

Department of Economic and Social Affairs  
United Nations Statistics Division

# **Economic census: challenges and good practices** *A technical report<sup>1</sup>*

As of October 2010



United Nations • New York, 2010

---

<sup>1</sup> This document has not been formally edited.

# Content

	<i>Page</i>
Foreword .....	3
Acknowledgement .....	4
<i>Chapter</i>	
I. Economic census and its role in national economic statistics programmes: an overview .....	5
A concept of an economic census .....	5
Uses of economic census .....	6
The results of 2006 survey of country practices in economic census .....	7
<i>Structure of the questionnaire</i> .....	7
<i>Organization of the survey</i> .....	8
<i>Main conclusions</i> .....	8
II. Experience of selected countries .....	14
China .....	14
Ethiopia .....	17
Hong Kong .....	25
India .....	33
Japan .....	46
Jordan .....	51
Korea .....	58
Malaysia .....	65
Mexico .....	76
Mongolia .....	84
Morocco .....	89
Nepal .....	99
Philippines .....	103
Russian Federation .....	117
Thailand .....	125
Turkey .....	131
Uganda .....	137
United States Census Bureau .....	150
III. Ways forward: an overview of good practices .....	174
Findings and conclusions of the Second International Workshop on Economic Census .....	174
<i>Annex</i>	
1. UNSD Questionnaire on the Economic Census .....	177

## Foreword

This technical report is the United Nations Statistics Division (UNSD) response to the United Nations Statistical Commission's decision at its thirty-seventh session aiming to strengthen the national programmes of basic economic statistics in the context of an integrated approach to their compilation. In 2005, the UNSD organized the First International Workshop on Economic Census in Beijing, China, which was followed by a survey conducted in 2007 to identify countries' general policies with regard to the economic census and other approaches to compilation of basic economic statistics. In 2009 the UNSD conducted the Second International Workshop on Economic Census in Seoul, Republic of Korea. The main objective of this technical report is to collect in one volume all relevant documents and country practices in conduct of economic census presented at these events. The report is intended to assist countries in further improving their national programmes of economic statistics by providing a structured overview of other countries' experiences in economic census while focusing on challenges and good practices in this area of statistics.

The economic census is an important activity carried out by many statistical offices with the aim of improving availability and quality of existing basic economic statistics and establishing or improving their survey frames or statistical business registers for the organization of economic survey programmes on a more integrated basis at a later stage. The UNSD survey of country practices has revealed that there is a growing interest in economic census and a number of countries have plans to conduct such censuses in the future. Many of those countries further indicated that they would need help both in terms of resources and guidance on how to carry out this activity properly.

At the same time, it became apparent from the survey's results that practices of countries that do conduct economic census vary significantly in terms of coverage, content and organization. This calls for further efforts in developing more coherent international guidance on the matter. To assist countries in this respect, UNSD is working towards identification and promotion of good practices in economic census. This includes the preparation of a handbook on national practices in compilation of basic economic statistics focusing on needs and experience of developing countries of Africa in 2009. The handbook is based on the country responses to a detailed questionnaire as well as on additional research and worldwide consultations. Based on this handbook a technical assistance activity will be conducted.

## Acknowledgement

This handbook is based on the inputs provided by the participants of the first and second International Workshops on Economic Census:

Participants of the First International Workshop on Economic Census: Nursinah Amal Urai (Indonesia), V.K. Arora (India), Christopher Blackburn (USA), Eden Brinkley (Australia), Marie Brodeur (Canada), Gisela Pifferrer Campins (Cuba), Paul Cheung (UNSD), Magdalena Cronemberger Goes (Brazil), Nasser Dayan (UAE), Du Dejun (China), Halina Dmochowska (Poland), Mohamed Eldesoky (Egypt), Eldev-Ochir Erdenesan (Mongolia), Vince Galvin (New Zealand), Pietro Gennari (UNESCAP), Ong Lai Heng (Singapore), Frederick W H Ho (Hong Kong SAR, China), Shozo Inami (Japan), Ye Jingyi (China), Peter Koumanakos (Canada), Yang Kuankuan (China), Ronald Lee (USA), Kwan Chi Leung (Hong Kong SAR, China), Gerardo Leyva-Parra (INEGI, Mexico), Nguyen Thi Lien (Viet Nam), Chi Ming Luk (Hong Kong SAR China), Michael Manamela (South Africa), Itani Magwaba (South Africa), Hang Chan Mak (Macao SAR, China), Vladimir Markhonko (UNSD), Jan Matejcek (Czech Republic), Thomas L. Mesenbourg (USA), Iun Lei Mok (Macao SAR, China), Nematollah Mirfallah Nassiri (Iran), Swee Li Rowena Ng (Singapore), YounYoung Park (Korea), Stephen Penneck (UK), Luis Rodrigo Riffo Perez (Chile), Kenichi Sasaki (Japan), Mikio Suga (Japan), Oleksandr Sulimov (Ukraine), Zulfiya Sultanova (Kazakhstan), Igor Uliyanov (Russia Federation), Keping Yao (UNSD), Luckana Yuvaprakorn (Thailand).

Participants of the Second International Workshop on Economic Census: Mr. Abdulhameed Ahen (Qatar), Mr. Mohammed Abdullah AlKatheeri (UAE), Mr. Sulaiman Alzadjali (Oman), Mr. Yaqoob Khamis Alzadjali (Oman), Ms. Youlia Antonova (UNSD), Samaychanh Bouphe (Lao People's Democratic Republic), Susana Patricia Perez Cadena (Mexico), Wilailuck Chulewatanakul (Thailand), Nasser Mohammed Dayan (UAE), Oyunbileg Delgersaikhan (Mongolia), Bunyamin Emirosman (Turkey), Carmeita Ericta (Philippines), Hidenobu Esashi (Japan), Lilian Yuk Chi Fung (Hong Kong), Nikanth Ghosh (India), Hiroo Imai (Japan), Elena Katkova (Russia Federation), Ronald Lee (USA), Vladimir Markhonko (UNSD), Abdelwadoud Rebhi Matouk (Jordan), Joji Matsumuro (Japan), C. Harvey Monk Jr.(USA), Yasin Mossa (Ethiopia), Khalid Saidal Mudhafar (Oman), Peter Opio (Uganda), Jilali Rahali (Morocco), HuiXie Shi (China), Shanker Lal Shrestha (Nepal), Elena Shustova (Russia Federation), Tri Supriyati (Indonesia), Seiji Takata (Japan), Takashi Tanaka (Japan), Vilon Viphongxay (Lao People's Democratic Republic), Norazizah Ibrahim Wong (Malaysia), Kuan Kuan Yang (China).

## **Chapter I**

### **Economic census and its role in national economic statistics programmes: an overview**

#### *A concept of an economic census*

1. An economic census is a statistical survey conducted on the full set of economic units belonging to a given population or universe. It is the complete enumeration of a population or groups at a point in time with respect to well defined characteristics. The partial enumeration resulting from a failure to cover the whole population, as distinct from a designed sample enquiry, may be referred to as an “incomplete census”. An economic census is the total process of collecting, compiling, evaluating, analyzing and publishing or otherwise disseminating economic data pertaining, at a specified time, to all units in a country or in a well delimited part of a country.

2. The term “census” implies that each unit is enumerated separately and that the characteristics thereof are separately recorded. Only by this procedure can the data on the various characteristics be cross-classified. The requirement of individual enumeration can be met by the collection of information in the field, by the use of information contained in an appropriate administrative register or set of registers, or by a combination of these methods.

3. This does not preclude the use of sampling techniques for obtaining data on specified characteristics, provided that the sample design is consistent with the size of the areas for which the data are to be tabulated and the degree of detail in the cross-tabulations to be made.

4. In order to plan for, and implement, economic and social development, administrative activity or scientific research, it is necessary to have reliable and detailed data on the number and distribution of economic units by various categories. The economic census is a primary source of these basic benchmark statistics, covering not only the units in a formal sector but in informal as well. Data from economic census should allow presentation and analysis in terms of statistics on economic units and for a wide variety of geographical units, ranging from the country as a whole to individual small localities.

5. The method of choice will be conducting an economic census through universal and simultaneous individual enumeration of each resident economic unit within the nation’s boundaries. Some countries adopt alternative approaches; yet, all of these methods must result in identical outputs.

6. The traditional economic census is among the most complex and massive exercises a nation undertakes. It requires mapping the entire country, mobilizing and training an army of enumerators, conducting a considerable public campaign, canvassing all economic units, even those owned by the households, collecting information, compiling vast amounts of completed questionnaires, and analyzing and disseminating the data. In most cases, a traditional census is an opportunity for mobilizing the country and making statistical activity visible. In addition,

successfully conducting a census becomes a matter of national pride for many countries. Ensuring confidentiality is crucial for the census to succeed. Thus, it has to be made clear that the only reason for collecting data is for the production of statistics and that there will be no dissemination of confidential information or any non-statistical linkage with existing records in other government databases and data collections. Indeed, principle 6 of the Fundamental Principles of Official Statistics<sup>2</sup> states that “individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes”.

7. The economic census represents one of the pillars for data collection on the number and characteristics of the economic units of a country. It is part of an integrated approach to compilation of economic statistics, which may include censuses for specific activities/industries for example, agriculture or manufacturing, surveys, registers and administrative data sources. It provides, at regular intervals, the benchmark for economic indicators at national and local levels. For small economic activities or sub-populations, such as informal sector units, it may represent the only source of information. For many countries the census also provides a solid framework to develop sampling frames

### *Uses of economic census*

8. Economic census is a means of identification and listing of collected basic economic statistics as part of an integrated programme of data collection and compilation aimed at providing a comprehensive source of statistical information for economic and social development planning, for administrative purposes, for assessing conditions in human settlements, for research and for commercial and other uses.

9. The value of the census is increased if the results can be employed together with the results of other economic surveys, as in the use of the census data as a basis or benchmark for short-term statistics. It can, for example, provide a statistical frame for other censuses or sample surveys. Of course, census-type information can also be derived from administrative registers and sample surveys without undertaking a complete enumeration.

10. The purposes of a continuing coordinated programme of data collection and compilation can best be served, if the relationship among the economic census, the annual surveys and other short-term (monthly, quarterly, etc.) statistical surveys is considered when census planning is under way and if provision is made for facilitating the joint use of the census and its results in connection with such surveys. The use of consistent concepts and definitions throughout an integrated programme of data collection and compilation is essential if the advantages of these relationships are to be fully realized.

11. An economic census also serves as the logical starting place for work on the organization and construction of a computerized statistical database to serve continuing national and local needs for data in the intercensal period.

---

<sup>2</sup> <http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>

### *The results of 2006 survey of country practices in economic census*

12. At its thirty-seventh session in 2006, the United Nations Statistical Commission endorsed the United Nations Statistics Division's initiative to promote an integrated approach to compilation of economic statistics. It further recommended that good practices in this area be identified, documented and made available to the interested countries to assist in their practical work. In view of these tasks, UNSD carried out a survey to identify countries' general policies with regard to the economic censuses and other approaches to compilation of basic economic statistics. To this end, in June 2006 a brief questionnaire was sent to national statistical offices of all countries and territories.

13. A total of 114 countries and territories responded to the questionnaire. The response rate was particularly high for developed countries and transition economies (89.5 % for both groupings). Response rate above the average (58.8 %) was observed for small island countries of Oceania.

14. The individual country replies as well as the aggregated results have been posted on the UNSD website. Except for a few corrections that were believed to be due to the misunderstanding or inconsistent answers to mutually exclusive questions, the table with aggregated results presents a summary of the replies as received. Corrections to the answers have been made after they were communicated back and agreed by the country. Selected results are summed up and presented in Tables 1-3 below.

#### *Structure of the questionnaire*

15. The questionnaire had been designed to provide a synthesized picture of the current country practices in the use of economic census as a source for compilation of economic statistics, while at the same time, allow for comparisons between the practices of countries conducting economic census and those implementing different data collection approaches.

16. The key areas covered in the questionnaire are periodicity of conducted economic censuses; scope in terms of economic activities or sectors included in the census; coverage of units below or above an established threshold. Several more detailed questions allowed compiling information on some additional characteristics of economic censuses. These made possible a general overview of the commonly used approaches to an economic census organization and helped to examine the good practices in this area.

17. The question regarding the compilation of basic information about economic units in cases when an economic census has not been conducted, has been introduced to collect information from the remaining part of countries that moved away from this practice and use different approaches and sources for compilation of economic statistics. The questionnaire provided a list of the most important approaches and asked countries to identify those used by them. Also, countries were given an opportunity to describe their specific approaches, which were not in the prepared list.

18. Additional question was introduced to obtain information about the country's plans to conduct an economic census in the future. This information, together with provided explanations, allowed for assessment of the country needs for assistance in the organization, conduct and use of the results of economic census as well as for evaluation of the need in preparation of international recommendations on economic census.

#### *Organization of the survey*

19. In order to reduce the response burden on countries, 36 of them received pre-filled questionnaires. The information in the pre-filled questionnaires has been gathered mainly from the existing UNSD databases, namely: (i) countries profiles presented at the International workshop on the economic census in Beijing; (ii) countries responses to the UNSD questionnaire on the factors impeding the 1993 SNA implementation. In addition to the internally available information, the official websites of some countries have also been used. Before filling the questionnaires, the information from different sources has been cross-checked and verified.

20. The questionnaire was translated into three the United Nations official languages – French, Russian and Spanish, to increase in the response rate.

21. While responding, some of the countries posed questions requesting UNSD to provide additional clarifications on what economic census is, what is meant by an economic unit, type of data collected through the economic census and others. Those countries received prompt responses during some follow-up activities conducted in July-September 2006.

#### *Main conclusions*

22. The main findings are summarized below under the following headings: (i) economic census as an approach to compilation of basic economic statistics; (ii) organizational details of economic census; (iii) other approaches to compilation of basic economic statistics.

##### ***1. Economic census as an approach to compilation of basic economic statistics***

23. The survey confirmed that the economic census is still an important statistical activity. Every third country from those that responded (34.2 %) indicated that they have conducted an economic census. In their vast majority these are countries from developing regions (see Table 1). The geographical distribution of countries ranges from a maximum of 57.9 % in Central, Eastern, South-Eastern and Southern Asia to a minimum of 15.4 % in Europe.

24. The survey has also confirmed that practices regarding the organization of an economic census vary significantly among countries and show a lack of unified approach. Two principal methods are most often used by countries: (i) conduct of economic census as an economy-wide census; (ii) conduct of economic census for individual economic sectors/activities only (manufacturing, construction, distributive trade etc.).

25. It is worth noting that from the responses to the questionnaire and from the follow up

correspondence with some countries it became apparent that there are two definitions of economic census in use - a broad definition and a narrow definition. The broad definition of economic census implies a complete enumeration of all economic units in a very large part of the economy (traditional form of the census), while the narrow definition is referring to a complete enumeration of only a “take all” strata in an economy-wide surveys (such as the annual structural business surveys). There are some other inconsistencies in use of terminology which need to be clarified and harmonized in future.

26. Overall, a general tendency to a more frequent conduct of economic census has been observed in country replies. With a few exceptions, the year of the most recent economic census of countries is 2002 or after 2002 as a new round of censuses in the period 2007-2008 has been planned by many of them. This is a very important finding as one of the disadvantages of economic censuses in the past was that they were conducted at long, some times irregular, intervals of time and the census information was quickly becoming outdated.

27. About half of the countries that responded indicated that they have plans to conduct an economic census in the next few years. In general, the number of countries having plans to conduct a census in future exceeds the number of countries that traditionally conduct economic census (countries that gave a positive answer to question 1 of the questionnaire) in all geographical regions. More specifically, twice more developing countries in Africa indicated that they have such plans and would need assistance to conduct them. Some of the countries tie the conduct of a future economic census with the availability of financial resources or the need to establish a business register.

**Table 1**  
**General information on the survey of country practices with regard to economic census**

	<i>Number of countries that responded to the Questionnaire</i>	<i>Number of countries conducting Economic Census</i>	<i>Percentage of countries conducting Economic census</i>	<i>Number of countries with plans to conduct Economic Census</i>	<i>In %</i>
	(2)	(4)	(5)=(4)/(2)	(6)	(7)=(6)/(2)
<b>All Countries and Territories</b>	<b>114</b>	<b>39</b>	<b>34.2</b>	<b>55</b>	<b>48.2</b>
<i>Economic Grouping:</i>					
Developed	34	6	17.6	6	17.6
Transition economies	17	2	11.8	7	41.2
Developing	63	31	49.2	42	66.7
<i>Geographical Grouping:</i>					
Africa	17	6	35.3	13	76.5
Northern America	3	1	33.3	1	33.3
Latin America and the Caribbean	17	7	41.2	11	64.7
Central, Eastern, South-Eastern and Southern Asia	19	11	57.9	13	68.4
Western Asia	9	5	55.6	3	33.3
Europe	39	6	15.4	9	23.1
Oceania	10	3	30.0	5	50.0

## **2. Organizational details of economic census**

### **(a) Periodicity**

28. International statistical standards recommend economic censuses to be conducted at regular intervals of time (five years) in order to establish sound benchmarks of basic economic statistics. More than half of the countries conducting economic census indicated that they carry them out every 5 years (see Table 2). In Oceania all countries conduct economic census at 5 years intervals and in Asia more than 80 % of countries conduct economic census at 5 years intervals. In Northern American region the USA has a longstanding tradition in carrying out economic census every 5 years.

29. Latin America and the Caribbean region could be noted as an exception to this general pattern. More than half of the countries in that region tend to conduct decennial censuses. Looking at the longer run, this could lead to significant limitations in the usefulness of census information for basic economic statistics as well as in its quality and comparability.

30. A new tendency of conducting yearly economic censuses has been observed among a small number of countries. This might be explained with the departure of countries from the traditional form of economic census organization (broad definition) and its transformation into economy-wide establishment (or enterprise) survey (narrow definition of economic census). However, the conduct of annual economic censuses assumes existence of a well established integrated economic statistics programme based on the use of business register, coordinated economic surveys with different frequencies and administrative data sources.

**Table 2**  
**Organizational details of conducted economic censuses**

	<i>Periodicity</i>				<i>Coverage</i>				
	<i>Percentage of countries conducting Economic census:</i>				<i>Percentage of countries applying a threshold</i>	<i>Percentage of countries by different approaches of covering units below the threshold</i>			
	<i>Each year (as take all strata of annual surveys)</i>	<i>Every 5 years</i>	<i>Every 10 years</i>	<i>Less frequently</i>		<i>Sample Surveys</i>	<i>Population Census</i>	<i>Administrative data sources</i>	<i>Other</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(8)</i>	<i>(9)</i>	<i>(10)</i>	<i>(11)</i>	<i>(12)</i>
<b>All Countries and Territories</b>	<b>12.8</b>	<b>56.4</b>	<b>25.6</b>	<b>5.1</b>	<b>46.2</b>	<b>44.4</b>	<b>16.7</b>	<b>22.2</b>	<b>22.2</b>
<i>Economic Grouping:</i>									
Developed	33.3	50.0	16.7	...	66.7	25.0	...	25.0	25.0
Transition economies	50.0	50.0	...	...	...	...	...	...	...
Developing	6.5	58.1	29.0	6.5	45.2	50.0	21.4	21.4	21.4
<i>Geographical Grouping:</i>									
Africa	...	33.3	33.3	33.3	83.3	40.0	20.0	20.0	40.0
Northern America	...	100.0	...	...	100.0	...	...	100.0	...
Latin America and the Caribbean	14.3	28.6	57.1	...	57.1	75.0	25.0	25.0	25.0
Central, Eastern, South-Eastern and Southern Asia	9.1	81.1	9.1	...	36.4	50.0	...	...	...
Western Asia	...	60.0	40.0	...	...	...	...	...	...
Europe	50.0	33.3	16.7	...	50.0	33.3	...	...	33.3
Oceania	...	100.0	...	...	33.3	...	100.0	100.0	...

**(b) Scope**

31. The scope in terms of units or activities enumerated is an important characteristic of the economic census. On average, the survey responses show that two out of three countries conducting economic census do not include units from agriculture and public administration.

32. Although the figures vary by both the economic groupings and geographical regions, it is understood that agricultural units are observed through separate agricultural censuses. As for public administration, the results differ markedly across the regions – from 45.5 % of countries in

Central, Eastern, South-Eastern and Southern Asia at the lower end to 100.0 % of countries in Oceania at the higher end. The inclusion or exclusion of public administration from economic censuses, however, depends to a higher extent on the organizational structure of countries and scope of activities included in their general government sectors.

33. In addition, countries in every region and grouping indicated individual activities or type of units excluded from the economic census. The most commonly excluded are fishery, financial intermediation and insurance, production activities of households from activities and non-profit institutions, extraterritorial organizations, self-employed persons from units.

### *(c) Coverage*

34. In about half of the countries, the economic census covers all units irrespective of their size in terms of number of persons employed or turnover. The remaining half applies a threshold, as with a few exceptions, this threshold is based on the employment. By regions, countries in Africa tend to apply more often a threshold. Their percentage is twice higher as compared to countries in Oceania and Central, Eastern, South-Eastern and Southern Asia.

35. Again, the practice of countries regarding the coverage of units below the threshold varies substantially. The survey results show that the use of sample surveys is the most commonly applied approach. 44.4 % of countries indicated that units below the threshold are predominantly covered through sample surveys techniques. Use of administrative data sources and ad hoc surveys are also amongst the approaches preferred by some countries. Although all countries indicated that they aim at full coverage of units, it seems that still much challenge poses the coverage of small units and accuracy of data about them.

### *3. Other approaches for compilation of basic economic statistics*

36. The findings of this survey confirm that there are two distinct groups of countries with regard to the compilation of basic economic statistics: (i) countries still relying on an economic census as a main tool for compiling the economic statistics and (ii) countries using combination of register based information from annual and more frequent surveys and administrative data sources.

37. Two third of countries that responded to the questionnaire indicated that at present they use other approaches for compilation of basic economic statistics that differ from traditional economic census. In the case of developed countries 90 % use register based survey information and administrative data for compilation of economic statistics. This is a firm tendency for transition economies too, where more than 80 % of countries follow the same approach (see Table 3).

38. Availability of a good business register is considered as an indispensable requirement to ensure establishment of a country capacity to implement an integrated approach to compilation of economic statistics in the future, especially when data collection strategy of this country is based on economy-wide surveys programme and use of administrative data. The countries in Africa, Latin America and the Caribbean and Central, Eastern, South-Eastern and Southern Asia, however, show considerably low rates of use of business registers information, half or less than half of them have such a practice.

39. Besides the traditionally used regular economic surveys programmes for compilation of economic statistics, the surveys results revealed also that not only developed countries, but many developing countries appreciate advantages of using administrative data sources. On average, 81.9 % of countries indicated them as a source for compilation of basic data on economic units.

**Table 3**  
**Survey results about countries implementing approaches for basic economic statistics compilation that differ from economic census**

	<i>Percentage of countries not conducting Economic Census</i>	<i>Approaches for compilation of basic economic statistics</i>			
		<i>Percentage of countries using:</i>			
		<i>Systematically updated statistical business register</i>	<i>Regular economic surveys programme</i>	<i>Administrative data sources</i>	<i>Other</i>
	(2)	(3)	(4)	(5)	(6)
<b>All Countries and Territories</b>	<b>65.8</b>	<b>71.1</b>	<b>74.7</b>	<b>81.9</b>	<b>20.5</b>
<i>Economic Grouping:</i>					
Developed	82.4	96.6	79.3	93.1	10.3
Transition economies	88.2	81.3	87.5	87.5	25.0
Developing	50.8	47.4	65.8	71.1	26.3
<i>Geographical Grouping:</i>					
Africa	64.7	50.0	50.0	66.7	33.3
Northern America	66.7	100.0	100.0	100.0	...
Latin America and the Caribbean	58.8	40.0	80.0	70.0	20.0
Central, Eastern, South-Eastern and Southern Asia	42.1	54.5	100.0	72.7	36.4
Western Asia	44.4	83.3	66.7	83.3	...
Europe	84.6	88.6	77.1	88.6	11.4
Oceania	70.0	71.4	57.1	100.0	42.9

## **Chapter II**

### **Experience of selected countries**

#### *China*

1. China had been determined to reform and optimize its census system due to the severe acute respiratory syndrome (SARS) epidemic in Asia which had greatly impacted the service industries in 2003. That same year, the National Bureau of Statistics (NBS), National Development and Reform Commission and Ministry of Finance, as approved by the State Council, conducted a joint research and decided to make important adjustments to the scope of national censuses and their periodicity. The tertiary industry census originally scheduled for 2003 was postponed and integrated with the industrial census scheduled for 2005 and the census of basic units scheduled for 2006. The first National Economic Census was scheduled to be undertaken in 2004 as construction was also brought into the census's scope. The National Economic Census Regulations were enacted for this purpose by the Chinese government in accordance with the Statistics Law of the People's Republic of China. Thus, the Regulations have mandated that the national economic censuses should be undertaken twice every 10 years, in years ending in 3 and 8.
2. The purpose of undertaking economic censuses is to collect information on the secondary and tertiary industries in terms of their development scale, structure and economic performance, establish and maintain the business register and database systems, lay a solid foundation for research and formulation of the national economic and social development planning and for improving decision-making and management. It plays an important role in reforming the statistical system; improving the national economic accounting system and statistical monitoring, warning and forecasting systems.
3. Respondents in national economic census include corporate units, establishments and self-employed persons of the secondary and tertiary industries in China. The census scope covers 19 national economic sectors except agriculture, which are classified into 90 major groups, 378 groups and 875 small groups.
4. The national economic census employs the method of complete enumeration of units. In other words, respondents would be surveyed one by one by the enumerators. However, due to the large number of self-employed persons and the different situation in different regions, sample survey could be also used in part of the regions so as to reduce the workload and improve the data quality.
5. The census content covers the basic characteristics of units, the number and composition of employees, assets and other financial data, business data, produced output, main raw materials and energy consumed and other technical activities. 16 statistical classification standards and nomenclatures will be applied in the census so as to ensure the unification and comparability of the census data. The Classification of National Economic Sectors and Their Codes worked out by the National Bureau of Statistics of China is consistent in principle with the International Standard Industrial Classification of All Economic Activities, Revision 3 (ISIC, Rev.3) adopted

by the United Nations Statistical Commission in 1989.

