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**Census of Philippine Business and Industry  
( C P B I )**

**SAMPLING DESIGN**

**SECTORS A and B**

**STATISTICAL SAMPLING AND OPERATIONS DIVISION  
INDUSTRY AND TRADE STATISTICS DEPARTMENT  
S U M M A R Y**

This report presents the documentation of the sampling design of the 2006 Census of Philippine Business and Industry (CPBI) for the following sectors.

Sector A (Agriculture, Hunting and Forestry)

Sector B (Fishing)

The report includes the general description of the 2006 CPBI followed by details for each sector in the following format:

## **INTRODUCTION**

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## INTRODUCTION

The 2006 CPBI is a nationwide undertaking confined to the **formal sector** of the economy and as such excludes the “informal” sector. NSCB Resolution No 15, series of 2002 (Adoption of an Official Definition on the Informal Sector) provides an operational definition of the informal sector for statistical purposes :

*The **informal sector** shall refer to household unincorporated enterprises which consists of both informal own-account enterprises and enterprises of informal employers. Informal own-account enterprises are household unincorporated enterprises owned and operated by own-account workers, either alone or in partnership with members of the same or other households which may employ unpaid family workers as well as occasionally/seasonally hired workers but do not employ employees on a continuous basis.*

*Enterprises of informal employers are household unincorporated enterprises owned and operated by own-account workers, either alone or in partnership with members of the same or other households which employ one or more employees on a continuous basis.*

*Particular cases that are excluded in the informal sector are the following:*

1. *Corporations*
2. *Quasi-corporations*
3. **Units with 10 or more employees**
4. *Corporate farms*
5. *Commercial livestock raising*
6. *Commercial fishing*

The **exclusions** in the operational definition of the informal sector are the units that will comprise the **formal sector** and will be qualified as follows.

The formal sector will be composed of:

- a. Corporations, partnerships, cooperatives, and associations;
- b. single proprietorships with employment of 10 or more;**
- c. single proprietorship with branches
- d. foundations and cooperatives.

Hence, the 2006 CPBI covers only the following:

- All establishments with **Average Total Employment (ATE) 10 or more**
- All establishments with ATE less than 10 except those Single Proprietorship (Legal Organization = 1) and at the same time Single Establishment (Economic Organization = 1) (See **Table 1** for the distribution of establishments by EO, by LO and by Employment Size)

engaged in economic activities classified under the 14 Major Division of the amended 1994 Philippine Standard Industrial Classification (PSIC).

## 1. CLASSIFICATION OF ESTABLISHMENTS

In the 2006 CPBI, establishments are classified based on their economic organization (EO), legal organization (LO), and employment size (ATE).

Furthermore, establishments are categorized according to their industry and geographic location. The LE uses standard classification systems such as the Philippine Standard Geographic Code (PSGC) and the amended 1994 Philippine Standard Industrial Classification (PSIC), for the purposes of international comparability.

### 1.1 ECONOMIC ORGANIZATION OF AN ESTABLISHMENT

The economic organization relates to the organizational structure or role of the establishment in the organization. An establishment may be classified according to its economic organization, that is, whether an establishment is a single establishment, a branch, an establishment and main office, a main office only, or an ancillary unit (except main office).

A **single establishment** (EO = 1) is one which has no branch or main office.

A **branch** (EO = 2) is an establishment with main office located elsewhere.

An **establishment and main office** (EO = 3) is one which is both located in the same address and with branches elsewhere.

A **main office** (EO = 4) is an ancillary unit which controls, supervises and directs other establishments.

An **ancillary unit** (except main office) (EO = 5) is an economic unit that operates primarily or exclusively for a related establishment or group of establishments and produces goods or services that support but do not become part of the output of those establishments. Examples of ancillary units are warehouses, garages, and repair shops of transport establishments, research laboratories, or electric power plants of a movie house or of a factory which primarily serve their parent units. To be classified also under this category are extension stores of retail stores in markets.

Ancillary units, although listed and included in the List of Establishments (LE), were excluded from the frame of the 2006 CPBI.

### 1.2 LEGAL ORGANIZATION OF AN ESTABLISHMENT

An establishment may be also classified according to its legal or business organization. The legal organization refers to the legal structure of the establishment. This provides the basis for ownership. The types of legal organization are single proprietorship, partnership, government corporation, other private corporation, cooperative, and other legal organizations such as private associations, foundations, non-government organizations (NGOs), etc.

A **single proprietorship** (LO = 1) refers to a form of legal or business organization organized, owned, and managed by one person, who alone assumes the risk of the business enterprise. The establishment name is that of a person, or it has words such as Owner, Proprietor or Operator.

