

Seminar on the Social Vulnerability Index
24-25 June 2004
Port of Spain
Trinidad and Tobago

LIMITED
LC/CAR/L.35
21 April 2005
ORIGINAL: ENGLISH

**REPORT OF THE SEMINAR ON THE RESULTS OF THE
SOCIAL VULNERABILITY INDEX**

This document has been reproduced without formal editing.

Table of Contents

Agenda item 1: Opening of meeting	3
Agenda item 2: Demonstration of the database and discussion.....	5
Agenda item 3: Data issues arising out of the construction of the Caribbean Social Statistical Database (CSSD)	7
Agenda item 4: Background of the Social Vulnerability Index (SVI).....	12
Agenda item 5: Presentation of the results of the pilot testing of the SVI.....	13
Agenda item 6: Working groups	17
Agenda item 7: Plenary.....	17
Agenda item 8: Closure of meeting	18
Annex: List of participants	20

REPORT OF THE SEMINAR ON THE RESULTS OF THE SOCIAL VULNERABILITY INDEX

Introduction

The Economic Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean and secretariat of the Caribbean Development and Cooperation Committee (CDCC) has been involved for the past three years in the execution of a project NET/00/035: Development of the Social Statistical Databases and a methodological approach for a Social Vulnerability Index (SVI) funded by the Government of the Kingdom of the Netherlands. The project had been conceptualized to produce two outputs, one a social statistical database, and the other, the development of a methodological approach for an SVI. The project was in response to the articulated needs of governments in the subregion, specifically, and the wider international body of policy makers, in general, for greater availability and a better quality of social statistical data and indicators to measure the vulnerability of small States.

More directly, the ECLAC/CDCC secretariat received its mandate to pursue work on the development of a methodological approach for the formulation of a SVI through the Global Conference on the Sustainable Development of Small Island Developing States, convened in Bridgetown, Barbados, 26 April – 6 May 1994. Paragraphs 113 and 114 of the Programme of Action states:

“Small Island Developing States (SIDS), in cooperation with national, regional and international organizations and research centres, should continue work on the development of vulnerability indices and other indicators that reflect the status of SIDS and integrate ecological fragility and economic vulnerability. Consideration should be given to how such an index as well as relevant studies undertaken on small island developing States by other international institutions, might be used in addition to other statistical measures as quantitative indicators of fragility.”

“Appropriate expertise should continue to be utilized in the development, compilation and updating of the vulnerability index. Such expertise could include scholars and representatives of international organizations that have at their disposal the data required to compile the vulnerability index. Relevant international organizations are invited to contribute to the development of the index. In addition, it is recommended that the work currently underway in the United Nations system on the elaboration of sustainable development indicators should take into account proposals on the vulnerability index.”;

and once again, at the inter-regional preparatory meeting of the Alliance of Small Island States (AOSIS) for the World Summit on Sustainable Development (WSSD), held in Singapore from 7 – 11 January 2002, representatives called:

“for the early operationalisation of the economic and environmental vulnerability indices for the promotion of the sustainability of SIDS and other vulnerable States, and the use of these indices at the levels of intergovernmental and international agencies, as well as international support for the development of a social vulnerability index to complement this work.”

A two-day seminar was convened on 24 – 25 June 2004, at the conference room of the ECLAC/CDCC secretariat in Port-of-Spain, Trinidad and Tobago, to bring this phase of the project to a close.

The objectives of the seminar were twofold, one, to apprise participants of the results of the pilot test of the SVI undertaken among selected Caribbean SIDS and to share the methodology used in the process; and, two, to launch the Caribbean Social Statistical Databases (CSSD).

It was the ECLAC/CDCC secretariat’s intention that the database would act as the overarching mechanism to facilitate the more efficient use of social statistics in the subregion, thus strengthening the capacity for monitoring the Millennium Development Goals (MDGs). In that regard, the seminar was additionally designed to address issues of harmonization and definitional issues related to social statistics and the indicators to be derived.

The seminar had some 41 participants, including directors of statistical offices and senior social planners from the following CDCC member and associate member countries: Bahamas, Barbados, Belize, Grenada, Haiti, Jamaica, Montserrat, Netherlands Antilles, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago. The following organizations participated: the Caribbean Epidemiology Centre/Pan American Health Organization (CAREC/PAHO), the International Labour Organisation (ILO), the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Children’s Fund (UNICEF), the Caribbean Community (CARICOM) Secretariat, the Caribbean Development Bank (CDB), the Department for International Development (DfID) and the University of the West Indies (UWI). Also present at the meeting were the consultants for the project. The list of participants of the meeting is attached to this report.

The meeting adopted the agenda as presented:

1. Welcome
2. Demonstration of the database and discussion

3. Data issues arising out of the construction of the Caribbean Social Statistics Database
4. Background to the Social Vulnerability Index
5. Presentation of the results of the pilot testing of the SVI
6. Working groups
7. Plenary
8. Closure of the meeting

**Agenda item 1:
Welcome**

Mr. Esteban Perez, Officer-in-Charge, ECLAC Subregional Headquarters for the Caribbean, welcomed participants to the meeting, pointing to the importance of the gathering. He identified the two outputs of the project - the CSSD and the SVI - as fundamental tools for social research, social analysis and policy-making, in the subregion.

He advised that the SVI, which was a completely new and original concept and measurement tool, should expand and enrich the concept of vulnerability generally.

He informed participants that apart from the collection and harmonization of the data sets in the social statistical database, the ECLAC/CDCC project also contained a training component. He was pleased to inform the participants that 45 persons, including social planners, social policy analysts and statisticians with responsibility for socio-demographic data from 20 member and associate member countries were trained in 2002. The objective of the training was the enhancement of the skills of senior technocrats in the field of social development in evidence-based social policy formulation and the workings of the CSSD.

His Excellency, Maarten van den Gaag, Ambassador, Embassy of the Kingdom of the Netherlands, thanked the ECLAC/CDCC secretariat for extending the invitation for him to attend the seminar and indicated that his Government attached great importance to the project and had demonstrated such through their financial support to the initiative. He suggested that in light of the fact that globalization had created a certain dynamism in the social conditions of Caribbean countries, it required a description in such a way that pertinent and relevant information be made available to stakeholders for the decision-making processes. In response to this growing demand for information, the Ambassador expressed satisfaction that his government had been able to provide the necessary means to assist in the establishment of the CSSD that would be launched.

