

**9<sup>th</sup> National Convention on Statistics (NCS)**

EDSA Shangri-la Hotel

October 4-5, 2004

**Community Level Statistical Information System:  
A Statistical Capacity Building Experiment**

by

Generoso G. de Guzman

Maura S. Lizarondo

For additional information, please contact:

Author's name:	Generoso G. de Guzman
Co-Author's name:	Maura S. Lizarondo
Designations:	Consultant Assistant Director
Agency:	Bureau of Agricultural Statistics
Address:	Ben-Lor Building, 1184 Quezon Avenue, Quezon City
Telephone:	(632) 961-4463; (632) 371-2050
Fax:	(632) 419-1078; (632) 371-2086
E-mail:	ggdeguzman@tri-isys.com maura_bas@mozcom.com

# Community Level Statistical Information System: A Statistical Capacity Building Experiment

by

Generoso G. de Guzman<sup>1</sup>  
Maura S. Lizarondo<sup>2</sup>

## I. Introduction

When the government enacted the Local Government Code, it vested local government units (province, municipality/city, barangay) with increased responsibilities aimed at improving and strengthening local governance. Since decentralization, local government units (LGUs) have become primarily responsible for agricultural extension; primary health care; repair and maintenance of infrastructure such as barangay roads, water supply and communal irrigation projects. LGUs are also tasked to directly implement a number of national government initiated poverty alleviation programs.

In addition, the barangays are mandated, under the Local Government Code, to prepare annual development plans. These are intended to serve as guideposts for the utilization and disbursement of their annual appropriations, majority of which come from the national internal revenue allotments (IRA). The series of local level consultation meetings the WB-BAS project “Statistical Capacity Building in the Rural Sector (TF252155) held in the pilot communities of Region 7 revealed however that these communities have yet to prepare functional development plans. At most, barangays have only produced, at the instance of the Department of Interior and Local Government (DILG), their respective barangay profiles that describe the community’s demographic, economic, social and environmental conditions. These are wanting in forward-looking scenarios which could help local leaders identify priority areas for community development.

The consultation also confirmed that many of the barangay officials have not appreciated or are not fully aware of the importance of statistical information as a vital tool for effective governance.

The consultation confirmed that the sustainability of the project’s main thrust of strengthening statistics in the rural sector would be enhanced if it has a strong grassroot-based information support. In this connection, the project undertook activities to help participating LGUs in setting up the initial backbone of a community level statistical information system (CLSIS). The activities aimed to:

- (a) develop the capacity of community leaders in the pilot barangays to set in place a set of socio-economic statistical

---

<sup>1</sup> Consultant of World Bank – Bureau of Agricultural Statistics project entitled “Statistical Capacity Building in the Rural Sector (TF252155).

<sup>2</sup> Assistant Director of the Bureau of Agricultural Statistics and Project Coordinator of above project.

information that conforms to prescribed Philippine statistical standards and classification systems;

- (b) assist national and local government units to improve targeting, tracking and monitoring of emerging developmental concerns such as poverty and food insecurity; and
- (c) serve as a tool for improved governance and delivery of basic government services at the community level.

## **II. Components of CLSIS**

The envisaged community level statistical information system, when fully installed, will consist of periodic reports based on information/data coming from administrative reports as well as those that will be gathered from survey/monitoring instruments that will be designed/introduced by the project. Initially, three major modules were identified:

- participation, community security and governance
- human development
- agriculture and livelihood

### **1. Participation, community security and governance**

This module, particularly the sub-modules on community security and governance, aims to assist barangay officials in developing their capacity to put in place a more orderly and systemic approach in managing community files and records resulting from their day-to-day work. Among the activities that the CLSIS pursued included:

- improvement in the format of existing administrative reporting forms;
- codification of data entries;
- computerization of data records

Improvements in administrative reporting systems was given special attention by the project. The earlier reconnaissance mission in the pilot barangays noted that there was no uniformity in the reporting forms used. Likewise, very minimal summarization of data from the forms was being done. In many instances, the forms were just filed as they were received or filled in.

### **2. Human development**

The human development module focused on education, health and social welfare concerns. Its information base would rely heavily on existing national government-initiated administrative reporting systems. These include the various forms of the Department of Education's (DepEd) Education Management Information System (EMIS), the Department of Health's (DOH)

Field Health Service Information System (FHSIS) and the Department of Social Welfare and Development's (DSWD) Comprehensive and Integrated Delivery of Social Services (CIDSS) forms.