A **partnership** (LO = 2) 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 includes words such as Owners, Partners, Limited or Ltd., and Associates or Assocs.

A **government corporation** (LO = 3) is a private corporation organized for private aim, benefit or purpose and owned or controlled by the government. The establishment name includes words such as Corporation or Corp., and Incorporated or Inc.

A **private corporation** (LO = 4) refers to a corporation organized by private persons. The establishment name also includes words such as Corporation or Corp., and Incorporated or Inc.

A **cooperative** (LO = 5) is an organization composed primarily of small producers and/or consumers who voluntarily join together to form a business enterprise which they themselves own, control and patronize. The establishment name includes words such as Cooperative or Coop.

An economic unit is classified under **others** (LO = 6) if it is a private association, foundation, non-government organization or other forms of legal organization not classified in any of the above.

### 1.3 EMPLOYMENT SIZE OF AN ESTABLISHMENT

The size of an establishment is determined by its average total employment. The following are the employment size classification used in the Census:

**Table 2. Average Total Employment Codes**

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

#### 1.4 INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

The industrial classification of an economic unit is determined by the activity from which that unit derives its major income or revenue. If the establishment is engaged in economic activities of nearly equal contribution to its revenue, the main economic activity to be considered is the original activity of the establishment or that activity which the establishment engaged in the longest. The amended 1994 Philippine Standard Industrial Classification, the latest classification of industries prevailing in the country according to their specific economic activities, is utilized to classify establishments. **Table 3** shows the 14 Major Divisions covered by the 2006 CPBI.

**Table 3. The Major Division of the Amended 1994 Philippine Standard Industrial Classification (PSIC)**

1994 PSIC	ECONOMIC ACTIVITY
A	Agriculture, Hunting and Forestry
B	Fishing
C	Mining and Quarrying
D	Manufacturing
E	Electricity, Gas and Water Supply
F	Construction
G	Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
H	Hotels and Restaurants
I	Transport, Storage and Communications
J	Financial Intermediation
K	Real Estate, Renting and Business Activities
M	Education
N	Health and Social Work
O	Other Community, Social and Personal Service Activities

The following major divisions are excluded from the coverage of the census and all other establishment surveys of NSO:

- P - Private Households with Employed Persons;
- Q - Extra-Territorial Organizations and Bodies; and
- L - Public Administration and Defense; Compulsory Social Security.

### 1.5 GEOGRAPHIC CLASSIFICATION OF ESTABLISHMENTS

The geographic (physical) locations of the establishments are classified in accordance with the Philippine Standard Geographic Code (PSGC) containing the latest updates on the official number of regions, provinces, cities, municipalities and barangays in the country. Geographic codes used for the 2006 CPBI is as of December 2006.

**Table 4. List of Regions with Provincial and City/Municipality Composition**

REGION	PROVINCE	CITY / MUNICIPALITY
National Capital Region (NCR)		City of Manila <sup>a/ b/</sup> Quezon City <sup>a/ b/</sup> Mandaluyong City <sup>a/ b/</sup> Marikina City <sup>a/ b/</sup> Pasig City <sup>a/ b/</sup> San Juan Caloocan City <sup>a/ b/</sup> Malabon City <sup>a/ b/</sup> Navotas Valenzuela City <sup>a/ b/</sup> Makati City <sup>a/ b/</sup> Pateros Taguig City <sup>a/ b/</sup> Parañaque City <sup>a/ b/</sup> Las Piñas City <sup>a/ b/</sup> Muntinlupa City <sup>a/ b/</sup> Pasay City <sup>a/ b/</sup>
Cordillera Administrative Region (CAR)	Abra, Apayao, Benguet (except Baguio City), Ifugao, Kalinga, Mountain Province	Baguio City <sup>a/ b/</sup>

REGION	PROVINCE	CITY / MUNICIPALITY
Region I – Ilocos	Ilocos Norte, Ilocos Sur, La Union, Pangasinan	
Region II – Cagayan Valley	Batanes, Cagayan, Isabela (excluding Santiago City), Nueva Vizcaya, Quirino	Santiago City (Isabela) <sup>a/</sup>
Region III – Central Luzon	Aurora, Bataan, Bulacan (excluding San Jose del Monte City), Nueva Ecija, Pampanga (excluding Angeles City), Tarlac, Zambales (excluding Olongapo City)	San Jose del Monte City <sup>b/</sup> Angeles City <sup>a/</sup> Olongapo City <sup>a/</sup>
Region IV-A – CALABARZON	Cavite, Laguna, Batangas, Rizal (excluding Antipolo City), Quezon (excluding Lucena City)	Antipolo City <sup>b/</sup> Lucena City <sup>a/</sup>
Region IV-B – MIMAROPA	Oriental Mindoro, Occidental Mindoro, Romblon, Marinduque, Palawan	
Region V – Bicol	Albay, Camarines Norte, Camarines Sur (excluding Naga City), Catanduanes, Masbate, Sorsogon	Naga City <sup>a/</sup>
Region VI – Western Visayas	Aklan, Antique, Capiz, Guimaras, Iloilo (excluding Iloilo City), Negros Occidental (excluding Bacolod City)	Bacolod City <sup>a/ b/</sup> Iloilo City <sup>a/ b/</sup>
Region VII – Central Visayas	Bohol, Cebu (excluding Cebu City and Mandaue City), Negros Oriental, Siquijor	Cebu City <sup>a/ b/</sup> Mandaue City <sup>a/</sup>
Region VIII – Eastern Visayas	Biliran, Leyte (excluding Ormoc City), Southern Leyte, Eastern Samar, Northern Samar, Western	Ormoc City <sup>a/</sup>