Mr. Neil Pierre, Deputy Resident Representative, UNDP Port-of-Spain Office, expressed his pleasure and that of Caribbean Subregional Resource Facility (SURF), to be associated with the seminar. Mr. Pierre indicated that progress towards the MDGs would not be possible without adequate tools for ongoing monitoring and evaluation. He recognized ECLAC's initiative to establish the CSSD and the construction of an SVI to mark a most important milestone, in this regard. He reminded participants of the role and necessity for stronger partnerships among regional institutions, United Nations agencies and other partners in supporting the development objectives of the governments in the subregion and urged them to make their views known especially in light of the role of the United Nations system of providing technical support in achieving the MDGs and overall development goals.

Dr. Juliet Melville, Chief Research Economist of the CDB recognized the significance of the work that ECLAC/CDCC had been spearheading to develop a fully searchable social statistics database and the attempt to mainstream evidence-based social policy formulation with accompanying capacity-building training for senior policy makers and statisticians. She said that by strengthening the social statistics databases and championing evidence-based social policy formulation, the work of the ECLAC/CDCC secretariat had helped to establish the necessary basis — i.e. the data, information and the technical competence — for elevating social development issues to the same level as that of economic issues.

Dr. Melville took the opportunity to address the issue of social vulnerability indicating that social and economic progress in Caribbean countries was fragile and it was this underlying fragility which made operationalising the concept of vulnerability, and arriving at an index of vulnerability to juxtapose against progress made, so important. She indicated that over the last three to four years the Social and Economic Research Unit of the CDB had been participating in a number of the meetings and consultations convened by the ECLAC/CDCC secretariat and she commended the ECLAC Subregional Headquarters for the Caribbean, Social Affairs Division for its valuable work in this area which she hoped, would continue.

Ms Jacquelyn Joseph, Director, Human Development, CARICOM Secretariat, also congratulated the secretariat for its establishment of the CSSD and for piloting the construction of the SVI. She indicated that both outputs were considered to be significant tools that strengthened the capacity in the subregion to better manage the social policy processes and to contribute concretely to the debate on the vulnerability of small States.

Mrs. Victoria Mendez Charles, Permanent Secretary, Ministry of Planning and Development of Trinidad and Tobago, commended the ECLAC/CDCC secretariat for the establishment of the CSSD and the pilot testing of the SVI. She indicated that the exercise which was being undertaken by the secretariat was invaluable to the work of her Ministry in long-term national strategic development planning, and felt sure that the end result of the CSSD would strengthen harmonization and standardization of data across the subregion. She said that the seminar would make an invaluable contribution

to building capacity among professionals in the subregion and that the vulnerability index could be an excellent tool in helping countries track their progress in meeting the MDGs and should provide much needed empirical evidence in the formulating the definitions of what constitutes small economies. The two products which were being discussed at this forum, the SVI and the CSSD, would provide much needed assistance in the formulation and implementation of long-term planning for the Caribbean subregion, and she stated, it was time that they became tools to be used in tracking progress vis-à-vis the MDGs, but more importantly, they would be tools to track progress in developing the most important resource — people. She concluded that the seminar underscored the partnerships which the governments enjoyed and the valued technical support and capacity building derived from the ECLAC/CDCC secretariat and that Trinidad and Tobago looked forward to continued collaboration and cooperation with ECLAC and the United Nations system.

The ECLAC/CDCC secretariat thanked the speakers for their kind remarks and the meeting proceeded to address the next agenda item.

Agenda item 2: Demonstration of the database and discussion

On presenting the CSSD, the secretariat informed the meeting that the idea for the database was conceptualized in 1997 with construction beginning in mid-2000. From its inception to its launch, the CSSD was continually critiqued by stakeholders and professionals across the subregion in order to ensure that it offered exactly what was needed in an effective and comprehensive manner. In this regard, the secretariat acknowledged the Government of the Kingdom of the Netherlands, the CARICOM Secretariat, the National Statistical Offices (NSOs), the UWI and the CDB for their part in making the launch of the CSSD possible.

The secretariat warned that NSOs in the subregion needed to reduce the isolation within which much of their data was produced. More networking between NSOs could result in the production of more data that could be used for purposes of comparative analysis. The production of data that could be readily analyzed across countries needed to be urgently addressed, especially in light of the CARICOM Single Market and Economy (CSME). She was of the opinion that the CSSDbs could be an excellent tool for the sharing of harmonized social data by the subregion.

The CSSD, which is located at <http://cssdbs.eclacpos.org>, drew mainly from census data, with the intention of incorporating within the coming months the results of Surveys of Living Conditions (SLCs), Labour Force Surveys and Household Budgetary Surveys (HBSs). It offered two levels of access, fashioned after the CARIBTRADE Trade and Transportation database recently launched by the ECLAC Port of Spain office: the Public Access Dataset, and the National Access Area. The latter, while still under construction, would require users to have a password or special code that would allow them to view census data at the detailed/individual level. This permission would be requested from and granted by the relevant director of statistics, at his or her

discretion. The presentation continued with a demonstration of sample data extracts at the aggregated level (via the public access domain), a review of the Data Dictionary (used to add rigour to the analysis of the data) and a general overview of the various user options and menu items.

Discussion

After the presentation, the floor was opened for comments and suggestions. The ECLAC/CDCC secretariat was congratulated on the presentation of the CSSD and there were many expressions of good wishes for its sustainability.

One recommendation for improving the user-friendliness of the database was to make it easier to determine column headings instead of codes used in coding the raw data. Also, a suggestion was made to reveal the Data Dictionary as a pop-up control instead of having users navigate to it through the menu.