6. The establishment and update of the business register is one of the main tasks of the economic census. The register plays an important role for government economic supervision, science research and conduct of statistical surveys. Revision of historical data should be conducted on the basis of the reviewed and verified economic census data. The purpose of this revision would be not to revise history, but to reflect the economic and social development more objectively and accurately and reveal the real features in history. The establishment and improvement of the system of statistical surveys of the tertiary industry is made so to reflect the real level of China tertiary industry. Research institutes and colleges will be organized to conduct researches on major subjects by way of inviting tenders. In addition, detailed information will be collected for the formulation of the fifth national five-year plan. In-depth research will also be conducted on Chinese economic development. The census data will be provided according to the requirements of the general public, especially the requirements of industrial and commercial enterprises. At the same time, the Chinese economic census data and geographic information system will be integrated into China Economic Geographic Information System.

7. A Leading Group of the National Economic Census under the auspices of the State Council will be set up with its Vice Premier as the leader of the Leading Group and members the Deputy Secretary-General of the State Council, chief officers from NBS, National Development and Reform Commission, the Propaganda Department, the State Commission Office for Public Sector Reform, General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), the Ministry of Civil Affairs, the Ministry of Finance, the State (AQSIQ), the Administration of Taxation, the State Administration for Industry and Commerce. The Leading Group is responsible for organizing and implementing the National Economic Census in an all-round way. An Office of the Leading Group would be set up in the National Bureau of Statistics of China and will be in charge of the day-to-day work of organizing and coordinating the economic census activities. Corresponding leading groups of economic census and their offices at local government level will be set up in charge of organizing and coordinating census operations at local levels.

8. According to the National Economic Census Regulations, the expenses of the economic census should be shared between central and local governments at different levels, and should be included in the annual government budgets. In order to convey and spread information for the economic census and especially to ensure that all corporate units, establishments and self-employed persons in the secondary and tertiary industries are fully aware of its importance, participate actively in it and cooperate well with the enumerators, the economic census agencies and departments of propaganda at different levels fully utilize the media like newspapers, radio and TV stations, internet and outdoor advertising to carry out the propaganda and to mobilize respondents, thus providing impetus to the census operation and spreading knowledge about it.

9. In accordance with the principle of being scientific and feasible in line with China's practical circumstances, comprehensive pilot censuses would be carried out in some selected areas. Meanwhile, a comprehensive training of the enumerators and supervisors at different levels would be organized. Additional staff will be recruited from societies or will be temporarily transferred from other departments within the statistical system, a proper training is provided to

it so as to form a strong contingent of census enumerators and supervisors. Before filling in census questionnaires, grassroots census agencies should enumerate units one by one in census districts according to the business register and registration data should be provided by relevant local departments so as to form comprehensive and systematic business register data and lay a solid foundation for census registration. The respondents' rate of the census questionnaires is almost as high as 100%.

10. In the light of the practical circumstances of data processing equipment and skill level of staff in local economic census agencies, census agencies at various levels of government implement unified data processing procedures and operational standards, tabulate the census questionnaires directly from the grassroots units, and report economic census data to higher authorities in accordance with the requirements such as the unified timetable and data format.

11. Because the National Economic Census does not include agricultural activities, NBS has set up a research project on reforming the current system of census. NBS had asked some provincial bureaus for reforming national census system. If the agriculture census is not conducted in the same year as the economic census, some content of agricultural census could be added into the future economic census. In any case, the agricultural census may be cancelled or changed. Meanwhile, China will develop electronic reporting for large enterprises to fill in the questionnaire and reduce the burden on them. China plans also to make full use of the administrative data in the National Economic Census.

## ***Ethiopia***

### **Introduction**

1. In general, it is obvious that, availability of relevant, reliable and up to date statistical data is considered indispensable for the evaluation of the economic and social development of the country. The activities and the mandate of the Central Statistical Agency (CSA) of Ethiopia are mainly aimed at the production of statistical data required for development planning, monitoring and evaluation of all sectors of the economy. To that effect, the Agency is conducting several surveys to collect and compile economic statistics in various sectors, as it is one of the main objectives of the CSA to steadily develop and improve the system of economic statistics in order to extend and intensify data collection and improve the quality of the statistical data in the country. Based on this general objective, the Central Statistical Agency (CSA) has been conducting surveys and censuses of various economic activities, of which Census of Economic Establishments, which was carried out in February-March 2004 is the first of its kind at CSA.

2. Economic Census enables to have a record of all active business enterprises. Essentially, it contains structural information about each business, including (but not limited to) name, economic activity, location and persons engaged by sex and other size indicators. This structural information is central to the collection of business statistics, because it enables one to identify and describe more precisely each business participation in the country. Thus, Economic Census provides a starting point for many economic and related surveys in an economy. It provides the means of selecting a sample that accurately represents a population of business establishments to be surveyed and studied.

### **Institutional Arrangements of the Census of Economic Establishments**

3. A Director General and three Deputy Director Generals head the Central Statistical Agency of Ethiopia. One of the Deputy Directors Generals is responsible for Economic Statistics. The Economic Statistics branch of the Agency has three departments i.e. Natural Resources and Agricultural Statistics; Industry, trade and Service Statistics; and Household Budget and Price Statistics. The departments are further subdivided into two or three expert teams. Furthermore, the Agency has 25 Branch Statistical Offices located all over the country, which mainly administer data collection and supervision activities.

### **Objectives of the Census of Economic Establishments**

- To create a Business Register System
- To obtain baseline data for on-going surveys and censuses of economic activities
- To create economic activities database
- To obtain a frame for future statistical surveys
- To obtain data on the number and distribution of economic establishments by industrial category, region, persons engaged, and
- To obtain baseline data which will be an input to the System of National Accounts on

economic activities

### **Scope and Coverage of the Census of Economic Establishments**

4. The scope of the Census of Economic Establishments is confined to all Establishments that were established with the aim of profit making and covers both public and private establishments that are located in urban areas of the country. The Census includes those which sell or produce in open markets, in fixed location and mobile businesses in all sectors, such as: Agriculture, Fishing, Mining and Quarrying, Construction, Electricity, Gas and Water supply, Wholesale and Retail trade, Hotels, Restaurants and Bars, Transport, Storage and Communication, Financial intermediaries, Real-estate, Renting and Business activities, Education, Health and Social works, and other Community, Social and Personal Service activities, with no limitation of number of persons engaged and amount of income. However, it excludes civil service institutions, defense and other non-profit making government and non-governmental organizations.

5. This Census of Economic Establishments covered all urban areas of the country. Even though, urban areas are those with a population of at least 2,000 people, for this Census the following criteria were used to define urban centers:-

- Major urban center of a Region, Zone or District
- A town with urban localities, (not included in a)
- A town with a municipality, (not included in a) and b) and
- Areas with a population of more than 1,000 and mainly engaged in activities other than agriculture

### **Training of Field Staff and Data Collection for the Census of Economic Establishments**

6. The execution of a survey and quality of data acquired from the survey depend on the type of training given to the enumerators and supervisors and the consequent understanding of the tasks to be performed and the standard procedures to be followed by the enumerators and supervisors in the survey undertaking. The quality and completeness of data are ensured when the training meets its objective of producing responsible and fervent enumerators and supervisors.

7. The training of the Census of Economic Establishments was conducted in two stages: the first stage training which took place at the Head Quarter of the CSA targeted staff from the head office statisticians and senior field supervisors from Branch Statistical Offices. The staff that took part on the first stage training was then assigned to conduct similar training for enumerators and supervisors in all the 25 Branch Statistical Offices distributed across the country. Enumerator's manual was prepared for the survey to introduce the participants with the detailed explanations of the basic concepts and how to handle each and every part of the questionnaire.

### **Reports on Census of Economic Establishments**

8. A report has been prepared presenting the main results of the Census, showing in particular the composition of the economy into formal and informal sector, the distribution of the business

unit population into economic categories as well as its regional distribution. Among others, to mention only few the contents of the list of tables of the report were:

- Number and percentage distribution of business establishments by ownership, region, major urban centers and industrial categories
- Number of persons engaged by region and industrial categories
- Conditions of books of accounts and license by region and industrial categories
- Formal and Informal Business establishments by region and industrial categories
- Number of business establishments by initial capital, revenue by region and industrial categories

### **Database on Economic Establishments**

9. Based on the results of the Census, the CSA made an attempt to establish a database on Economic Establishments/Enterprises, which contains all business units. The business register was designed to contain basic size and type indicators such as address, economic activity, number of persons engaged, legal status, paid-up capital, revenue and other related structural data of all business units. All data records have been converted into an ACCESS database, which contains approximately 670,000 data records. The ACCESS database is used for analytical purposes by concerned subject matter sections of the Agency.

### **Problems Encountered in the Census of Economic Establishments**

10. Although the fieldwork of the census was carried out without much problem, there were a number of shortcomings.

- The census of the economic establishments was found to be a huge undertaking
- The qualities of the data on size indicators, which are very important for further economic survey sampling, were unreliable, specially paid up capital and revenue
- Lack of in-depth knowledge for establishing a database for such huge data as required for sampling activities

11. Therefore, currently the CSA's major emphasis on economic statistics is to establish a reliable frame or business register system by conducting well -designed Census of Economic establishments/enterprises in four years time, and to use as the same time administrative data for establishing and maintaining Business Register system.

12. Because of the problem or almost unavailability of timely, updated business register, except for Large and Medium Scale Manufacturing Industries, CSA uses indirect methods such as area sampling, mixed-households surveys approach and administrative data sources as a frame for conducting economic surveys on various sectors.

### **Compilation of Economic statistics by Sector**

#### *Agricultural Statistics*

13. Agriculture is the leading sector in the Ethiopian Economy. It accounts for about 45 percent of the GDP, employs about 80 percent of the labour force, generates about 80 percent of the export earnings. Hence, the process of agricultural planning, strategy, designing, policy formulation and analysis, budget preparation, project implementation, appraisal, monitoring and evaluation require a large volume of agricultural statistical data/information. In this regard, CSA has made several efforts in producing agricultural statistics through "Integrated Household Survey Program" carried out on annual basis since 1980.

14. To highlight a flavor of the work being done by the CSA, it is worth mentioning here that, the current annual agricultural sample survey includes:

- Crop forecasting
- Area and Production of the main and short rain seasons
- Farm management practices /inputs, irrigation
- Land utilization /crop land, fallow land, grazing land, wood land, other land uses, size of holdings ...etc./
- Livestock /livestock number, products and by products, poultry, fishes, beehives ...etc./

15. These data are available annually for private peasant holdings (for both seasons). CSA's agricultural sample surveys are currently the major primary data sources in the country. The annual agricultural sample survey represents over nine million small holders cultivating more than 10 million hectares and account more than 90 percent of the agricultural output. However, the reliability of the data on Large and Medium Scale Commercial Farms/Enterprises survey result is not as such satisfactory for various reasons. Among others, this is due to the fact that CSA uses unreliable frame and also under estimation of income and related data is reported purposefully by the enterprises.

#### *Mining and Quarrying Statistics*

16. A wide variety of minerals including metals, non-metals, the dominant currently being Gold, as well as, industrial and energy minerals including various types of quarrying activities are known to exist in the country. However, the exploitation and development of these minerals is at its infant stage. The envisaged progress and development of the Industry however requires statistical data in the sector.

17. The data items required in this sector are:

- Mineral and Quarrying production, sales, value added, domestic consumption, export and import by type
- Statistical data on location, reserve, grade and use by type, and
- Inputs and Investment expenditure, mineral exploration ...etc.

18. CSA collects data on mineral exploration, investment, imports and exports on annual basis. Concerning Quarrying activities, CSA has conducted comprehensive survey twice. However, the result of these surveys was not as good as it should have been. The list of establishments/enterprises/ the frame/ obtained from administrative records is incomplete for

taking real sample. Furthermore, under estimation of income and non-response rate are other major problems.

### *Manufacturing Industries Statistics*

19. The contribution of the manufacturing sector for the national economy is relatively low, with value added share of less than 15 percent of the GDP. However, it is one of the dynamic modern sectors showing promising changes.

20. A lot of effort and resources is put in place to carry out surveys and censuses on the manufacturing establishments/enterprises, which include:-

- Annual Survey on Large and Medium Scale Manufacturing Industries, Since 1976
- Quarterly Survey on Large and Medium Scale Manufacturing Industries, since 2000
- Producer Price Survey on Manufacturing Industries (PPI-M), since 2004 on quarterly basis
- Small Scale and Cottage/Handicraft Industries Survey, every five years

21. CSA obtains the list of enterprises or directory for Large and Medium Scale Manufacturing Industries from various Ministries and Agencies and updating is done annually. However, for Small Scale and Cottage/ Handicraft industries the survey is usually carried out using area sampling, based on the results of the Population and Housing Censuses.

### *Electricity, Gas and Water Supply Statistics*

22. The Energy Sector in Ethiopia is made up of three sub-sectors, of which the power sub-sector is the most dominant, from the point of view of its contribution to economic development; petroleum and traditional/alternative sources of energy constituting the rest. Ethiopia imports refined petroleum products.

23. Broadly, statistical data on the following areas are believed to be crucial for the energy sector development.

- Energy supplies by source of energy
- Energy consumption and demand
- Energy prices, sales and value added
- Financial information ...etc.

24. From CSA survey reports on electricity industry, data are available on installed generating capacity and electricity products, sales and revenue, intermediate costs, value of fixed assets ...etc. CSA also collects data on petroleum import; prices and related data from administrative records. The traditional sources of energy data on consumption and related activities are some how available only from household surveys such as Household Income, Consumption and Expenditure Survey.

25. Regarding water supply, purification, distillation and distribution of water are available from administrative sources. But at the moment they are not compiled by CSA. Like that of other

sectors, CSA's main problem in this respect is lack of reliable compiled frame. Concerning household surveys, CSA conducts Welfare Monitoring Survey every three years from which we obtain percentage of the rural/urban population having safe and adequate water supply, access to proper sanitation facilities ...etc.

### *Construction Statistics*

26. Statistics on the Construction Sector play an important role in analyzing short term trends, annual and more frequent development not only for the sector itself but also for other economic activities. This is so because; construction activity generally contributes much to the country's total activity, at least with the corresponding demand for materials and labour inputs. The swings in the level of construction activity tend to both amplify and to lead the movements in the economy as a whole. It is for this reason; any available construction statistics and indicators tend to be closely watched by policy makers and researchers. Furthermore, statistics on the construction activity also contributes to the System of National Accounts (SNA).

27. In Ethiopia, construction is showing a sign of a highly accelerated expansion in recent years, which resulted, unlike the previous years severe shortage of construction materials, most notably cement. In relation to this, in order to fulfill these data requirements on the sector, data that ought to be generated are expected to cover contract construction by construction industry proper, non-construction units carrying out contract construction and own account construction.

28. The data need on construction activities include value of construction put in place, repair and maintenance, cost and quantity of inputs ...etc. In this respect, CSA has carried out two surveys including one pilot on contract construction.

29. However, various problems were encountered during the survey. The major problem was the unreliability of the frame. In addition to the difficulty in locating the enterprises by the addresses obtained from the directory, non-response rate were also the most important hurdles faced, to mention only few.

### *Distributive Trade and Services Statistics*

30. Statistics on the distributive trade and services include wholesale and retail trade, personal services, hotels and restaurants. In Ethiopia, this sector contributes between 15 - 20 percent of GDP. Statistics on the distributive trade and services play an important role in analyzing short term trends, annual and more frequent developments of the sector.

31. The CSA has conducted nation wide surveys on distributive trade and services twice: in 1997 and 2003. Although the results were relatively successful and disseminated to users in time, there were shortcomings in the frame used for the survey. Due to absence of a reliable frame, CSA conducted this survey using area sampling based on the results of the population census.

### *Transport and Communications Statistics*

32. Transport and communications as it is well known play a vital role in the expansion and/or

development of the socio-economic sectors of a country. In Ethiopia the contribution of this sector to GDP is less than 10 percent. The transport and communication statistics compiled by CSA are from administrative records. Because of this, though CSA has tried to improve the details of the data, contents are mostly determined by the availability of information at the sources.

33. The compilation of transport and communications data among others include; in the transport sector, freight traffic volume, revenues, passenger and employment in each modes of transport i.e. land, water, air and rail. In the communications part it includes employment, type of service, revenue and expenditure ...etc. of the various communication media:- telephone, telegraph, internet, radio, television, newspapers and periodicals.

#### *Informal Sector Statistics*

34. The CSA has successfully conducted two nation wide urban informal sector surveys to provide comprehensive data to users on the size and characteristics and its contribution to the national economy. As evidenced from the latest 2003 informal sector survey, this sector contributes nearly 50 percent of urban employment in the country.

35. The informal sector survey provides data on:

- the number of informal sector establishments classified by kind of economic activities, type of work place,
- employment earning's, hours of work, output, value added, operating surplus, capital equipment,
- conditions and constraints under which informal sector operators operate, financial resources, and
- Characteristics of the households and household members of informal sector operators ...etc.

36. The informal sector refers to home based or individual establishment/activity operated by the owner with few or no employees. Therefore, CSA conducted both surveys as a household survey; the sample drawn was based on the population censuses results.

#### *Other Economic Sectors Statistics*

37. As discussed earlier, the CSA has conducted a comprehensive Economic Census on February/March 2004. It is only in this census that CSA collected some basic information on profit making institutions in relation to that of education, health and other social service activities. However, the overall performance and various indicators are compiled usually through administrative records data, household surveys such as welfare monitoring and other social statistics surveys.

#### *Data Dissemination*

38. As stated in this short report, the Agency plans and executes various economic surveys using

its National Integrated Survey Program as well as ad-hoc surveys, annually. Moreover, the Agency periodically plans and undertakes censuses. The data from these surveys and censuses are processed, evaluated, analyzed and publications presenting the results of the surveys or censuses are prepared, printed and disseminated to users.

39. In general the data for each sector and the results of the Census of Economic Establishments are disseminated to users via Dissemination Seminars, Publications, CD, and Website of the CSA.

## ***Hong Kong***

### **Introduction**

1. The current Workshop focuses on the international practices in respect of the organization and conduct of economic censuses. In a strict sense, there is no on-going full-scale economic census taking place in Hong Kong, China (to be referred to as “Hong Kong” in short in subsequent discussions).
2. Notwithstanding the above, the Census and Statistics Department<sup>3</sup> (C&SD) of Hong Kong conducts a number of statistical surveys and operates a spectrum of statistical systems for the production of adequate, relevant, reliable and timely social and economic statistics to facilitate research, discussion, planning and decision making within the Government and in the community. In particular, there is in place a well-developed Programme of Annual Economic Surveys (PAES) covering an extensive range of economic activities which serves to meet practically the key common functions fulfilled by a full-fledged Economic Census.
3. This paper presents the key features of PAES with an aim to supplement experience gathered from the Economic Census counterparts in other countries/territories.

### **Why PAES?**

4. Starting from the early 1970s, economic surveys covering specific economic activities were developed in phases and progressively evolved into a survey system commonly referred to as PAES starting from the 1980s. There are currently six mandatory surveys in PAES which, together with a voluntary survey<sup>4</sup> on personal services activities, cover basically all non-government economic sectors<sup>5</sup> in Hong Kong. The PAES surveys include :

- Annual Survey of Industrial Production (ASIP)
- Annual Survey of Building, Construction and Real Estate Sectors (ASBCRE)
- Annual Survey of Wholesale, Retail and Import and Export Trades, Restaurants and

---

<sup>3</sup> The Government of the People’s Republic of China resumed its exercise of sovereignty over Hong Kong on 1 July 1997. On this date, the Hong Kong Special Administrative Region (HKSAR) was formed under the “One Country, Two Systems” principle. As stipulated in the Basic Law of the HKSAR, the Region would operate with a high degree of autonomy. The HKSAR maintains its separate statistical systems and continues to compile and disseminate statistical data about the HKSAR. The Census and Statistics Department, which is the central statistical authority of the HKSAR, is responsible to the Government of the HKSAR only and there is no administrative relationship between it and the corresponding departments in the mainland of China.

<sup>4</sup> The Annual Survey of Personal, Social and Recreational Services was launched as a voluntary survey in 1990, because only a limited number of personal services activities were covered in the survey at that time when a comprehensive frame of establishments engaged in personal services activities was not available. The survey results in the form of crude estimates at aggregate level are mainly used as one of the inputs for the compilation of Gross Domestic Product statistics.

<sup>5</sup> There is no statistical survey on agriculture, forestry and fishing sectors which are insignificant in the case of Hong Kong.

Hotels (ASW)

- Annual Survey of Transport and Related Services (AST)
- Annual Survey of Storage, Communication, Financing, Insurance and Business Services (ASS)
- Annual Survey of Banks, Deposit-taking Companies, Restricted Licence Banks and Representative Offices of Foreign Banks (ASB)

5. PAES represents the core data feeding system for business operating statistics and constitutes a major source of input data for the compilation of Hong Kong's Gross Domestic Product (GDP) statistics. It also generates various economic indicators for measuring the cost structure and performance of different industries. The survey results are useful to both the Government and the private sector in formulating policies and making decisions.

6. Examples of general uses of results from PAES include :

- a. The statistics can be used to reflect the salient operating features and performance of individual industries, and through the calculation of an extensive collection of analytical ratios, identify the more profitable lines of business; appropriate mix of factor inputs like labour, materials and fixed assets investment that yields a higher return of gross surplus; and optimum level of operation for achieving economy of scale.
- b. Statistics on number of establishments and level of profit margin are useful for assessing the intensity of competition in the business.
- c. The statistics support analyses on industrial concentration and market share position.
- d. Statistics on value added provide the primary parameters for assessing the contribution of various industries to the economy of Hong Kong.

7. It is also worth-mentioning that, in addition to PAES, there are also monthly and quarterly economic surveys conducted to provide up-to-date information to gauge the short-term economic performance trend of selected economic sectors. The following is a list of the major sub-annual economic surveys<sup>6</sup> conducted in Hong Kong :

- Quarterly Survey of Industrial Production
- Quarterly Survey of Construction Output
- Quarterly Survey of Restaurant Receipts and Purchases
- Quarterly Survey of Service Industries
- Monthly Survey of Retail Sales

8. Statistics obtained from the sub-annual surveys are useful for :

- providing up-to-date indicators on the performance of an industry;

---

<sup>6</sup> Separately, there is a quarterly survey covering ten major economic sectors which provides statistics on business expectations. This kind of forward-looking indicator serves as useful information on the short-term outlook of the economy.

- assessing future production and market prospects based on past trends;
- identifying seasonal patterns in business operations; and
- comparing a company's own growth with the average growth of the industry.

## **Planning and Organization of PAES**

9. The various surveys under PAES are mandatory and conducted under Part III of the Census and Statistics Ordinance (Chapter 316 of the Laws of Hong Kong). They are governed by their relevant Census and Statistics orders which describe in clear and explicit terms details of the survey coverage and items of enquiry in the respective surveys. The survey orders also contain provision for protection of confidentiality of information in regard to individual companies reporting data to the statistical surveys. Only aggregate information that does not reveal details of individual establishments will be released. These provisions are important in encouraging better cooperation and willingness of the sampled establishments to supply the required data to C&SD.

10. Though still being separate annual economic surveys governed by specific survey orders, there is an in-built “programme” concept in PAES to achieve harmonisation in conceptual framework (that aligns with the GDP framework) as well as standardisation of statistical methods (e.g. sampling and estimation methods) and survey design (e.g. questionnaire design with a common format). Administratively, all PAES surveys are put under one umbrella as a key statistical survey activity of C&SD.

11. Before the commencement of each round of PAES, preparation meetings are held among subject survey professionals in C&SD to agree on the time schedule and data requirements. A formal notification will be issued to the public by the Commissioner of C&SD to mark the commencement of a new round of PAES and appeal to the management of selected establishments to fulfill their legal and civic responsibilities by returning promptly the completed questionnaires and co-operating with officers of C&SD in the course of the surveys.

12. A common sampling frame is adopted by PAES. The various surveys select their samples from a computerised Central Register of Establishments (CRE) maintained by C&SD. CRE contains a range of information of individual establishments<sup>7</sup> in Hong Kong, including establishment name, physical address, type of business, employment size, contact information, and so on. It is updated by reference to records of the Business Registration Office of the Inland Revenue Department. Administrative records of other government departments are also made use of in maintaining the register. Feedbacks from various surveys of C&SD also play a useful role in maintaining the updatedness of CRE.

13. The “type of business” information in CRE follows the Hong Kong Standard Industrial Classification (HSIC) framework which is modeled on the United Nations’ International Standard Industrial Classification of All Economic Activities (ISIC), with local adaptation to reflect the structure of the Hong Kong economy. The first HSIC Version 1.0 introduced in 1990

---

<sup>7</sup> An establishment in the CRE is an economic unit which engages, under a single ownership or control, in one or predominantly one kind of economic activity at a single physical location. These establishments include commercial undertakings, semi-government organisations and non-profit making bodies (e.g. welfare and education institutions).

and the subsequent revised HSIC Version 1.1 implemented since 2001 were based on ISIC Revision 2. Noting the importance to comply with the international standards in official statistics, in particular the latest development of ISIC Revision 4, a full-scale revision exercise on the HSIC was completed recently. A new Version 2.0 for HSIC was officially released in October 2008 with a view to bringing HSIC more up-to-date on local economic activities as well as to foster international comparability of official statistics. All surveys under PAES will adopt the HSIC Version 2.0 starting from the 2009 round.

14. For each of the surveys under PAES, the sampling frame is stratified by industry group according to HSIC and, within each industry group, by employment size. The sample size for each industry group and employment stratum is determined by Neyman's allocation according to a desired level of precision in terms of estimated value added for each category. Individual establishments<sup>8</sup> are systematically selected at a uniform interval after a random start. The frame and sample size of the 2007 round of five of the PAES surveys are summarised as follows:

Name of survey	Frame size	Sample size	Sampling rate
ASIP	16 300	500	3.3%
ASBCRE	34 700	1 200	3.4%
ASW	192 700	7 300	3.8%
AST	33 100	1 200	3.7%
ASS	48 500	2 600	5.4%

15. Since the samples are selected based on a scientific sampling method, data collected from the samples, after suitable statistical weighting, are representative of the entire population. As regards ASB, there are about 300 firms in the sampling frame and they are fully enumerated.

16. Following the major re-engineering of the survey process in the late 1990s, the fieldwork for different annual economic surveys has been centralised. The restructuring of the fieldwork organisation has strengthened co-ordination of the data collection process and enhanced operational efficiency. Suitable fieldwork strategies and productivity measures are devised and continuously implemented not only to expedite the fieldwork progress, but also to make the best use of field resources in the peak and trough periods of various surveys so as to reap the greatest benefits in the utilisation of resources.

17. As a result of the enhancement in fieldwork efficiency and introduction of other streamlining measures, more timely annual economic statistics are produced, with results of PAES surveys released within 12 months after the reference year.