REGION	PROVINCE	CITY / MUNICIPALITY
	Samar	
Region IX – Zamboanga Peninsula	Zamboanga del Norte, Zamboanga del Sur (excluding Zamboanga City), Zamboanga Sibugay	Isabela City (Basilan) Zamboanga City <sup>a/ b/</sup>
Region X– Northern Mindanao	Bukidnon, Camiguin, Lanao del Norte (excluding Iligan City), Misamis Occidental, Misamis Oriental (excluding Cagayan de Oro City)	Cagayan de Oro City <sup>a/ b/</sup> Iligan City <sup>a/</sup>
Region XI – Davao Region	Compostela Valley, Davao del Norte, Davao del Sur (excluding Davao City), Davao Oriental	Davao City <sup>a/ b/</sup>
Region XII – SOCCSKSARGEN	North Cotabato, Sarangani, South Cotabato (excluding General Santos City), Sultan Kudarat	Cotabato City <sup>c/</sup> General Santos City <sup>a/</sup>
Autonomous Region in Muslim Mindanao	Lanao del Sur, Maguindanao (excluding Cotabato City), Sulu, Tawi-Tawi, Basilan (excluding Isabela City), Shariff Kabunsuan *	
Caraga	Agusan del Sur, Agusan del Norte (excluding Butuan City), Surigao del Sur, Surigao del Norte, Dinagat Islands**	Butuan City <sup>a/</sup>

\* newly created province as of October 2006

\*\* newly created province as of December 2006

<sup>a/</sup> Highly Urbanized City (HUC)

<sup>b/</sup> Chartered City

<sup>c/</sup> Independent Component City (ICC)

# SAMPLE DESIGN FOR THE 2006 CENSUS OF PHILIPPINE BUSINESS AND INDUSTRY (CPBI) AGRICULTURE, HUNTING AND FORESTRY SECTOR

## A.1 SURVEY SCOPE and COVERAGE

The 2006 CPBI for Agriculture, Hunting and Forestry sector aims to collect information on employment, compensation, revenue, costs, fixed assets, capital expenditures and inventories of establishments engaged in agriculture, hunting and forestry activities.

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.*

Agricultural establishments include:

*Farm, plantation, hacienda or ranch company engaged in the production of agricultural crops, livestock, poultry and other animals including animal products; firm providing agricultural, animal and horticultural services.*

Hunting establishments include:

*Company engaged in hunting, trapping and game propagation including related service activities.*

Forestry establishments include:

*Company engaged in logging operation; planting, replanting and conservation of forest and related service activities.*

The 2006 CPBI for Agriculture, Hunting and Forestry sector covers the following:

- All establishments with **Average Total Employment (ATE) 10 or more**
- All establishments with ATE less than 10 except those with Single Proprietorship Legal Organization (**LO = 1**) and Single Establishment Economic Organization (**EO=1**) (See **Table A-1** for the Distribution of Agriculture, Hunting and Forestry Establishments by Legal Organization and by Economic Organization)

engaged in economic activities, classified according to Major Division A of the amended 1994 Philippine Standard Industrial Classification (PSIC).

**Table A-1. Distribution of Agriculture, Hunting and Forestry Establishments by Legal Organization and by Economic Organization : 2006 CPBI Frame**

LEGAL ORGANIZATION	TOTAL	ECONOMIC ORGANIZATION			
		Single Establishment	Branch Only	Establishment & Main Office	Main Office Only
<b>AGRICULTURE, HUNTING AND FORESTRY</b>	<b>1,959</b>	<b>1,476</b>	<b>401</b>	<b>82</b>	<b>-</b>
Single Proprietorship	818	756	49	13	-
Partnership	42	38	4	-	-
Public Corporation	150	3	146	1	-
Private Corporation	775	507	202	66	-
Cooperative	101	99	-	2	-
Others	73	73	-	-	-

#### A.1.1 SAMPLING UNIT

The sampling units included for the Agriculture, Hunting and Forestry sector are establishments with the following EO codes:

EO = 1	Single establishment
EO = 2	Branch only
EO = 3	Establishment and Main Office

The sample population for the Agriculture, Hunting and Forestry sector does not include establishments that are classified as main office (EO=4) and ancillary unit other than main office (EO=5).