There was a general concern with respect to definitions used in creating the Data Dictionary and ultimately in the analyses of micro-level data. With a recognized need for greater regional harmony in this area, the participants requested some insight into how this problem was addressed by the developers of the Database. The secretariat responded that this was one of the main challenges faced in designing and developing the database, and thanked the participants for raising the issue because it highlighted the urgent need for countries to lend support to the CSSD and, in so doing, strengthen the credibility of the data. Participants were informed that the definitions used had been provided by the countries themselves, and that there would be a greater level of harmonization of variables and definitions observed at the public level than at the private level of enquiry of the database. In addition, the Meta Data Dictionary available in the database would provide information related to the variables and descriptions used in the CSSD, and would also seek to present additional information that might be of interest to the NSOs and users.

Also, in regard to the reliability of the database, it was noted that with census data emanating from various sources around the globe, the CSSD needed to be carefully positioned or introduced on the international arena in a manner that would lend confidence in its use and establish it as a reliable source of census data for the subregion. In response to this concern, the secretariat indicated that only micro-level data would be included in the database that was sourced from Caribbean countries themselves. Furthermore, the meeting was reminded that the CSSD would be as reliable or unreliable as the countries' national data, and that it was fundamental that participating countries were able to produce their statistics in a timely manner and were prepared to let their data be housed in the database. These were factors in establishing a reliable and sound database.

Another critical area of concern was the weighing of cases and the production of datasets containing a fixed number of records to represent the true population level. Care should be taken in carrying out this procedure so as to reduce the number of

discrepancies and the possible negative impact on smaller areas of the population. The representative from Saint Lucia stated that in their analyses, every single case is weighed, responses and non-responses alike. There was a call for every participating country to provide to the ECLAC/CDCC secretariat its own method of accounting for data and the definitions used for the benefit of the users of the database.

Some participants were of the view that the granting of permission to private users of the national data, solely by directors of statistics, placed too much control in their hands, but this was defended by the fact that each country had laws governing its national statistics which the directors were expected to uphold. The power was not that of the director *per se*, but the laws. Secondly, the meeting was reminded that micro-level data is in effect information on individuals, and it was considered illegal to release this information without the explicit consent of the individuals themselves. While all countries sought to release data in a form that prevented the identities of individuals from being revealed, some released data without cost and others for a fee.

In response to questions regarding strategies for the further development of reports generated by the database, the meeting was informed that other components would be included and that the secretariat would be more than pleased to receive recommendations for such. Finally, on the question of including health data, it was revealed that consultations had been held with CAREC and PAHO to discuss the inclusion of demographic and health surveys, but that these had not yet been incorporated into the database.

**Agenda item 3:
Data issues arising out of the construction of the
Caribbean social statistical database**

This agenda item took the format of a three person panel, which included Mr. Kerwyn Roach, Consultant responsible for the database construction, Mr. Roger Moe, Consultant for web design and a representative of the ECLAC/CDCC secretariat, who had undertaken the task of the harmonization of the data sets.

The two IT Consultants provided an update on the creation of the database, giving an account of the six elements of database development. The elements were:

- (a) Inventory;
- (b) Data conversion process;
- (c) Database relationships;
- (d) Web Interface;
- (e) Storage utilization; and

(f) Harmonization of social statistics.

(a) Inventory

Inventory involved an analysis of the type of survey undertaken and the countries who had conducted them; the year(s) in which the surveys were conducted; and, of particular significance, the format in which the data was stored. The main formats used for storing data were found to be Statistical Package for Social Scientists (SPSS), Integrated Microcomputer Processing System (IMPS) and Database Format (DBF). In order to undertake a comparative analysis of data from the different countries, it was therefore necessary to convert the data to one common format or target database, in this case, the SQL 2000. The tools used in this conversion process were Excel, Word, MS Access, FoxPro and SQL Server 2000.

(b) Data conversion process

In the case of data stored in DBF, it was noted that direct conversion was possible via the Data Transformation Services Package that was a part of Structured Query Language (SQL) Server 2000. However, for data stored in SPSS format, SPSS Open Database Connectivity (ODBC) drivers were needed. It was also necessary to first transfer the data and input into Access before conversion to SQL 2000. Transferring data from IMPS to SQL 2000 requires the use of a Data Dictionary from which a list of variables and corresponding lengths could be derived. The Data Dictionary was also used to create reference/lookup tables, which was also necessary because "reference/lookup information could be lost during the conversion exercise. For example in IMPS a variable relationship such as 1. Head and 2. Spouse-Partner would be available after conversion. The derived list then needs to be used to create a table in the DBF format into which the data from IMPS was imported. The resultant table was then exported to SQL Server 2000.

(c) Establishing database relationships

The Consultant suggested that establishing database relationships referred to the way in which tables were connected to each other and was an essential part of the comparative process. The main issues identified in establishing database relationships were primary key selection/construction; duplicate records and referential integrity. The primary key was defined as an attribute (or combination of attributes) that uniquely identified each record. The identification of a primary key was very important in establishing database relationships. For example, a primary key might be given as a concatenation of Parish + ED + Household # in one survey, when the actual primary key should be a concatenation of Parish + Village + ED + Household#. If "Village" was not included as part of the primary key, then the result would not be an accurate comparison.

Duplicate records occurred when more than one record had the same primary key. The consultant explained a person data set with primary key as Household #+

Person # having two or more records with Household #1271 and Person #1. By establishing database relationships duplicate records could be easily identified.

Referential integrity was defined as a condition in which an attribute (or combination of attributes) in one table whose values must match the primary key in another table. For example, each record in a “Persons” table must correspond to exactly one record in the “Household” table. A table showing examples of duplicates and absence of referential integrity was shown.

(d) Web interface

A web interface was one of the approaches to gathering elements from the database and assembling them into a virtual table. This was menu-driven and user friendly. These were explained as predefined queries – micro level data sets or harmonized data sets. This approach was used on a computer other than the database server and it allowed for controlled access to the database, data catching and a high level of security. An ADSL 64K/128K ISP (TSTT) Internet connection, isolated from ECLAC’s internal network was used.

(e) Storage utilization and benefits

Details on the type of storage used for the data generated by the different surveys conducted by ECLAC were provided to participants. Information was also provided on the amount of memory or storage space that had been used, to date. One of the major benefits of the project was the fact that all the data on social statistics available in the Caribbean was housed in one location and because a standard database environment – SQL Server 2000 – was used, data could be easily exported/imported using non-proprietary tools and there was also the capability of storing over 1 million terabytes of data.