A baseline survey was undertaken in the pilot communities to assess the residents' educational, health and social status. It was worth noting that existing DepEd's and DOH's reporting systems are coming from their respective community level educational and health delivery facilities. The DSWD's reporting system on the other hand, is more attuned to case-specific interventions of the agency and thus assumes the form of case study reports. The baseline survey therefore was an important component of the CLSIS in order to determine that part of the population which would not be covered by the administrative reporting mechanisms of these three national agencies.

### 3. Agriculture and livelihood

Exploiting the agrarian character of the rural sector, the pilot CLSIS considers this module on agriculture and livelihood as its centerpiece. It includes the collection and compilation of data sets that would allow the generation of periodic reports aimed at empowering farmers as the principal stakeholder for the agriculture sector.

The reconnaissance mission undertaken by the project revealed that LGU monitoring systems on the activities and developments in the agriculture sector remained unorganized. Moreover, available ground level monitoring forms used by local agricultural officers centered only on program areas and selected beneficiaries. They could not be used as an accurate information base for assessing community-wide impact of agricultural and livelihood development efforts. For this reason, the project assisted participating communities in developing data gathering instruments that would improve the reckoning of impacts of agricultural development programs on rural communities. As a starting point, it used selected Bureau of Agricultural Statistics (BAS) survey instruments. These instruments were modified to serve as the regular monitoring reporting instruments for the envisaged CLSIS. The reporting instruments, consisting principally of crop and livestock production and disposition records were designed to be updated per holder during each agricultural production cycle.

### **III. CLSIS Activities**

The blueprint followed in the development of the CLSIS required the undertaking of the following activities:

- Social preparation and training
- Compilation and maintenance of databases
- Utilization of CLSIS as tool for farmers empowerment
- Monitoring and evaluation
- Institutionalization

## 1. Social preparation and training

Although BAS had a long history of conducting statistical surveys, the development of a community level statistical information system was an entirely new challenge for many of its technical staff both at the central and field levels. Similarly, for many of the participating LGUs and communities, the task of providing the building blocks for the CLSIS that suit their own requirements was viewed by many of them as a new dimension in carrying out their traditional roles in local governance. It was heartwarming to note that the pilot communities where this particular project module was being introduced welcomed with enthusiasm and interest this innovative experiment.

A big investment of this capacity building project went to training. Training beneficiaries included BAS technical staff, selected local government unit supervisors and barangay officials.

In order to get maximum benefit from this component, the project engaged the services of the Statistical Research and Training Center (SRTC), the Philippine Statistical System's main training agency. The multi-tiered training consisted of the following:

- Facilitators' training
- Community organizing
- Role of statistics in good governance
- Survey and questionnaire design
- Primary data collection
- Management of administrative-based data system
- Computerized database management system
- Data analysis
- Technical report writing
- Effective dissemination
- Project monitoring and evaluation
- MS Word, MS Excel, MS Powerpoint and MS Access
- Webpage development

The community level training used the experiential type approach. The SRTC resource persons imparted capacity building skills through a series of workshops. The project found that this was an effective modality in sustaining participants interests.

## 2. Compilation and maintenance of databases

The interest in the development of CLSIS was not confined to satisfying the needs of the project. In the medium- to long-term perspective, it is envisaged that a functional CLSIS, once set up in all the communities in the country, would provide a cost-effective alternative to the present survey-based information support to the PSS. Reyes<sup>1</sup> noted "that more recently, and as an

---

<sup>3</sup> Reyes, C.M. MIMAP Research Paper No. 40. Institutionalizing a Poverty Monitoring System in the Philippines

offshoot of the government's thrust towards poverty alleviation, many government agencies have realized the need for a set of indicators to monitor the welfare status of the population on a regular basis. It is thus very likely that a community-based monitoring system will soon be institutionalized."

In the formulation of the framework for the pilot CLSIS, there was a conscious effort to align the barangay-based data sets with the data requirements of the key development indicators of the rural sector statistical information system (RSSIS). In this context, it is important to note that RSSIS took into consideration the minimum basic needs (MBN) indicators being pursued/promoted by the Philippine Government.

It was confirmed during the social preparation phase, those barangay organizations, particularly in the health sector, has already been exposed to doing community-based data gathering work. Its barangay health workers (BHW) and barangay nutrition scholars (BNS) have been trained by DOH to serve as its local monitors for tracking key community health and nutrition related concerns. The BHWs and BNS have been working as community volunteers receiving only token allowance from the barangay operating budget.

