

ECONOMIC CENSUS IN THE PHILIPPINES¹

By

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1. Introduction

The latest Economic Census undertaken by the Philippines was the 2006 Census of Philippine Business and Industry (CPBI). The CPBI is one of the designated statistical activities in the System of Designated Statistical Activities undertaken by the National Statistics Office. The CPBI is conducted every five years, usually in years ending in 0 and 5, with the preliminary results expected to be released two years after the reference period and the final results, after three years.

The 2006 CPBI is a comprehensive collection, compilation, evaluation and analysis of data about economic activities of the country undertaken in 2007. The year 2006 is the reference period for the census, as provided for in NSCB Resolution No. 3 Series of 2007. The census was conducted the following year, after the companies had accomplished their financial reports.

The 2006 CPBI is the 14th in the series of Economic Censuses conducted in for the Philippines. The 13 other Economic Censuses were conducted for reference years 1903, 1918, 1939, 1948, 1961, 1967, 1972, 1975, 1978, 1983, 1988, 1994, and 1999.

This report will present the concepts used and activities undertaken in the conduct of the census. It will also discuss practices established and improvements made in its operation.

2. Why Economic Census?

The main objective of the CPBI is to collect information on the structure and trends of economic activities in the entire country. As such, the data collected will constitute bases upon which the government, as well as the private sector, can formulate policies and evolve economic develop plans.

Specifically, the census results are used in:

- constructing national and regional income accounts of the Philippine economy
- formulating and monitoring plans/policies in the attainment of national and regional economic goals
- determining and comparing regional economic structure and performances

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- providing updates for the frame of establishments
- conducting market research and feasibility studies.

2.1 Scope and Coverage

The CPBI covers the 14 sectors of the Philippine economy namely:

- Agriculture, hunting and forestry
- Fishing
- Mining and quarrying
- Manufacturing
- Electricity, gas and water
- Construction
- Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods
- Hotels and restaurants
- Transport, storage and communications
- Financial intermediation
- Real estate, renting and business activities
- Education
- Health and social work
- Other community, social and personal service activities.

Moreover, the scope of the CPBI is confined to the formal sector of the economy and as such excludes the “informal” sector. The formal sector is comprised of the following:

- corporations and partnerships
- cooperatives and foundations
- single proprietorship with employment of 10 or more
- single proprietorship with branches.

The rationale for using the formal sector as the scope of the census was based on the share that this group contributes to the value added of the major sectors. For example, the 2005 ASPBI results show that the contribution of the formal sector was at least 50 percent of value added. In 11 of the 14 sectors, value added of the formal sector ranged from 80 to 100 percent of the total.

2.2 Unit of Enumeration

The statistical unit or unit of enumeration used in the 2006 CPBI is the establishment. An establishment is defined as:

“an economic unit under a single ownership or control, i.e. under a single legal entity, engaged in one or predominantly one kind of economic activity at a single fixed location.”

In actual practice, however, there are difficulties in applying the definition of an establishment. Thus, it is defined in operational terms to take into account the organization and record-keeping practices of establishments by making the single location and activity criteria more flexible. This necessitates the use of the kind-of-activity unit for certain sectors as the single location restriction is eliminated.

For construction; transport, storage and communication; insurance; real estate buying, developing, subdividing and selling; banking and insurance; and investigation and security activities, the establishment is defined in operational terms as:

“the unit that is engaged in the production of the most homogenous group of goods and services, usually at one location, but sometimes over a wider area, for which separate records are available that can provide data concerning production of these goods and services and the materials, labor and physical resources used in this production.”