(f) Harmonization of social statistics

A PowerPoint presentation on the harmonization of social statistics was provided using the 1990 and 2000 population census data sets. The presentation began with the suggestion of a definition of harmonization as a ‘classification of methods and procedures for data collection and processing that are compatible with each other’. It was further suggested that such a process included the standardization of terminologies, sampling procedures, classification systems, methods of quality control and quality assurance, data reliability indices, etc. Topics covered under harmonization were:

- (a) Objective of the harmonization exercise;
- (b) Why harmonize; and
- (c) Harmonization of the population census.

Examples from the 1990 census data showing those countries that were harmonized and countries that were not harmonized when the exercise was completed were given. Harmonized countries included Antigua and Barbuda, the British Virgin Islands and Guyana, among others, while a list of countries whose data were not harmonized included Bahamas, Trinidad and Tobago 2000 data, Jamaica and Belize, among others.

Issues that could account for non-harmonization included differences in data collection methods, differences in terminology and classification, cultural and non-cultural obstacles and use of grouped data. Examples of each of the above-mentioned issues were provided.

Discussion

It was suggested by participants that the presentations were of particular significance because they clearly demonstrated the differences between economic statistics and social statistics. It was emphasized that whereas in economic statistics, definitions as well as data were standard, this was not the case for social statistics.

The role that agencies such as the ECLAC and other international organizations played was therefore deemed very important, especially as there was no agreed upon system for the storing and compilation of statistical data. The participants expressed a desire to see the next steps in the programme fulfilled, which should include the harmonization of the LFS, the SLC and other surveys.

With regard to the SLC, it was noted that the CDB, was one organization that encouraged standardization of the process leading to comparability. It was agreed by participants that harmonization was easier fulfilled when it occurred in the design phase of data collection, given the varying definitions for terms that existed. The description of the variables should be more rigorous. For example, it was suggested that the variable "head of household" had different interpretations. Sometimes it was defined as the person in the household who made the decisions and, in some cases, it was understood to mean the person who made the biggest financial contribution to household expenses. The subject of religion was another example where harmonization was absolutely necessary. The range of religious denominations in the Caribbean was quite wide and in some cases the same denomination might have a different name in different countries, thereby creating some degree of confusion and possible distortion in analysis. To minimize the above, a detailed listing of all possible instances, as in the case of religion, had to be reviewed. Transformation exercises, therefore, needed to be included as an important part of harmonization. In transformation exercises, conflation, expanding and extending of categories were performed. It was also recommended that a core set of indicators be developed for the subregion that was indicative of the type of survey, for example, if there was a survey on HIV/AIDS, then indicators specific to the subject could be developed.

Data quality

The subject of data quality was also raised and was described as a major challenge, especially in meeting the United Nations MDGs. It was generally agreed that social statistics were underdeveloped compared to economic statistics and given the question of quality of data, there was an urgent need for national offices to improve the quality of the statistics that were collected. It was also important to pay more attention to the data arising out of line ministries both in terms of the quality of the data and the timeliness of the information. The latter was especially important to obtain good and accurate comparisons between countries and regions.

Rigorous protocols

The meeting agreed that rigorous protocols ought to be set and observed in the collection of data. This was identified as another dimension to ensuring data quality, which was also deemed important. It was noted, however, that the collection of data on specific issues was only done when the need arose, as in the case of statistics on domestic violence, which were only collected when it became necessary to report on gender-based violence.

To properly address issues of data quality, national statistical offices, as important parts of the legislative framework, needed to take a proactive role if social statistics were to be comparable with those existing in the economic arena. It was recognized that this was a challenge for national offices, because most times, the need for data was externally driven. This, together with scarce resources, made it difficult, however, with the human resource capacity that existed in the Caribbean this should be sufficient to influence the outcome.

Comparative analysis

It was agreed that because comparative analysis was very important, it was necessary to ensure that there was not too much innovation over too short a period of time. In order to keep up with what was taking place in developed countries, changes in formats, for example, were sometimes pursued. This however, could impinge on the production of sound comparative analysis and therefore an accurate picture of the situation at any given time.

Multiplicity of agencies

Another challenge in obtaining quality data was the number of agencies collecting social statistics. In some countries there were as many as three or four agencies collecting data, each with a different protocol in some cases. It was therefore the responsibility of the NSOs to be proactive and bring some kind of coherency to the process.

Recommendations

- (a) A special forum should be established to address issues of harmonization;
- (b) Identify areas for strengthening social statistics as a priority area for national agencies and donor agencies; and
- (c) Linkages among the various agencies should be created. Issues for agreement could involve resolving questions such as: When the data is collected, what is done with such data? Who makes use of the data to inform policy?

The ECLAC/CDCC secretariat explained that they approached the data management process with a view to strengthening social policy formulation and, therefore, it was interested in many of the issues which were raised by the participants. It was further explained that the secretariat encouraged an evidence-based approach to policy formulation and thus sought to forge better relationships between the users and the producers of social statistics at the national level. The agency representatives in attendance were encouraged to provide the participants with information regarding their areas of work in the development of social statistics and it was reiterated that there was a need for closer collaboration both among countries and between countries and agencies.

Agenda item 4: Background to the social vulnerability index

In introducing the pilot test of the SVI, the secretariat noted that work on the development of an SVI was relatively new and was undertaken, like its counterparts the economic vulnerability index (EVI) and the global environmental index (GEVI) based on the Small Island Developing States Programme of Action (SIDSPOA) and the AOSIS. The SVI, once thoroughly tested was expected to play a complementary role to its partner indices, the EVI and the GEVI, and to eventually form part of the composite vulnerability index which would provide one measure of vulnerability.

The ECLAC Subregional Headquarters for the Caribbean accepted the challenge to develop a methodology for the construction of a measure of social vulnerability that could be used globally. Work began in 2000 with a panel of experts to reach agreement on the definition of social vulnerability and methodological approaches best suited to achieve the task of measurement. By February 2003, tentative agreement had been reached around notions of social vulnerability and on the purpose of a measurement. It was agreed that such a measure could be applied at the national level, similar to the EVI or the GEVI, although it was agreed that the measurement could also have relevance to understanding the situation at the level of the person, household, or community. It was further agreed that the best approach to such a measure was one which strove to achieve simplicity, feasibility and parsimony, as had been recommended by Dr. Godfrey St. Bernard, in his earlier presentation in 2003.