In a typical barangay set up, the seven elected members of the Sanggunian (council) are assigned to head one of the sectoral committees: health, education, agriculture, infrastructure, peace and order, sports and budget. A youth representative is assigned to head the sangguniang kabataan (youth council). In addition, a Sanggunian member is also assigned to be a purok/sitio (village/commune) coordinator.

This provided an ideal set up for the envisaged CLSIS. The project trained the Sanggunian members to serve as its CLSIS monitors. In general, each purok usually consists of anywhere from 50 to 150 households. Thus the purok coordinator was expected to be intimately familiar with the activities of his ward and would not find it difficult to elicit from them data inputs that may be required by the CLSIS.

The social preparation and training component of the project equipped the barangay CLSIS monitors with the proper techniques and tools for data collection. The training menu also included expository sessions on data management, data analysis, report writing and dissemination.

During the first few months of CLSIS operations, the work of the CLSIS monitors would be confined to data collection and basic data processing. Gradually, as the CLSIS activities get integrated into the normal Sanggunian operations, the monitors would be guided by BAS in the hands-on training on basic data analysis and report preparation.

At the inception of the CLSIS, a barangay baseline data was established through a combination of both existing administrative reporting system and primary data collection mechanism. Whenever barangay data

could be extracted from existing municipal or national administrative reporting systems, the project exerted efforts to link them with the CLSIS data system. A barangay-municipal data linkage would also be worked out for education, health, social welfare, infrastructure and agriculture. BAS has committed its organization to serve as the focal institution that would initiate the linkage of relevant national data systems with gaps that may exist in the CLSIS.

In view of the unorganized way municipal agriculture officers were making their periodic monitoring reports, the project designed a set of agricultural reporting instruments that would allow for the generation of the anticipated periodic reports for this module.

### 3. Use of CLSIS as tool for empowerment

In the process of introducing the CLSIS concepts in the pilot communities, the project found that while the basic data sources for many national statistics come from the mass-based communities in the country, there was hardly any systematic and reciprocating information feedback that allowed these communities to have regular access to timely and useful information they need as a stakeholder in the country's development processes.

The inadequacies in the national information dissemination system could be cited as one of the contributing factors why many communities in the rural sector remain poor and food insecure. This situation becomes more ironic if one considers the fact that the rural sector is the source of the country's agricultural food supply. The project was informed that farmers were often left at the mercy of scrupulous traders who dictate the price they would pay for their produce. Farmers confirmed that they were not in a position to negotiate with traders because traders were the main source of farmers' credit, and also because the country's agricultural producers were hardly aware of the price, supply and demand conditions in the market.

Given this background, the project has set improved information dissemination as one of its medium-term milestones. It aimed to demonstrate that the CLSIS would be a very viable platform of the National Information Network (NIN), as envisaged in the Agriculture and Fisheries Modernization Act (AFMA), for directly serving the information needs of small farmers in remote rural communities.

Once all the components of the CLSIS are firmly set up, its three modules would be able to produce regular and periodic reports that would enhance program and project preparation, improve targeting of beneficiaries and monitoring impacts on them of these development-oriented interventions. In addition to the conventional print media, the project would likewise explore the feasibility of exploiting the advantages offered by the electronic information and communication technology (ICT) as a major information dissemination media to bring about the desired farmers' empowerment.

A short list of the reports that CLSIS could produce is given below:

### 3.1 Participation, community security and governance

- Annual report on sources and uses of barangay appropriations
  - Statistics on sources and uses of barangay funds
- Quarterly or annual report on community security
  - Number of victims against property and persons
  - Statistics on the barangay justice system
- Annual report on monitoring of peoples participation and community organization
  - Statistics on the number and activities of community organization
- Annual report on status of community-based development projects
  - Number of development projects
  - Status of projects
  - Problems associated with implementation and use of projects

### 3.2 Human development

- Monthly or quarterly report on births and deaths
  - Statistics on births and deaths
- Quarterly report on immunization of children 0-1 year old
  - Statistics on immunized children
- Quarterly or annual report on day care program
  - Statistics on children less than 7 years old attending day care centers
- Semestral or annual education monitoring report
  - Total school enrollment
  - Number of dropouts
  - Number of promotees/graduates
  - Number of failures
  - Number of classes
  - Number of textbooks
  - Physical condition of school buildings and facilities
- Quarterly or annual report on monitoring of social welfare program
  - Selected statistics on:
    - Out-of-school youths
    - Senior citizens
    - Poor and homeless
    - Victims of calamities