18. It may be useful to mention further that C&SD puts great emphasis on promoting a

<sup>8</sup> The enquiry unit in PAES is a group of establishments in the same industry such that (i) they have the same first 8-digit of the Business Registration Number (BRN) (which normally indicates a main office-branch relationship), or (ii) they operate under the same group with the same major economic activity even though they may bear different first 8-digit of BRNs and they could provide only a combined return covering all the establishments concerned. These specially formed enquiry units are called multi-location establishments

customer-oriented culture with a view to strengthening respondents' cooperation. A Customer Relations Programme (CRP) has been in place since 1999 and is continuously enhanced to keep pace with the evolving situations and changing demand. The 2008 CRP consists of three parts :

***a. Courtesy Visit Programme***

- Professional staff pay courtesy visits to prominent companies participated in C&SD's surveys and also trade associations, aiming to understand respondents' major problems encountered in data reporting, to exchange views on possible ways for them to provide timely survey returns and to collect information on latest trade practices, as well as to enlist assistance of trade associations in encouraging their members to respond to C&SD's surveys in a timely manner.

***b. Meet-the-Client Sessions***

- a. These sessions provide a forum in a friendly atmosphere for survey respondents, statistics users and C&SD officials to exchange views on the services provided by C&SD. Each session covers a brief introduction of C&SD's work, a presentation on the operating characteristics of a specific industry/theme and its recent development, discussion on the business applications of C&SD's statistics, followed by open discussion and display of various statistical publications.

***c. Customer Window Scheme***

- Large companies are regularly selected to participate in a number of surveys owing to their economic prominence. To consolidate field contacts made by different field officers at different time and to reduce reporting burden, a single field officer is appointed to act as the Customer Relations Officer for a participating company.

**Data collection and data processing**

19. As mentioned in paragraph 11, data items to be collected in PAES are determined in preparation meetings among subject survey professionals. If changes to existing data schedules are simple, field officers will be requested to test out the new questions by seeking views from the respondents. However, if major changes are to be introduced, independent trial surveys of sizeable scales may be conducted to test out the options available.

20. Basically, the questionnaire design across all surveys under PAES is similar and consists of two parts covering different data items :

***a. Basic data***

- type of ownership
- origin of investment
- floor area
- employment

- compensation of employees (i.e. wages and salaries, share-based payments, and, other employee benefits)
- operating expenses
- business receipts
- capital expenditure
- other related information on business operation

***b. Data on specific subject areas of analytical interest, e.g.***

- resources used on computer products and services
- research and development activities
- trade in services

21. Data are collected for a calendar year, or a 12-month period between 1st January of the year and 31st March of the following year. Survey questionnaires are mailed to selected establishments for completion. Electronic questionnaires are available for respondents who prefer to complete their survey questionnaires in electronic format and return them by electronic means.

22. The selected establishments can complete the questionnaires themselves and return the questionnaires by post. If they encounter difficulties, a census officer of C&SD may phone or visit them and assist in completing the questionnaires or collect completed ones. Reminder letters are issued during different stages of the survey to urge respondents to respond early. Telephone interview remains the main method of contacts used for follow-up enquiry in PAES while personal interview is also adopted as a supplementary method in view of the relatively higher costs involved.

23. Noting that some countries are making use of tax data to reduce the data collection effort, C&SD has been exploring the feasibility of adopting this option at least partially in PAES. Preliminary observations show that there are still various practical issues and constraints to be dealt with before fruitful gains can be reaped. Continuous liaison and dialogue will be maintained with the Inland Revenue Department in this regard.

24. C&SD attaches great importance to the quality of statistics it compiles. Specifically, a comprehensive quality assurance review programme is currently in place under which subject professionals are required to conduct self-assessment on the quality of statistical systems under their purview, together with a dedicated quality assurance team at departmental level established to promote, facilitate and monitor quality assurance of statistical work in various statistical systems including PAES. In operationalising the definition of “quality” in its data quality management, C&SD focuses on six dimensions of statistical products, viz. relevance, accuracy, timeliness, accessibility, comparability and coherence. A key feature of C&SD’s quality assurance mechanism is that it fully takes these dimensions into account when designing and managing its statistical systems, including PAES. Moreover, international statistical standards are followed in regard to the different statistical processes leading to the production of statistics, in particular data compilation and data dissemination. This helps ensure a definite level of quality in the statistics compiled and comparability with statistics of other economies.

## **Dissemination of PAES results**

25. Survey results of PAES are usually disseminated in the form of press releases and reports. Taking into account the increasingly pervasive international trend among official statistical offices towards making available downloadable statistical data/products free of charge and the significant benefits of free download versions (e.g. promoting statistical literacy and better informed decision making in the community), C&SD has implemented the free download policy since June 2006. Statistics users can acquire download versions of PAES reports and their back issues free of charge from the C&SD Website.

26. The PAES survey reports present the following key statistics :

- a. operating account for major industry
- b. principal statistics (viz. number of persons engaged, compensation of employees, operating expenses, business receipts and other income)
  - by major industry
  - by number of persons engaged
  - by type of ownership
  - by business receipts and other income
  - by value added
- c. relative standard errors and confidence intervals of selected principal statistics

27. Apart from the statistics published in the reports, more detailed tabulations of survey findings are also compiled by C&SD and can be provided for public consumption upon request.

28. In order to preserve the confidentiality of information relating to individual establishments, relevant individual items in the PAES reports are suppressed for data relating to small number of establishments.

29. To promote the use of PAES data, a variety of publicity measures are launched from time to time and can take the form of talks to media, publication of feature articles in statistical digests, etc. as deemed appropriate.

## **Major developments of PAES**

30. A recent significant development of PAES is the implementation of HSIC Version 2.0 starting from 2009 round of survey as mentioned in paragraph 13. A special task force involving all PAES survey professionals has been established to draw upon their expertise in ensuring the smooth transition for related survey systems. Technical, tactical and resources implications are carefully assessed and action plans drawn up accordingly. Concerted efforts are made to ensure that data needs of users are not disrupted.

31. The implementation of HSIC Version 2.0 has entailed a significant reshuffling of economic activities among different economic surveys. As a result, the existing survey orders no longer align with the new classification structures and amendments will inevitably be required. Instead of making amendments to individual survey orders, opportunity will be taken to introduce a new integrated survey order in place of the existing survey orders for individual economic surveys under PAES. This legislative change will pave the way for further integration of separate annual economic surveys into a unified survey system.

32. Primarily, the new integrated survey system will provide a common platform for the annual compilation of business operating statistics for major economic sectors. The adoption of a unified survey approach will further improve the consistency and coherence of the annual business survey data as well as the efficacy of the overall economic survey system.

33. It is also useful to point out that, as mentioned in paragraph 4, the collection of business operating data for personal services activities is currently through a voluntary survey although the same administrative arrangements and similar technical design as PAES surveys are adopted. In view of the growing importance of personal services activities, effort is being made to expand the coverage of personal service activities<sup>9</sup> and realign the data collection into a mandatory survey operation under the new integrated survey system. The expansion in coverage of personal services activities, coupled with the upgrade to a mandatory survey, will enable the production of more comprehensive and reliable operating characteristics statistics for personal services activities under the same umbrella as surveys on other economic sectors. The current target is to introduce the legislative changes by the end of 2009 and launch the integrated survey system as from the reference year 2009, with fieldwork to commence in early 2010.

### **Concluding Remarks**

34. C&SD will continue to maintain its vision in providing high-quality statistical services, contributing to the social and economic developments of Hong Kong. Every opportunity in sharing valuable experience in this regard with local and overseas counterparts, such as participation in this Workshop, will be highly treasured.

---

<sup>9</sup> To tie in with the implementation of HSIC Version 2.0 in late 2008, the CRE has been enhanced substantially, with a more comprehensive coverage of establishments engaged in personal services activities in the enhanced register. This is an enabling factor for the expansion of survey coverage of personal services activities.

## ***India***

1. Indian Economy predominantly consists of vast unorganized and informal sectors although a large number of economic activities are also being carried out in organized sector. The transition of Indian economy from predominantly agricultural activities at the initial stage to commanding height of public sector mainly industrial sector and further to a vibrant service sector led to rapid growth in Gross Domestic Product (GDP). The current scenario of Indian economy is that share of agriculture in GDP has declined, Industrial sector has increased and contribution of service sector has increased rapidly.

2. In the above background, the data requirements for planners, policy makers and researchers have also changed. The conduct of economic census is one of important endeavours of the Central Statistical Organisation, of the Government of India. It has potential to fulfill the data requirements for non-organised sector of the economy for planners, policy makers and other users. Before the Indian experience of current practices in organisation of conduct of economic census is described in detail, a little background of origin of economic census in India will be in order.

### **Origin of economic census in India**

3. One of the important mandates of the Central Statistical Organisation (CSO) is creation of database for various sectors of the economy and its periodic updation so as to meet the requirements of the planners for sound and systematic planning both at the macro as well as micro level. In India, fairly reasonable database exists for Agriculture Sector where as such data base for Non-Agricultural sector is not adequate. Keeping in mind the importance of the non-agriculture sector in the economy and the non-availability of basic frame for adoption in various sampling techniques for collection of data and estimation of various parameters, Economic Census was felt necessary. In view of this, the Economic Census is an endeavour of CSO for preparing frame of establishments which could be used for various censuses as well as surveys for collection of detailed data particularly on non-agriculture sector of the economy.

4. There are various Government agencies in India who conduct census, sample surveys periodically as per their requirements. National Sample Survey Organisation (NSSO) of Ministry of Statistics and Programme Implementation is mandated for conducting large scale sample surveys through its various rounds periodically. Efforts to fill up the data gaps for the non-agricultural sector were made right from the beginning of the First Five Year Plan by the NSSO. The First National Sample Survey (NSS) round (1950-51) covered non-agricultural household establishments as one of its subject themes. Such establishments were covered regularly up to the tenth round (1955-56). Subsequently, selected activities were taken up for survey intermittently in different rounds (14<sup>th</sup>, 23<sup>rd</sup> & 29<sup>th</sup> rounds).

5. In India, decennial census is conducted by the Registrar General and Census Commissioner, Government of India. Establishment schedules were canvassed in 1971 population census. The census of unorganised industrial units was carried out during 1971-73. Census of the units falling

within the purview of Development Commissioner, Small Scale Industries, was carried out during 1973-74 and a survey on distributive trade was conducted by some of the States during the Fourth Five-Year Plan period (1969-74). All such efforts made prior to 1976 to collect data on non-agricultural establishments have been partial and sporadic. Area sampling with probability proportional to population were mostly used even to capture establishments. For a survey of establishments such sample design is not only inefficient but also results in under coverage of desired number of establishments and low reliability of the estimates derived. The prolonged efforts of Statisticians and Planners in finding a way out for collection of information on amorphous areas of activity resulted in a decisive breakthrough with the advent of conduct of Economic Census.

### **Economic census conducted so far**

6. The first concerted effort was made by the Central Statistical Organisation (CSO), Government of India in 1976 by launching a plan scheme “Economic Census and Surveys”. The scheme envisaged organising countrywide census of all economic activities (excluding those engaged in crop production and plantation) followed by detailed sample surveys of unorganised segments of different sectors of non-agricultural economy in a phased manner during the intervening period of two successive economic censuses.

7. The basic purpose of conducting the economic census was to prepare a frame for follow up surveys intended to collect more detailed sector specific information between two economic censuses. In view of the rapid changes that occur in the unorganised sectors of non-agricultural economy due to high mobility or morbidity of smaller units and also on account of births of new units, the scheme envisaged conducting the economic census periodically in order to update the frame from time to time.

8. In India CSO conducts economic census with the assistance of state governments and central ministries/departments/other organizations. In the latest economic census 2005, quite vital roles were played by Office of the Registrar General of India, Directorates of Economics and Statistics of States/UTs. State Directorates are equal partner in this important endeavour of CSO in conducting the economic census in India.

9. Five economic censuses have been conducted in the years 1977, 1980, 1990, 1998 and 2005 till now. The geographical coverage of these censuses has been all over India except some areas where it was not possible to conduct the census due to some special circumstances and also due to some other compelling reasons. Scope and coverage has been more or less the same in all the economic censuses from 2<sup>nd</sup> Census onwards i.e. all establishments engaged in economic activities both agricultural and non-agricultural whether employing any hired workers or not except those engaged in crop production and plantation. However, in first economic census the coverage was restricted to only non-agricultural establishment at least one hired worker on a fairly regular basis. In the intervening period between two economic censuses follow up surveys/detailed studied were carried out on the basis of economic census frame.

### **Legal Provisions**

10. There are no specific legal provisions under which economic censuses are being conducted in India. However, there is an Act, Collection of Statistics Act, 1953 which is an ombudsman Act. The Collection of Statistics Act, 1953 has since been replaced by Collection of Statistics Bill, 2008.

### **Fifth Economic Census (2005)**

11. The Fifth Economic Census was conducted in 2005. The earlier census was conducted in 1998. The periodicity of economic census in India has not been firmed up as yet. India is a federal country comprised of various States and UTs. The Statistical system of states is not directly controlled by the CSO, Govt. of India. In most of the states the nodal agency for statistical activities are Directorates of Economics and Statistics (DESs). Although the overall responsibility for organisation and conduct of Economic Census rested with the CSO, the DESs of respective States and UTs were made responsible for conducting the field work and preparing the report concerning to their States.

### **Scope and coverage**

12. The Fifth Economic Census was conducted in all the States/UTs. All economic activities (agricultural and non-agricultural), except those involved in crop production and plantation, related to production and/or distribution of goods and/or services other than for the sole purpose of own consumption were covered.

13. However the following activities were kept out of the purview of the Fifth Economic Census.

- a. Establishments of shelter-less and nomadic population, which keep on moving from place to place and camp either without shelter or with makeshift shelter.
- b. Establishments engaged in some activities like smuggling, gambling, beggary, prostitution, etc.
- c. Domestic servants, whether they work in one household or in a number of households, drivers, etc. who undertake jobs for others on wages.
- d. All wage-paid employees of casual nature.
- e. Household members engaged in household chores.
- f. Persons doing different types of jobs depending on the availability of work e.g. loading, unloading, helping a mason or a carpenter, doing earthwork for a contractor.
- g. Household members working for other households and earning some money which is insignificant.
- h. Households in which none of the members is engaged in any gainful activity i.e. households depending on remittance, rent, interest, pension etc.
- i. Owners of tube-wells, tractors, bullock carts, etc. who utilise their spare capacity to earn extra money, if the spare capacity utilisation is occasional and not on regular basis.

### **Committees and Working Groups**

14. A Standing Committee was constituted under the Chairmanship of Director General, Central Statistical Organisation to look into various aspects relating to the conduct of Fifth Economic Census. The Members of the Committee included Registrar General and Census Commissioner of India, Advisers from the Planning Commission, Chief Economic Adviser, Ministry of Finance, representatives from various concerned Central Ministries/Departments like Ministry of Small Scale Industries, Commerce and Industry, Women & Child Development and Labour; and Six State Governments represented by their respective Directors, Directorate of Economics & Statistics. The Committee was assisted by three Working Groups for development of concepts & definitions, strategy for conduct of field work, tabulation of data, publicity & dissemination of results. All the technical and secretarial assistance were provided by the Economic Statistics Division of CSO. At State HQ/ District HQ levels coordination committees were formed.

15. State Level Co-ordination Committees (SLCC) under the chairmanship of Chief Secretaries and District Level Coordination Committees (DLCC) under the chairmanship of District Collectors were constituted to review the progress of work and take appropriate measures for smooth conduct of the Census within the prescribed time frame for different activities. Overall coordination at all India level and guidance were provided by the CSO.

16. Some of the new initiatives which were taken in the latest Economic Census are as follows:-

- a. Separate “Address Slip” of the establishments employing 10 workers or more were canvassed for compilation of a Directory of larger establishments. This will also be included in Volume-II and released in soft form.
- b. ICR technology was used for the first time to process the data.

#### **All- India Conference/ Workshop on Intelligent Character Recognition (ICR) technology**

17. An All-India Conference of State Secretaries in-charge of Planning and Statistics and Directors of Economics & Statistics to discuss various issues relating to implementation of the scheme was organized at Vigyan Bhawan, New Delhi on 22<sup>nd</sup> December 2004. A workshop on ICR technology in processing of Economic Census data was conducted on August 2005 at New Delhi. The purpose of the workshop was to introduce the State/UT Government officers to the concept of ICR technology step by step. Detail demonstration and discussion of the ICR technology was conducted by the officers of RGI in presence of senior officers of CSO, State/UT Governments including some invitees from other Ministries/Departments of Government of India.

#### **Training of trainers and field personnel**

18. Four regional workshops for core group of Trainers consisting of officers from CSO, NSSO and senior officers from Directorates of Economics & Statistics of State/UT Governments were organized at Kolkata, Lucknow, Chandigarh and Bangalore. Subsequently, two officers, one officer from CSO/NSSO and one officer from State/UT Governments, imparted training to the State and district officials who in turn organized training to the lower level officials like Charge officers, enumerators and supervisors.

## **Budget provisions and employing the staff**

19. The “Fifth Economic Census” was taken as Central Sector Plan Scheme and fully funded by MOSPI. The total budgeted outlay of Rs. 99.20 crores was spent primarily through State/UT governments. The Directorates of Economics and Statistics were the nodal agencies for executing the scheme in the States/UTs. Funds were allocated to them as per their requirement. State/UT Governments were also allowed to create temporary posts at DES headquarters for two years. However, no posts were sanctioned at CSO for Economic Census work. The entire economic census work in CSO was carried out by the existing officers of Economic Statistics Division.

## **Planning of economic census**

20. For identification of the primary units in rural and urban areas 20 digit location codes were adopted to prepare directory of primary units separately for rural and urban sectors in each State/UT. The list of villages as per 2001 Population Census with geo code structure already adopted under Population Census 2001 was used for preparation of rural directory. The unit of survey in urban areas was the block(s) carved out by NSSO-FOD under the urban frame survey. The above rural and urban directories were made available to State/UT Governments for updation before canvassing the schedules in the respective States/UTs. The same were updated and subsequently used while canvassing the schedules. The next step was formation of enumeration blocks for canvassing of the schedules by the enumerators. The State/UT Governments were advised to carve out Enumeration Blocks (EB) broadly covering 200-230 households in rural areas. Each UFS block was treated as one EB for urban areas. The above criteria of forming EB were relaxed in hilly and difficult terrains. Data were collected on voluntary basis by contacting head of the unit/household or from responsible persons. Economic activities are assigned 4-digit codes as per National Industrial Classification (NIC) 2004. The list of major agricultural and non-agricultural activity groups along with their NIC codes was identified. To facilitate quick coding of economic activities, for the first time Alphabetic Index was prepared and made available to State/ UT Governments.

## **Raising awareness among public/ publicity**

21. In order to give wide publicity the MOS & PI televised a 30-second video/audio clippings in electronics media on television channels and issued advertisement seeking public cooperation in about 100 newspapers in various languages throughout the country through the Directorate of Audio and Visual Publicity, Ministry of Information and Broadcasting, prior to the commencement of fieldwork. In addition to this, publicity measures were also undertaken by the State/UT Governments.

## **Field operations**

22. The fieldwork of Fifth Economic Census started in April 2005 and was over by December 2005 except in Bihar and Andaman & Nicobar Islands. Because of elections in Bihar and Tsunami rehabilitation work in Andaman & Nicobar Islands, the fieldwork was completed by

early March 2006. About four (4) lakh enumerators were deployed to collect information from about 42 million establishments. Establishments with fixed premises were covered at the place of their operation. On the other hand, economic activities that are carried out without any fixed premises or location were covered through households.

22. All types of establishments (both perennial and seasonal) were covered in the census. The reference period for data collection in respect of perennial establishment was the last calendar year (i.e. Jan-Dec.2004) and for seasonal establishments, it was last working season. For the establishments that have started operation recently, (i.e. operated less than a year for perennial establishments and did not complete a season for seasonal establishments), the information as on the date of the census was collected. The work of the enumerators was supervised by high level officers.

### **Types of schedules canvassed**

23. Mainly three types of schedules were canvassed in economic census 2005. These schedules were (i) House List (ii) Establishment Schedule (iii) Address Slip. Separate schedules were used for rural and urban areas. The fourth schedule namely, the Establishment Abstract (EA) was completed from the entries contained in the Establishment Schedule. The schedules were designed and printed as per the requirement of the ICR technology and in consultation with O/o the RGI .

### **Post enumeration check**

24. The reliability of any census or survey is measured by Post Enumeration Check (PEC). In the latest economic census-2005, Post Enumeration Check (PEC) was conducted in all States/UTs immediately after completion of the field work. Two villages and two urban blocks were selected at random in each district through out the country. Same schedules were canvassed by the Field Operations Division of National Sample Survey Organisation in the selected villages/ blocks in all States/UTs, except Arunachal Pradesh, Manipur, Mizoram and Tripura, where PEC was done by the DESs of respective States. It was an administrative internal exercise, which would provide managerial input for experience building, improvement in future operations and extent of error in the data.

25. In order to meet the immediate needs of various users, arrangements were made for quick tabulation of Economic Census data. The important parameters of the census data compiled through establishment abstract schedule like number of establishments, employment, adult female workers, hired workers, etc. classified according to agriculture/non-agricultural activities, rural/urban and State/UT-wise were released on 12<sup>th</sup> June, 2006.

### **Data processing**

26. Intelligent Character Recognition (ICR) technology, which is also known as Automated Forms Processing, was used for the first time to process the EC-2005 data. Automated Forms Processing technology enables the user to process documents from their images or directly from paper and convert them to computer readable data. Automated forms are forms designed to be

scanned to a digital format so that the data on the form can be “extracted” by software rather than keyed by data entry personnel. The schedules of the Fifth EC were scanned/digitized at the fifteen regional Data Processing Centres of RGI. After running the edit programme, the error list files were handed over to the State Governments for corrections. The DES officials of the State Government corrected the error files in two/three cycles and then sent the data files to RGI Headquarters to give final touch before sending to Computer Centre, MOSPI. The data files were made completely error free by applying auto corrections at the Computer Centre.

27. In earlier census data were processed by the individual State/UT Government, however in the latest census the data processing work was done centrally by the Computer Centre, MOSPI using the software developed in house for all the States/UTs. The final tables required for writing the State/UT level reports were provided to respective State/UT Governments.

### **Tabulation plan**

28. In the EC-2005 a series of tables were generated. These tables are (a) main tables and (b) special tables. The main tables were to provide State/UT-wise results in respect of principal characteristics of the establishments and employment therein classified by major activity groups, type of establishments, ownership type, social group of owner, size class of employment, power/fuel used, source of finance, etc. The special tables were to reflect major characteristics of data at all India level.

29. It was also envisaged that All-India report would be prepared in two volumes. Volume-I of the report would be based on the data collected through Establishment List and would be analyzed as was done in earlier census. Volume-II of report would be based on the data collected through House List Schedule and Address Slip. Volume-II of the report would contain list of units classified by various characteristics like type of structure, address of the establishments employing 10 or more workers. Volume-II will be published in soft form.

### **Future plans and key issues**

30. As mentioned earlier, economic census could form the basis of preparation business register in India. CSO, Ministry of Statistics and Programme Implementation is seized of the matter in this regard through brain-storming session and other activities. The first step in this direction has already been taken in the form of preparation of “Directory of Establishment of 10 or more workers” from the data collected from the 5<sup>th</sup> Economic Census, 2005. The discussion is also going on as to how economic census data can be made more useful for the planners, researchers and other users in India. The deliberations of workshop at Seoul, Republic of Korea will be able to throw some light in this direction so that new initiative could be taken to make economic census data more useful in India.

### **References**

1. Economic Census 2005 – All India Report, Ministry of Statistics and Programme Implementation, Government of India.
2. Report of the National Statistical Commission, Government of India.
3. Economic Survey 2006-2007, Ministry of Finance, Government of India.

# Indonesia

## Introduction

1. The economic census is conducted on the basis of a law – the Indonesia Republic Act No. 16 of 1997. Statistics section 8 provides Statistics of Indonesia (BPS) with the tasks and responsibilities to conduct an economic census. An economic census is conducted every ten years, in the year ending with the number 6. Economic census is the primary source of information for the statistical database and is considered comprehensive and detailed enough for various economic sectors, except agricultural sector for which data is collected through the Agricultural Census. Three economic censuses have been conducted so far by the Statistics Indonesia - in 1986, 1996, and 2006..

## Why Economic Census?

2. Economic Census 2006 (SE06) is a collection of basic data on economic activities in Indonesia. Scope includes the number and characteristics of all businesses in the economic sectors, excluding agriculture. Economic Census 2006 recorded all companies/businesses that use the building and also those that do not have fixed premises.

3. Some of the reasons why the economic census is necessary are:

- To identify the population of economic units
- To update the directory
- To provide economic sampling frame/master sampling frame (MSF)
- To create and develop a map of economic activities distributions
- To find out detail information on the structure of the all economy sectors

4. In general, the 2006 Economic Census aimed to collect and present the data on the economic activities in all parts of Indonesia as complete, detailed, and up to date as possible. That includes data on the number, characteristics of the units, and activities in which they are engaged of all companies/businesses irrespective of their size, except for the agricultural activities (data for which are collected separately). In addition the economic census helps to:

- a. Obtain detailed data of Micro and Small Business (UMK), and Medium and Large Business (UMB) as the inputs for planning and analysis of micro- and macro-economic activities in Indonesia;
- b. Obtain a benchmark and basis for the various economic surveys and censuses in the future;
- c. Obtain basic specific information about various businesses in Indonesia, according to the sector, activity, and the size such as:
  - Employment

- Expenditures for labor
- Structure of input and output structure
- Capital structure
- Business prospects and constraints

5. Area of the Economic Census covered all Indonesian territory. Business activities covered in the Economic Census are all economic sectors except for Agricultural sector. The industrial classification applied is the Indonesian Standard Industrial Classification (KBLI 2005) compatible with ISIC Rev. 3.1.

6. The Economic Census 2006 was implemented in two stages. The first stage was carried out in May-June 2006 by implementing the business registration (listing) through the approach of business location that covered medium and large establishments (UMB), micro and small businesses (UMK), including the economic activities run by the household members. The second stage started in May 2007 by applying the census sample. The census (complete enumeration) method was applied for the UMB and the sample (survey) method was implemented for the micro and small businesses (UMK).

7. Thresholds used for the Economic Census 2006 were based on several criteria. Criteria from related technical division were used, for example an establishment is categorized as Medium and Large establishment (UMB) on the basis of its:

- Legal status
- Number of workers
- Other sector criteria (Output)

8. The basic unit of enumeration used in the Economic Census was the establishment/, which was considered into the following categories - micro, small, medium, and large establishments/businesses.