**Agenda item 5:
Presentation of the results of the pilot testing of the SVI**

Dr. Godfrey St. Bernard, Acting Director of the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) was invited to present the results of the pilot test of the SVI. He thanked the ECLAC/CDCC secretariat for the opportunity to undertake the study and eagerly awaited feedback. He noted that, in establishing the proposed SVI, the methodological framework was predicated upon stakeholders' roles and responses that mixed and combined in five subnational domains to facilitate the survival and attainment of equilibrium within the nation as a whole. The five subnational domains included education, health, security, social order and governance, resources allocation, and communications architecture.

Dr. St. Bernard explained that within each of the key domains, the roles and responses of the stakeholders produced outcomes that could be interpreted as functional, if they were consistent with prospects for the survival of the system; or dysfunctional, if they were consistent with the likely onset of pathological conditions. For the purposes of his paper, he indicated that social vulnerability was discussed in the context of defenselessness and insecurity resulting from threats encountered within specific social institutional settings. He reminded participants of the Strength, Weakness, and Opportunity, Threats (SWOT) framework, which he had used in further operationalizing social vulnerability in his previous paper. In accordance with such a framework, it was acknowledged that social institutional settings had their strengths and weaknesses. Moreover, it was noted that interactions between their strengths and weaknesses were likely to be complemented by opportunity structures and could permit nations, as social systems, to overcome their threats. In the Caribbean subregion, he suggested that it was likely that several countries would face a common set of threats but their strengths, weaknesses and opportunity structures were likely to vary, resulting in differential outcomes. These outcomes could be captured in accordance with selected indicators that could be standardized and combined linearly to yield social vulnerability indices.

Before presenting the results of the pilot test, Dr St Bernard explained that it was necessary to speak to the availability and quality of the data and how it was used. He indicated that the pilot test relied upon data that were readily available from five countries – Belize, Grenada, St. Kitts and Nevis, Saint Lucia and St. Vincent and the Grenadines. In the realm of education, none of the countries with the exception of St. Vincent and the Grenadines had undertaken a Survey of Adult Literacy. This meant that data on adult literacy had to be obtained from another source and a proxy was used based upon 1998 estimates gleaned from the 2000 Human Development Report published by the United Nations Development Programme (UNDP). The 2000 Human Development Report was also the source of data on life expectancy at birth and the derivation of a proxy to capture computer literacy. While the countries published data pertaining to life expectancy at birth, estimates were only available according to sex with no specific provision being made for a global estimate irrespective of sex. Such a

situation prompted a search for an alternative source in the form of the 2000 Human Development Report. In the absence of a direct measure to determine computer literacy, a proxy measure was drawn from the 2000 Human Development Report. This measure provided an estimate of internet hosts per 1000 population and was considered to have face validity as it could be a function of levels of computer literacy.

Dr. St. Bernard explained that in gauging countries' vulnerability status with regard to the preservation of security and the maintenance of social order, the number of indictable crimes per 100,000 persons appeared to be elusive insofar as such a measure was often based upon reported crime. With the exception of crimes, such as murder, the coverage of reported crimes could be misleading despite the ready availability of such data from the respective police services. As a result, it was not surprising that the methodological framework had adopted homicides per 100,000 persons as a key indicator that was less sensitive to non-responses. The SLC had been the source of much of the data that were examined to treat with social vulnerability in the context of the education system. It also permitted the collection of data for each of the four indicators instrumental in gauging social vulnerability with regard to resource allocation. Since the SLC instrument could be considered a standardized data collection instrument that made allowances for country-specific circumstances, Dr. St. Bernard advised that it was a worthy source of data. This, he further argued, was a critical requirement in the quest for the harmonization of methodological processes that were instrumental in the derivation of the proposed indicators.

He then described the pilot test as a process which sought to measure the vulnerability of social institutions in five Caribbean countries where all of the input data were readily available. The results suggested that, social institutions in St. Kitts and Nevis were found to be the least vulnerable while those in Grenada were found to be the most vulnerable. The vulnerability of social institutions was observed to be just as high in Saint Lucia as it was in Grenada. When examining the variations in the vulnerability of the key sub-systems across the five countries, the findings suggested that with respect to the vulnerability of the education system, the estimates indicated that it was highest in St. Vincent and the Grenadines and lowest in St. Kitts and Nevis. In regard to the vulnerability of health systems it was lowest in Belize and highest in St. Kitts and Nevis and Saint Lucia. The data suggested that the greatest threat to security and social order appeared to be in Saint Lucia and to a somewhat lesser extent in Belize. In contrast, the threat was lowest in Grenada. With respect to resource allocation, by far the greatest threat had been evident in Grenada. Finally, Dr. St. Bernard suggested that there appeared to be little or no variations across the countries with regard to threats overcoming the interplay between strengths, weaknesses and opportunities in the arena of information and communications technology. Unless some mechanism could be found to standardize transformed scores to make allowances for variable ranges associated with observations for the respective input indicators, it would be difficult, he suggested, to evaluate the relative impact of the different social sectors on the vulnerability status within each of the five countries.

In his concluding remarks, he reminded the participants that the ideas and findings presented were at best exploratory and subject to further empirical tests. Similar data, based on additional regional SLCs needed to be obtained and analyzed using multivariate techniques such as factor analysis. To this end, the SLCs in the Caribbean subregion ought to be making provision for the generation of the relevant input indicators proposed in the paper. He further argued that such SLCs ought to be conducted on a regular basis, perhaps once every five years at a minimum. In addition to the SLCs, he suggested that there was a need for surveys targeting reading, writing, numeracy and computer literacy among adults in the various islands. In each case, there should be a core instrument that could be modified to meet country-specific needs. There should also be overall inquiries into the Information Technology (IT) attributes that were characteristic of communications and technological capabilities of the countries within the subregion. All of these inquiries should be pursued at a minimum triennially. In order to more adequately treat with the health dimension of the index, the National Statistical Offices (NSOs) should, on an annual basis, construct, present and publish life table functions reflecting global estimates (i.e. both sexes) in addition to those that were sex-specific. Due consideration should also be given to the generation of indicators targeting governance issues. These should include an index of rule of law, a measure of minority groups' participation in the economy and a measure of new governments' respect for previous governments' commitments.

