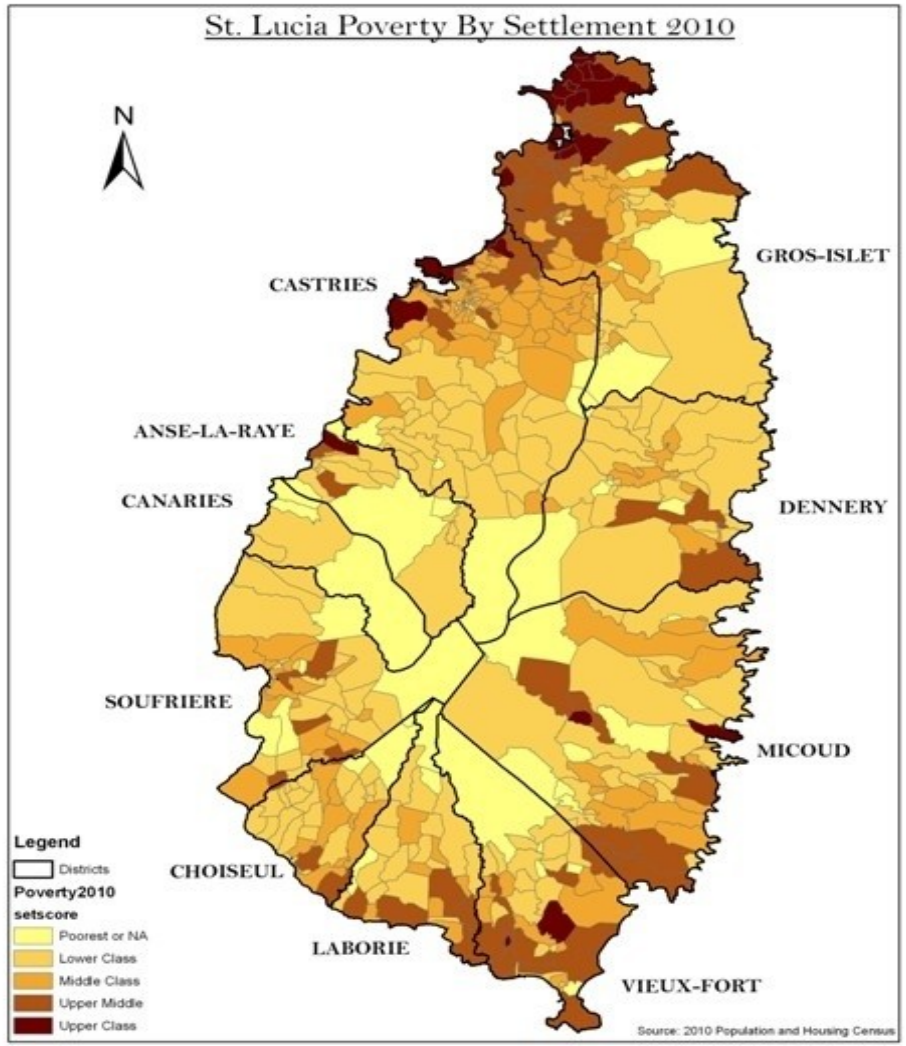
Thematic Maps focus on a specific theme. It pulls together relevant information of the subject (say, health, election, income, etc.) and represents it spatially to understand the relationship between these themes and their locations. Remote sensing is the art and science of making measurements of the earth using sensors on airplanes or satellites.