9. Uses of Economic Census results include:

- Benchmarking: market condition, industry
- Necessary direction and labor structure
- Tracking economic change
- Direction of economic development
- Location, size and labor of the industry
- Geographic distribution of economic activities

### **Planning and Organization of Economic Census**

10. Legal provisions for the conduct of economic census in Indonesia include:

- Statistics Act No.16, 1997
- Government Regulation No. 51, 1999 on Statistical Implementation
- Presidential Decree Number 103, 2001, on the position, duties, functions and authority,

organization structure, and Non-Department Government Institution

11. Financial and budget provisions for the economic census are made in the National Budget (APBN). Administrative arrangements include recruitment of census enumerators from non-BPS employees, i.e. these are elementary teachers, university students, and others who had been trained to perform the registration business. In the field implementation, Statistical Office (BPS) officials accompanied the enumerators and field supervisors. Coordinators at the district level coordinate the field activities in that particular region, province or city. BPS coordinates the census activities in each region by working closely with the regent/mayor, governor, and other institutions and associations.

12. The Economic Census planning was done by the BPS Headquarters and all BPS Province officers were informed in order to guaranty that the census would be well implemented.

### **Scope and methodology used for pilot survey and preliminary sample test**

13. *Scope*: 2006 Economic Census covers all economic sectors except for Agriculture sector in the territory of the Republic of Indonesia.

14. *Methodology used for pilot survey*: Pilot study was conducted in 4 provinces. Each province selected 1 (one) district and the city. Each city selected 3 census blocks and each district usually selected 2-census blocks of non-concentration business. Census block selection was carried out purposively. A unit/business covered in the census block was selected from all the units/businesses that have operations in the census block unless the unit does not have the building as its physical location, but rather uses fixed caravans, etc.

### **Preparation and maintenance of the establishment list for surveys, etc**

15. Accurate company registration was done as the basis for the subsequent mailing of the census questionnaire for each sector. After the census is done the list of units in each sector is updated every year.

16. The activities of Economic Census are as follows:

- 2004 activities: Study of the units of observation; Pilot registration, building and activity; Study center and branch network by sector; and Study and identify problem census blocks and solid business centers of economic activities.
- 2005 activities: Test of SE06 Listing; Updating maps and census block area administration; Discussion on the questionnaires and manual of enumeration; Workshop instructors (Intama) and Training of National Instructor and Regional Instructor (for Listing).
- 2006 activities: Visits in order to register units; Training of field enumerators; Listing; Quick data processing (only on number of establishments); Pilot survey of micro, small and medium establishments' enumeration (UMKM); Pilot survey of large establishments'

enumeration (UB); Post Enumeration Survey and Listing's data processing.

- 2007 activities: Printing of UMKM and UMB Questionnaire and its manual; Take sample of UMKM establishments; Aggregation and dissemination of listings' results; Training of National Instructor and Regional Instructor (for UMKM and UMB); UMKM and UB enumeration and UMKM and UB data processing.
- 2008 activities: Publication of UMKM and UMB results and Aggregation and dissemination of UMKM and UMB results.

17. *Staff recruitment and training.* Data collectors (enumerators) were staff of BPS Provinces/districts and District Statistics Coordinator (KSK). They could also be statistical partners (temporary enumerators) who have experiences in conducting the data collection of BPS surveys/censuses. All enumerators were trained for conducting the enumeration of economic census. In the implementation, the enumerators are assisted and accompanied by Statistics Supervisor (PMS) and KSK. The KSK coordinate the field activities at sub-district level.

18. *Questionnaire development and design.* Design and development of the census questionnaire is done as to obtain information about the characteristics/variables and activities of the units. There is a general part in the questionnaire relevant for all sectors, while the characteristics and more specific details on each sector are asked in the respective subject matter sections of the questionnaire.

19. Raising awareness and promoting the response to the Economic Census is done through presidency and ministry speeches, letter from BPS to the governor/major and letter from association to its members.

20. *Field supervision and reappraisal of questionnaires responses.* Supervision had been conducted for all field based census regions, as in the provincial areas it was done by a team of provincial-level supervisors; in the district/city level it was done by the team of district/city level supervisors, while the village level supervision was done by KSK. The feasibility of the questionnaire was checked and assessed during the pilot study phase on the basis of the response rate to the questionnaire.

21. The following is the list of data items collected in the 2006 Economic census:

- Establishment's name
- Establishment's address
- Legal status
- Main product
- Number of workers
- Average working hour
- Expenses for the workers
- Input and output structure
- Capital structure
- Stock or inventory

- Business obstacles and prospects
- Fixed capital
- Usage of information technology

22. The data collected through the census questionnaire are transmitted from the field to the BPS Headquarters through internet. Additional data from administrative data sources such as tax payers' information was not used.

23. *Use of sampling in Economic Census.* The sample survey method was implemented for the micro and small establishments (UMK). At the beginning the allocation is done according to the sample districts/cities in accordance with the standard classification of economic activities in Indonesia (KBLI). Systematic sampling is the method used for sampling micro and small establishments (UMK) which is applied at the 5-digit level of KBLI.

### **Post census activities**

24. 2006 Economic Census data collection was not web based because the majority of the respondents were small businesses.

25. *Quality assurance for the Economic Census Process.* BPS as a national statistical agency considers the quality of produced data of high importance and has established a framework and culture of quality assurance (quality assurance for the Economic Census Process). Priority has been given to various dimensions of quality measurement such as accuracy and timeliness of data in accordance to the limited resources available (human and financial). Quality assurance procedures are carried out transparently and users of data are informed about them.

26. The Directory from the 2006 Economic Census was used as a sample frame for subsequent sample surveys, such as survey of small and household manufacturing industry, survey of construction establishments, etc.

27. *Dissemination of Economic Census results.* In accordance with the phases of the SE06, census results were dissemination twice. In the first phase of dissemination only listing was disseminated, while on the second stage - more detailed census results. Dissemination of listing was done in 2007; the detailed dissemination of the results of the collected data was done in 2008.

28. *Economic Census publications.* Economic Census results are published in two types of publications such as report for listing activities and census sample. Listing publications are by sector as for each sector they contain (i) the directory of establishments and (ii) establishments and number of employees. Census sample of establishments publishes the following: (i) micro and small establishments per sector; (ii) large and medium establishment per sector; and (iii) executive summary per sector. The format of dissemination is in both hard and soft copies.

29. Provision of high quality, complete, accurate, relevant and up-to-date statistical data is the main objective of BPS. In order to be effective and efficient, the BPS coordinates the implementation of international statistical standards in the entire National Statistics System. The

capacity and resources should be increase so that the professional knowledge and information technology are up to date.

30. *Evaluation, analysis and acceptance of Economic Census results.* Evaluation and analysis of results are important for all statistical activities, especially for economic census. The use of economic census data could be significantly reduced if evaluation and analysis of data are missing. The 2006 Economic Census provided a wealth of information in different aggregation forms – by activities, size classes of establishments, regions, etc. which can be used by various users, both at governmental level and at the level of the community as a whole, especially the businesses.

### **Future of Economic Census in the Economic Statistics Programmed**

31. BPS is planning to conduct the next Economic Census in 2016 in order to satisfy the needs of the government and other users.

## *Japan*

### **Background**

1. In Japan, censuses and large-scale statistical surveys have been largely divided into major industrial sectors, such as agriculture, forestry and fisheries, manufacturing, commerce, and services sectors, and these censuses and surveys have been conducted in different years and cycles, under a decentralized statistical system.
2. As a result, it has been difficult to produce comprehensive industrial structural statistics, which cover all industries of Japan at the same point of time.
3. The Establishment and Enterprise Census has been conducted in Japan every five years (with a simplified survey in interim years). However, its aim is not to investigate the accounting aspects of economic activities, but mainly to compile a list of all establishments and enterprises to produce a national sampling frame, and to produce statistics which count the establishments, enterprises and persons employed.
4. Moreover, statistics on the services sector cannot be described as adequate in terms of quantity or quality, and their development has been rather unsystematic. This has become a serious concern as the share of the sector in the national economy becomes increasingly important. Therefore, the development of statistics capable of grasping all the economic activities of Japan comprehensively at a single reference time has become a critical issue. To solve this problem, uniting censuses and surveys, such as the Establishment and Enterprise Census, Survey on Service Industry, etc., an Economic Census, which covers all economic activities of every industrial sector at the same point in time, will be conducted in 2009 and 2011.

### **Coverage of the Census**

5. The Economic Census covers all economic activities and all establishments, except for:
  - privately-managed establishments engaged in agriculture, forestry or fishery,
  - establishments for domestic services,
  - foreign governments and international agencies.

because it is hard for enumerators to find out such establishments by appearance. No thresholds are applied.

### **Statistical Unit**

6. The statistical unit in the Economic Census is an “establishment”, which is defined as “a unit of location (a demarcated area) with proper equipment and personnel to produce goods or to render services continuously under a single management.”

## **Method of the Census**

7. The survey method is, basically, an enumerator walks through the designated areas (enumeration area) and finds an establishment. If the establishment he finds is an office of a single-unit enterprise or a head office of a multi-unit enterprise, he distributes questionnaires, and collects them after they are filled in (For a multi-unit enterprise, a head office has to fill in questionnaires for branch offices.). If the establishment he finds is a branch office of a multi-unit enterprise, he only checks the operating status (i.e. open or close) of the office. For large enterprises, the Statistics Bureau or local governments directly send questionnaires to enterprises by mail. Enterprises fill in questionnaires and send back by mail or via internet.

## **Uses of Economic Census results**

8. Results of the Economic Census will be used as (i) a fundamental data for understanding economic activities in Japan; (ii) a fundamental data source for the sampling frame of various economic surveys and (iii) a primary data for compiling important economic statistics, such as GDP or Input-Output table.

## ***Planning and Organization of Economic Censuses***

9. *Legal provisions.* The Economic Census is conducted as a “fundamental statistical survey” of the Statistics Act. The Statistics Act provides the duty of response for fundamental statistical surveys and confidentiality of individual data.

### *Planning of the Economic Census*

10. In May 2006, the “Meeting for the Planning of the Economic Census” was settled for the coordination of the planning of the Economic Census. The meeting was organized by academia, ministries concerned (Statistics Bureau, METI (Ministry of Economy, Trade and Industry), Cabinet Office, etc.) and prefectures. We held 8 meetings from May 2006 to March 2008.

11. After the meeting, Statistics Bureau made the implementation plan (including questionnaire items) of the 2009 Economic Census. Statistics Act provides that the implementation plan of a fundamental statistical survey must be approved by the Minister for Internal Affairs and Communications, and that the Minister has to hear the opinion of the Statistics Commission. The Statistics Commission discussed the implementation plan from May 2008 to August 2008, and the plan was approved in August 2008.

### *Pilot Surveys*

12. We conducted two pilot surveys for the 2009 Economic Census. The first pilot survey was conducted in September 2007, mainly to get information useful for making the implementation plan of the Economic Census. The sample size was approximately 4,000.

13. The second pilot survey was conducted in July 2008, as a rehearsal of the 2009 Economic Census. The sample size was approximately 8,000.

*Preparation of the establishment list*

14. As mentioned before, in the 2009 Economic Census, Statistics Bureau, prefecture governments, municipal governments, and enumerators have the responsibility to distribute/collect questionnaires, according to the size (number of branch offices) of enterprises.

Number of branch offices	Responsible for distribution/collection of questionnaires
0 – 9, unknown	Enumerator
10-29	Municipal government
30-99	Prefecture government
100-	Central government (Statistics Bureau)

15. To avoid duplication/omission, the establishment lists were prepared for each enumeration district, identifying:

- which establishments are located in the corresponding enumeration district;
- type of establishment (office of a single-unit enterprise, head office of a multi-unit enterprise, branch office of a multi-unit enterprise);
- who is responsible for distribution/collection of questionnaires.

16. If an enumerator finds an establishment which is not in the list, he asks the establishment whether it is a head office or not, and

- if it is a head office, he distributes and collects questionnaires;
- if it is a branch office, he asks the name/address of the head office (questionnaires for the office is filled in by the head office).

17. The establishment lists were prepared using information from the 2006 Establishment and Enterprise Census, and from the commercial/corporate register.

*Utilization of the commercial/corporate register*

18. In Japan, every corporation is required to register by law. Presently, 2.8 million corporations register in the commercial/corporate register. However, according to the results of the 2006 Establishment and Enterprise Census, there are only 1.7 million corporations in Japan. Part of the difference may be explained by the existence of inactive establishments (but the registers of closing are not made). However, there may be establishments missing in the Census, because it is hard for enumerators to find establishments with no signboards.

19. To overcome the problem, we utilized the commercial/corporate register data (name and address of corporations) in preparing the establishment lists for the 2009 Census. In the Census, enumerators visit corporations in the lists, and check whether there are really corporations operating at the corresponding address.

### *Staff recruitment and training*

20. Approximately 90,000 enumerators were used in the 2009 Census. Municipal governments are responsible for recruiting and supervising enumerators. One-day classroom study (and study at home) is given. Moreover, there are supervisors who support enumerators. (on the average, one supervisor for 17 enumerators)

### *Publicity of 2009 Census*

21. To raise public awareness and promote responses, Statistics Bureau did the following:
- press release;
  - advertise on radio, newspapers, magazines;
  - put up posters at stations, government offices;
  - visit economic organizations and industrial associations to ask for cooperation;
  - mail to large companies;
  - bus wraps;
  - make web-site of Economic Census.

### **Data collection and data processing**

22. *Data items collected in the 2009 Census.* The following data items were collected in the 2009 Census:

- Name, Phone number, and Address
- Opening year
- Number of persons engaged
- Kind of business activities
- Type of legal organization (corporation, unincorporated entities, etc.)
- Capital amount and foreign capital ratio
- Month of settlement of accounts
- Name and address of parent company
- Number of subsidiaries
- Accounting items (revenue, profit, cost, etc.) will be added in the 2011 Census.

23. *Methods of data processing.* Head offices are required to fill in questionnaires for branch offices. For small enterprises (0-9 branch offices), enumerators distribute and collect questionnaires. Collected questionnaires are sent (via municipal governments) to the Statistics Bureau, and the questionnaires are read by OCR. For large enterprises (10 or more branch offices), central/local governments send questionnaires directly to head offices. National Statistics Center conducts data processing and tabulation. Respondents choose one of the following:

- fill in questionnaires (paper) and send back by mail
- fill in Excel sheet and send back CD-ROM by mail
- fill in Excel sheet and send back via internet

24. *Use of administrative data.* Although we use commercial/corporate register data for preparing establishment lists, we do not use administrative data to impute/correct Census data.

25. *Post-census Activities/Post-enumeration checks.* Staff in the National Statistics Center checks the questionnaires, and if there is a doubt, he asks the respondents whether the answer is correct. For example (i), the figures are very different from those of 2006 Census; or (ii) although enumerators report the existence of a branch office, the head office doesn't report the corresponding branch office and vice versa.

26. *The Economic Census as a basis for subsequent sample survey programmes.* The business-register will be revised using the results of the 2009 Economic Census, and the business-register will be used as a sampling frame for various statistical surveys

27. *Dissemination of Economic Census results.* Schedule and forms of dissemination by the end of November 2010 are:

- Main basic results will be released by the end of June, 2010 (i.e., 1-year after the Census);
- Final results for establishments: by November, 2010;
- Final results for enterprises (without matching parent companies and subsidiaries);
- Final results with matching parent companies and subsidiaries by March, 2011. The release will be made via internet and printed materials.

28. *Confidentiality.* Statistics Act provides confidentiality for individual data of statistical surveys, and the use of individual data is highly restricted. Only a public organ or a person who serves public interest can use individual data of the Census for statistical purpose, under the approval of the Minister for Internal Affairs and Communications.

29. *Future of Economic Census in the Economic Statistics Programmes.* We plan to conduct the "2011 Economic Census for Business Activity" (maybe in February 2012). Accounting items, such as revenue/profit/cost, will be surveyed. After 2011, the Economic Census for Business Activity will be conducted every 5 years, with interim Census for Business Frame.

## **Key issues**

30. *Common ID code of establishments for various surveys.* Statistical system in Japan is highly decentralized, and there are many statistical surveys which do not use our business-register as a sampling frame. This makes it difficult to match results of various statistical surveys. Using common ID code of establishments for various surveys will be important for improving economic statistics in Japan.

31. *Utilization of administrative data.* In Japan, utilization of administrative data, such as tax data, for statistical purpose is highly restricted. The only administrative data utilized in the Economic Census is commercial/corporate register. Statistics Commission discussed the matter, but no concrete plan has been settled yet.

## ***Jordan***

### **Introduction**

1. The Department of Statistics DoS is by low the only institution to conduct Population, Agricultural, and Economic Censuses in Jordan. Before the year 1999, DoS used to only conduct Industrial Censuses every five years covering only the manufacturing sector. As for the other sectors DoS used to identify the working enterprises by conducting field listings of those enterprises through the Population and Agricultural Censuses collecting data on the address and activity of those enterprises. Also DoS used to update the frame of establishments through some administrative sources such as the Ministry of Industry and Trade and some other associations.
2. In the year 1999 DoS conducted its first Economic Census followed in the year 2006 by conducting the second Economic Census.

### **The need for Economic Census**

3. It is well known that the Economic Census is so important for lots of reasons, mainly to provide an updated frame of Establishments that could be used in post surveys. An updated frame which includes some of the main basic characteristics of the establishments would lead to more efficient sampling designs and therefore more accurate estimates. Another important issue is that the Census provides data on the smaller administrative levels with zero sampling errors, and that could be so helpful in identifying the spread and size and activities of establishments on the smallest administrative levels which could also be helpful in effective regional planning.

### **The scope of the Economic Census 2006**

4. In the Economic census of Jordan conducted in 2006, the census covered all establishments employing one person and more, and all localities were covered in Jordan. The Public sector, the Agricultural sector and the Military sector such as the Public Defense, the Public Security, the Armed Forces and the Intelligence Department were not covered.
5. The DoS used Virgin 3.1 of ISIC to code the main Economic Activity of the Establishments on the six digit level of the classification which was set by DoS to provide a more comprehensive frame of establishments.
6. Several indicators that could refer to the size of the establishment were collected such as the number of employees, the capital paid and the annual revenues. Those indicators were introduced in the questionnaire to categorize the sizes of the Establishments for post sampling designs.
7. The Method of personal interview was used in the collection of data, where the enumerators went door to door in the blocks that were used in the latest Population Census conducted in the year 2004. An update of the buildings in the blocks was done during the field work to insure a complete coverage of all establishments in each block.

8. A list of all non-residential establishments was done to identify the type of the establishment, where only the main branches which have separate accounts were covered. Other establishments such as branches which don't keep separate accounts, warehouses, Government establishments, religious establishments and military establishments were excluded.

### **Planning and Organization of Economic Census**

9. *Legal and financial provisions.* As mentioned previously the law of Statistics gives only the statistical office DoS the authority of conducting Censuses in the Country. The DoS had to get a letter of approval from the Prime Minister to conduct the Economic Census and the allocation of the needed budget. The Budget of the Census was about one million (\$1,000,000) dollars.

10. *Administrative arrangements.* After the allocation of the budget which was completely from the Ministry of Finance MoF and the approval letter from the Prime Ministry, DoS formulated a technical committee from the following agencies:

- The Ministry of Industry and Trade
- The Ministry of Planning
- The Central Bank of Jordan
- The Companies Control Department
- The Jordan Investment Board
- The Department of Statistics

11. The committee had to look into the draft questionnaire and the proposed methodology to give any feedback on them or to add whatever could serve there needs without burdening the questionnaire. The administrative team for the Census was formulated as all other Censuses conducted by DoS as follows:

- The Director General of DoS / as the National Manager for the Census
- The Director of Economic Statistics / as the Executive Manager for the Census.
- Technical Assistant to the Executive Manager
- Field work Assistant to the Executive Manager
- Financial and Administrative Assistant to the Executive Manager

12. *The pilot Survey.* After finalizing the questionnaire and been approved by the technical committee. The DoS recruited 10 of its permanent staff in the Directorate of Economic Statistics to perform a pilot survey for the questionnaire for a small sample of blocks in two governorates. The sample was about 10 blocks and 110 establishments. The pilot survey didn't return any comments on the questionnaire contents but rather gave a good indicator on the time spent for one enumerator to complete a block and the time that it will take to fill up a complete questionnaire. This information was important to estimate the number of field staff given the total number of blocks in Jordan and the period for the field work which was three months.

13. After the pilot survey, the questionnaire was sent to the IT Directorate to set up the data entry programs and the dummy tables programs. An electronic data check was designed by the Census team and also provided for the IT Directorate.

14. *Staff Recruitment and Training.* According to the results of the pilot survey it was decided that (120) enumerators were needed to complete the field work in three months. The field organization was as follows:

- Five Field Coordinators were appointed to supervise the field work on the governorate level. Jordan has (12) governorates, but two small governorates in some cases were assigned to one Field Coordinator. For big Governorates one was assigned to one enumerator. The field coordinators were senior permanent staff of DoS who had big experience in field work and had participated in previous Censuses.
- Twenty Inspectors were appointed to supervise the work on the district level and they had to report to the Field Coordinator and they supervised the work of the enumerators under them. Those Inspectors were permanent staff of DoS who had good field experience.
- (20) Field Auditors were appointed to check the completeness of the submitted questionnaires at the end of each day and to check the consistency of the filled data. Those Field Auditors were permanent staff of DoS working in the annual economic surveys.
- (120) Enumerators were newly recruited as temporary staff for the field work period.

15. A training course was held for all the field staff and lasted for five days concentrating on the concepts and definitions, the objectives of the Census, how to fill up the questionnaire and how to use the maps to allocate the establishments. Since the blocks sketches were two years old, the enumerators were also trained to update those sketches.

16. The data collection procedure was to go door by door in every block and list all establishments within the block, then fill up a questionnaire for those which meet the requirements and the conditions. For example the government establishments, the warehouses, the mosques, and the branches which don't have separate accounts were listed but the enumerator didn't fill up a questionnaire for them as they were excluded from the scope of the Census.

17. *Raising awareness and promotion.* Since the budget of the Census was not huge enough to meet different types of promotion, DoS only had to announce about the Census in the daily newspapers and write official letters to be submitted to the establishments on the day of visit explaining the objectives of the Census and the confidentiality of data, and requesting the establishments to cooperate in filling up the questionnaire.

18. *Field supervision and reappraisal of questionnaire response* The field supervision started from the first day of field work, where the Inspectors had to select a sample of visited establishments and check whether they were visited actually and make sure that the data that was filled was correct.

19. The Field Auditors had to check every questionnaire that was submitted on the previous day

to make sure that the questionnaire is complete and the data is consistent. Any uncompleted questionnaire or the ones that had mistakes were returned back to the enumerators to correct them or to complete them.

20. The establishments that did not respond in filling the questionnaire were visited by the Inspector or the Field Coordinator to urge them to respond. And since the questionnaire was easy and not so big all the establishments had responded after several visits.

## **Data collection and data processing**

### *Data items collected*

21. The census questionnaire was divided into two questionnaires. The first one was for the purpose of listing all establishments in the block to make sure non of them would be missed or neglected. A second purpose for the first questionnaire was to identify and filter the establishments that should be enumerated and have their questionnaire filled.

22. The first questionnaire contained the following items /questions:

- Complete address
- Number and name of building
- Status and purpose of the building
- Number of establishments in the building
- Serial No. of the establishment in the building
- Status of the establishment
- Commercial name of the establishment
- Structure if the establishment if headquarter without branches, headquarter with other branches, branch with separate accounts (questionnaire to be filled), else branch without separate accounts, regional office (stop and no questionnaire to be filled).

23. The second questionnaire contained the following items / questions:

- Complete address and the Key
- Registration number at the MoIT
- Commercial name of the establishment
- Economic main activity
- Economic secondary activities
- Date of starting production
- Legal Status of the establishment
- Capital paid
- Contribution in the capital paid / Jordanian private sector, Jordanian government, non-Jordanian private sector, foreign government and others.
- Whether the establishment holds legal accounts
- Number of employees during the last month of the visit by sex and nationality.
- Annual revenue
- Whether the establishment is connected to the internet or whether it has a website.

### *Data processing*

24. The data for the census was collected by filling up the two paper questionnaires by either the enumerator or in some rare cases the person in charge in the Establishments. The field work started in the 1<sup>st</sup> September 2006 and ended in 10<sup>th</sup> December 2006.

25. The questionnaires were then edited by the Field Auditors and sent to the Department Headquarters to be edited again and coded. After the questionnaires were registered and coded they were sent to the IT Directorate to be entered into the computer by data entry staff. Electronic edit rules were submitted to the programmers and built into the data entry program so that any inconsistent data would be captured at the data entry stage. If any inconsistent data was discovered, the questionnaire was referred back to the Census technical team to correct it by either sending it to the field again or by making a telephone call with person in charge in the Establishment to correct it.

### **Post-census activities**

26. There was no kind of Post-census enumeration activity after the field work stage had finished. But as mentioned before the Field Inspectors had to visit daily a sample of completed questionnaires to make sure that the Enumerators had visited the Establishment and then check for some items in the questionnaires.

27. The data collected from the Census provided an updated frame of actually active establishments in Jordan and their main characteristics for post sample surveys which are conducted annually for all sectors and even quarterly to estimate the quarterly growth of the GDP.

28. DoS conducts since 1992 annual Surveys on all economic sectors such as the manufacturing sector, the services sector, the transportation and storage and communication sector, the wholesale and retail sector, the banking and insurance sector, the construction and the employment survey. Those surveys are conducted yearly and are funded completely by the budget of Dos.

29. Other surveys are conducted upon request by other ministries such as the foreign direct investment FDI which was requested by the Central Bank of Jordan and the Jordan Investment Board JIB and the ICT survey that was requested by the Ministry of Communication and Information Technology. Those surveys were funded by the JIB and the MoCIT.

30. The annual Surveys that DoS conducts are huge surveys with a sample size that is about 10% of the total establishments. All big establishments in terms of number of employees or capital or revenues are completely enumerated yearly while other SMES are sampled. The main purpose of these surveys is to provide the necessary data for the National Accounts Division to prepare the tables on national accounts. The questionnaire was more detailed since 2006 to help prepare the I-O tables for Jordan. The project of the I-O tables started early this year and the year 2006 was selected because it was considered to be the most recent normal year.

31. DoS also conducts quarterly surveys in the sectors of manufacturing, services, communication and storage and transportation, wholesale and retail, and the construction sector. Those surveys are small surveys that provide data to estimate the growth of the quarterly GDP.