The representative of the CDB thanked Dr. St. Bernard for a remarkable undertaking and for its rigorous and comprehensive nature. She too indicated that this was preliminary, but exciting, work which was necessary for the subregion. The floor was open for discussion.

The representative of UNDP was then invited to present a paper, *The Measurement of Vulnerability: A Probability Approach*, using the example of Haiti, in which he proposed the use of statistical probability in measuring a country's perceived level of vulnerability as it related to poverty. This approach was being explored in assessing the delicate situation in Haiti. He defined vulnerability as the perception of being on the verge of poverty because of factors that drew an unusual state of precariousness – that the environment no longer provided a comfortable level of support to a country's (or individual's) well-being or survival. He suggested that this created a feeling of abandonment, the first step towards the belief that poverty was imminent. Applying Bayes' Theorem to the formula $\text{Risks (Poverty)} = \text{Threats} \times \text{Vulnerability}$, he offered an explanation of vulnerability either through an assessment of threats, or of poverty.

The representative also offered a number of definitions of threats as they pertained to their effect on income, and the resulting impact on the calculation of vulnerability. He acknowledged that while this formula for assessing poverty and vulnerability had its disadvantages, it was an attempt to assist the subregion in defining and predicting vulnerability.

The participants commended him on a thought-provoking and insightful commentary on the measurement and predictability of vulnerability as it related to the nature of poverty in the Caribbean subregion.

The discussion that followed centered around Dr St Bernard's presentation on the results of the pilot testing of the SVI. Dr. St. Bernard was applauded for his path-breaking work on the construction of the SVI and participants indicated that they would eagerly await the fuller undertaking of measurement that would include many more countries.

Clarification was sought on the similarities and/or differences between the adjusted Human Development Index (HDI) as presented in the Organisation of Eastern Caribbean States (OECS) Human Development Report (HDR) and the SVI. Dr. St. Bernard informed the meeting that although the SVI and the HDI shared a number of common indicators, there were some that were indeed unique to the development of the proposed SVI. Further, he suggested that the fewer the number of indicators, the more robust an index, and thus he had sought to create a robust index through the selection of a small number of indicators. He reminded participants that while the adjusted HDI took into account many more indicators than the SVI, there could still be space to incorporate into the SVI additional indicators on issues such as governance.

On the question of reference period and the fact that the SVI was an interspatial index that compared countries with one another, participants sought to determine whether any further development of the index would allow countries to discover their future potential for vulnerability so that they could be adequately prepared. Dr. St. Bernard confirmed that countries undertook the SLCs at different times, using different enumerations and collecting data on different attributes, but that these differences were not adjusted for. Nevertheless, most of the figures for all countries used in the SVI reflected the last half of the 1990s. With respect to predicting vulnerability, the goal of the SVI was to target social change as part of a slow process and not change that occurred drastically over a relatively short period of time. Nevertheless, in order for countries to forecast their vulnerability in the short term, the reference periods will have to be synchronized. He thus concluded that data limitations were mainly responsible for reduced predictability of the measure.

Dr. St. Bernard's background research paper was highly praised, especially the usefulness of the categories of social indicators of vulnerability and the treatment of risk versus resilience in the context of vulnerability. Participants agreed that while the methodology of the construction of the index had not fully included the phenomena of social capital, governance and security, the reality of the Caribbean situation was such that measurement of these were near impossible at present, due to the inadequacy of the data. It was agreed that the SVI could be a yardstick by which countries could rank their level of vulnerability; an additional descriptor of countries' circumstances; and a qualifier to the current standard economic indicators at the disposal of the subregion. The commonly used indicators, such as GDP growth indicators, by themselves failed to

adequately capture the essence of Caribbean societies' attainment, but the SVI helped to make the adjustment.

In conclusion, Dr. St. Bernard reminded the meeting that his proposed framework of constructing the SVI was in the process of being articulated, it was not cast in stone, neither was it a gold standard by which all future work should follow. He reminded participants that it was a pilot exercise with tremendous credit and merit, nevertheless, and should not be discounted in favour of other approaches aimed at creating a social vulnerability index. Secondly, keeping in mind issues of resilience and exposure, his validation of the SVI was based purely on face validity, since regional data did not permit or facilitate development at the construct validity level. As data systems developed, the subregion could begin to pursue other concepts of assessing the validity of the framework. He thanked the participants for their many questions and the ECLAC/CDCC secretariat, once again, for the opportunity to be of service.

Agenda item 6: Working groups

The meeting broke into three working groups which addressed the following issues: Group one - Data availability and quality, Group two - Selection of Indicators, and Group three -Uses of the Social Vulnerability Index for social policy.

Agenda item 7: Plenary

The plenary opened with a presentation by the representative of Haiti on the country's recently concluded SLCs. He informed the meeting that the Haitian Living Conditions Survey was undertaken by the Haitian Institute of Statistics with the financial support of UNDP and the technical support of the Food and Agriculture Organization of the United Nations (FAO) in 2001. It included all the nine geographic departments and used a sample of 7,812 households. It explored three main domains:

- (a) Habitation and infrastructure, economy of household, agricultural resources;
- (b) Demography, education, labour force, health and nutrition; and
- (c) Perception of health, attitude and perception, domestic violence.

Some of the key findings were the following:

- (a) In terms of poverty – 67% of rural population live in extreme poverty;

(b) In terms of ownership of homes - 90% of the rural population owned their own homes while the majority in the urban areas rented;

(c) Adult literacy indicated a 54% rate and women have caught up to men. The net primary enrolment rate was reported to be 60%; and 75% of the children have more education than their parents; and

(d) In terms of the labour force, 79% of the work force is self employed; only 45% of adults are employed and total labour force participation rate is 59%.

He concluded that the results of the SLC indicated that special emphasis in the future would need to be placed on the development of the rural sector and livelihood security issues.