#### A.2 SAMPLING DOMAIN

##### A.2.1 GEOGRAPHIC DOMAIN

The sample for the 2006 CPBI for establishments with ATE 20 and over shall provide estimates ,at the least, at the provincial level. Another consideration is the provision of separate estimates for independent component cities, chartered cities and highly urbanized cities, as data for these areas are always requested by stakeholders for planning purposes. While the geographic domain for establishments with ATE less than 20 shall be the region.

##### A.2.2 INDUSTRY DOMAIN

For establishments with ATE 20 and over, there are 114 industry sub-sectors (5-digit 1994 PSIC) which constitute the industry strata or industry domain for the Agriculture, Hunting and Forestry sector. The samples from this ATE group shall provide estimates by industry strata.

**Table A-2. 2006 CPBI Industry Strata (5-digit PSIC) for Agriculture, Hunting and Forestry Sector: ATE 20 and Over**

<b>AGRICULTURE, HUNTING AND FORESTRY</b>	
A01110	GROWING OF PALAY, LOWLAND, IRRIGATED
A01120	GROWING OF PALAY, LOWLAND, RAINFED
A01200	GROWING OF CORN, EXCEPT YOUNG CORN (VEGETABLE)
A01300	GROWING OF COCONUT, INCLUDING COPRA-MAKING, TUBA-GATHERING AND COCO-SHELL CHARCOAL MAKING IN THE FARM
A01410	GROWING OF BANANA, CAVENDISH
A01490	GROWING OF OTHER BANANA
A01500	GROWING OF SUGARCANE, INCLUDING MUSCOVADO SUGAR MAKING IN THE FARM
A01610	GROWING OF PINEAPPLE
A01620	GROWING OF MANGO
A01631	GROWING OF CALAMANSI
A01633	GROWING OF POMELO
A01634	GROWING OF MANDARIN
A01639	GROWING OF CITRUS, N.E.C.
A01699	GROWING OF OTHER FRUITS, N.E.C.
A01711	GROWING OF ONION
A01721	GROWING OF TOMATO
A01729	GROWING OF FRUIT AND FLOWER BEARING VEGETABLE, N.E.C.
A01730	GROWING OF LEAFY AND STEM VEGETABLE
A01760	GROWING OF PEAS, BEANS AND OTHER LEGUMINOUS VEGETABLES
A01771	GROWING OF CASSAVA
A01781	GROWING OF ORCHIDS
A01782	GROWING OF FLOWERS OR FLOWER BUDS (EXCEPT ORCHIDS)
A01789	PRODUCTION OR GROWING OF HORTICULTURAL SPECIALTIES AND NURSERY PRODUCTS, N.E.C.
A01810	GROWING OF COFFEE
A01820	GROWING OF CACAO
A01849	GROWING OF OTHER SPICE/CONDIMENT CROPS (E.G., CHILI)
A01910	GROWING OF ABACA
A01921	GROWING OF COTTON
A01940	GROWING OF RUBBER TREE
A01991	GROWING OF OIL PRODUCING CROPS (PALM OIL TREE, SUNFLOWER, ETC.)
A02100	HOG FARMING
A02210	BEEF CATTLE FARMING (INCLUDING FEED LOT FATTENING)
A02230	HORSE/STUD FARMING
A02250	GOAT FARMING
A02290	LIVESTOCK FARMING (INCLUDING FEED LOT SERVICES), N.E.C.
A02300	CHICKEN BROILER PRODUCTION (INCLUDING OPERATION OF CHICKEN HATCHERIES)
A02490	POULTRY FARMING, N.E.C.
A02510	CHICKEN EGG PRODUCTION
A02590	EGG PRODUCTION, N.E.C.