2.3. Classification Systems

An establishment is categorized by its economic organization, legal organization, employment size, industrial classification and geographic classifications.

a. Economic Organization

Economic Organization relates to the organizational structure or role of the establishment in the organization. The following are the types of economic organization:

- Single establishment is one which has neither branch nor main office.
- Branch only is an establishment which has a separate main office located elsewhere.
- Establishment and main office, both located in the same address and with branch/es elsewhere.
- Main office only is the unit which controls, supervises and directs one or more establishments of an enterprise.
- Ancillary unit other than Main Office is the unit that operates primarily or exclusively for a related establishment or group of related establishments or its parent establishment and provides goods or services that support but do not become part of the output of those establishments. Examples are warehouse of plants or wholesale establishments, repair shops or garage or terminals of transport establishments.

b. Legal Organization

The Legal Organization provides the legal basis for ownership of the establishment. The following are the types of legal organization:

- Single Proprietorship refers to a business establishment organized, owned, and managed by one person, who alone assumes the risk of the business enterprise. The establishment name is usually that of a person, or it has words such as Owner, Proprietor or Operator.
- Partnership refers to an association of two or more individuals for the conduct of a business enterprise based upon an agreement or contract between or among them to contribute money, property or industry into a common fund with the intention of dividing profits among themselves. The establishment name usually includes words such as Owners , Partners, Limited or LTD., Associates or ASSOCS.
- Government Corporation is a private corporation organized for private aim, benefit or purpose and owned and controlled by the government. The establishment name usually included words such as Corporation or CORP., INCORPORATED or INC.
- Private Corporation is a corporation organized by private persons. The establishment name usually includes words such Corporation or Corp, Incorporated or INC.
- Cooperative – the establishment name includes words such as Cooperative or COOP

c. Size of Establishments

The size of the establishment is determined by its average total employment (ATE). The following are the employment size classification used in the 2006 CPBI:

ATE Code	Average Total Employment
0	1-4
1	5-9
2	10-19
3	20-49
4	50-99
5	100-199
6	200-499
7	500-999
8	1000-1999
9	2000 and over

d. Industrial Classification

The industrial classification of an economic unit is determined by the activity from which it derives its major income or revenue. The amended **1994 Philippine Standard Industrial Classification (PSIC)** is utilized to classify units according to their economic activities. The 1994 PSIC is based on International Standard Industrial Classification (ISIC) Rev. 3.

The amended 1994 PSIC consists of an alpha character and 5 numeric digits. The alpha character, which represents the major division, is denoted by the characters A to Q. For Manufacturing, the alpha character is D. The first two numeric digits represent the division; the first three numeric digits, the group; the first four digits, the class; and the 5 digits, the sub-class.

Example:

- D – Manufacturing
- 15 – Manufacture of food products and beverages
- 151 – Production, processing and preservation of meat, fish and seafoods, fruits, vegetables, oils and fats, including the slaughtering and meat packing
- 15113 – Processing and preserving of fish and fish products and other seafoods
- 151131 – Canning/packing of fish and other marine products

e. Geographic Classification

The geographic or physical location of the establishments was classified in accordance with the **Philippine Standard Geographic Code (PSGC)** as of December 30, 2006. The PSGC contains the latest updates on the number of regions, provinces, cities, municipalities and barangays in the Philippines

The geographic domains of the 2006 CPBI for establishments with average total employment (ATE) of 20 and over were the provinces, independent component cities, chartered cities and highly urbanized cities and municipalities. On the other hand, the geographic domains for establishments with ATE of less than 20 were the regions.

Hence, the samples of the 2006 CPBI with ATE 20 and over shall provide data for 17 administrative regions, 81 provinces, 39 cities and municipalities. For samples with ATE less than 20, the data that will be presented is limited only for regional levels.

3. Planning and Organization of Economic Census

3.1. Legal Authority

Like all censuses and surveys conducted by the National Statistics Office, the conduct of the 2006 CPBI is authorized by various legislative acts and presidential directives namely:

- Commonwealth Act of 591

Entitled, “An Act to Create the Bureau of the Census and Statistics, to Consolidate Statistical Activities of the Government Therein” and approved on August 19, 1940. The Act empowers the Bureau, among other things, to prepare for and undertake all censuses of population, agriculture, industry and commerce.

- Presidential Decree 418

Entitled “Reconstituting the Bureau of the Census and Statistics as a New Agency to be known as the National Census and Statistics Office under the administrative supervision of the National Economic and Development Authority”, approved on March 20, 1974.

- Executive Order No. 121

Entitled “Reorganizing Act of the Philippine Statistical System”, approved on August 4, 1987. It renames the National Census and Statistics Office (NCSO) to National Statistics Office which shall be the major statistical agency responsible for generating general purpose statistics and undertaking such censuses and surveys as may be designated by the National Statistical Coordination Board.