His presentation was followed by reports from the working groups. Most significantly was the agreement by the groups on the following:

(a) The subregion could benefit from the work on the SVI and that participants looked forward to the eventual integration with the economic vulnerability and the environmental vulnerability index;

(b) In regard to social statistical data, it was noted that more work on monitoring and evaluation was required in the subregion, which depended on more and better social statistics; and

(c) Greater harmonization of data sets were required including synchronization in the conduct of surveys and more frequently conducted surveys in order to enable forecasting and time series analysis;

The meeting concluded that it was important to ensure ownership of the SVI at the national level and for policy makers to appreciate the SVI as a tool that could complement other planning tools and measures.

Agenda item 8: Closure of meeting

The meeting closed with agreement on a number of recommendations. These included:

(a) The conduct of SLCs should be undertaken between three-five years so that timely and adequate data could be available for the construction of measures such as the SVI;

(b) Countries should consider the undertaking of adult literacy, numeracy, and computer literacy surveys; and

(c) Closer collaboration between users and producers of social statistics should be encouraged at the national level, in order to more strategically drive data collection needs.

The ECLAC/CDCC secretariat was encouraged to continue testing of the SVI.

The meeting then closed with the usual exchange of courtesies.

Annex**List of Participants****BAHAMAS**

Ms. Kelsie Dorsett, Deputy Director/Supervisor of Social Statistics Division, Department of Statistics, Ministry of Finance and Planning, P.O. Box N3904, Clarence Bain Building, Nassau, Telephone: 242-325-5452; Facsimile:242-325-5149/242-302-0112; E-mail: kelsie.dorsett@bahamas.gov.bd or klwd86@hotmail.com

BARBADOS

Mr. Trevor David, Senior Statistician, Statistical Service Department, 3rd Floor, NIS Building, Fairchild Street, Bridgetown, Telephone: 246-427-7396, Facsimile: 246-435-2198, E-mail: barstats@caribsurf.com

BELIZE

Mr. Glenn Avilez, Chief Statistician, Central Statistical Office, Corner Mountain View Boulevard & Culvert Road, Belmopan City. Telephone: 501-822-2207/2352; Facsimile: 501-822-3206; E-mail: gavilez@cso.gov.bz

GRENADA

Ms Arlene Daniel, Chief Welfare Officer, Ministry of Social Development, Botanical Gardens, St. George's. Telephone: 473-440-7994/6037; Facsimile: 473-440-7990
E-mail: mhousing@hotmail.com

Ms Margaret Frame, Statistician, Central Statistical Office, Financial Complex, Carenage, St George's. Telephone: 473-440-1369; Facsimile: 473-440-4115
E-mail: moldaframe@hotmail.com

HAITI

Mr. Roland Altidor, Institut Haitien de Statistique et Informatique, Boulevard Harry Truman, Port-au-Prince. Telephone: 558-9159/222-2669; E-mail: rolandaltidor@yahoo.fr

JAMAICA

Ms Brigette McDonald Levy, Cabinet Office, 1 Devon Road, Kingston 10. Telephone: 929-8880 ext. 2021; E-mail: brigette.levy@cabinet.gov.jm

Ms Isbeth Bernard, Director, Special Projects, Statistical Institute of Jamaica, 7 Cecelia Avenue, Kingston 10. Telephone: 926-5311; E-mail: i.beth@statinja.com

MONTSEERRAT

Ms. Teresina Bodkin, Chief Statistician, Statistics Department, Development Unit, Ministry of Finance and Economic Development, Brades, Telephone: 664-491-2557/2066/3797; Facsimile: 664-491-4632; E-mail: devunit@candw.ag or stats@gov.ms

NETHERLANDS ANTILLES

Mr. Francis Vierbergen, Deputy Director, Central Bureau of Statistics, Fort Amsterdam, Willemstad, Curacao. Telephone: 5999-463-0156; Facsimile: 5999-461-1696
E-mail: francis.vierbergen@gov.an

ST KITTS and NEVIS

Ms. Beverly Harris, Chief Statistician, Statistics Division, Planning Unit, Ministry of Finance, Planning and Development, P.O. Box 186, Church Street, Basseterre. Telephone: 869-445-2521; Facsimile: 869-466-7398; E-mail: stats@caribsurf.com

SAINT LUCIA

Mr. Edwin St. Catherine, Director of Statistics, Statistical Department, Chreiki Building, Micoud Street, Castries. Telephone: 758-453-7670; Facsimile: 758-451-8254; E-mail: edwins@statis.gov.lc

Mr. Marinus A. Pascal, Research, Information & Programming Officer, Ministry of Social Transformation, Greaaham Housing, Administration Building, The Waterfront, Castries. Telephone: 758-468-5107; Facsimile: 758-453-2791; E-mail: pascalm100@yahoo.com

ST VINCENT AND THE GRENADINES

Mr. Selwyn Allen, Chief Statistician, Central Planning Division, Ministry of Finance and Planning, Kingstown. Telephone: 784-457-2921; Facsimile: 784-456-2430; E-mail: statssvg@vincysurf.com

Ms. Ro-Anne Quashie, Population Policy Coordinator, Central Planning Division, Ministry of Finance and Planning, Administrative Centre, Kingstown. Telephone: 784-457-1746; Facsimile: 784-456-2430; E-mail: cenplan@caribsurf.com

Ms. Denise Harold, Social Worker, Ministry of Social Development, Kingstown. Telephone: 784-457-2607

SURINAME

Ms. Wendy Riona Cicilson, General Bureau of Statistics, Klipstenenstraat #5, Paramaribo. Telephone: 597-422410/473927; Facsimile: 597-425001; E-mail: wcicilson@yahoo.com or wcicilson@hotmail.com

TRINIDAD AND TOBAGO

Mr. Peter Pariag, Director of Statistics, Central Statistical Office, National Statistics Building, 80 Independence Square, Port of Spain. 868-624-2436; Facsimile: 868-625-3802; E-mail: dircso@wow.net

Dr Russell Foote, Director, Social Investigations, Ministry of Social Development, 69 Independence Square, Port of Spain. Telephone: 868-625-9221 ext. 150; E-mail: msd@tstt.net.tt