<b>AGRICULTURE, HUNTING AND FORESTRY</b>	
A02910	SERICULTURE (SILKWORM CULTURE FOR THE PRODUCTION OF COCOON)
A02920	APIARY (BEE CULTURE FOR THE PRODUCTION OF HONEY)
A02960	CROCODILE FARMING/ALLIGATOR FARMING
A02970	RAISING OF SEMI-DOMESTICATED OR WILD ANIMALS INCLUDING BIRDS, REPTILES, INSECTS AND TURTLES
A03110	OPERATION OF IRRIGATION SYSTEMS THROUGH COOPERATIVES
A03120	OPERATION OF IRRIGATION SYSTEMS THROUGH NON-COOPERATIVES
A03200	PLANTING, TRANSPLANTING AND OTHER RELATED SERVICES
A03310	PLOWING, SEEDING, WEEDING, THINNING, PRUNING AND SIMILAR SERVICES
A03330	CHEMICAL AND MECHANICAL WEED CONTROL, DISEASE AND PEST CONTROL SERVICES
A03390	SERVICES TO ESTABLISH CROPS, PROMOTE THEIR GROWTH AND PROTECT THEM FROM PESTS AND DISEASES, N.E.C.
A03400	HARVESTING, THRESHING, GRADING, BAILING AND RELATED SERVICES
A03500	RENTAL OF FARM MACHINERY WITH DRIVERS AND CREW
A03720	CONTRACT ANIMAL GROWING SERVICES ON A FEE BASIS
A03730	EGG-HATCHING, SEX DETERMINATION AND OTHER POULTRY SERVICES
A03790	SERVICES TO PROMOTE PROPAGATION, GROWTH AND OUTPUT OF ANIMALS, N.E.C.
A03800	FARM MANAGEMENT SERVICES
A03900	AGRICULTURAL AND ANIMAL HUSBANDRY SERVICE ACTIVITIES, EXCEPT VETERINARY ACTIVITIES, N.E.C.
A05010	LOGGING OPERATIONS
A05020	GROWING OF TIMBER: FOREST SPECIES (E.G. GEMELINA, EUCALYPTUS, ETC), PLANTING, REPLANTING, TRANSPLANTING, THINNING AND CONSERVING OF FOREST AND TIMBER TRACTS
A05099	OTHER FORESTRY ACTIVITIES, N.E.C.

For ATE less than 20, the 12 industry sub-sectors or groups of sub-sectors (3/4/5-digit 1994 PSIC) constitute the industry strata. Bases of groupings were as follows: similarity of industries and number of establishments in the 5 and 4-digit PSIC classification.

**Table A-3 2006 CPBI Industry Groupings for ATE less than 20**

<b>AGRICULTURE, HUNTING AND FORESTRY</b>	
<b>STRATUM</b>	<b>1994 PSIC</b>
A01	A011-A013,A01490,A016,A018,A019
A02	A01410
A03	A015
A04	A017
A05	A021
A06	A022,A024,A026,A029
A07	A023
A08	A025
A09	A031-A033
A10	A034-A036,A038,A039

A11	A037
A12	A04,A05

### A.2.3 EMPLOYMENT STRATUM

For the 2006 CPBI for sector A, the ATE sizes were either combined or taken as a group to comprise the employment stratum. The basic consideration for grouping was the concentration of establishments in the ATE sizes. Within each industry domains for sector A, the establishments are grouped according to the following employment stratum:

#### For ATE less than 20

Stratum 1	ATE 1- 9	ATE size code 0 & 1
Stratum 2	ATE 10 - 19	ATE size code 2

#### For ATE 20 and over

Stratum 3	ATE 20 - 99	ATE size code 3 & 4
Stratum 4	ATE 100 and over	ATE size code 5 to 9

## A.3 DISTRIBUTION OF ESTABLISHMENTS

The 2006 CPBI utilizes the preliminary 2006 LE, which is a combination of the 2005 LE and a supplemental LE, as the frame. An estimate from the 2006 CPBI Frame shows that there are about 1,959 Agriculture, Hunting and Forestry establishments in operation in the country for the year. Distribution of these establishments, as shown in **Table A-4**, reveals that 1,197 establishments are with ATE less than 20 while 762 are with ATE 20 and over.

## A.4 SAMPLE SELECTION AND ALLOCATION

### A.4.1 SAMPLE SIZE

The 2007 budget ceiling for the 2006 CPBI, and the timeliness of retrieval of the questionnaires and of the release of final results were the primary considerations why the number of samples was kept to a minimum. Given the importance of the results of the Census as a benchmark, the sample size have to be at a manageable level without compromising the reliability and accuracy of the census returns at a shorter processing time before results become available, amidst the scarce manpower and financial resources. Other considerations include the acceptable sampling error and the level of disaggregation of the estimates with due concern for confidentiality of submitted reports by respondents. Sampling rates were determined in consideration of the sample size when margin of error is set at 15% and level of significance at 90%.

For sector A, the employment strata in ATE 100 and over, whose establishments were considered as 'large' units, were considered as certainty strata. Similarly, the employment strata ATE 1-9 , ATE 10-19 and ATE 20-99 were also taken as certainty strata for the other industry domains under sector A, except for selected industry domain where these strata were taken as non-certainty(see **Table A-5** below).