- Executive Order 352

Entitled “Designation of Statistical Activities that will Generate Critical Data for Decision-making by the Government and Private Sector, dated on July 1, 1996. It approved the designated activities and statistics recommended by the National Statistical Coordination Board for adoption by the Government.

- Executive Order 5

Entitled “Strengthening the National Statistics Office” dated July 29, 1998. It authorizes the Office to delegate more substantive and administrative functions to the field offices to transform them from a mere data collection arm to statistics producing units. Refocus the functions of the central office units towards development planning, design and analysis of designated statistical activities as well as other surveys and statistical studies requested by government agencies and international organization.

3.2. Financial and Budgetary Provisions

The 2006 Census of Philippine Business and Industry (CPBI), had a total budget of PhP109 million. This is approximately equal to US\$2,367,467 at an average exchange rate of P46.40 and P44.52 pesos to US dollar in 2007 and 2008, respectively.

The budget covered the different phases of the census operation in years 2007 and 2008 such as preparatory phase, printing of questionnaires and manuals, training, field operations, data processing, data dissemination and publication. The breakdown of budget by cost structure by expense class is as follows:

COST STRUCTURE BY EXPENSE CLASS	Total (PhP1,000)
MOOE	109,000
Traveling Expenses/PD	72,226
Training & Seminar Expenses	6,229
Supplies and Materials	2,914
Advertising Expenses	520
General Services	11,649
Printing & Binding Expenses	10,516
Freight Services	2,122
Communication Services	2,824

An amount of about PhP8.0 million was requested for realignment from the Department of Budget and Management out of the budget to purchase various information technology (IT) and other equipment for use in the census operation.

3.3. Plans and Preparatory Activities

Operational planning for the 2006 CPBI started in October 2, 2006 with the creation and organization of a Steering Committee, Technical Committee, and Working Groups comprising of NSO officials, subject-matter statisticians and selected systems analysts and computer programmers to undertake the preparatory activities.

The preparatory activities include the following: frame preparation, questionnaire design, clearance process, manual preparation, processing plan, publicity and training plans, budgeting, frame updating, sample design and selection, preparation and edit specifications, preparation of edit specifications, computer system design and program development, publicity campaign, addressing of questionnaires, printing of census forms

and manuals, preparation for shipment of census materials and other related activities, and recruitment of statistical researchers.

The other major phases of activities undertaken were as follows:

- Training
- Field Operation, which includes the distribution, collection and submission of reports
- Processing
- Tabulation of Data and Dissemination
- Evaluation and Documentation

3.4. Questionnaire Design

There were four types of questionnaires utilized for the 2006 CPBI. The four types of questionnaires, designed after taking into consideration the requirements of the main users and with distinguishing colors, are as follows:

Form Type	Sector	Spot Color
CPBI Form 1	Agriculture, Forestry and Fishing	green
CPBI Form 2	Mining and Quarrying; Manufacturing; Electricity, Gas and Water	yellow
CPBI Form 3	Construction	orange
CPBI Form 4	Business and Services	blue

The list of data items collected in the 2006 Census of Philippine Business and Industry (CPBI) appears below:

Item Number	Description
4	Economic Organization in 2006
	Name and Address of Main Office and Contact Person In Main Office
5	Number of Paid Employees as of 15 November 2006
6	Number of Unpaid Workers as of 15 November 2006
7	Total Employment as of 15 November 2006
8	Number of Production/construction Workers as of 15 November 2006
9	Total Hours Worked by Production/Construction Workers in 2006
10	Gross Salaries and Wages Paid in 2006

11	Total Employer's Contributions to SSS/GSIS etc. paid in 2006
12	Total Revenue in 2006
13	Subsidies Received in 2006
Item Number	Description
14	Total Costs Incurred in 2006
15	Capital Expenditures, Sale of Fixed Assets in 2006, including Losses and Damages
16	Capital Expenditures for All Fixed Assets by Mode of Acquisition in 2006
17	Capital Expenditures for Intangible Assets in 2006
18	Book Value of Fixed Assets as of 31 December 2006
19	Total Value of Intangible Assets as of 31 December 2006
20	Average Capacity Utilization Rate in 2006 (Collected for Manufacturing, Electricity, Gas and Water, and Mining and Quarrying)
21	Inventories in 2006
22	Remarks
23	Lists of Branches, Divisions, Plants Owned and Controlled
	Certification
	Contact Person

Indicators derived from the data set above are value of output and value added and gross margin.