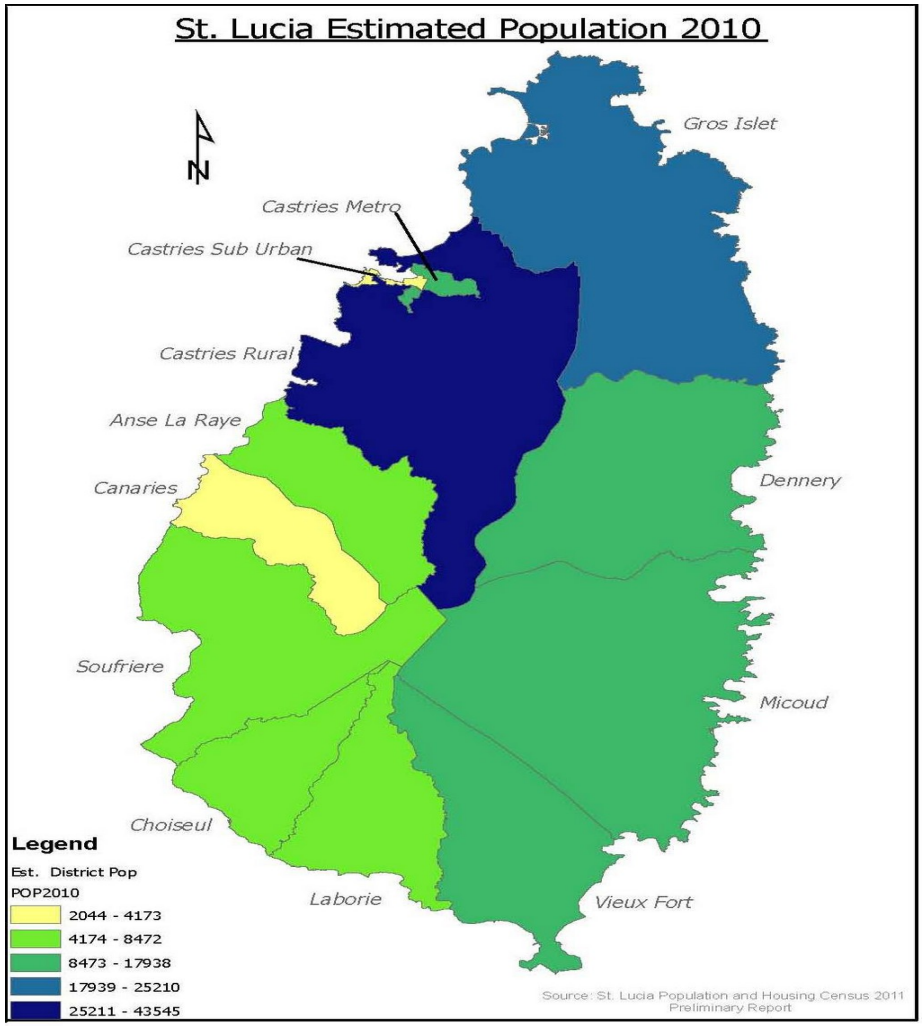
Strengths

- Relatively cheap compared to employing surveyors
- Easy and quick collection of data
- Provide general information about spatial patterns
- Large area coverage

Weaknesses

- Objects can be misclassified or confusing
- Remote sensing requires a special kind of training to analyze the images.
- It can be difficult to distinguish between two distinct shades
- A large amount of data is needed for accuracy


St. Lucia Poverty By Settlement 2010
N
CASTRIES
GROS-ISLET
ANSE-LA-RAYE
CANARIES
DENNERY
SOUFRIERE
MICOUD
CHOISEUL
LABORIE
VIEUX-FORT
Legend
Districts
Poverty2010
setscore
Poorest or NA
Lower Class
Middle Class
Upper Middle
Upper Class
Source: 2010 Population and Housing Census


St. Lucia Estimated Population 2010
N
Gros Islet
Castries Metro
Castries Sub Urban
Castries Rural
Anse La Raye
Canaries
Dennery
Soufriere
Micoud
Choiseul
Laborie
Vieux Fort
Legend
Est. District Pop
POP2010
2044 - 4173
4174 - 8472
8473 - 17938
17939 - 25210
25211 - 43545
Source: St. Lucia Population and Housing Census 2011 Preliminary Report

STRENGTHS AND WEAKNESSES OF MONITORING SYSTEMS

These are multi-hazard early warning systems and are installed with the following instruments; Water level Radar Sensor and Solar Panel, Rain gauge and Solar Panel and data Loggers.

Strengths

- Usually collected using verifiable scientific methods
- Early warning signs of impending disaster
- Allows for strategic decisions like quick evacuation to be taken before disaster strikes

Weaknesses

- Monitoring systems are usually located in highly sensitive areas
- The need for capacity building in disaster risk management.
- Procurement of relevant software.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CHALLENGES IN OBTAINING ENVIRONMENTAL STATISTICS

- Diversity in the type of data used to indicate environmental change requires input from experts which in most cases are not readily available
- Lack of financial and human resources
- Required data does not match available data
- New types of data is requested especially for the SDGs

WAY FORWARD

- New technologies and techniques allow us to capture data more efficiently and effectively. Try to access those technologies for example drones and survey solutions to capture data.
- Society is demanding greater accountability and the demonstration of true value for environmental investments. Therefore, tools and resources like the System of Environmental-Economic Accounting (SEEA) needs to be adopted. The SEEA is a framework that integrates economic and environmental data to provide a more comprehensive and multipurpose view of the interrelationships between the economy and the environment.


Thank you