32. The quarterly sample is a sub sample from the annual survey sample with a shorter and smaller questionnaire which provides estimates mostly on the two digit level of the ISIC on the Jordan level. While the annual surveys the questionnaire is more detailed and provides estimates on the regional level and the four digit level of the ISIC.

### **Dissemination of Economic Census results**

33. The results of the economic census were presented in a comprehensive paper report (Hard Copy). The data was represented on the four digit level of ISIC and on the Governorate level. The tables disseminated covered all items of the census questionnaire. Also the DoS has disseminated the results on its own website for easier access by users world wide.

34. For any further data which could be requested by different users on the lower administrative levels such as districts and sub districts or even in a different cross tabulated forms. The users either contact the DoS by visiting the headquarters or send an e-mail request, and the DoS would send them the required data taking always into consideration the confidentiality issue.

35. The results of the Census were launched in a Press Conference chaired by the Director General of DoS, where a short analytical report was prepared that showed the main results of the Census and circulated to the press attendants.

36. The main results of the Census showed that Jordan had a total of (147023) active establishments, where (48%) of them were located in the capital Amman and (79%) in Amman, Irbid and Zarqa governorates which are the bigger three governorates in Jordan out of (12) governorates. (87.7%) of the total establishments were individually owned and (92.2%) had less than five workers. As for the distribution of establishments according to the sectors, the Census showed that (60.7%) were in the wholesale and retail sector, (24.4%) were in the services sector, and (13.8%) were in the manufacturing sector.

### **Future of Economic Census**

37. The DoS is intending to ask for funding to conduct the third Economic Census in 2013 rather than 2016 due to the quick changes in the number and structure of establishments in Jordan.

38. In the year 2007 DoS had suggested a project for establishing a Business Register. This register would be so helpful in providing an updated frame of establishments between the period of the Censuses. A higher committee was formulated and it was represented by the Secretary Generals of:

- The Ministry of Industry and Trade

- The Ministry of Municipalities
- The Department of Statistics
- The Social Security Association
- The Income and Sales Tax Department
- The Municipality of Greater Amman
- The Companies Control Department

39. The Higher committee formulated a Technical Committee to put a plan for the project. The technical committee had representatives from the above mentioned institutions. The committee worked on a two stage plan, where the first was to assign a unique ID for the establishments that should be used in all institutions dealing with the establishments such as the Ministry of Industry and Trade, the Department of Statistics, the Income and Sales Tax Department, the Social Security Association and the Municipalities. It was decided that this unique ID should be used beside the ID's that were used in those Institutions so that they don't disturb there data bases.

40. The Ministry of Industry and Trade which is the first stop for registering any establishment gave automated ID's to all establishments in their data bases whether they were active or not. Then as a next step all other institutions started to introduce the ID number in their data bases and forms.

41. The Second stage for the project is to monitor the active establishments when they change activity or get out of the market, and also to be able to capture the new registered establishments. This stage is a bit complicated and needs the efforts of the municipalities to submit the updated data on establishments to the Unit of the Business Register since the establishments have to renew their permits every year from the municipality they belong to. This stage is proposed to start in early 2010 because the establishments are requested to renew their permits during the first three months of every year. A form would be submitted to the municipalities to be filled by the establishment representative, which includes the address, the economic activity of the establishment, the number of workers or employees and the paid up capital.

42. The forms would then be sent to the Unit of the Business Register to be entered on a separate data base. This data base is suggested to be hosted by the Ministry of Industry and Trade with close cooperation with DoS specially in terms of coding the economic activity. The concerned institutions would have access to this data base as soon as it is ready.

## *Korea*

### **Background of the KNSO's Economic Census**

1. The KNSO has initiated the 2011 Economic Census.
2. The KNSO has previously conducted the industrial census and service industry census; however, those censuses have been conducted based on different reference years, years ending in 3 and 8 and years ending in 0 and 5 respectively.
3. Having different reference year along with the difference in the concepts, definitions and classifications used by those two censuses have caused many difficulties in comparative analysis among industries. This led to a low level of consistency with other statistical data, and diminished synergy effects.
4. As business sectors including agriculture, fishing, construction, transportation are excluded from the census coverage, there has been a certain degree of limits on analyzing the overall industrial structure.
5. In December, 2009, the Korea Development Institute, a governmental research institute, recommended a new scheme for overall development of statistics on industrial structure. To increase the quality of national economic statistics, revision and improvements of statistics on industrial structure was necessary. The Institute further recommended the conduct of the economic census by unification of reference years and standardization of survey items, etc.
6. To increase the usage of industrial structure statistics and to secure the consistency and comparability of industrial census, the KNSO came to a conclusion that we need to conduct the economic census which covers all industry to enumerate the structure of industry and employment.
7. To reflect both the internal and external environmental changes, the KNSO has abolished two previous censuses and decided to conduct the economic census covering overall industries in May, 2007. The census will be conducted from May to June, 2011 after 4 years of thorough preparations.

### **Preparation Status of the Economic Census in 2011**

#### *Basic Plan*

8. The census covering all industries will be conducted every 5 years (years ending in 0 and 5) by covering overall industries.
  - Business sectors such as agriculture, fishing, construction, transportation which were excluded from the previous census will be included.

- However, employment activity in household (T) and foreign organization (U) will be excluded on account of difficulties in data collection.

9. The KNSO aims to increase the comparability and the usage of industrial structure statistics by unifying the definitions and classifications.

10. The KNSO plans to maximize the use of administrative data to minimize the response burdens. Administrative data will widely be used in sectors such as electricity, gas, water supply, and education.

11. The KNSO plans to conduct preliminary pilot surveys to find out possible problems and remove the drawbacks for successful census.

### Major Procedures for the Economic Census

12. Major procedures for the economic census are divided into survey planning, conduct of the field survey, data processing, data analysis and dissemination and post-evaluation report. The detailed processes are as follows:

<p>1. Survey planning</p> <ul style="list-style-type: none"> <li>- Establishment of basic schedules</li> <li>- Maintenance and organization of business establishments</li> <li>- Selection of survey items and questionnaire design</li> <li>- Pilot survey and rehearsal survey</li> <li>- Securing the budget</li> <li>- Approval for compiling statistics and enactment of regulation for the economic census</li> <li>- Setting up the enumeration district</li> <li>- Survey system and mobilizing manpower</li> <li>- Uses of administrative data</li> <li>- Publicity Campaign</li> <li>- Setting up the survey infrastructure by e-census integration system.</li> </ul>	<p>2. Field survey</p> <ul style="list-style-type: none"> <li>- Survey methodology</li> <li>- Field survey and survey advice</li> </ul> <p>3. Data processing</p> <ul style="list-style-type: none"> <li>- Data entry(by the Intelligent Character Recognition)</li> <li>- Electronic editing and summarization of survey results</li> </ul> <p>4. Data analysis and release</p> <ul style="list-style-type: none"> <li>- Level analysis</li> <li>- Publication of survey results(provisional publication and final publication)</li> </ul> <p>5. Post-evaluation report</p>
---	--

### Status of preparation as of 6 July 2009

13. In 2007, the KNSO had a research institute specialized in the field of economics conducted a research in order to collect both domestic and overseas information regarding the economic census to prepare for the systematic conduct of the economic census. The Institute conducted the research on methodologies for the conduct of the economic census by the Korea Institute for Industrial Economics and Trade.

14. In 2008, the KNSO had a number of debates through experts meetings consisting of experienced personnel on the field of industrial structure statistics in order to review procedures such as organizing an establishment, selection of survey items, questionnaire design, training enumerators, data processing, etc.

15. Furthermore, in 2008, the KNSO has set up the basic schedules for the economic census based on data collected and reviewed in 2007 and 2008.

16. In November 2008, the KNSO has conducted the first pilot survey to detect possible problems in conducting the economic census and remove its drawbacks.

17. In June 2009, the KNSO has conducted the 2nd pilot survey after solving problems found in the 1st pilot survey, and now it is underway of data processing and analysis.

18. The provisional amount of the budget for the 2011 Economic Census is approximately 70 billion won (about US \$50,000,000) and it is reflected on the mid-term budgeting plan of the KNSO.

19. The Service Industry Statistics Division, the Economic Statistics Bureau of the KNSO is primarily in charge of the preparation for the economic census. The Survey Frame Management Team and the Information System Development Division, etc. are also involved to support the divisions in charge.

20. A Task Force Team was organized to review major issues such as questionnaire design, data collection, use of administrative data, data processing, etc.

**In the course of preparing for the economic census, we have learned several lessons; which will be implemented to conduct the economic census**

**(1) It is true that the business register should be revised thoroughly prior to the main survey.**

21. In other words, enumerators should visit respective enumeration districts and reflect establishment changes in suspending, closing and transfer, newly opening on the business register to increase the accuracy of enumeration and efficiency of work.

**(2) The questionnaire should be designed to help respondents better understand. And the enumeration field and training of enumerators should be conducted not by theory-oriented programme but by cases-oriented programme.**

22. In the economic census, enumerators should use industry-specifically designed questionnaire to conduct the interviews. Thus, enumerators should understand both various kinds of questionnaire and industries.

23. The questionnaire should be designed for both enumerators and respondents to understand easily, and to enable to grasp the current condition of various businesses.

24. In **addition**, guidelines and case-oriented field manuals should be prepared to help enumerators.

**(3) It is true that the expand use of administrative records are needed to reduce the response burdens and expenses for enumeration.**

25. The number of small establishments with employees less than 4 is 84% of the total. And it is difficult to get data from these business establishments. Thus, various methods to reduce the response burden such as the use of administrative records and methodology should be considered.

**(4) There should be clear correlation between the censuses conducted every 5 years and annual surveys.**

26. In years of conducting the economic census, the items covered in annual surveys are included in the census to maintain time series. But the questionnaire will also include new items demanded by statistical users.

27. In years of not conducting the economic census, plans to reduce the response burdens such as elimination of the items with low users demand and reduction of the survey size are considered.

**(5) It is true that new method to survey for the establishments involved with headquarter and branch offices should be considered.**

28. Currently, both headquarter and branch offices are enumerated; however, as the business records are being compiled by headquarter, it is difficult for branch offices to estimate sales and business operating expenses themselves. Thus, new methodologies are required for both respondents and enumerations.

29. In the case it is possible to collect business data for branch offices from the headquarter, a method should be considered to collect data collectively from the headquarter.

### **Future procedures**

30. The future plans for conduct of the economic census in Korea include:

#### *Organization and maintenance of establishments list*

31. Since 1994 the KNSO has conducted the National Census of Establishments in order to collect information on establishments such as industrial classification, number of employees, etc. every year. All establishments with employee one or more are included.

32. The establishments list for the 2011 Economic Census will be revised using the survey results from the National Census of Establishments and various kinds of administrative records.

33. The revised list will be modified again in Feb. 2011 upon setting up the enumeration districts for prevention of overlap or omission of business establishments and distribution of workload of enumerators.

34. Then the enumerators will conduct the field survey with this final establishments list from May to June 2011.

#### *Selection of survey items and questionnaire design*

35. In selection of survey items and questionnaire design, factors such as industrial characteristics, reduction of the response burden, appropriateness of field survey, definition, etc. should be taken into consideration in order to make the questionnaire easy and convenient both for enumerators and responders.

#### **Pilot survey and rehearsal survey**

36. The KNSO plans to conduct the 3rd pilot survey in October 2009 after reflecting the findings from the 2nd pilot survey conducted in June 2009.

37. In the 3rd pilot survey, possibilities to collect data on new items requested by users, data collection, processing method by industry, uses of administrative records will be reviewed.

38. In addition, the KNSO will collect the public opinions on contents of case-oriented survey manual, effective training methodology for enumerators.

39. After fixing all the problems found in 3 pilot surveys, rehearsal surveys will be conducted from May to June 2010 during the same months when the census will be.

40. The rehearsal survey should be conducted with thorough preparation and reviews as it is the final check on the overall enumeration processes before conducting the census.

41. Based on results of pilot/rehearsal surveys, the overall operation plan and questionnaire design for the census will be finalized in December 2010.

42. When the questionnaires, reporting forms, etc. are finalized, the KNSO will get an approval of compilation of statistics and establish regulations of the economic census.

#### *Administrative data*

43. Sectors such as electricity, gas, water supply, education in which the administrative records are available, administrative records collected from relevant organizations will substitute the field enumeration. Further use of the tax data from the National Tax Service is also taken into consideration.

#### *Publicity campaign*

44. Relevant government ministries, activities through local governments, various associations are also considered.

45. Furthermore, after reflecting findings from the pilot surveys, official letter for publicity campaign for the census will be forwarded to business establishments prior to the census.

#### *Survey methodology*

46. In principal, the survey is conducted by approximately 20,000 enumerators recruited by local governments by visiting approximately 3,300,000 business establishments. However, administrative records and Internet survey will also be used to diminish the response burdens.

47. 9 basic items such as organizational type, industrial classification, number of employees, etc. are enumerated on all establishments. For industrial specific items, all business establishments with 5 or more employees are enumerated, but, small business establishments with 4 or less employees are sample surveyed by taking accounts the size of business establishments by industry and location.

48. In the case that the Headquarters is able to provide data on branch offices, collective enumeration on branch offices from headquarter can be considered.

#### *Setting up the survey infrastructure and data processing*

49. The KNSO plans to develop the e-census integrated system in order to cover entire procedures of enumeration management, Internet survey, and data entry in the field, electronic editing, and summarization of results as one system.

50. In the field, to reduce the time spent and errors in data entry, the KNSO will introduce the ICR (Intelligent Character Recognition) instead of previously used WEB entry system.

#### *Dissemination of the results*

51. When data entry is finished, the department in charge of the economic census will timely publish preliminary results on major items in December 2011 and the final results will be published in May 2012.

#### *Publication of the post-evaluation report*

52. The KNSO plans to publish the post-evaluation report in September 2012 summarizing all the problems and the rooms for improvement presented during the census for the preparation of the 2nd Economic Census.

#### **Expected advantages of the economic census**

53. The KNSO will be able to compile comprehensive and in-depth statistics with which make

the comparative analysis between industries during a certain time period is possible, which will increase the synergy effects in the utilization of statistical data.

54. **In particular, the results of the economic census will widely serve as basic data for estimating** GDP, reference data for various statistical surveys, data for analyzing structural changes by industry and analyzing trend, reference data for establishing economic policies by the government and management plans of businesses.

55. Furthermore, we will be able to avoid duplicate enumeration on the same establishments and same items, and so reduce the response burdens and expenses.

56. The KNSO will do our best to conduct the 2011 Economic Census successfully by benchmarking the National Statistical Offices with ample experiences such as USA, China and Japan.

## *Malaysia*

### **Introduction**

1. The Services, Manufacturing, Agriculture, Construction, and Mining & Quarrying Sectors are the most important sectors in the Malaysian economy. In 2005, these sectors accounted 51.2%, 30.7%, 8.0%, 3.3% and 9.5% respectively of Malaysia's GDP (at constant 2000 price<sup>10</sup>). The increased contribution was reflected in 2008 especially for the Services sector which accounted for 55.0% while the rest accounted 29.1%, 7.5%, 3.0% and 8.1% respectively. In line with that, the Services Sector is targeted to be the main engine of growth overtaking the manufacturing sector.

2. Before year 2000, the census on economic sectors in Malaysia was conducted separately under various names. The first census was conducted in 1931 covering only the Rubber Estates. Then, censuses on other economic sectors were conducted in different years. The history of the census are as follows:

<b>Year</b>	<b>Sectors</b>	<b>Title of Census</b>
1931	Agriculture	Census of Rubber Estates
1960	Manufacturing	Census of Manufacturing Industries
1964	Construction	Census of Construction Industries
1964	Mining	Mining Census
1971 and 1972	Services	Census of Professional and Institutional Establishments (Private Sector)
1973	Quarrying	Census of Stone Quarrying

3. During the 1974 to 1999 period, several censuses were conducted pertaining to the economic sectors mentioned above. In the year 2000, the Department of Statistics, Malaysia (DOSM) decided to integrate all the sectors in one census, namely Economic Census. The Census was conducted in 2001 and will be conducted for every 5 years. The Census is among one of the most important censuses and surveys conducted by DOSM. The most recent Census was conducted in 2006 (reference year 2005). Information pertaining to growth, composition and distribution of the major sectors of the Malaysia economy was canvassed and collected during the Census.

### **Objective**

4. The main objective of the Census is to collect information pertaining to growth, composition and distribution of output, value added, employment and other variables of the sector to assist the government in development planning and for formulating policies.

### **Scope and Coverage**

5. The scope of the Census was confined to services, manufacturing, agriculture, construction

---

<sup>10</sup> Source: Annual National Accounts, Gross Domestic Product (GDP), 2000 – 2008, Malaysia.

and mining and quarrying. The classification of the industry of the establishment is based on the principal activity and is in accordance with the Malaysian Standard Industrial Classification 2000 (MSIC 2000). The MSIC 2000 conforms to the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3, of the United Nations, with modification to suit local condition. This Census is canvassed for the whole of Malaysia.

### *Frame*

6. The source of frame is Central Registry System, which contains information from the Companies Commission of Malaysia (CCM), Associations, Local Authorities etc. The Census covered all registered establishments engaged in the following sectors:

- a. Services
  - Education – 9 industries
  - Health – 17 industries
  - Professional – 6 industries
  - Selected Services – 8 industries
  - Transportation – 24 industries
  - Information and Communication Technology – 14 industries
  - Accommodation – 9 industries
- b. Manufacturing – 197 industries
- c. Agriculture – 30 industries
  - Crops, Livestock and Fishery – 30 industries
  - Logging – 4 industries
- d. Construction – 25 industries
- e. Mining and Quarrying
  - Mining – 9 industries
  - Quarrying – 3 industries

### *Reporting Unit*

7. The reporting unit for this census is **Establishment**. An establishment is defined as “an economic unit that engages, under a single ownership or control, that is, under a single legal entity, in one, or predominantly one kind of economic activity at a single physical location”. Each establishment was assigned an industry classification based on its principal activity and not that of its parent company.

8. In the case of a multi-activity entity, units engaged in separate activities in the same location constituted distinct establishments. Thus, each branch of a multi-branch organization at a different location was conceptually treated as a different establishment. The establishment was requested to give separate returns for each activity in terms of value. However, if in practice, the accounts were centrally kept such that it was not possible to obtain separate data for each individual unit or branch, that entity or enterprise was treated as a single reporting unit and allowed to submit a consolidated questionnaire covering all units or branches.

### *Concepts and Definitions*

9. Concepts and definitions are based on the recommendations of the United Nations' Statistical Office. Therefore, the concepts and definitions used in the Economic Census 2005 were also based on the International Recommendations for Industrial Statistics 1983 (IRIS 1983). These concepts adhere to accepted practices, thereby facilitating international comparability of data. The definition of Information and Communications Technology (ICT) is based on the definition of the Organization for Economic Cooperation and Development (OECD).

#### *Type of business activity*

10. Type of business activity refers to both principal and secondary activities. The principal activity refers to the activity to which the establishment devoted most of its resources or activity which contributes the largest income. Secondary activities are those incidental or ancillary to the principal activity.

#### *Approaches and Methods*

11. The census was primarily conducted by mail inquiry. Respondents were given one month to complete and return the questionnaire to the Department. Thereafter field enumeration was undertaken to obtain the completed reports from the non-response establishments.

#### *Uses of Economic Census Results*

12. The Economic Census results were used to establish a benchmark for the level of economic development in the country. The data are also used in the compilation of national accounts especially to rebase and obtain new weights for economic indices, input-output tables and specific studies. In addition the results are used by economists, academicians, the private sector and individuals for economic analysis and projections.

### **Planning and Organization of Economic Censuses**

#### *Legal Provisions*

13. The Census was conducted under the provisions of the Statistics Act, 1965 (Revised-1989). Under the Act, the contents of the individual return received would be kept confidential. In conformity with the requirements of the Act, only aggregated figures are published.

#### *Financial and Budget Provisions*

14. The budget to implement the Economic Census in Malaysia just to cover salaries and wages, expenses of travelling and allowance, utilities, etc. The distribution of the budget is as follows:

- a. Salaries and wages - 85%
- b. Expenses of travelling and allowance - 11%
- c. Others - 4%

15. Besides the headquarters, the State Offices which are responsible for data collection and processing will also receive the budget.

#### *Administrative Arrangements*

16. *Committees for the Economic Census* To ensure the smooth implementation of the Census, a steering committee and 3 sub-committees were formed to implement and monitor the various activities of the Census.

17. *Involvement of Divisions and State Offices.* Three Divisions, namely the Industrial Production and Construction Statistics Division, Services Statistics Division and Agriculture and Agro-Based Statistics Division as Subject Matter Divisions (SMD) are responsible in planning work, preparation of concepts and definitions, conduct training to officers in State Offices, preparation of tables, data analysis and preparation of publication as well as data dissemination. The SMD also assist the Information Technology Division in developing data processing and tabulation system. Whereas fourteen State Offices play an important role which responsible in data collection and processing as well as cleaning data before sending to SMD.

#### *Work Schedule and Activities*

The work schedule of the Economic Census is as follows:

- i. Preparation and Updating of Frame
- ii. Preparation of Economic Census
  - Preparation of questionnaire
  - Preparation of instruction to respondents
  - Preparation of computer editing and tabulation specification
  - Printing of questionnaires and other documents
  - Testing of processing and tabulation system
  - Recruitment of temporary staff
- iii. Implementation of Economic Census
  - Submission of questionnaire and related document to the State Office
  - Publicity
  - Training (operation and processing)
  - Questionnaire received and field operation
  - Editing and coding
  - Processing/validation
- iv. Merging and Run of Data
- v. Preliminary Report
- vi. Preparation of Detail Tables and Publication

#### *Staff Recruitment and Training*

18. Centralized training on field operation, completeness check, manual editing and coding was conducted for offices and supervisory staff from the state offices. These officers in turn

conducted training at the state level to all enumerators who have been recruited a month before launching the fieldwork. Regional training on the processing system (data capture and validation) was conducted together with the installation of the processing system for both headquarter and state offices. During the Census, there is a review training especially to strengthen their ability in conducting the census as well as to identify and resolve all issues arise.

### *Questionnaire Development and Design*

19. Preparation of the Census questionnaires involved several discussions with other government agencies. The questionnaires were finalized based on the numerous discussions with the potential respondents and feedback from the pilot survey. A standard format was used for the questionnaire with modification to suit the various activities of the different sector. For reference year 2005, the questionnaire was designed to suit processing system. The design is more on the setting or margin of the questionnaire which comply with the new technology of processing system, namely Intelligent Character Recognition (ICR).

### *Publicity*

20. An awareness campaign before the Economic Census so to promote the response of businesses was organized. One of the promotional activities is a press conference. Representatives from relevant government departments/agencies and trade organization e.g. Federation of Malaysian Manufacturers, Construction Industry Development Board, Associations etc, were invited to the conference. Pamphlets on the Economic Census were also given to these associations for distribution to their members. Publicity of the Census was also carried out at state level.

### *Completion of Fieldwork*

21. The census was closed after ensuring that the remaining non-response establishments were either dormant, ceased operations, untraceable or had not started operation yet. Only a small proportion refused to cooperate.

## **Data Collection and Data Processing**

### *Data Items Collected*

22. Normally, information collected for each sector involved in the Census was as follows:

<b>Data Items</b>	<b>Services</b>	<b>Manufacturing</b>	<b>Agriculture</b>	<b>Construction</b>	<b>Mining &amp; Quarrying</b>
Identification particulars	v	v	v	v	v
Legal status of the establishment	v	v	v	v	v
Shareholders' Fund and Ownership structure	v	v	v	v	v

Capital expenditure and value of assets	v	v	v	v	v
Employment and Salaries & Wages	v	v	v	v	v
Number of persons engaged by qualification	v	v	v	v	v
Man-hours worked during the reference year	v	v		v	v
Turnover / Income	v	v	v	v	v
Expenditure	v	v	v	v	v
Profit / Loss	v	v	v	v	v
Value of stocks	v	v	v		v
E-Commerce	v	v		v	v
Other relevant questions depends on the services sub-sector	v				
Additional information on headquarters/branches	v				
Water, Lubricants, Fuels and Electricity Consumed		v		v	v
Packing Materials and Containers		v			
Production and Sales		v			v
Raw Materials		v			v
Value of Own Manufactured Products Exported		v			
Sources of Material Consumed		v		v	
Category of Construction Work				v	
Value of Construction Work Done by State / District / Division				v	
Construction Work Done Outside Malaysia				v	
Value of Construction Work Done by Type of Construction				v	
Cost of Building Materials				v	
Material Received and Supplied				v	
Information on Contracts / Tenders				v	
Details of Work Sub-Let To Others				v	

### *Methods of Data Processing*

23. The Economic Census for reference year 2000 using manual data capture i.e. via personal computers (PC) for data processing activity. Whereas, for reference year 2005, DOSM using both ICR system and manual data capture to process the data.

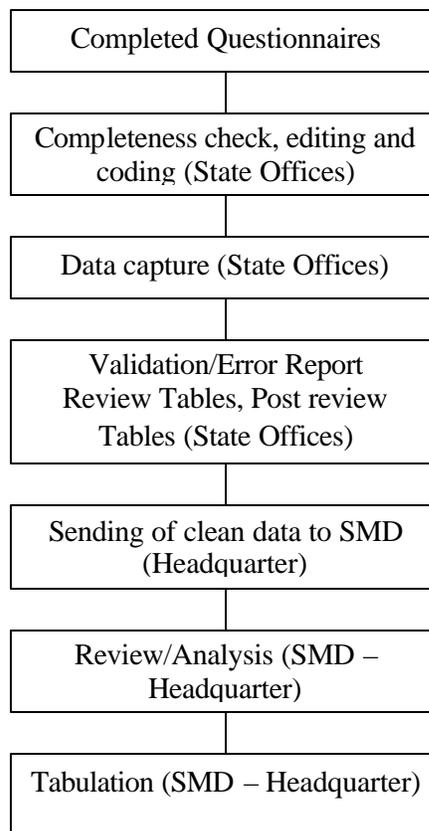
24. To develop the system, the computer Edit Specifications were prepared. Development and testing of data capture and validation system are also important to take into account.

25. . Processing of data which encompassed completeness check, editing & coding as well as data capture and validation via PC and ICR was carried out by the State Offices.

26. Queries or clarification with respondents on omissions and inconsistencies were conducted through telephone, field visits or correspondence.