Ms. June Williams, Director (Ag.) Socio-economic Policy Planning, Ministry of Planning and Development, Eric Williams Finance Building, St Vincent Street, Port of Spain. Telephone: 868-625-0364; Facsimile: 868-625-0370; E-mail: mistra_design@hotmail.com

Mr. David Persaud, Ecologist, Ministry of Public Utilities and the Environment, Sacred Heart Building, 16-18 Sackville Street, Port of Spain. Telephone: 868-624-6024; Facsimile: 868-625-7003; E-mail: environment@tstt.net.tt

United Nations System

Caribbean Epidemiology Centre/Pan American Health Organization (CAREC/PAHO)

Ms. Marsha Ivey, Biostatistician, 16-18 Jamaica Boulevard, Federation Park, Port of Spain, Trinidad and Tobago. Tel: 868-622-4261/0042; E-mail: iveymars@carec.paho.org

International Labour Organisation (ILO)

Mr. Reynold Simons, Senior Specialist – Employment and Labour Market Planning, 11 St Clair Avenue, Port of Spain, Trinidad and Tobago. Tel: 868-628-1453; Fax: 868-628-2433; E-mail: simons@ilocarib.org.tt

UNAIDS

Ms Angela Trenton-Mbonde, Team Leader, UNAIDS Caribbean, United Nations House, 3 Chancery Lane, P.O. Box 812, Port of Spain. Tel: 868-624-0468; Fax: 868-623-8516; E-mail: trentonmbondea@unaids.org

Mr. Wayne Gill, MTC Specialist, UNAIDS Caribbean, United Nations House, 3 Chancery Lane, P.O. Box 812, Port of Spain. Tel: 868-624-0468; Fax: 868-623-8516; E-mail: linxgill@cs.com

United Nations Development Programme (UNDP)

Ms. Sandra Baptiste Caruth, Programme Specialist, 3A Chancery Lane, Port of Spain, Trinidad and Tobago. Telephone: 868-623-7056; Facsimile: 868-623-1658; E-mail: Sandra.baptiste.caruth@undp.org.tt

Mr. Elbert Ellis, Poverty Programme Advisor, UNDP Barbados & OECS. UN House, Marine Gardens, Christ Church, Barbados. Telephone: 246-467-6000; Facsimile 246-429-2448; E-mail: Elbert.ellis@undp.org

Mr. Philippe Rouzier, Senior Economist, UNDP Haiti, 387 Bourdon, Avenue John Brown, Port-au-Prince, Haiti. Telephone: 509-244-9351; Facsimile 509-244-9366; E-mail: philippe.rouzier@undp.org

United Nations Children's Fund (UNICEF)

Ms Jean Gough, Representative, UNICEF Caribbean Area Office, UN House, Hastings, Christchurch, Barbados. Tel: 246-467-6151; Fax: 246-436-2812; E-mail: jgough@unicef.org

Ms. Monica Paul-McLean, National Consultant, UNICEF Caribbean Area Office, UN House, #3 Chancery Lane, Port of Spain, Trinidad and Tobago. Telephone: 868-623-7056 ext. 249; E-mail: monica.paul.mclean@undp.org.tt

Governmental Organizations**Caribbean Community (CARICOM) Secretariat**

Ms. Jacquelyn Joseph, Director, Human Development, CARICOM Secretariat, P.O. Box 10827, Building, Georgetown, Guyana. Telephone: 592-226-4977/592-225-8850-3, Facsimile: 592-226-6091/7816, E-mail: josephj@caricom.org

Caribbean Development Bank (CDB)

Dr Juliet Melville, Chief Research Economist, Social and Economic Unit, Caribbean Development Bank, P.O. Box 408, Wildey, St Michael, Barbados. Telephone: 246-431-1600; Facsimile: 246-426-7269; E-mail: melvilj@caribank.org

Dr. Eleanor Wint, Consultant, Social Researcher, c/o Caribbean Development Bank, P.O. Box 408, St Michael, Barbados. Telephone: 246-431-1952, Facsimile: 246-426-7269, E-mail: winte@caribank.org

Department for International Development (DfID)

Mr. Saul Morris, Statistics Adviser, Department for International Development, 1 Palace Street, London SW1E 7HE, England. Telephone: +44-20-7023-1013; E-mail: s-morris@dfid.gov.uk

University of the West Indies (UWI)

Dr. Dennis Brown, Lecturer, Department of Behavioural Sciences, University of the West Indies, St. Augustine, Trinidad and Tobago. Telephone: (868) 6453232-9 Ext. 3053, E-mail: dbrown@fss.uwi.tt

Dr. Godfrey St. Bernard, Fellow, Sir Arthur Lewis Institute of Social and Economic Studies (SALISES), University of the West Indies, St. Augustine, Trinidad and Tobago. Telephone: (868) 662-2002 Ext. 2148, Facsimile: (868) 645-6329, E-mail: gstbiser@tstt.net.tt

Special Guests

Mr. Roger Moe, IT Consultant, #3, 8th Street West Canefarm Avenue, Trincity, Trinidad and Tobago. Telephone: 868-640-0735; Facsimile: 868-640-4407; E-mail: rmoe@moeassociates.com

Mr. Kerwyn Roach, IT Consultant, 96 Harold Avenue, Marabella, Trinidad and Tobago. Telephone: (868) 658- 7577, Facsimile: (868) 658- 7577, E-mail: kroach@carib-link.net

ECLAC

Ms Asha Kambon, Social Affairs Officer, ECLAC Subregional Headquarters for the Caribbean, 1 Chancery Lane, , P.O. Box 1113, Port of Spain, Trinidad and Tobago. Tel: 868-623-5595; Fax: 868-623-8485; E-mail: akambon@eclacpos.org

Ms Lynette Joseph Brown, Research Assistant, ECLAC Subregional Headquarters for the Caribbean, 1 Chancery Lane, , P.O. Box 1113, Port of Spain, Trinidad and Tobago. Tel: 868-623-5595; Fax: 868-623-8485; E-mail: lbrown@eclacpos.org

Mr. Simone Cecchini, Economic Affairs Officer, ECLAC Headquarters, Casilla 179-D, Vitacura, Santiago, Chile. Telephone : 562-232-4379 ; E-mail : scecchini@eclac.cl