A *certainty stratum* is defined as the employment stratum whose sampling ratio is 100 percent. In this stratum, all establishments are taken as certainty samples, that is, the selection probability is 1 and the sampling weight is 1. On the other hand, a *non-certainty stratum* is the employment stratum where only sample establishments are taken.

**Table A-5 Sampling Rates for Agriculture, Hunting and Forestry Sector by ATE Strata and by Selected 5-Digit Industries: 2006 CPBI**

SECTOR	SELECTED INDUSTRIES	INDUSTRY DESCRIPTION	A T E STRATA			
			1 - 9	10 - 19	20-99	100 & over
<b>A - AGRICULTURE, HUNTING AND FORESTRY</b>						
	<b>A01410</b>	GROWING OF BANANA, CAVENDISH	10%	25%	50%	100%
	<b>A01500</b>	GROWING OF SUGARCANE, INCLUDING MUSCOVADO SUGAR MAKING IN THE FARM	10%	25%	50%	100%
	<b>A02100</b>	HOG FARMING	10%	25%	50%	100%
<b>All Other Industries</b>			<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

#### A.4.1.1 SAMPLE SIZE FOR ATE LESS THAN 20

The sample size for ATE less than 20 was determined by applying the specified sampling rates for each employment stratum (that is, separately for strata ATE 1-9 and ATE 10-19) of the industry domain (3/4/5-digit PSIC) at the national level.

The total sample size for sector A establishments with ATE less than 20 was 954. One hundred percent (100%) sampling rate was applied for all the industry domains under sector A at the national level, except for industry domains with PSIC A01410, A01500 and A02100 where 10% and 25% sampling rates were applied for employment strata ATE 1-9 and ATE 10-19, respectively.

#### A.4.1.2 SAMPLE SIZE FOR ATE 20 AND OVER

For ATE 20 and over strata, 100% sampling rate was applied for all industry domains under sector A, except for industry domains with PSIC A01410, A01500 and A02100 where 50% sampling rate were applied in employment stratum ATE 20-99.

The aggregate sample size for ATE 20 and over in sector A was 651 establishments. From the supplemental lists, about 32 establishments considered large were added as samples.

Thus, the total number of samples for the 2006 CPBI for Agriculture, Hunting and Forestry sector was about 1,637 establishments.

#### A.4.2 SAMPLE ALLOCATION

##### A.4.2.1 SAMPLE ALLOCATION FOR ATE LESS THAN 20 (STRATA ATE 1-9 AND ATE 10-19)

Proportional allocation was used in allocating the number of samples for the non-certainty strata in ATE less than 20 by industry domain and employment stratum to the regions. Basis of allocation was the number of establishments (N) in the region by industry domain and by employment stratum.

Minimum sample size was set to 3 establishments per cell (region, industry domain and employment stratum). However, when the total number of establishments (N) in the cell was equal to or less than the set minimum sample size, all establishments in that cell were taken as samples.

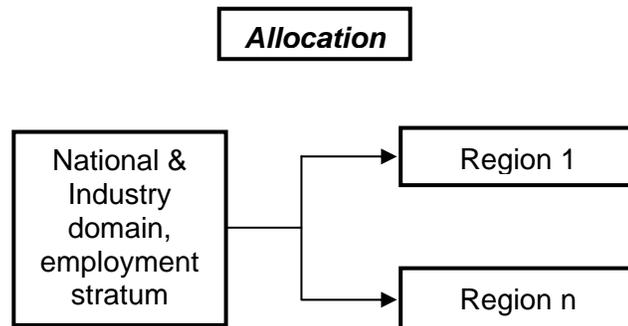
The number of samples for each of the non-certainty industry domains in employment strata ATE 1-9 and ATE 10-19 at the national level was allocated by region. Separately for ATE 1-9 and ATE 10-19, the formula used was,

$$n_{hr} = \left( \frac{N_{hr}}{N_h} \right) * n_h$$

where:

- $N_{hr}$  = total number of establishments in the  $h^{\text{th}}$  industry domain of sector A in the  $r^{\text{th}}$  region
- $N_h$  = total number of establishments in the  $h^{\text{th}}$  industry domain of sector A
- $n_h$  = number of sample establishments in the  $h^{\text{th}}$  industry domain of sector A
- $n_{hr}$  = number of sample establishments in the  $h^{\text{th}}$  industry domain of sector A  
in the  $r^{\text{th}}$  region

Figure A-1. Sample Allocation Diagram for ATE less than 20  
(Strata ATE 1-9 and ATE 10-19)



#### A.4.2.2 SAMPLE ALLOCATION FOR ATE 20 to 99

Similar procedure of proportional allocation was used in allocating the number of samples in the selected industry domain with less than 100% sampling rates for stratum ATE 20-99. The computed sample size for the particular employment stratum of these selected industry domains were allocated by province/ICC/HUC. Basis of allocation was the number of establishments (N) in the province/ICC/HUC within the employment stratum.