27. The flow chart of the processing process was as follows:

### Flow Chart for Data Processing



### *Technological Innovations*

28. For reducing costs of Economic Censuses, the questionnaire has been downloaded to the DOSM website. The respondents will download or print the questionnaires and return the complete questionnaire by e-mail/post/fax to the State Offices.

29. Recently, DOSM has improved the quality of the output from censuses/surveys data by improving data capture system. For the first time, Intelligent Character Recognition (ICR)

technology is being adopted for processing of Economic Census data. Some advantages using this ICR including less recruitment of staff, turnover of staff can be easily handled, less transcription error etc.

### *Quality Aspects*

30. There is a quality assurance for the Economic Census process which will be undertaken by both at the state and SMD level. At the state level, officers must ensure that the data is clean before sending to SMD. Whereas at the SMD level, officers will analyze the data by comparing with the previous data as well as to take into account the current economic situation. During the process, queries or clarification with respondents on logical and inconsistencies were also conducted through telephone, field visits or correspondence.

31. To ensure the Economic Census process complete over the period, there is a committee to monitor the progress of field operation and data analysis checking, namely Committee of Big Business Unit (BBU). The State Offices should submit the monthly report for the Committee to take further action. The BBU Committee meet to discuss and decide the next step should be taken according to the progress of the Census.

### **Post-Census Activities**

#### *Post-Enumeration Checks*

32. After completion of the fieldwork of the Economic Census, all cases with status such as non-response, wrong industry, post office return (POR) etc., will be studied for further action. Several steps that have been taken to ensure a sufficient data obtained and achieve the response rate target are as follows:

- i. There are establishments with non-response (no cooperation) status but still operation and is the contributor to the national economy. The establishments will be follow-up through telephone or revisited to get all the information need. Whereas for cases which still not given a response instead of active operation, imputation data will be done based on the previous census.
- ii. Wrong industry case – the data will be tried to obtain from the related establishment but if still can't get it, imputation data will be done.
- iii. Post office return – the State Offices will be requested to identify/search a new address of the establishment and get the information. They also should confirm the status of the establishments whether its have been closed or still operation. If still operation but can't get the data, imputation process will be done.

Notes: Method of imputation depends on the respective sectors, some use a manual and others use estimation system programme.

33. Several meetings and discussions have been held after the census in order to ensure the Economic Census done properly in term of all frames covered as well as new frame which should also be covered in the census. Therefore, if the establishment on completion of fieldwork is found to be a big player and active, the establishments will be visited to get the information.

34. The other source of data will be obtained from the relevant agencies as a checking and comparison process. Usually, the results from the Economic Census were almost the same or slightly higher than the comparable data.

#### *Post-Mortem*

35. In order to ensure all the relevant matters take into account for an effective implementation of the next census, some issues raised during the census will be recorded. The issues will be discussed in the post mortem session organized by the headquarters with officers from the State Offices who are directly involved in this census. During the post mortem, results obtained from the current Economic Census and comparison with the previous census or other relevant census will be done.

#### *Updating Frame*

36. The frame will be updated especially:

- i. To reduce the printing cost and field operations which will increase if the non operation establishments were not updated in the frame.
- ii. To ensure a complete coverage, new establishments should be updated in the frame.
- iii. Code of wrong industry should be updated with the right code.

#### *The Economic Census as a basis for the next census/survey programmes*

37. Besides the census results used for the compilation of National Accounts and Input-Output Table, there are several important activities/programmes would be done either from the census results or in term of frame.

38. In term of census results, the data have been used by the government for national development planning and economic policy formulation. The major users are Economic Planning Unit, Central Bank of Malaysia, Treasury etc. The data also are used in rebasing of the Index of Industrial Production. Besides that, the data will also be used to make a comparison with the next censuses/surveys for the related sectors.

39. In term of frame, the Economic Census would be as a basis for subsequent sample survey programmes. In Malaysia, the frame was using to provide a sample selection of the annual, quarterly or monthly survey for the sectors covered in this census. Generally, the frame will be used in selection of establishments for cut-off censuses/surveys for some of the services

industries. Whereas a sample selection of the Annual Survey of Manufacturing Industries also will be done using the Economic Census frame.

## **Dissemination of Economic Census Results**

### *Reports*

40. The Economic Census reports were prepared in two stages i.e. Preliminary Report and Final Report. The Preliminary Report was usually released during 15 months after the reference year. The findings will be based on the preliminary data. The primary objective of the Report was to provide users with an initial overview of the respective industries in the Malaysian Economy. The Final Report was usually released during three to six months after the Preliminary Report. The report will comprise summary of findings, the detailed statistical tables and technical notes as well as relevant appendices.

### *Data Dissemination*

41. The results of the Economic Census were disseminated through printed publication and electronic format (CD-ROM and DVD-ROM). The publication will be circulated to the stakeholders and other government agencies. The researchers, private sectors and individuals will get the publication by purchasing from DOSM at reasonable price. The results were also disseminated through press release and website. For non-published, data can be obtained through request either through letters, e-mail, request forms at website, telephone or visit to the Department.

### *Confidentiality Issues*

42. Although detail data obtained from respondents such as name of the company, address, income, expenditure etc., are available, only aggregated figures are published. This is in line with the provisions of the Statistics Act, 1965 (Revised – 1989).

### *Evaluation, analysis and acceptance of Economic Census Results*

43. The Economic Census results will be evaluated and analyzed, then the write-up will be prepared as well as a complete publication. There is a committee known as Publication Committee which will be chaired by Deputy Chief Statistician with all Directors as members. The publication will be brought to the Publication Committee for clearance in terms of write-up and data reliability. Comments and suggestions raised by the members will be taken into account before publishing the data.

## **Future of Economic Census in the Economic Statistics Programmes**

### *Future Plans*

44. The Department of Statistics, Malaysia is developing a National Enterprise Wide Statistical System (NEWSS) with objectives:

- i. Integrated Statistical System Framework;
- ii. Efficiently monitor and manage Census and Surveys;
- iii. Improve the timeliness and reliability of the Statistical Information; and
- iv. Extend the dissemination of Statistical Information

45. NEWSS will be used by year 2010. Therefore, the next Economic Census for reference year 2010 will use the NEWSS facilities. Furthermore, in the NEWSS, integrated operation monitoring would be done. Besides that, to produce tables according our need could be done through speedminer system. There is a possibility to conduct the next Economic Census through e-census.

46. For the next Economic Census planned in 2011 for reference year 2010, DOSM will migrate from using MSIC 2000 to MSIC 2008, ISIC Rev. 4.

47. Recently, data items have been added and definitions revised to reflect the update of the 1993 System of National Accounts. Therefore, the concepts and definitions used in the next Economic Census are also will be based on the International Recommendations for Industrial Statistics 2008 (IRIS 2008).

48. In terms of method of data collection, to date DOSM practice mail inquiry and fieldwork. For the next Census, maybe new technology or approach could be applied such as using Computer-Assisted Telephone Interview (CATI), Computer-Assisted Personal Interview (CAPI), Computer-Assisted Self Interview (CASI), etc. but should in line with the budget allocation.

### *Challenges*

49. **Strong Central Registry System – updated addresses.** A good frame is essential for the success of the Census. Although the Central Registry System comprise all the frames needed but it's difficult to have an updated addresses. That's why when the census implemented, there are several untraceable or post office return cases arise.

50. **New Questionnaire – redundant variables.** Redundant variables in the questionnaire of Economic Census 2006 will be reviewed for the next Census. A review of the questionnaire content in line with Stakeholders needs and IRIS 2008 are being studied.

51. **Reduce Respondent Burden.** Sometimes, there will be more than one questionnaire received by the respondents. However, the respondents have to answer all the questions which data items collected were varied for each of the questionnaire.

52. Besides that, there are several other challenges in conducting the Census:

- i. To obtain good response from respondents
- ii. To enhance the quality and timeliness statistics in order to meet stakeholders' requirements
- iii. To develop and sustain high caliber of human resources

## *Mexico*

### **Background**

1. According to the Law of the National System for Statistical and Geographical Information, the National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía, INEGI) is responsible of carrying out the economic census in Mexico. Since 78 years ago, the economic census has been conducted every five years. The first one was the Industrial Census in 1930. The latest is the 2009 Economic Census. Data collected in 2009 strictly refer to activities carried out between January 1<sup>st</sup> and December 31<sup>st</sup> 2008.
2. The objective of the census is to obtain updated and reliable basic statistical data on establishments which manufacture goods, trade merchandise and render services, in order to generate economic indicators for Mexico at a very detailed level (geographic, sector, thematic). The whole national territory –either by means of census or sampling– is the work area of the personnel which participates in the 2009 Economic Census. Data is collected on the active economic units during the census collection period. The census covers almost all of the economic activities that take place in Mexico, except for primary activities, of which only fishing and aquaculture are part of this census.<sup>11</sup> Other activities not considered for the census because of exceptional situations were diplomatic and other extra-territorial services (such as embassies, consulates, military units), international organizations, taxis, political parties and other political organizations (leagues, coalitions, etc.).
3. The classification used for the census is the North American Industry Classification System (NAICS) 2007, the official economic activities classification in INEGI since 1997.

### **Uses of the economic census data**

4. National Economic Census in Mexico is the most complete source of economic information about the Mexican economy in a given moment. The valuable information obtained through the economic census, about every economic unit in Mexico, is the main source of economic data for the National System of Statistical and Geographical Information, and gives the basis for the development of many other economic measures: economic surveys, GDP, Input Output tables, among other. Census data allow planning public economic policies, doing marketing research, academic research, etc., but mainly provides data for every level of geographic disaggregation, for each one of the more than 950 NAICS activities, and for a great number of items included in the questionnaires.

### **Observation units**

5. Observation unit refers to the statistical unit for which data is collected. In most economic activities the constant economic unit used is the establishment, even though in some

---

<sup>11</sup> The study of activities carried out by the economy's primary sector belongs to the Agricultural Census; only fishing and aquaculture are part of the 2009 Economic Census.

cases it can be the enterprise. It includes fixed, partly fixed and household establishments, and excludes informal trade and those persons who work by their own account without a physical location. To cover the different ways observation units work, it was necessary to represent them at different levels.

6. For manufacturing, commerce and service activities we used the establishment as the observation unit. This implies that the information is referred to the address where the economical activity is carried out, so the presentation of the results has the advantage that the data correspond to the geographical place that is shown in the rows of the table.

7. For fishing, mining and aquaculture we use observation units different from the establishment (fishing or aquaculture unit, mining unit), these units share the same advantage with the others.

8. Other observation units were used in the remaining sectors of the economy since their own characteristics do not allow us to use the establishment as observation unit. The use of other units has disadvantages because data can not be referred to the geographical place where the actual economical activity is carried out.

9. In the case of the enterprise as the observation unit, we obtain data of the activities developed in all its branches across the country.

10. When a table by state shows the activities of any of the sectors of Construction, Transportation (except post offices and warehousing) and Financial and insurance services, data is referred to one state, and we must understand that data does not have relation only with this state, but it is also linked with all the places that are involved with the enterprise. For example, if a table on financial services by entity indicates that the occupied personnel in Jalisco is 1000 persons, we must understand that the financial enterprises headquarters located in Jalisco have 1000 persons occupied as a whole, but not all these persons work in this entity, but they are distributed all around the country where the enterprises have branches. We use the same understanding for the table by municipality or another geographical level.

11. In a table by entity on the generation, transmission and supply of electricity or postal services (activities for which the observation unit is the enterprise of the entity), the assigned data for each state correspond to each entity, but when the table is by municipality, we must understand that the data is linked to all the establishments of the enterprises distributed in all the entity and that the data is referred to some municipalities only, because the controlling offices of the establishment's group of this enterprises are located in those places.

NAICS Activities	Observation units for which their data is referred to the place where the economic activity is performed	Observation units for which their data is referred to the place where are located the headquarters, but in fact inform the economical activity that is developed in a larger geographical area (all the country or a state)
------------------	--	---

<p>31-33 Manufacturing Industries  43 Wholesale trade  46 Retail trade  492 Messenger and courier services  493 Warehouse and storage services  51 Information in the media. Except telephone and telegraphy  53 Real estate and renting services  54 Professional, scientific and technical services  55 Head Offices  56 Business support services  61 Educational services  62 Health care services and social assistance  71 Cultural, sports and other recreational services  72 Temporary accommodation services and food and beverage preparation  81 Other services except government activities  93 Legislative, government and justice international institutions activities  All the related services with the activities of the sectors 11,21,23,48-49 and 52</p>	<p>Establishment</p>	
<p>11 Fishing and aquaculture</p>	<p>Fishing and aquaculture unit</p>	
<p>21 Mining. Except the services related with the activities of this sector, which observation unit is the establishment</p>	<p>Mining unit</p>	
<p>222210 Gas by ducte supply  23 Construction. Except the services related with the activities of this sector, which observation unit is the establishment  481-487 Transports  517111 Wireless telecommunication, except by telephone  52 Financial and assurance services</p>		<p>Enterprise</p>
<p>22 Electricity and water  488111 Aerial Navigation services  491 Postal services  517111 Wireless telecommunication, except by telegraphy  527210, Wireless telecommunication, except satellite services</p>		<p>Entity enterprise (for the generation and transmission activities of electrical energy, aerial navigation services, post services, telegraphy and wire communications, and cellular telephone)  Operator institution ( for the capture, treatment and supply of water)</p>

## Geographical coverage for each economic sector

12. *Manufacturing, commercial activities and services.* All establishments in urban areas are included in the census, and a probabilistic sample of the rural areas is taken (in order to complete the global vision) and all the establishments in those specific rural areas are covered. Large establishments are all covered, even if they are located out of the urban areas.

13. Rest of sectors (*fishing, mining, electricity and water, building activities, transportation, and financial services*). All establishments are covered, even if they are located out of the urban areas.

## General collection method

14. Two main phases on the field operations for data collection can be distinguished:

- In 2008 every large establishment was visited to verify data about its name, address, economic activity performed, person who could give the information for the census questionnaires, mean to return the questionnaires (Internet, questionnaire in paper, questionnaire in Excel), and other general data. A draft version of the questionnaire was delivered to each establishment in that moment, allowing them to prepare its data since then. With that information a directory was prepared, containing all those establishments; it was called the SEG Directory. The same was done for building (construction) and transportation sectors, and the final result was also a directory; the TC Directory. Another directory was prepared for fishing and mining sectors; the PM Directory.
- In 2009 the census phase is taking place (and also the data processing work has begun). This second phase, the census phase is related in a more detailed way below:

15. Five field working groups were created for data collection, in order to complete the work in all economic sectors; four of those groups are decentralized, making good use of the offices that INEGI has in each state (Mexico is divided into 32 states), and the fifth one is centralized.

16. **PYMES Group.** From March 1<sup>st</sup> to May 15<sup>th</sup> this group made a census, going block by block and asking in all the external doors. They applied a unique questionnaire in all the establishments in the urban zone, except those which belong to the SEG group.

17. Approximately 14000 people (called “censors”) were contracted for 3 months in order to apply the questionnaires. They received training during 2 weeks. A supervisor was contracted for every 5 censors.

18. We also applied this questionnaire in households where there existed some economical activity. We used a PDA with digitalized cartography, in some exceptions where is a dangerous zone we use a printed questionnaire instead of using the PDA. We also offered the option that the informant answer the questionnaire via Internet.

19. During the route, we updated the cartography and we counted the homes (input for the population census).

20. We already have the results of the questionnaires in the main database and we proceed with the validation.

21. In the rural zone we make a sample in order to have the economical weight of the rural localities.

22. **SEG Group.** In this moment, this group is collecting the information of all those economic units in the SEG Directory prepared in 2008. They are also collecting data of those establishments which, considering its size, were transferred to them from the PYMES Group (those which was not considered in the SEG Directory). Unlike the PYMES Group, SEG Group is not working with a PDA, but with paper questionnaires (one different questionnaire for each sector), questionnaires in Excel or offers the establishments the option to answer by Internet.

23. **TC Group.** In this moment, also this group is collecting the information of all those economic units in the TC Directory prepared in 2008. They are also collecting data of those establishments which, considering its activity (if it is transportation or construction), were transferred to them from the PYMES Group (and was not considered in the original TC Directory). They work with paper questionnaires (one different questionnaire for each sector) and also offering the establishments the option to answer by Internet.

24. **PM Group.** This group collected the data from all economic units which main activity is fishing or mining, or water transportation, making use of the PM Directory prepared in 2008, and also making use of the establishments transferred from the PYMES Group. In the case of fishing units the original directory was completed with other strategies, like covering all places denominated *arriving points* of boats and fishermen, along all seaboard. They applied paper questionnaires and, like the other groups, offered the option to answer by Internet.

25. **Central offices Group.** Through agreements with some specific institutions and enterprises, the central area of INEGI, who is responsible of the whole economic census development, gets data from those institutions so large or complicated that decentralized offices can't take the responsibility of collecting their data. This is the case of electric industry or financial firms, for example.

### **Data processing, reviews and analysis**

26. In order to generate results of high quality, INEGI increased the use of computing equipment in the census.

27. The data processing of the 2009 Economical Census takes place in the 10 regional offices, in the states and also in the central offices. Data transference through INEGI's net is important in order to know the figures that show the census progress by entity and at

the national level, to control the operative and to guarantee the coverage.

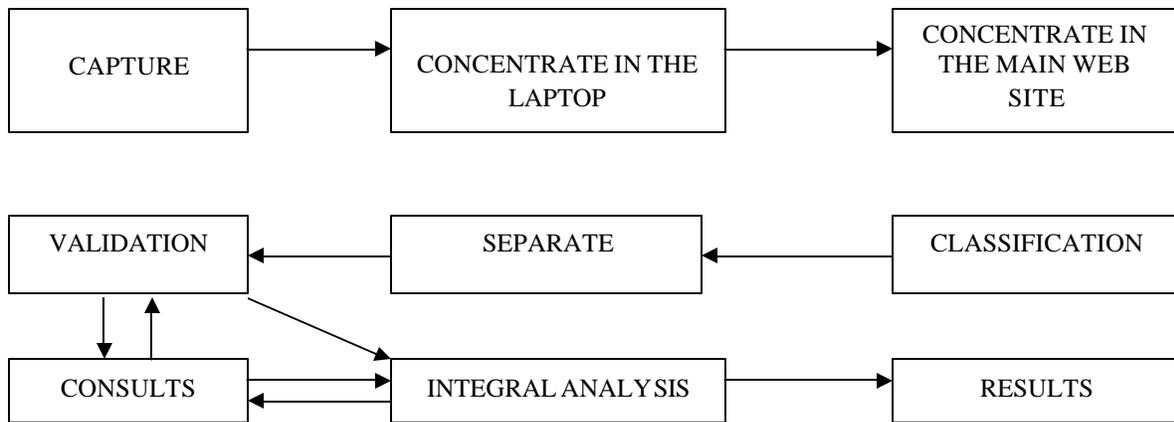
28. When the collection stage of the census is finished, we verify that the information is complete and coherent with the guidance established in the validation system. After the capture and validation processes are finished, we carry out the national integration of all the files and we verify that there are no duplicates. We consult again with the respondents when the data is not clear or does not meet the validation criteria.

29. The last phase before we release the data base is to process the data by the diagnostic tables systems, which make a last review of the data.

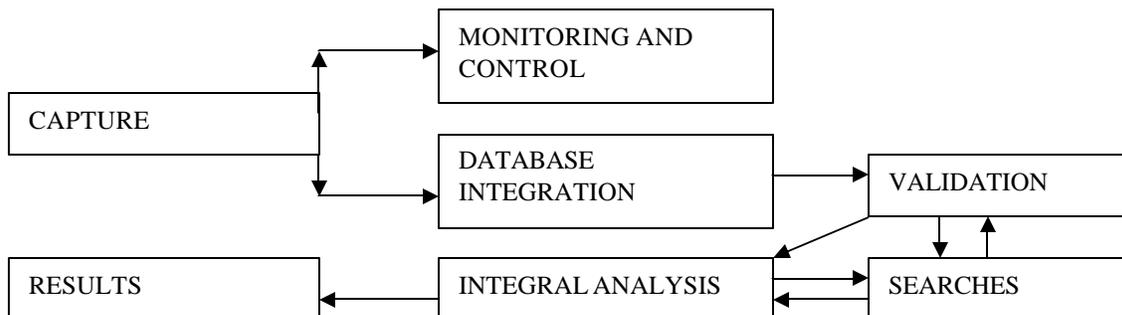
30. When we release all the data bases, we elaborate all the products with the results of the 2009 Economic Census.

31. To assure the best quality of the data (besides the PDA's use), we have systematized the data review process, which is summarized in the following charts.

### PYMES GROUP



### Fishing-Mining, Transports-Construction Groups



## **Economical Census Innovations 2009**

32. The Economical Census Innovations 2009 consist mainly in the PDA's use, digitalized cartography use, simplification of the classification's process, the strategy in order to increase the trust of the informant and the anticipate delivery of the sample questionnaires to the SEG's group.

33. **PDA.** PDA's use is made by PYMES's group during the collection of the information, and that means great advantages comparing with previous economical census: it makes possible the use of digitalized cartography, it makes possible the homogeneity of the interview development; it makes possible to incorporate a system that is able to check the consistency of the important data; it avoids the capture by paper and the manual validation; and it avoids that we make reconsults.

34. This implies big savings in terms of time and money.

35. **Digitalized cartography.** Using digitalized cartography allowed updating the cartography, and the automatic assignation of reference codes and the street's names; we can see the streets that are the limits with the blocks and see the street's direction.

36. **Simplification of the classification.** The way the economical units have been classified in this census has been a change respecting the way we classified them in the past.

37. In the past the censors made the classification of each establishment with the support of a printed paper with the classifications: a book with more than 1000 categories of classification. In this census, we use the PDA, and the censor chose an option from a list with the most common activities and a automate system assigned the clues of the activity classification.

38. For the rest of the economical units, when the classification is more difficult, a specialized group of the Central Offices made the classification.

39. **Strategy to increase the informants' trust.** We made an exhaustive massive promotion of the Economical Census, we also gave the chance that the informants could provide data by Internet, we gave uniforms, an identification and a official letter to the censors. INEGI offered a telephone number in order that the informant could verify the identity of the censor. The informant could also verify the identity of the censor by checking in Internet the censor's photo and identification data.

40. **Anticipated delivery of the sample questionnaires.** In 2008 we delivered to the manufacture, commerce and services large establishments, "sample" questionnaires, for they to know the type of data we were going to ask in 2009 as a part of the awareness campaign of the census project.

## **Media planning**

41. In order to let know the 2009 Economic Census to the population, we used the following media:

- Presentation meetings.
- National and State press conferences.
- Radio and television advertisements.
- Movie announcements.
- Leaflets, posters, pocket calendars, desk calendars, flyers and folders.
- National and State bulletins.
- Press notes and advertorials.
- Web site.
- Banners.
- Exposition for conferences and commercial trade shows.
- Advertisements in the metro (subway) and mobile publicity.
- Stamps in official vehicles.

42. The promotional work has four stages: awareness, informative, reinforcement and appreciation.

### **Publication of results**

43. The results of the 2009 Economic Census are going to be announced in July 2010. The census products are the following:

- Results tables in INEGI's official web site.
- SAIC, which is a computing application designed to consult the Economic Census results, this application allows to build tables with more than 300 economical variables, with the geographical and economical activity levels required by the user.
- Printed publications.
- Computing binders.
- Monographs.
- Census calculators with general results.
- Special requirements. We can provide to the user each variable found in the census questionnaires at a detailed level with its corresponding geographical and sector cut (in concordance with the Law of the National System of Statistical and Geographical Information). Data is provided either in Excel format or database.

### **Next Economic Census**

44. The next economic census will take place in 2014.

## ***Mongolia***

### **Circumstances under which the Economic Census is conducted in Mongolia**

1. The aim of the census is to identify the number of establishments operating in the territory of Mongolia. In addition, the census determines entities share and their contribution to the national socio-economic development and defines the frames for the sample statistical surveys by providing a sound and accurate coverage of all goods and services producing units in the register.

*Goals, scope and coverage of Economic Census in terms of units, activities and classifications, as well as in terms of geographical coverage; thresholds used*

2. The Census is used to define the type of economic activities of entities in terms of their activity classification, scale, structure, and location. Since the country's transition to the market economy, fourth Establishment census was conducted in 2006. The National Statistical Office conducted the first Establishment census in 1991 while the next censuses were conducted in 1994 and 1998 respectively. The results of those nation-wide censuses were compiled and disseminated to the public. Censuses in 1991 and 1994, however, covered only part of the economic activities and a threshold in terms of the number of employees in the establishment was used. The 1998 census covered all kind of establishments and entities. Moreover, based on the results of the 1998 Establishment census, the International Standard Industrial Classification of All Economic Activities (ISIC) was introduced as well as business register database was established in accordance with this classification. Since then, updates of the Business Register have been made every quarter. The Business Register has allowed to this data base to be used for sampling frame of the statistical surveys.

*Approaches and methods used in Economic Census*

3. Full enumeration is applied, i.e. all type of units (establishments and institutions), irrespective of their status (ownership) in the territory of Mongolia are covered. Face to face interview was the method used in the census.

*Uses of Economic Census results*

4. The results of the establishment census were used for the calculation of the 2005 GDP. At the same time entities covered by the regular GDP estimation were compared with census results and 225 entities in total were newly identified included in the GDP estimation. 136 entities of them were added to the manufacturing sector, 82 entities were added to the wholesale and retail trade sector and 7 enterprises were included in the transportation sector. As a result, a procedural form for "Census, survey and monitoring process" has been approved to be applied at national level.

### **Planning and Organization of Economic Censuses**

5. *Legal provisions.* According to the first paragraph of the 7<sup>th</sup> Article of the Law on Statistics of Mongolia, NSO conducts an Establishment census every 5 years. The Prime Minister of Mongolia also passed an Order No. 44 on 3 May 2006 on “Conducting the Establishment census”.

6. *Financial and budget provisions.* The Establishment census 2006 was funded by the Government of Mongolia and it cost approximately 15.2 million tugrugs. Additional funds were used from each aimags local budget to conduct the census.

7. *Administrative arrangements.* According to the 44<sup>th</sup> Order on “Conducting the Establishment census”, the date for the census was set as June 2006, and a working group responsible for organizing nation-wide census was set up. The group was headed by the Minister of Finance as a chairman and the Chairman of NSO as his deputy.

8. The State Working Group consists of representatives from 10 agencies apart from NSO such as Ministry of Finance, Ministry of Health, Ministry of Construction and Urban Development, Financial Regulatory Commission, Ministry of Food and Agriculture, State Property Committee, Ministry of Justice and Internal affairs, Ministry of Education, Culture and Science and Ministry of Industry and Commerce, etc.