- Self-employment assistance
- CIDSS program

### 3.3 Agriculture and livelihood

- Monthly or quarterly report on crop planted and harvested
  - Name of farmer
  - Type of crop
  - Area planted
  - Expected date of harvest
  - Volume/quantity harvested
- Monthly crop monitoring report
  - Type of crop
  - Cropping season
  - Total area planted
  - Irrigated area
  - Planted area lost due to crop failure
  - Crop stage and condition
  - Pests and calamities
  - Weather condition
  - Farmgate price
  - Input availability
  - Expected market demand
- Periodic crop damage report
  - Area damaged
  - Potential harvest lost
  - Rehabilitation potential
- Monthly report on prices of agricultural outputs and inputs
  - Wholesale prices of agricultural outputs
  - Retail prices of farm inputs
- Quarterly report on livestock inventory, supply and utilization
  - Inventory of livestock
  - Addition to stock
  - Deaths due to diseases
  - Slaughtered animals
- Monthly or quarterly report on aquaculture fish stocks and harvest
  - Stocking density in aquaculture farms
  - Expected date of harvest
  - Quantity of fish production
- Monthly or quarterly report on fish production
  - Quantity of fish production

- Quarterly report on agro-processing, handicraft and home-based livelihood production
  - Number of factories in operation
  - Quantity of production
  - Projected production for the month
- Quarterly report on community-based mining and quarrying
  - Number of mining/quarrying areas
  - Area of quarry
  - Quantity of production

#### 4. Monitoring and evaluation

Prior to this TFSCB, the Philippines has made a number of attempts to set up community based information systems. These include the Community-Based Child Monitoring System (CBMCMS) Community-Based Child Monitoring System (CBCMS)<sup>2</sup>, Social Welfare and Community Development Indicator System (SWCDIS)<sup>3</sup>, and the Community-Based Information System (CBIS) and Local Information System (LIS) for the evaluation of Philippine Plan of Action for Children (PPAC)<sup>4</sup>. An on-going project, the Micro Impact of Macro Adjustment Policies (MIMAP) is pilot-testing in selected provinces its own version of the community-based monitoring system which aims to provide policymakers with regular and frequent information on the possible impacts of macroeconomic adjustment policies on the households and individuals, particularly those belonging to the vulnerable groups.

A common approach adopted by these exercises was to train community volunteers as data monitors. An observed weakness was the fact

---

<sup>2</sup> The National Statistical Coordination Board (NSCB) initiated in 1988 the Development of a Data System for Monitoring the Situation of Children and Women, otherwise known as the Child Monitoring Project (CMP). The main objective of CMP is to operationalize the information system on children and women by establishing a Child Monitoring System at the national and provincial/city level. The CBCMS was a sub-component of the CMP which was designed in response to the need for local level data.

<sup>3</sup> The SWCDIS Project was jointly initiated in 1991 by the NSCB and the Department of Social Welfare and Development (DSWD) to address the need for a statistical system for the social welfare and community development sector. The SWCDIS is an integrated data system intended to monitor the changes in the quality of life of the economically and socially disadvantaged population.

<sup>4</sup> The PPAC was formulated in 1993 in response to the World Summit Declaration and Plan of Action for Children, which the Philippine government committed to in 1990. PPAC identifies specific goals and targets for sustaining and promoting the well being of Filipino children. One of its objective is to establish and implement barangay, municipal and provincial system for monitoring PPAC goals and stimulating community, NGO and the private sector to support these goals. As a result, the CBIS was formulated as an information system installed and maintained at the barangay level by representatives of people's organizations (POs). The LIS, on the other hand, is an information system for the various PPAC services, and other local development programs established and maintained by the LGUs at the municipal, city, and provincial levels.

that the initiatives were made by agencies whose main mandate is not really primary data collection<sup>5</sup>. Development of community-based information system takes time before desired reliable information gets institutionalized. Unless properly nurtured, it would be difficult to expect community volunteers, who are usually assigned tasks detached from data gathering, to sustain their interest in keeping a functional CBMS after project support is withdrawn. This is especially expected to be the ultimate fate of multi-sectoral monitoring systems. The success of DOH's BHW/BNS health and monitoring activities lie in the fact that these activities are inherent in their respective mandates.