For these cases, minimum sample size was also set to 3 establishments per cell (province, 5-digit industry domain and ATE).

#### A.4.3 SAMPLE SELECTION

For sector A, sample establishments in the sampling strata of ATE less than 20 were selected using systematic sampling by region, industry stratum and employment stratum. The establishments were sorted from largest actual employment to smallest actual employment or vice versa by region, industry and employment stratum.

Sample establishments for the non-certainty industry domains in the employment stratum ATE 20-99 were selected using systematic sampling by province/ICC/HUC.

Systematic sampling was chosen so that the sample values are spread out, resulting from having representative samples for each ATE size in the employment stratum. Likewise, this mode of sampling somehow provides implicit stratification of ATE by employment size group, thus avoiding all sample establishments with low ATE values or high ATE values to be selected.

The number of sample establishments by region and by industry strata is shown in **Table A-6** for ATE less than 20. The number of sample establishments by region, by province/ICC/HUC and by industry strata is shown in **Table A-7** for ATE 20 and over.

## SAMPLE DESIGN FOR THE 2006 CENSUS OF PHILIPPINE BUSINESS AND INDUSTRY (CPBI) FISHING SECTOR

### B.1 SURVEY SCOPE and COVERAGE

The 2006 CPBI for Fishing sector aims to collect information on employment, compensation, revenue, costs, fixed assets, capital expenditures and inventories of establishments engaged in fishing activities.

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.*

Fishing establishments include:

*Firm or company engaged in ocean, coastal and inland fishing; fish farms, fishpond, fish pen; pearl farms and other fishery activities.*

The 2006 CPBI for Fishing sector covers the following:

- All establishments with **Average Total Employment (ATE) 10 or more**
- All establishments with ATE less than 10 except those with Single Proprietorship Legal Organization (**LO = 1**) and Single Establishment Economic Organization (**EO=1**) (See **Table B-1** for the Distribution of Fishing Establishments by Legal Organization and by Economic Organization)

engaged in economic activities, classified according to Major Division B of the amended 1994 Philippine Standard Industrial Classification (PSIC).

**Table B-1. Distribution of Fishing Establishments by Legal Organization and by Economic Organization : 2006 CPBI Frame**

LEGAL ORGANIZATION	TOTAL	ECONOMIC ORGANIZATION			
		Single Establishment	Branch Only	Establishment & Main Office	Main Office Only
<b>FISHING</b>	<b>689</b>	<b>633</b>	<b>43</b>	<b>13</b>	<b>-</b>
Single Proprietorship	447	435	9	3	-
Partnership	17	17	-	-	-
Public Corporation	2	1	1	-	-
Private Corporation	202	159	33	10	-
Cooperative	17	17	-	-	-
Others	4	4	-	-	-

### B.1.1 SAMPLING UNIT

The sampling units included for the Fishing sector are establishments with the following EO codes:

EO = 1	Single establishment
EO = 2	Branch only
EO = 3	Establishment and Main Office

The sample population for the Fishing sector does not include establishments that are classified as main office (EO=4) and ancillary unit other than main office (EO=5).

## B.2 SAMPLING DOMAIN

### B.2.1 GEOGRAPHIC DOMAIN

The sample for the 2006 CPBI for establishments with ATE 20 and over shall provide estimates ,at the least, at the provincial level. Another consideration is the provision of separate estimates for independent component cities, chartered cities and highly urbanized cities, as data for these areas are always requested by stakeholders for planning purposes. While the geographic domain for establishments with ATE less than 20 shall be the region.

### B.2.2 INDUSTRY DOMAIN

For establishments with ATE 20 and over, there are 20 industry sub-sectors (5-digit 1994 PSIC) which constitute the industry strata or industry domain for the Fishing sector. The samples from this ATE group shall provide estimates by industry strata.