3.5. Use of Establishments' Frame

NSO maintains a List of Establishments from where a frame for census and or surveys of establishments are taken. Three approaches are undertaken on a regular basis to update the characteristics of the units in the frame if budgetary allocation is not available for field enumeration. These are through survey feedbacks from other NSO surveys of establishments, administrative listings from various government regulatory agencies, and from industry associations.

Examples of government regulatory agencies are the Securities and Exchange Commission, Philippine Economic Zone Authority, Department of Trade and Industry, Bangko Sentral ng Pilipinas, National Electrification Administration, Department of Tourism, to name a few.

Survey feedbacks in terms of the characteristics of the units in the list were taken from the 2006 Monthly Integrated Survey of Selected Industries, 2006 Quarterly Survey of Philippine Business and Industries and the 2005 Annual Survey of Philippine Business and industries

Industry associations like the Federation of Philippine Industries, Integrated Food Manufacturers Association of the Philippines, Philippine Exporters Confederation, are also rich sources for updating the list of establishments.

For the 2006 CPBI, moreover, updating of the list through field enumeration was done on a selective basis. Field enumeration was undertaken in selected urban barangays in cities and municipalities in the National Capital Region, selected provinces in Regions 3 and 4, where many industrial parks agglomerate, and in growth areas of some provinces.

3.6. Sampling Design

The 2006 CPBI used stratified systematic sampling with five-digit PSIC or groups of five-digit PSIC and/or four-digit PSIC or groups of four-digit PSIC serving as first stratification variable and the employment size (ATE) as the second stratification variable. Taken on a certainty basis were establishments with size of 20 employees and over and on a sampling basis those with less than 20 employees.

The sampling design for the 2006 CPBI included the following:

- Determination of geographic domain
- Determination of industry domain
- Determination of employment strata
- Determination of sample size
- Accuracy of estimates required
- Sample allocation and sample selection.

The 2006 CPBI had a total workload of 57,355 sample establishments. About 23,794 (41.5%) of the total were establishments with Average Total Employment (ATE) of 20 and over while 33,561 (58.5%) were establishments with ATE of less than 20.

3.7. Information Campaign

Information campaign was done six months prior to field operations to inform and educate the general public of the basic information and importance of the economic census. This activity was made through launching programs, slogan-making contest and display of streamers in public places announcing the conduct of the census. All of these were aimed at soliciting support in terms of accomplishing and submission of reports on time.

A slogan-making contest among NSO employees was launched as part of the publicity campaign.

A series of launching programs were also conducted in other parts of the country such as Cagayan de Oro City, Cebu City and Manila. Participants were representatives from government and private agencies, media organizations, business organizations and responding sample establishments identified as industry leaders.

3.8. Staff Recruitment and Training

Four types of training were conducted for the 2006 CPBI, as follows: (1) Facilitator's Course; (2) Field Operations and Field Editing, and (3) Training for Data Entry; and (4) Training for Manual Processing.

Facilitator's Course was conducted for three days to prepare the ITSD staff and selected field staff, who will serve as trainers for the Second Level Training on field operations and field editing, on the process of conducting trainings.

Field operations and field editing training for the 2006 CPBI, conducted in March to April of 2007, was done in three levels, as follows: (1) Task Force Training; (2) Second Level Training; and (3) Third level Training.

- **Task force training** – The first level training was conducted in Rizal and NSO Central Office and was participated in by subject-matter statisticians, selected staff the Information and Resources Department and selected field office staff from the National Capital Region (NCR) and Central Luzon. They served as trainers for the second level training.
- **Second level training** – The second level training was conducted at the regional offices for a duration of three days. The participants in this training were the Regional Directors, Provincial Statistics Officers (PSOs), Regional and Provincial Statisticians and District Statistics Officers (DSOs)/Statistical Coordination Officers (SCOs) of selected provinces where the regional office is located.
- **Third level training** – The training was conducted in all NCR districts and provincial offices nationwide for a duration of three days. The participants in this training were the PSOs (for NCR only), SCOs, provincial statisticians, provincial staff and hired Statistical Researchers of the province. Those who attended the second level training served as trainers for this level. For selected provinces, the trainers were assisted by a representative from Central Office. For NCR, trainers were composed of three Task Force Training participants.