9. Under direct administration of the state working group, sub-working groups were established by joint order of the Minister of Finance and the Chairman of NSO, which were responsible for census activities in aimags, the capital and all other administrative units. These sub-working groups were headed by governors and vice governors.

10. *Staff recruitment and training.* In April 2006, we have recruited and trained about the census 2 persons for three days from each statistical division of aimag’s and city of Ulaanbaatar. During the training, they have worked on 3 different questionnaires and discussed how to fill in every question. The last day we asked them to fill in those questions practically. After the training, total of 560 persons were involved nationwide through those persons who participated in the NSO training.

11. *Questionnaire development and design.* The census questionnaire was designed in the second half of 2005 and was sent to all the Ministry Offices for review and additional comments. Also, NSO organized two meetings with the Secretaries of the Ministries and other important authorities from related agencies and institutions and agreed on indicators in the questionnaire.

12. *Raising awareness and promoting the response to the Economic Census.* Throughout the census preparations’ work, the objectives and importance of the census and significance of participating in it were actively promoted through all media such as TV, radio and newspapers. The census broadcast was aired from 4 to 16 times on TV channels such as National TV, TV-5, TV-9, TV-8, MN-25 and Eagle TV. In addition, text messages on cell phones were sent informing subscribers about the census through Mobi-media service and CDMA system of the two biggest cellular phone operator companies in Mongolia - Mobicom and Skytel.

13. *Field supervision and reappraisal of questionnaire responses.* During the census state and joint working groups organized four times monitoring and evaluation work in Tuv aimag, Bayanzurkh, Bayangol and Khan-Uul districts of the Capital city. This work aimed to introduce the activities organized by local working groups, identify challenges faces by interviewers and give them methodological and logistic s advices.

### **Data collection and data processing**

14. *Data items collected.* The Census covered in total 34 800 establishments and enterprises, out of which 32 400 are single establishment enterprises, 2 400 are parent or subsidiary companies. Out of these 82.3% or 26 700 are enterprises and 17.7% or 5 700 are budgetary establishments and non-governmental organizations. Three different questionnaires were applied to the establishments, budgetary and non-governmental organizations, and unincorporated individual businesses. The following questions were included in the questionnaire for establishments:

1. Name
2. Address
3. Type of responsibility
4. Type of ownership
5. Status of main activity
6. Computer and internet users
7. Activity with special licensing
8. Environmental evaluation
9. Number of employees and salary indicators
10. Sales income
11. Asset, and capacity usage
12. Receivable and Payable

15. In the questionnaire for budgetary and non-governmental organizations, following questions were asked:

1. Name
2. Address
3. Type of institution
4. Type of ownership
5. Information about their activity
6. Financial resource of non-government institutions
7. Capital expenditure of non-government institutions

16. In the questionnaire for unincorporated individual businesses, following questions were included:

1. Name
2. Address
3. Economic indicators

17. *Methods of data processing.* The indicators of the census questionnaire were elaborated in compliance with the objectives of the census, and over 150 outcome tables were compiled and evaluated from the collected census results. Moreover, the main comprehensive report of the census has been prepared based on the evaluation of the outcome tables. Before processing the outcome tables, census results were compared and cross checked with data sources of the Ministry of Finance, Mongolian Tax Administration and other related agencies. Results of previous surveys were also reviewed before census results were finalized.

18. Starting from the first day of the census considerable amount of work has been done, such as receiving and sorting census materials and compiling results. First, the State working group and joint working group of Ministry of Finance and NSO took action about over 10 000 enterprises and about one thousand non-government organizations that were missing even though they were registered with the relevant authorities' databases or had obtained certificates. They were not found on the registered address, or did not operate the business during last one and a half year or more or simply stopped their business. The groups considered the reasons for inactivity of these units, based on the decisions and lists of the respective authorities. The action included investigation of these entities, defining the reasons for suspending their activities, and deciding what actions should be taken hereafter. In this connection a proposal was prepared and submitted to the Ministry of Justice and Internal affairs and to the Mongolian Tax Administration to introduce above-mentioned situation and take the necessary steps

19. *Use of Registers and Administrative data for the purpose of Economic Census.* In the framework of the census preparations, NSO has officially addressed the other government agencies and related organizations such as MIC, MLA, MTA, FRC, MNCCI, SPC, etc. and organized compilation and recording of background information about establishments for the purpose of updating the business register in collaboration with them. Furthermore, the updated lists of establishments were delivered to the sub-working groups of aimags and the capital city in order to monitor census coverage.

20. *Use of sampling in Economic Census.* Sampling was not used in the census.

### **Post-census activities**

21. *Post-enumeration checks.* The working groups of NSO and other agencies were monitoring census process right on spot and giving some advices to achieve high quality of census results.

22. *The Economic Census as a basis for subsequent sample survey programmes.* The business register database in which the establishments are listed is used as a frame for the subsequent sample surveys. For example: the business register would be the sectors' sampling frame for surveys of industry, distributive trade, non-government organizations, and it is also a source for collecting other sectors' census.

### **Dissemination of Economic Census results**

23. *Economic Census reports.* Census report was published in five 5 different books, one of which was in English and four in Mongolian. The report includes: Comprehensive report of the

results of the Establishments Census 2006; Economic indicators of Establishments; Economic indicators of non-government organizations; and Brief report of the results of the establishment census in Mongolian and English languages.

24. *Forms of dissemination.* The National Statistical Office of Mongolia has conducted such census and has disseminated census results to the public as a book and CD in the time frame and manner compliant with the “Law on Statistics”.

25. *Confidentiality issues.* Confidentiality is strictly protected according to the Law on Statistics.

26. *Evaluation, analysis and acceptance of Economic Census results.* An estimation and cross-checking with many other sources was done for the aggregated results of the establishment census. Particularly, a comparison and monitoring was completed for the related consolidated indicators in end of 2005 year annual report of establishments, aggregated report of State Property Committee, annual and final results of sector surveys, results of labor force survey.

### **Future of Economic Census in the Economic Statistics Programmes**

27. *Future Plans.* According to the Law on Statistics, the next establishment census is planned for 2011. General principles and methodology will be the same as those used for the census in 2006. 2011 census will particularly focus on the improvement of the statistical units’ registration.

28. *Key Issues.* The improvement of the units’ registration will allow us to identify whether the unit is active or non-active.

## ***Morocco***

### **Introduction**

1. To answer effectively and quickly to the new requirements of the country's development it is imperative to set up a new system of economic statistics which will produce reliable, relevant, varied, regionalized and regularly updated data. The design of such a system necessarily involves the conduct of a census of all the national economic entities and their proper identification in a harmonized way. The data collected through the census are used for the establishment of a national register of companies and establishments which allows, in particular, the follow-up of the demography of business entities and constitutes an efficient survey frame for all business surveys of the economic units.
2. The implementation of the Economic Census programme assumes the availability of a recent cartography. The census's objective in this regard is to ensure a total coverage of the entire population of businesses without omission or double counting. The goal of this paper is to explain the methodology adopted to carry out the first Economic Census in Morocco.

### **Why Economic Census?**

3. The Economic Census is the official count of all the entrepreneurial units located within the geographical boundaries of the country. It is quite an extensive exercise of national importance carried out all over the country. Its aim is not to investigate the accounting aspects of economic activities, but mainly to compile a list of all establishments and enterprises in order to produce a national sampling frame and compile statistics on the counts of the establishments/enterprises and employment.
4. Economic Census is conducted because the administrative databases of the enterprises/establishments, in their current structure, are not adequate. These are mainly tax register, social security register, trade register, register of industrial companies derived from the Annual Census of Manufacturers conducted by the Department of Industry.
5. These administrative registers, managed by the different agencies, are characterized by:
  - Lack of a unique identifier
  - Inability to permit reliable stratification methods of entities in terms of activities and size
  - Total absence of link between the enterprise and its establishments
  - They are not exhaustive
  - Lack of comparability between such files
6. In addition to the difficulties of getting access to some of these registers by the Statistics Department, and the difficulty of their pairing, the existing registers are not regularly updated and are poor in terms of statistical data. Moreover, the statistical data contained in

these registers are not standardized.

7. Taking into account what said above, and in order to meet the pressing needs of the users, it was necessary to carry out an Economic Census which provided, on one hand, a reliable image of national production and its location and Industry distribution, and, on the other hand, the starting base of a national business register of companies and establishments, where all economic units would be registered in a single way and their data standardized.

8. The attribution of a unique identifier to each company and establishment the use of which is essential to the whole administration process and the company itself allows a pairing of the various administrative sources. The Department of Statistics largely benefited from it since the possibility of bringing together various sources enables it to obtain significant social or tax information at individual unit level without resorting to inquiries.

9. The exhaustiveness of the business register and its continuous update using legal and adequate devices enables it to be the reference index for the pulling of the economic samples of surveys. The daily recording made it possible to follow the demography of the economic units.

#### *Main objectives*

10. The aims of the Economic Census were:

- a. to build a database of all economic units which will be used as an accurate sampling frame for future economic surveys;
- b. to analyze the distribution of economic units with respect to geographical location such as region, province, commune and district as well as different industries and size classes of the units;
- c. to establish a base for the unique identifier of the enterprises and establishments;
- d. to produce economic statistics within the various organizations in particular professional location;
- e. to prepare the base of an integrated system of information on the economic units;
- f. to set up a national business register of the companies and establishments; e.g. to allow the demographic follow-up of the economic units.

#### *Statistical unit*

11. The observation unit in the economic census was the establishment. It is defined as an enterprise or part thereof situated in a geographically identified place. At or from this place, economic activity is carried out for which one or more persons work for one and the same enterprise. In terms of premises, the establishment should be understood as a construction or part of construction, a floor, a fixed stall or any other clearly delimited place. Therefore, the local unit can be a/an workshop; factory; store; office; mine; warehouse or depot, etc.

12. The decentralized units of a company will be regarded as an establishment. Generally, any unit having a license number will be regarded as an establishment. On the other hand, all the establishments of the same company located at the same place and having the same address

and the same license number will be regarded as a single establishment. It will be the same for the units employing the personnel systematically in the same location.

### *Economic and geographic coverage*

13. The Economic Census covered the whole country subdivided into 16 Regions, 71 Provinces or Counties and 1547 Communes. It covered also all the non-agricultural entities which operate in a fixed location and are classified to the following sectors: Industry; Construction; Trade; and Services.

14. The following entities were excluded from the Economic census: farms; economic units in households; units which do not operate in a fixed location, particularly moving traders or peddlers, fishermen without fixed place and drivers of taxis, buses and trucks.

## **Planning and organization of the Economic Census**

### *Questionnaire*

15. The Economic Census questionnaire was structured around the following items:

- a. Geographical location code of the unit (Region, province or prefecture, circle, commune)
- b. Name, address, phone and fax numbers, and e-mail address of the unit
- c. License, Tax, Trade, Social Security identifiers
- d. Opening year of the unit
- e. Name, address and license identifier of the parent company. It is the link between the local unit and the unit on which it depends
- f. Description of the economic activities of the unit (Primary and secondary activities) and their classification in the 4-digit National Industrial Classification (NMA 1999) which is based on ISIC Revision 3.1
- g. Number of employees in the unit
- h. Type of office (single establishment enterprise, head office or branch, deposit, etc.)

16. For the independent establishments, the questionnaire asks for the following information:

- a. Legal form or type of legal organization
  - Sole proprietors
  - Public company
  - Limited liability company, etc.
- b. The degree of accounting organization
  - Formal
  - Informal: covers all small-scale activities that are normally semi-organized and unregulated, and low in technology. Such business is normally carried out by own-account workers or employers with a limited number of workers, i.e. artisans, traders and others operators, in a variety of work sites such as markets

stalls, residential houses, open yards, undeveloped plots, semi-permanent structures, and street pavements. Though their business names are not registered with the Registrar of companies, they may or may not have operating licences from local authorities.

### *Field work*

17. The conduct of the Economic Census assumes the existence of a recent cartography. The one which is currently available in Morocco goes back to 1994. However, since this date, the national urban landscape has undergone important modifications especially at the level of the peripheries of the large cities.

18. The use of a recent cartography is thus necessary to ensure exhaustiveness of the Economic Census and to provide a space distribution of the units in accordance with the new delimitation of the national territory in districts.

19. The adopted method consists of carrying out the Economic Census in an integrated way with the cartography of the Population Census. This approach made it possible, on one hand, to gather information on all the economic units, and, on the other hand, to carry out economies of scale resulting in a significant benefit on the level of the human and financial resources.

20. This integration was full in the rural area and out of phase in the urban area. The results of the test carried out on the ground showed that this mode of organization (de-phasing) is rather convenient to be undertaken in urban areas as cartographic work for the Economic Census. It indeed makes it possible to increase the output of the enumerators of the two operations, to ensure a good quality of the collected information and to avoid the negative combined effects of the two operations.

### **Organization of work**

#### *Urban areas*

21. The collection was carried out in parallel with cartographic work of the last Census of the population and housing fund 2004. The cartographers carry out the first delimitation of districts.

22. Once the updating work of actualization of the charts of districts of the commune was completed, the supervisor gave to the controllers of the Economic Census the documents relating to the zones on which their census takers will operate. These documents were composed of:

- The chart of the districts according to the new delimitation
- The list of the buildings of professional use with their addresses
- Sketches of small islands and the sheet of delimitation of the districts

23. The controllers carried out the distribution of the districts between the enumerators according to the number of buildings of professional use (LUP). To avoid double employment

or the omissions, each enumerator received an integer of districts.

24. Once the zone of intervention is delimited in the presence of the controller, each enumerator then carried out the raking of its districts until their exhaustion. The enumerator did not write down in his/her notebook all professional building in his/her district.

25. Once all the units of his/her zone of intervention are listed, the enumerator was himself entrusted by his controller in another zone.

26. If it would have proved to be impossible to obtain information despite all attempts carried out, the controller will try to have the maximum possible information through the neighbors or the bailif. If the number of professional locations in a district is too big, the controller must announce the case to the supervisor who will make the necessary provisions; with know-how to reinforce the team in place by a more discharged team or even by reservists.

### *Rural zones*

27. Given the dispersion which characterizes the establishment of the economic units in rural areas and their restricted number, the step to adopt to count the units consists in training joint teams of agents cartographers and enumerators of the Economic Census. These teams, which had at their disposal the maps of the communes and the drawings of communes and districts, must:

- suitably delimit the communes and possibly the districts with the assistance of the representatives of the local authorities;
- rake the districts systematically and carry out the filling of the questionnaires.

28. Let us note finally that if the unit to be counted is sizeable, the filling of the questionnaire was ensured by the controller.

### *Classifications*

29. For the needs of coding, it was called upon 2 types of classifications: the geographical code and the Moroccan classification of activities.

#### *Geographical code*

30. *Objective and definition.* The geographical code was used to identify each administrative unit of the Kingdom. This identification had many advantages, in particular, during the operation of processing of the data collected during statistical operations.

31. *Articulation of the geographical code* The geographical code is arranged hierarchically as follows:

- 16 Regions
- 61 Provinces or counties

- 160 Circles
- 1547 Communes

32. The geographical code is structured as follows:

- The first two figures indicate the region
- The third and the fourth figures indicate the province
- The fifth figure indicates the circle
- The sixth and the seventh figures indicate the commune

*Moroccan national classification of activities*

33. *History, objective and definition.* The classification of economic activities follows the internationally recommended classification of economic activities - ISIC of the United Nations. The first Moroccan classification of economic activities was prepared in 1965 and was subsequently revised over the years to take into account the revisions to ISIC. The second revision was prepared in 1985 and the third - NMAE - in 1999. It was used in the classification of units in the 2001/2002 Economic Census. The Moroccan nomenclature of the activities is organized according to the following successive hierarchical levels:

- Branches (59)
- Sub-branches (216)
- Activities(559)

34. The code allocated to each activity is an analytical code with four digits (4 positions) which makes it possible to identify at the same time the branch, the sub-branch and the activity. The first two digits in the left indicate the branch, the third quantifies the sub-branch and the fourth digit represents the activity within the sub branch. Currently, the Department of Statistics is finalizing the new classification of economic activities NMAE 2009 in line with ISIC Rev. 4.

*Training*

35. Training was held in order to build the capacity of the staff at all levels. The training was organized at all levels such as training of trainers and enumerators from central level; training at regional level in which staffs from the region is invited. Technical training has been organized twice. The first training targeted 30 officers, who in turn, were in charge of training 400 controllers and enumerators.

*Field Census implementation*

36. The Economic Census was conducted in April 2001 to December 2002. There were about 50,000 districts that have been raked over this period by 1300 enumerators and controllers. The face to face interview was used for data collection.

**Data Processing**

### *Data Edit*

37. Data captured in an Economic Census must be edited to identify and correct reporting errors and other problems. The data also must be adjusted to account for missing items and for businesses that did not respond. Data edits detect and validate data by considering factors such as proper classification for a given record: To assign a valid kind-of-business or industry classification code to the establishment. After classification codes are assigned, a “verification” operation is performed to validate the industry, geography, ZIP Codes, start of activity, etc.

38. After an establishment has been assigned a valid kind-of-business or industry code, the data edits further evaluate the response data for consistency and validity, for example, assuring that employment data are consistent with Legal form or Type of accounting.

### *Non-response Imputation*

39. Non-response is handled by estimating, or *imputing*, missing data. Imputation is defined as the replacement of a missing or incorrectly reported item with another value derived from logical edits or statistical procedures. There are two types of non-response:

- *Unit non-response* occurs when an eligible unit fails to provide sufficient data to be classified as a response.
- *Item non-response* occurs when some but not all data have been collected for the respondent.

### *Tabulation and Analytical Processing*

40. Individual establishment records are tabulated in different ways based on data product and analytical needs. Tabulations include data summed by industry, specified geographic areas, establishment-size, etc.

### **Post census activities**

41. From the Economic Census, the Department of Statistics has created a register of the formal enterprises and their establishments, containing all information (identification, classification and stratification). This register was used as a prototype of a business register to be used as a sample frame of business surveys. But the set up of business register required the contribution of several administrations. Unfortunately, the Department of Taxes which has the principal sources of updated data did not support the project. To face this situation, the Department of the Statistics sought private or public sources of update, but these sources were not exhaustive and were generally limited in terms of information.

42. The updated file was used as a survey frame for the annual business surveys 2004, 2005 and the structural business surveys 2006. The file is updated regularly with the same sources and will be used as a survey frame of the annual business surveys 2007 and the surveys of the next years.

43. The first evaluation of the results of the annual surveys showed:

- For the large enterprises, with more than 20 employees in the Trade and Services and more than 10 employees in the construction, it seemed that the sources of updating used make it possible to correctly update the register.
- On the other hand, these sources did not allow the correct update of the list of the small companies with less than 20 employees in Trade and services or 10 employees in construction.

## **Dissemination of Economic**

### *Census 1. Level of publication of results*

44. Respecting the confidentiality of information from economic entities, the results of the Economic Census has been presented according to the sectors and branches (2 digits of classification activities) as follows:

45. *Industry.* The sector of industry is composed of the branches of the following activities:

- Breeding of poultry
- Fishes and aquiculture
- Peat digging of coal, lignite
- Hydrocarbon, Extraction and services
- Extraction, metal ore exploitation and enrichment
- Mining
- Food Industries
- Tobacco industry
- Industry of clothing and the furs
- Industry of leather and the shoes
- Work of wood and manufacture of articles out of wooden
- Industry of paper and the paperboard
- Edition, printing works and reproduction
- Coking, refining and nuclear industry
- Industry of rubber and the plastics
- Manufacture of other nonmetal mineral products
- Metallurgy
- Works of metals
- Manufacture of machines and equipment
- Manufacture of machines of office and computer equipment
- Manufacture of machines and electrical appliance
- Manufacture of equipment of radio, televisions and communication
- Manufacture of medical instruments, precision, optics and clock industry
- Cars Industry
- Manufacture of other means of transport
- Manufacture of pieces of furniture and various industries

- Recovery
- Production and distribution of electricity, gas and heat
- Collecting, treatment and distribution of water

46. *Construction industry.* The sector of Construction industry consists of only one branch of activity (according to the Moroccan classification of activities) and is called “BTP”. To have more precise results on this sector, the tabulation is made on a lower level, in fact the sub-branch of activity (3 - digit level of the classification of activities). The sector of the construction industries is composed of the sub-branches of the following activities:

- Preparation of the sites
- Construction of works of buildings or civil-engineering
- Works of installation
- Works of completion
- Hiring building machinery with operator

47. *Trade.* The commercial sector consists of the branches of activities:

- Trades and automobile repairation
- Wholesale and commercial intermediaries
- Retail trade and repair of domestic articles

48. *Services.* The sector of the services is composed of the following branches:

- Hotels and restaurants
- Surface transports
- Transport by water
- Air transports
- Services of transport
- Stations and telecommunications
- Financial Intermediation
- Insurance
- Financial Auxiliaries and of insurance
- Real Activities
- Hiring without operator;
- The Council in information processing systems
- Research and development
- Services provided mainly to the companies;
- Education
- Health and social action
- Sewerage system, Roads and Waste management
- Entertaining, cultural and sporting Activities
- Personal Services

*Publications*

49. Dissemination of the Economic Census 2001/2002 results from either the listing activity or detailed enumeration has been set up in several ways through the first report of the main results for the public, libraries; Website for internet users, press release, seminar, hardcopy and soft copy publication, to the executive summary for Parliament and others.

50. The dissemination process is not only designed for headquarters but also for the regional offices with the guidance from the dissemination unit in the headquarters.

51. Finally, we do hope that the final result of the Economic Census will help the government and the country at large in policy planning, monitoring, measuring and assessing the goals of the local, regional or national development. Moreover, it is expected that the Economic Census result will be used by the research and academic community. However, the objective of establishing a business register with a unique identifier has not been reached yet.

Dissemination	Target
Report Website	Public, enterprises, Related institutions, etc. Internet Users: <a href="http://www.hcp.ma">http://www.hcp.ma</a>
Seminars	Academic Purposes, Businessmen, Researchers, etc.
Executive summary	Official Government, Parliament,
Press Release	Press
Thematic Maps	Official, Businessmen, Researchers, Press etc.

## *Nepal*

### **Economic Census**

1. Like population census, the economic census refers to collection, tabulation, analysis and dissemination of all economic activities in a country. It is a major source of economic data and such data are very useful in measuring the economic status of the country. In addition, the information available from the economic census is used to compare regional economic structures, and in formulating plans and policies of the government in the attainment of economic targets of the country.
2. In Nepal, the economic census covering all sectors of economy is not in practice. However, the census of manufacturing establishment has been conducted every five years and the survey of small manufacturing every ten years. Apart from that, the survey of economic activities like construction, hotel, restaurants, private schools, consulting firms, transport companies etc. is conducted on an ad hoc basis. In the context of non practice of economic census in Nepal, the country paper is focused on the census of manufacturing establishment (CME) conducted in Nepal.

### **Census of Manufacturing Establishments**

3. The census of manufacturing establishments (CME) is the principle source of information on the data of the manufacturing establishments. CBS has been conducting the census of manufacturing establishments since the year 1964/65. It provides data in the growth, composition and structure of such establishments in operation. It has successfully conducted 9<sup>th</sup> census of manufacturing establishments in the year 2006/07.
4. The overall objective of the CME is to collect, process and disseminate statistics of operational manufacturing establishments engaging ten or more persons in the reference period. The specific objectives of the CME are:
  - a. To collect statistics on the structure of the existing manufacturing establishments;
  - b. To produce information on output and input of manufacturing establishments by Central Product Classification (CPC);
  - c. To produce statistics at national and district levels;
  - d. To collect and produce statistics on employment in the manufacturing establishments.
5. The enumeration unit used in the census of manufacturing establishment is a manufacturing establishment, i.e. an economic unit, which engages under a single ownership or control, in one or predominantly one kind of economic activity at a single physical location. The Census of Manufacturing Establishments covers all manufacturing establishments located within the geographic boundary of Nepal engaging 10 or more persons. In addition, the establishments have been classified according to Nepal Standard Industrial Classification, which is compatible with

the International Standard Industrial Classification. The data on input and output of the establishments are interpreted on the basis of the Central Product Classification.

6. The classification for manufacturing establishments according to NSIC is as follows.

S.N.	NSIC	Activities Comprising of Manufacturing and Recycling
1	15	Food Product and Beverages
2	16	Tobacco Product
3	17	Textiles
4	18	Wearing Apparel; Dressing and Dyeing of Fur.
5	19	Tanning and dressing of leather, Luggage, handbags, saddlery and harness
6	20	Wood and product of wood and cork, except furniture, Articles of straw and plating material.
7	21	Paper and paper products
8	22	Publishing, Printing and reproduction of recorded media
9	23	Coke, Refined petroleum product
10	24	Chemicals and chemical products
11	25	Rubber and plastics products
12	26	Other non-metallic mineral products
13	27	Basic Metals
14	28	Fabricated metal products, except machinery and equipment
15	29	Machinery and equipment N.E.C.
16	30	Office, accounting and computing machinery
17	31	Electrical machinery and apparatus N.E.C.
18	32	Radio, television and communication equipment and apparatus
19	33	Medical, precision and optical instruments, watches and clock
20	34	Motor vehicles, trailers and semi-trailers
21	35	Other transport equipments
22	36	Furniture, manufacturing N.E.C.

7. The findings of the CME are expected to be useful for planning, policy formulation, and monitoring and research purpose as well.

### **Planning and Organization**

8. The Central Bureau of Statistics (CBS) is the major statistical agency under the National Planning Commission of Government of Nepal. The Statistical Act 1958 has authorized CBS to conduct economic census and surveys, including census of manufacturing establishments in Nepal.

9. The government of Nepal provides CBS with all necessary budgets needed for the census. In CBS, the Establishment Census and Survey Section (ECSS), under the Economic Statistics Division, is responsible for all management of conducting the census, including planning, questionnaire design, data collection, data processing, analysis, report writing and dissemination of the census. In addition, a technical committee comprising representatives of the National

Planning Commission, Department of Industry, Ministry of Finance, Department of Cottage and Small Industry, Federation of Nepalese Chambers of Commerce and Industry headed by the Director General of the CBS is formed so as to conduct the census smoothly. The questionnaire, census procedures and the results are discussed in the series meetings of the technical committee.

10. To finalize questionnaire and procedures of the census, the pilot survey is conducted in some districts. The staffs at Branch Statistical Offices collect data in their jurisdiction and they are trained by staffs at the central offices. The awareness program about census among stockholders is done through newspapers and electronic media such as FM, TV and radio. The overall supervision of the census work is carried out by the chief of the establishment census and survey section and field work supervision is done by the officers at central and Branch statistical offices.