**Table B-2. 2006 CPBI Industry Strata (5-digit PSIC) for Fishing Sector:  
ATE 20 and Over**

<b>FISHERY</b>	
B06110	OCEAN FISHING, COMMERCIAL (USING VESSELS OVER 3 TONS)
B06120	COASTAL FISHING, MUNICIPAL (USING VESSELS OF LESS THAN 3 TONS)
B06130	FISH CORRAL FISHING
B06210	CATCHING FISH, CRABS AND CRUSTACEANS IN INLAND WATERS
B06290	INLAND FISHING, N.E.C.
B06300	PRAWN CULTURE
B06410	FISHPOND OPERATION (EXCEPT FISH BREEDING FARMS AND NURSERIES)
B06420	FISHPEN AND FISHCAGE OPERATION
B06430	OPERATION OF FISH BREEDING FARMS AND NURSERIES
B06610	PEARL CULTURE
B06700	SEAWEEEDS FARMING
B06800	SERVICE ACTIVITIES INCIDENTAL TO FISHING
B06920	CATCHING AND CULTURING ORNAMENTAL (AQUARIUM) FISHES
B06930	GATHERING FRY

For ATE less than 20, the 6 industry sub-sectors or groups of sub-sectors (4-digit/5-digit 1994 PSIC) constitute the industry strata. Bases of groupings were as follows: similarity of industries and number of establishments in the 5 and 4-digit PSIC classification.

**Table B-3 2006 CPBI Industry Groupings for ATE less than 20**

<b>FISHERY</b>		
	<b>B01</b>	<b>B061</b>
	<b>B02</b>	<b>B062,B0642,B0643</b>
	<b>B03</b>	<b>B063</b>
	<b>B04</b>	<b>B0641</b>
	<b>B05</b>	<b>B065,B066,B068,B069</b>
	<b>B06</b>	<b>B067</b>

**B.2.3 EMPLOYMENT STRATUM**

For the 2006 CPBI for sector B, the ATE sizes were either combined or taken as a group to comprise the employment stratum. The basic consideration for grouping was the concentration of establishments in the ATE sizes. Within each industry domains for sector B, the establishments are grouped according to the following employment stratum:

For ATE less than 20

Stratum 1	ATE 1- 9	ATE size code 0 & 1
Stratum 2	ATE 10 - 19	ATE size code 2

For ATE 20 and over

Stratum 3	ATE 20 - 99	ATE size code 3 & 4
Stratum 4	ATE 100 and over	ATE size code 5 to 9

### B.3 DISTRIBUTION OF ESTABLISHMENTS

The 2006 CPBI utilizes the preliminary 2006 LE, which is a combination of the 2005 LE and a supplemental LE, as the frame. An estimate from the 2006 CPBI frame shows that there are about 689 Fishing establishments in operation in the country for the year. Distribution of these establishments, as shown in **Table B-4**, reveals that 533 establishments are with ATE less than 20 while 156 are with ATE 20 and over.

### B.4 SAMPLE SIZE AND SELECTION

The 2007 budget ceiling for the 2006 CPBI, and the timeliness of retrieval of the questionnaires and of the release of final results were the primary considerations why the number of samples was kept to a minimum. Given the importance of the results of the Census as a benchmark, the sample size have to be at a manageable level without compromising the reliability and accuracy of the census returns at a shorter processing time before results become available, amidst the scarce manpower and financial resources. Other considerations include the acceptable sampling error and the level of disaggregation of the estimates with due concern for confidentiality of submitted reports by respondents. Sampling rates were determined in consideration of the sample size when margin of error is set at 15% and level of significance at 90%.

However, in 2006 CPBI, sector B was taken on a 100 percent basis regardless of employment stratum because of the relatively small number of their population. Hence, all employment strata under Fishing sector are certainty stratum (see **Table B-5**)

*A certainty stratum is defined as the employment stratum whose sampling ratio is 100 percent. In this stratum, all establishments are taken as certainty samples, that is, the selection probability is 1 and the sampling weight is 1. On the other hand, a non-certainty stratum is the employment stratum where only sample establishments are taken.*

**Table B-5 Sampling Rates for Fishing Sector by ATE Strata: 2006 CPBI**

SECTOR	SELECTED INDUSTRIES	INDUSTRY DESCRIPTION	A T E STRATA			
			1 - 9	10 - 19	20-99	100 & over
	<b>B - FISHERY</b>					
	<b>All Industries</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

For the 2006 CPBI, all establishments under sector B and within the scope and coverage of the census were taken as sample.

The total sample size for sector B establishments with ATE less than 20 was 533. One hundred percent (100%) sampling rate was applied for all the industry domains in the employment strata ATE 1-9 and ATE 10-19.

For ATE 20 and over strata, 100% sampling rate was also applied for all industry domains in the employment strata ATE 20-99 and ATE 100 and over. The total sample size for ATE 20 and over in sector B was 156 establishments. From the supplemental lists, about 8 establishments considered large were added as samples.

Thus, the total number of samples for the 2006 CPBI for Fishing sector was about 697 establishments.

The number of sample establishments by region and by industry strata is shown in **Table B-6** for ATE less than 20. The number of sample establishments by region, by province/ICC/HUC and by industry strata is shown in **Table B-7** for ATE 20 and over.