4. Data Collection and Processing

Field operations which include distribution, collection and manual editing of accomplished questionnaires started after the training. Distribution was done in the whole month of May 2007 while collection and manual editing of questionnaires commenced on June 2007.

The field operations for the 2006 CPBI coincided with other activities of the Office, namely: Labor Force Survey, Annual Poverty Indicators Survey and the 2007 Population Census. Hence, it was necessary to augment the regular personnel in the field offices by hiring 279 Statistical Researchers (SR) on a temporary basis at a cost amounting to PhP8.1 million.

4.1 Approaches and Methods

To ensure uniformity of instructions and procedures, two manuals of instructions were prepared, namely: Field Operations and Processing Manual, and Monitoring and Tracking Systems Manual. The instructions in these Manuals were disseminated in training conducted nationwide.

Distribution of questionnaires for the 2006 CPBI was done by provincial office staff through personal delivery of the questionnaire to the sample establishments. This activity was done in May to June of 2007.

The respondents were generally given 30 days to accomplish the questionnaire. The collection phase was programmed for the first week of June until the last week of December 2007, but this activity was extended until May 2008 to allow more time for the collection of reports of establishments that were considered as industry leaders.

Reports of remaining non-reporting establishments were imputed based on the program designed for imputation and from other administrative data sources such as like the Securities and Exchange Commission. However, reports of establishments in the certainty stratum, which were found out to be out of business, were not imputed.

Processing or editing of survey data was done to check for the completeness, consistency, and reasonableness of entries. It consisted of two stages: manual editing and machine processing. A microcomputer-based machine processing and tabulation system for the 2006 CPBI was developed by the staff of the IRD using CSPRO software.

4.2 Response Rate

An improved response rate was attained for the 2006 CPBI. The table below shows the response rates by sector classified according to establishments with ATE of less than 20 and ATE of 20 and more.

Sector	2006 CPBI		
	Total	ATE less than 20	ATE 20 and over
Total	92.1	91.3	92.9
Agriculture, Hunting and Forestry	89.9	91.2	88.5

Fishing	96.5	94.8	98.2
Mining and Quarrying	92.7	97.8	87.6
Manufacturing	91.1	91.0	91.2
Electricity, Gas and Water	90.7	88.1	93.3
Construction	93.7	94.2	93.2
Wholesale and Retail Trade; Repair Services	93.0	94.6	91.4
Hotel and Restaurant	84.2	74.8	93.6
Transport, Storage and Communication	94.6	93.4	95.8
Financial Intermediation	93.7	91.6	95.8
Real Estate, Renting and Business Activities	93.9	93.1	94.7
Education	91.5	90.5	92.5
Health and Social Work	92.3	91.6	93.9
Other Community, Social and Personal Service Activities	91.3	91.5	91.1

The over-all response rates for the 2006 CPBI exceeded 90 percent. By sector, the response rates have improved a lot with only the agriculture, hunting and forestry (89.9%), and hotels and restaurants (84.2%) not attaining the 90 percent mark.

4.3 Field Supervision

To improve the response rate and quality of reports, two separate rounds of spotchecking were conducted by selected Central Office (CO) staff. The first was in January to February 2008 and the second in April 2008. The provinces visited were selected based on the over-all response rates of the provincial offices, receipts of accomplished questionnaires at the CO (ITSD), and response rates and quantity of uncollected questionnaires for establishments with ATE of 100 and over (based on receipt at the CO). During the visit, the ITSD staff had a meeting with the provincial office staff; visited selected large non-responding establishments, closed establishments not desk verified, and establishments with problems in the accomplished 2006 CPBI, QSPBI and MISSI; and field verified selected establishments with 2006 CPBI reports.