This is where the present exercise differs from earlier efforts of setting in place functional community-based monitoring systems. Since the project's implementing agency is the Bureau of Agricultural Statistics (BAS), one of the two national agencies mandated to collect primary data in support of the programs of the PSS, its presence and involvement is assured at the field level. Moreover, one of the major components of the CLSIS is focused in agriculture, an area of particular interest to BAS. It has therefore a special institutional interest in ensuring that the project achieves some level of success. For one, if the CLSIS proves to be a viable cost-effective alternative to the present survey-based operations of BAS, it stands to benefit by being able to carryout its mandate without overburdening the already depleted logistic resources of the government. In addition, the timeliness, reliability and acceptability of an information system that is fully supported by the community is enhanced, as the community will have "ownership" of the information it supplies to the national statistical system. BAS therefore will be able to establish a strong ally in supporting the integrity of its agricultural data system.

It should be noted that the CLSIS model as shown in Figure 1 has incorporated a built-in nurturing, monitoring and evaluation mechanism, a critical phase of the project especially at its initial period of implementation. Since BAS would be in constant touch with the barangay and LGU monitors, immediate corrective measures could be instituted before any emerging problem worsens.

#### **IV. Institutionalization**

The institutionalization of the CLSIS will have to be considered as part of BAS long-term development plan. What is important is to have BAS' assurance that it will continue to nurture, improve and sustain this project's initiative in the 12 pilot communities until it succeeds in developing a viable CLSIS model that could be replicated in other municipalities.

---

<sup>5</sup> It should be noted that NSCB which initiated the 1988 CMP exercise is the country's central coordinator for statistical activities. It does not have field presence which could effectively supervise/monitor field level activities.

The envisaged CLSIS data flow is schematically shown in Figure 1 below.

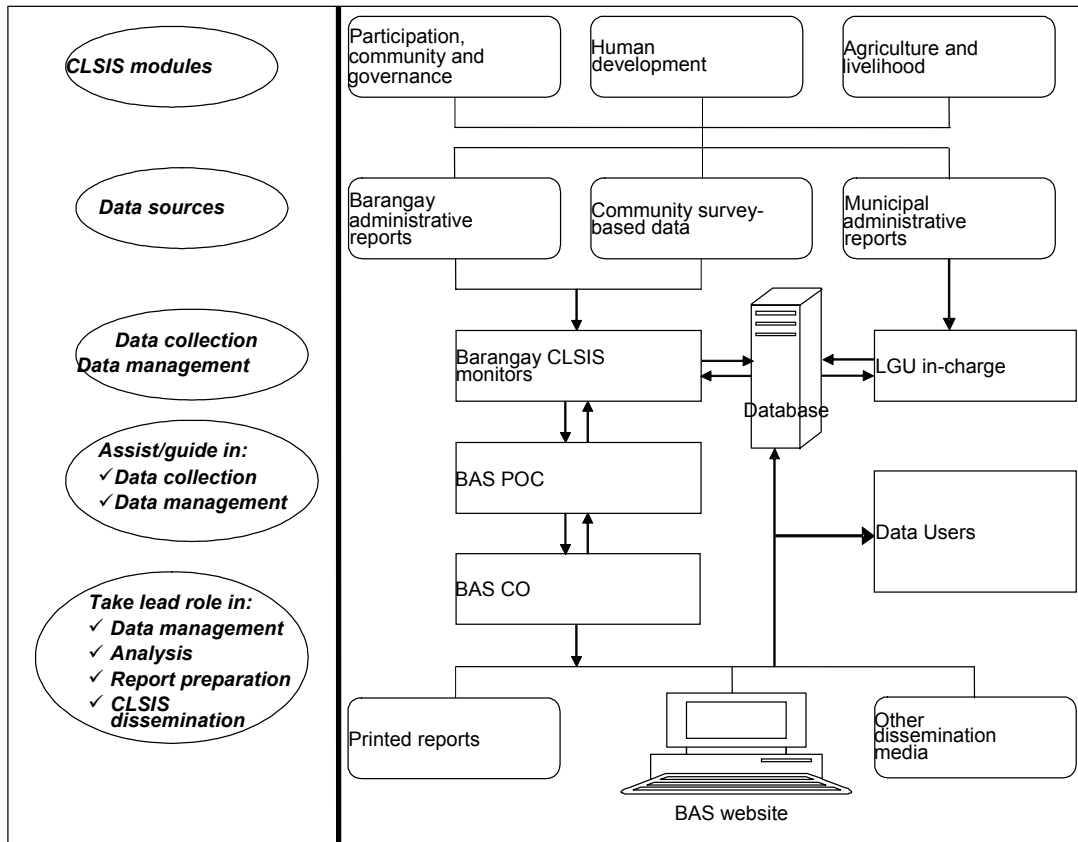


Figure 1. The CLSIS Flow Chart