4.4 Technological Innovations for Reducing Costs

Several tasks were performed at harnessing current technologies in order to improve survey operations and to institute structured feedback mechanism for monitoring survey implementations in 17 regions nationwide.

- An **e-questionnaire or electronic copy** of forms for the 2006 CPBI was developed for respondents to submit their responses via the NSO Web. The e-questionnaire is in excel format and can be accessed using Microsoft Office Excel. Every page in the CPBI form has a corresponding worksheet in the e-questionnaire. The file also has a macro program that enables the user to create an encrypted text file of the data supplied. The encrypted file is then emailed to NSO (ITSD-RCU) for submission, thus facilitating data collection.

The response rate for the 2006 CPBI e-questionnaire was 0.1 percent of the total workload.

- An **Electronic Imputation Program** for the 2006 CPBI was developed to automatically estimate data for non-responding sample establishments, and establishments with status identified as “cannot be located”, temporarily stopped operation, and under new management. The computer program utilized a hot-deck method of imputation.
- The **ITSD Monitoring and Tracking System (ITSD-MTS)**, a computerized monitoring system, developed to manage the distribution, collection and processing of surveys. The software was customized and designed with the purpose of facilitating the tracking of questionnaires and monitoring the progress of the census/survey operations.

4.5 Quality Assurance for the Economic Census Process

During the survey operation, three measures were implemented to ensure the quality of census results. These were:

- Establishment of an Advance Release Calendar (ARC), which is in accordance with the System of Designated Statistics, to be followed in the delivery of outputs. The ARC informs the data users about the dates when the preliminary and final results will be available.
- Institutionalized the monitoring of survey implementation and feedback mechanism through a customized computer system developed for the purpose so as to make evaluation on a regular and timely basis. E-mail messages were regularly sent to field offices to inform them about the status of the operations and provide feedback on common problems. Thus, field offices were able to make necessary call-backs early enough. This also resulted in a friendly competition among the field offices for the highest response rates and lowest number of errors.
- Documentation of all census activities and procedures in an “Administrative Report”. Preparation of this report is on-going and is expected to be completed after the publication of census data.

5. Dissemination of Economic Census Results

Preliminary tabulation of data for establishments with average total employment of 20 and over was completed in December 2008. Tabulation of final results of data is expected to be completed until July 2009.

Dissemination of census results is made in the form of special releases, publications and user's fora. In the dissemination of census data, established methods are to safeguard the confidentiality of individual business data as mandated by Commonwealth Act 591.

The special release is a report that provides summary highlights of preliminary census results of each sector. Included in this report is a metadata of the census. This is disseminated through the NSO Website at <http://www.@census.gov.ph>.

The publication of final results is in the form of printed copies in 17 volumes. The reports will also be available in electronic format. The printing shall commence in October 2009.

Stakeholder feedback mechanism through data dissemination fora are being undertaken for the results of the 2006 CPBI. This is conducted in all regional centers and selected provinces.

6. Concluding Remarks

The next economic census, 2012 CPBI, will be undertaken in 2013. Several issues and emerging concerns are being discussed and studied to make it more responsive to the needs of major data users. These include the following:

- Clearer delineation between the coverage of the CPBI and the informal sector. Although there is already an official definition of the informal sector, this needs to be translated into operational terms to minimize double counting. Tests are on going towards a possible integrated listing of household unincorporated enterprises and establishments.
- The use of the enterprise as a unit of enumeration to capture information that are available only at that level. A study is underway to identify the items of information to be collected from enterprises. The same study seeks to resolve issues on classification and size determination in preparation for the development of a sampling frame for enterprises.
- Capability building. Key personnel are undergoing training on the System of National Accounts as part of the NSO's human resource development program. The training is expected to equip the statisticians both at the central and field offices with the framework for analyzing the results of the censuses and surveys.

- Stakeholder's forum. Regular interaction between the NSO and its stakeholders has been known to improve the response rate and quality of census results. The current practice is being documented so that good practices can be shared among field offices.

The NSO also keeps watch over new developments that will have a bearing on the next census. The adoption of ISIC Rev. 4 by the Philippine Statistical System is expected very soon. The ongoing work on the harmonization of industrial statistics in the ASEAN region will also input into the census plans. Good practices from other countries will be studied for possible adoption.