### **Data Collection and Data processing**

11. The information collected from the census is stated below:

- Identification of Manufacturing Establishment (name, address, telephone, register, date of operation)
- Legal Status (single proprietorship, partnership, private limited, public limited, cooperative)
- Ownership (public, private, foreign, joint venture)
- Major production (major product, other products)
- Number of employees (proprietors, active business partners, family members, manager, administrative worker, technical workers and operative workers)
- Wages, Salaries (direct wages, salaries and facilities)
- Other benefits
- Sales and Cost of Fuels
- Income and Expenditure from Industrial Service
- Cost of Raw material
- Sale of Production
- Stock
- Cost of Non-Industrial Service
- Indirect Tax
- Receipt of Non-Industrial Service
- Fixed Assets
- Production Capacity Utilization

12. The filled up questionnaires are collected at the Branch Statistics Offices where completeness, consistency and reasonableness of the data are checked. After manual editing, the questionnaires are sent to the CBS for coding and data entry. The data entry is done with the software “CS Pro” and the tabulation is carried out by using statistical package “STATA”. The administrative data relating to manufacturing establishment are only used to assess the number of manufacturing establishment before the census operation. The census of manufacturing establishment in Nepal is a complete enumeration but sampling is used for small manufacturing establishment survey covering those establishments having less than ten persons. At every step of the census (from planning through data publication), a close supervision of the work is carried

out to assure the better quality of the survey result.

### **Post Census Activities**

13. In Nepal, the post enumeration survey for the census of manufacturing establishment is not in practice however the census findings are validated with the findings of the previous censuses.

### **Dissemination of Economic Census results**

14. After an approval of the technical committee to the census result, the census result is disseminated. The census result is disseminated through printed and electronic copies. The printed form of the census publication includes national and district reports. The electronic form of the dissemination covers CD, website of CBS. Apart from that, a seminar is also organized to disseminate the census findings. The individual information is kept confidential according to the Statistical Act 1958. For the first time in Nepal a monograph covering a detailed analysis of the census data is going to be published for the 2006 census of manufacturing establishments.

### **Future Plan**

15. It is obvious that the economic census is a major source of data relating to economy of the country. In addition, the planners and policy makers depend largely on economic data for good planning and efficient program implementation. However, economic census is not in practice in Nepal, the census of manufacturing establishment and some economic surveys such as trade, hotel restaurants, construction, etc have remained the sources of economic data in Nepal. In addition, preparing business directory, a list of all economic activities, is going on and it is believed that this would be a significant step towards conducting economic census.

16. The economic census covering the entire economy provides data at disaggregated levels and the data from economic census are comparable and can be used to measure the inter-linkages among various sectors. Many data gaps in economic statistics are still in the country. The economic surveys conducted by CBS are mostly on an ad hoc basis and they are not covering all economic sectors at one time. Due to this reason, the existing data are lacking comparison and making national account estimation difficult. In this context, CBS needs to conduct an economic census covering all economic sectors so that the reliable and accurate benchmark economic data will be available for planners and policy makers. Furthermore, a reliable framework will also be available for any economic surveys being conducted in the future.

## *Philippines*

### **Introduction**

1. 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.
2. 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.
3. The 2006 CPBI is the 14<sup>th</sup> 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.
4. 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.

### **Why Economic Census?**

5. 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.
6. 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;
  - providing updates for the frame of establishments;
  - conducting market research and feasibility studies.

### *Scope and Coverage*

7. 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

8. 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.

9. 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.

#### *Unit of Enumeration*

10. 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.”

11. 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.

12. 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.”

### *Classification Systems*

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

14. *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.

15. 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.

16. *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

17. *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.

18. 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

19. *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

20. 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.

21. 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.

## **Planning and Organization of Economic Census**

### *Legal Authority*

22. 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.

*Financial and Budgetary Provisions*

23. 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.

24. 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:

<b>COST STRUCTURE BY EXPENSE CLASS</b>	<b>Total (PhP1,000)</b>
<b>MOOE</b>	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

25. 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.

*Plans and Preparatory Activities*

26. 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.

27. 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.

28. 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

### *Questionnaire Design*

29. 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:

<b>Form Type</b>	<b>Sector</b>	<b>Spot Color</b>
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

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

<b>Item Number</b>	<b>Description</b>
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
<b>Item Number</b>	<b>Description</b>
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

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

#### *Use of Establishments' Frame*

32. 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.

33. 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.

34. 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

35. 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.

36. 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.

#### *Sampling Design*

37. 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.

38. 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.

39. 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.

#### *Information Campaign*

40. 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.

41. 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.

#### *Staff Recruitment and Training*

42. 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.

43. 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.

44. 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.

### **Data Collection and Processing**

45. 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.

46. 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.

#### *Approaches and Methods*

47. 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.

48. 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.

49. 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.

50. 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.

51. 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.

#### *Response Rate*

52. 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

53. 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.

#### *Field Supervision*

54. 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.

### *Technological Innovations for Reducing Costs*

55. 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.

### *Quality Assurance for the Economic Census Process*

56. 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.

### **Dissemination of Economic Census Results**

57. 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.

58. 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.

59. 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>.

60. 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.

61. 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.

### **Concluding Remarks**

62. 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.

63. 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.

## ***Russian Federation***

1. The main goal of statistics is to provide society with the reliable information timely and in accessible form. Thus it is necessary to find balance between the information needs and underreporting of respondents.
2. In the international practice the total statistical reporting on business units is not used. As an exception there are single (periodically every 5-10 years) economic censuses. The tool of the survey is the register of statistical units in which the numbers of market agents are fixed. In Russia this is the Statistical Register of Rosstat.
3. Economic indicators on activity of business units are gathered by the sample surveys. These indicators are allowed society to estimate processes in economic and social fields.
4. Russian statistics also develops in the given direction. ***Statistical observation of Russian economy which follows international statistical mainstreams is based on economic censuses which are carried out every 5-10 years. In inter-census periods the sample surveys on a wide spectrum of problems is used.***
5. At census it is allowed to gather data on business units for the particular period of time under the uniform program and criteria. It makes the census very important in the economic and statistical analysis and for the geo-information system which is adequately described the national economy. Rosstat has considered this basic advantage at decision-making of the census.
6. We assume that the census is a survey of the organizations of all sectors of productive economic activity. Usually the only exception is agriculture. Agricultural censuses are conducted separately, as it had been in Russia in 2006.
7. The census main purpose is to form the information which contain the multiple and detailed characteristic of economic activities on business units. Using of this information helps in improvement of social and economic forecasting and development of measures to increase the efficiency of the Russian economy.
8. Since 2005 in Russia the All-Russian Classification of Economic Activities, harmonized with the international standards is implemented. It permits to reflect the economic trends more adequately. In 2009 Rosstat has begun to use new Classification of the goods and services. Census will ensure the detailed information on manufacturing and sales by all business units according to the new All-Russian Classification of Production.
9. Identification of activity of business units will be more adequate thanks to census (especially in the new, emerging areas – high technologies, nanotechnologies, market services, tourism, financial operations, etc.).
10. For Russia the necessity of the census is caused also by absence of the basic data on all

operating business units in official statistics. These data permit to compile information necessary for users. It is especially relevant for small entrepreneurship. The information on small entrepreneurship sector is delinked, and on separate kinds of activity is absent.

11. According to the Russian legislation Rosstat applies the sample survey at current statistical observation over activity of small entrepreneurs. This minimizes the response burden and provides key indicators for this sector of economy. The sample population for the small entrepreneurship survey is created once a year on the basis of random sampling from the Statistical Register of Rosstat. The formation of the sample faced with some limitations. The main of them is that there are no economic characteristics in the Statistical Register by the majority of small entrepreneurs. Only on one-third of business units has reported data about profit and/or volume of employment. That is why the sample survey does not allow to trace specific indicators – investments into a fixed capital, the structure of a fixed capital, production and sales nomenclature because the sample does not contain economic parameters permitting to stratify business units ensuring representativeness for economic indicators.

12. The sample survey imposes the specific bounds on detailization of data on small entrepreneurship in geographical and functional breakdowns. According to the Russian legislation a business unit indicates its kinds of economic activities in registration form. But it is not obliged to detail them below 3rd digit of the current Classification by the Kinds of Economic Activities. So business units are identified in the Statistical Register. Thus, nowadays there are no possibilities to form the sample and to get representative result by lower levels of kinds of activity. At disaggregating of a sample base by territory the stratification is carried out by the subjects of the Russian Federation (republics, regions, areas, Moscow and St.-Petersburg). While stratificating at level of districts, cities or other territorial subdivisions within the subject of the Russian Federation the sample sizes come nearer to a general population of small entrepreneurship. But that contradicts to requirements of the legislation on current statistical observation over the given group of respondents. Besides, it will require the attraction of additional labour, material and financial assets from statistical authorities and will increase time for the information processing. Solving of these problems is possible in the frames of single survey over the small entrepreneurship.

13. In Russia last total survey of small entrepreneurs was organized in 2001. But nowadays it doesn't permit to give a multiple estimation of current small entrepreneurship "contribution" into a national economy because of dynamic development in the sector.

14. Activity of small entrepreneurs extends. More than 4 million small entrepreneurs are officially registered on 01.01.2009. In some kinds of activity (for example trade, services) small entrepreneurs have a leading position. Till 2008 surveys in this sector were carried out only for some kinds of activity and as a sample survey. Annual sample surveys (approximately 5-7 % of business units) estimate the key parameters of small entrepreneurs sector. But there is no possibility to represent the information by all indicators and breakdowns.

15. According to the Russian legislation from 01.01.2008 the criteria of identification of organization of small and medium-sized entrepreneurs are changed. New category of micro-enterprises was added. So within the census there is a possibility to consider all changes in

small entrepreneurship, to estimate the economic potential of this business sector and its "contribution" to Russian economy in whole and on branches, and also by territorial breakdown.

16. Small entrepreneurship census will allow to receive full and proved information on parameters of this sector of economy, which is necessary for forecasting of its development and working out the ways of the government support. Economic information by each business unit will be the base of the general population. The reliable basis for the planning and organization of business unit sample surveys will be created. Enlargement of a sample survey application will optimize the response burden.

17. The economic census results and the sample survey of expenses will be the necessary information base for "input-output" tables. Quality of enterprise statistics and reliability of Russian economy parameters will be provided.

18. In the frames of economic census preparation it is necessary to find the decision on some methodological and organizational issues. Some of the key issues are:

#### **Definition of clear principles for forming population of business units covered by the census**

19. In Russia commercial organizations are included into the business unit population for census. The base for lists of the business units which are units of the census is the Statistical Register of Rosstat. However nowadays in the Russian Statistical Register there are many inactive enterprises, or liquidated business units, especially in small entrepreneurship.

20. According to the Russian legislation business unit are obliged to be registered by the tax authorities of the Russian Federation. These authorities form the Unified State Register of Legal Entities and the Unified State Register of Individual Entrepreneurs. The information on registration is transferred to the Federal State Statistics Service and it is one of the tools of the Statistical Register updating. At the same time the business units are to inform about all their transformations, including liquidations. The mechanisms of its reflection in the state registers are not perfect.

21. Thus, if we base only on the Statistical Register, the number of observation units for the particular period of time can differ from number of really operating business units for the same period. It creates difficulties of business unit population covered by the census, a choosing of a survey method, etc. Therefore it is important to find reliable sources for timely and proved actualization of the census population.

22. In the developed countries population of the survey units is traditionally formed on the basis of administrative databases (e.g. registering, licensing, transport, etc.). At their regular updating the number of business units for the particular period of time corresponds to number of real operating on the same period, i.e. to the actual size of population to be covered by the census.

23. Following the international experience, Rosstat elaborates approaches for using of administrative sources. Tax authorities have databases, which allow to define the real status of

the business unit (operating, temporarily suspended the activity, liquidated, etc.) by the time of the census.

24. Data from the government authorities regulating economy, licensing companies and providing government support of small and medium-sized entrepreneurship could be considered as alternative sources for updating census population.

***Thus, the list of the business units for the census will be formed on the basis of the Statistical Register and the administrative data.***

### **Choice of the observation unit**

25. Trans-regional corporations, holdings, vertically-integrated companies are the main problems in calculating basic economic indicators and trends, reflecting a real situation in economy in Russian regions. Rosstat could solve this problem in the following way. The reporting unit is an organization as a whole. Upon that some indicators are reported by the organization for its regional affiliates. Such practice is applied for the annual observations of large and medium-sized organizations.

26. For the general population of the census Rosstat is going to use the combined method of data gathering on various groups of business units. It has been done by the following reasons. In Russia for the business units out of small entrepreneurship we created sound and detailed information base. It is important to involve available methodological and technological base for these organizations as much as possible. Compilation data will be based on the current of questionnaires.

27. It is necessary to organize the total survey of the small entrepreneurship. According to Russian legislation the small and medium-sized entrepreneurship survey must be every 5 years. Small and medium-sized entrepreneurship survey will be in 2011.

28. Because of variety of the business units in the small entrepreneurship, various degree of economic preparation of the registration personnel, particularities in accounting and statistical account, it is supposed to use different methods of interviewing (self-filling of the questionnaires by the respondents, and/or interviewing and other methods). Experience of the 2001 small entrepreneurship survey, marketing researches, and also foreign experience in the small entrepreneurship statistics were considered for the choosing the survey methods.

29. The international experience shows that organizations with insignificant production and compounding the overwhelming majority of the small entrepreneurship, do not provide the statistical reporting. Their cumulative contribution to economy is insignificant. Data by them is joined in summary results on the basis of the administrative sources, first of all the tax reporting.

30. Rosstat will apply the international principles and standards for small entrepreneurship survey. It should decrease the response burden, avoid duplication of information flows and inefficient use of financial resources.

31. For implementation of this approach it is important that the Federal Tax Service of the Russian Federation provide us not only lists of the tax payers actually paying taxes, but also the key economic information on them from the tax reporting will be the important condition of realisation of the this approach. It will permit to specify first of all the number of the surveyed organizations and exclude inactive units.

32. Received economic information will allow to identify statistically significant and statistically insignificant units. Separation will be based on the threshold values of employment and income.

***Consolidated data by this sector of economy will be received on the basis of the survey and the tax reporting.***

### **Establishing the clear principles for the system of indicators**

33. In creating system of indicators information could be more or less limited or could be very detailed on economic and technological operations. A lot of information can be collected and disaggregated for the manufacturing sector. At the same time small number of standard characteristics could be collected as a basic for the future regular sample surveys.

34. The specific key information is necessary for the reliable organisation of the survey in each statistical field. This is a set of the basic statistical features (indicators), which values are known on each survey unit. Therefore one of the key problems is how to define basis indicators characterizing organization size for each statistical field.

35. System of indicators of the small and medium-sized entrepreneurship survey is based on the following principles:

- Comparability – the system of indicators should permit to trace any events in economy and also to define the contribution to the basic macroeconomic indicators;
- Reliability;
- Adequacy.

36. The system of indicators will contain not only the indicators characterizing own resources, financial and economic results of activity, but also estimate the contribution of this sector to macroeconomic indicators. The system of indicators will ensure the multiple information on activity of the small and medium-sized entrepreneurship on federal, regional and municipal levels.

37. The system of indicators will be disaggregated for various types of business units for the response burden optimisation, conformity with accounting rules at the enterprise. Thus this information should give the wide and multiple characteristic of a condition and development of the whole sector of the small and medium-sized entrepreneurship.

38. Elaboration of the scientifically well-founded system of the survey indicators will be prepared with the participation of the government authorities, public organizations, Rosstat

Council on Small and Medium-sized Entrepreneurship of the Russian Federation.

39. In the course of the statistical survey the following data on the small and medium-sized entrepreneurship will be gathered:

- the address (location) according to the state registration and territorial unit of economic activity (region – subject of the Russian Federation, municipalities);
- types of the economic activity;
- parameters of manufacturing (profit, turnover, volumes of manufacturing and sales, works, services in natural and cost measurement according the All-Russian Classification of Products by Economic Activities, expenses on manufacturing);
- cost and structure of the fixed capital;
- sizes and directions of the investments into a fixed capital;
- number of employees and wages.

40. For the time being Rosstat created draft system of indicators for the survey and draft questionnaires. The statistical toolkit has been considered by the Rosstat Council on Small and Medium-sized Entrepreneurship of the Russian Federation and the Ministry of Economic Development of the Russian Federation.

41. In 2009 we plan to test the toolkit on business units on various categories and kinds of activity. Within of this proceeding the following statistical toolkit will be tested:

- various methods of data getting from the business units: self-filling of survey forms by the respondents and interviewing;
- possibilities of obtaining information on business unit as a whole and on regional affiliates;
- quality of survey toolkit for each category of small entrepreneurship, substantial structure of survey toolkit, adequacy of response answers to the questions, response rate, interview burden.

***The goal of the test is to form the system of indicators and methodology basing on pilot interview of small and medium-sized entrepreneurship.***

42. International experience shows that **any survey (including economic census) does not provide the full coverage of all survey units.**

43. Not all respondents, especially small entrepreneurs, fill in the census questionnaire wholly, i.e. they refuse to give the information by some indicators. To minimize non-response and to raise the information quality the following should be done.

- *It is necessary to form legislative base of census.* This is special acts for census and using the current laws.
- *The organization of the advocacy campaign for the census.* Its primary task is to raise motivation of all business units to participate in the census and to give proved information about the business.

44. This campaign should provide:

- a. *Increasing the awareness of the economic census and acceptance of it by respondents on data gathering stage*, i.e. respondents will be informed about the census purposes, guarantees of confidentiality, obligation to participate in the census and also about possible penalty of refusal, etc.,
- b. *Increasing of the awareness on benefits of the census itself and results among potential users*, i.e. respondents should know that they are potential users of the census output.

45. Many segments of the Russian economy are competitive, and data on business tendencies are of large commercial value. Readiness of respondents to give exact and a true and adequate data about themselves depends on understanding of guarantees of confidentiality by the obtained information.

46. The advocacy will be organized in the following ways:

- speeches and interviews of Rosstat chair-persons in the federal mass media;
- discussion of the Survey Program with academic and public communities;
- organization and presentation in local mass media the interviews of chair-persons of regional statistical offices, representatives of authorities of the small and medium-sized entrepreneurship support, and also the survey information distribution;
- preparation of information materials and press releases and their distribution in mass media;
- distribution of survey methodological materials over the small and medium-sized entrepreneurship, organizational positions of its carrying out, information materials, press releases and other materials on a official Rosstat website;
- distribution of posters and leaflets.

47. Also we understand that it is very important to provide quality of the census. There are two aspects of this item:

- a. **Professional training** for census on all levels of statistical system of the census (methods and principles of work with respondents, preprocessing and control, automated processing, including coding etc.) and in case of use the interviewing.
- b. To solve the **problems of non-response** it is necessary to elaborate special mathematical tools to correct source information. Experience of such updating was not applied in the Russian statistics yet.

48. Thus let make the following conclusions.

49. According to Russian legislation the small and medium-sized entrepreneurship survey must be every 5 years. Small and medium-sized entrepreneurship survey will be in 2011.

50. The census main purpose is to form the information which contain the multiple and detailed characteristic of economic activities on business units. Using of this information helps in

improvement of social and economic forecasting and development of measures to increase the efficiency of the Russian economy.

51. Besides within the census there is a possibility to consider all changes in small entrepreneurship, to estimate the economic potential of this business sector and its “contribution” to Russian economy in whole and on branches, and also by territorial breakdown.

52. The list of the business units for the census will be formed on the basis of the Statistical Register of Rosstat and the administrative data.

## *Thailand*

### **Overview of Statistical system in Thailand**

1. Currently, Thailand is practicing the decentralized statistical system, which means data is not stored at only one single government office. Rather, the National Statistical Office (NSO) acts as central agency collecting and coordinating statistical data from statistical units scattered in ministries, departments and state enterprises, who produce the data for purpose of their own administrative and management within their units. In administration of Thai Statistics, the NSO is authorized by Statistical Act of 2007, to compile basic statistics that reflect social and economic structure of the country as well as to collaborate with and participate in the coordination of the statistical work in the assembling, compilation and analysis of statistics. The National Statistical Office is the main organization to manage the statistical issues of the country and is the center of standardized statistics, which can support and enhance the country's administration efficiently as well as increase competent potential competition of the country.

### **Economic Census in Thailand**

2. The National Statistical Office, which is solely responsible for conducting social and economic censuses of the country, has been conducting two independent economic censuses; namely, Industrial (manufacturing) Census and Business Trade and Services Census. The Industrial census was firstly conducted in 1964, followed by 1997 and the latest one was in 2007, the next one is scheduled in 2017. The latter one; the Business Trade and Services Census was firstly conducted in 1966, secondly in 1988, the latest one was in 2002 while the next round will be in 2012.

### *Legislation*

3. According to the 2007 Statistical Acts, the NSO is the only organization that has authority to conduct censuses. All establishment censuses were, therefore, conducted by Thailand Statistical Law under this ordinance, a respondent is required to the questionnaire or cause it to be completed by some other authorized person to the best of the establishments knowledge and belief. The ordinance also stipulates that all information obtained will not be revealed on an individual basis, is to be kept results are presented for the country sight.

4. The provisions of B.E. 2550 (2007) Thailand Statistical Act, the National Statistical Office declares that all information obtained by this office, will be kept confidential and will not be disclosed to any individual establishment. The information will be compiled and aggregated at national level before it becomes public information.

5. **Section 15:** Personal information obtained under this act shall be strictly considered confidential. A person who performs his or her duty hereunder or a person who has the duty of maintaining such information cannot disclose in at anyone who doesn't have a duty hereunder except in the case that:

- a. Such disclosure is for the purpose of any investigation or legal proceedings in a case relating to on offense hereunder;
- b. Such disclosure is for the use of agencies in the preparation, analysis or research of statistics provided that such disclosure does not cause damage to the information owner and does not identify or disclose the data owner.

*The objectives of the Economic Censuses*

6. The objectives of the Industrial Census and the Business Trade and Services Census are as follows:

- a. To collect basic information on the structure and distribution of establishments engaged in economic activities, such manufacturing, wholesale trade, retail trade, some selected sectors of services i.e. and construction.
- b. To compile the directory of establishments to be used as the master sampling frame for various sample surveys on those economic activities.
- c. To develop statistical methodologies and setting up the data quality control.
- d. To conduct Statistical Development Plan and Statistical Master Plan of the country.
- e. To provide updated sampling frame of establishment.

*Coverage of the Economic Census*

7. These two censuses covered respective establishments engaged in manufacturing, wholesale, retail and some services sectors of the International Standard Industrial Classification, ISIC, Rev.3.

**List of economic activity covered in the two censuses**

**Industrial (manufacturing) Census**

Division 15-37            Manufacturing

**Business Trade and Services Census**

Division 50	Sale, maintenance and repair of motor vehicles and motorcycles, retail sale of automotive fuel
Division 51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
Division 52	Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods
Division 55	Hotels and restaurants
Division 70	Real estate activities
Division 72	Computer and related activities
Division 71, 73, 74	Renting of machinery and equipment without operator, research and development and other business activities
Division 92, 93	Recreational and other service activities

**To facilitate availability of the establishment sampling frame for NSO related establishment surveys, some of the following divisions were covered in the listing stage of both censuses:**

Division 45	Construction
Division 60	Class 6021-6023, 6304 Other land transport and activities of Travel agencies
Division 85	Class 8511 Private hotel

### *Reporting unit*

8. *Description of the statistical unit.* Establishments which are defined as reporting units are consistent with the ISIC. For the statistical unit is the entity for which the required items of data are gathered, should ideally be the establishment or establishment-type unit. The establishment is defined as an economic unit which engaged, under the ownership or control of a single legal entity, in a kind of economic activity at a fixed location

9. *Report form.* There were two kinds of questionnaire forms for collecting the data. Listing form was for basic information, such as name and address of the establishment, number of person engaged, type of activity. Enumeration form was for in-depth data of the establishment, such as receipt, expenditure, value of purchase of goods for sale, value of fixed asset etc.

### **Data Items**

10. The censuses, both the Industrial Census and the Business Trade and Services Census are divided into two stages; listing stage and enumeration stage. The data items collected during these stages are as follows:

a. **Listing stage:**

**Industrial Census (Manufacturing) and Business Trade and Services Census**

- Name, address and contact address of establishment
- Economic activities
- Type of legal and economic organization
- Total number of persons engaged and employees
- Proportion of foreign investment

b. **Enumerating stage:**

**Industrial (Manufacturing) Census**

- General information (e.g. name of establishment, address and contact address of establishments, type of industry, form of legal organization, form of economic organization, period of operation, authorized capital, foreign investment or share holding and the country investment or share holding, etc.)
- Number of persons engaged, number of employees and remuneration
- Cost of production and expenditure of establishment
- Sales of goods produced and other receipts of establishment
- Fixed assets of establishment

- Cost of research and development and laboratory

### **Business Trade and Services Census**

- General information (e.g. name of establishment, address and contact address of establishments, type of business, form of legal organization, form of economic organization, period of operation, registered capital, foreign investment or share holding and the country investment or share holding, etc.)
- Number of persons engaged, number of employees and remuneration
- Expenditures of establishment
- Receipts and other receipts of establishment
- Value of stocks and value of fixed assets

### *Periodicity*

11. The Economic Censuses were conducted every 10 years. The most recent Industrial Census (manufacturing) was in 2007 and the latest Business Trade and Services Census was in 2002. The National Statistical Office plans to conduct the 4<sup>th</sup> census of Business Trade and Services in 2012, aiming at updating the establishment sampling frame, as well as the changes of business operation.

### *Data collection*

12. The face-to-face interviewing method was employed in data collection. The enumerators who are permanent and Government employees of the National Statistical Office were sent out to interview the owners or the entrepreneurs of the establishments. Sometimes questionnaires were left for the owner or the entrepreneurs of the establishments to be filled out later, because the respondents were not available at the time, or they have to wait for permission from those who have been authorized to provide their data.

13. The economic censuses have sometimes problems with respect to completeness in terms of coverage. In addition, some establishments did not provide good cooperation in the census.

14. Because of the high non-response rates, and the invalidity of the data obtained from the field-work, the information from the profit and loss statements and the balance sheets of the establishments are also used for editing and completing the questionnaires. However, the data from those business documents are believed unreliable in a view point of statistics, because those documents are also used for reporting. However, the Census can provide data with the same criteria and reference time period, and under uniform concept and definition concerning establishments.

### *Census operation and data processing*

15. The filled-up questionnaires were primarily processed in the provincial offices. Basic tables for provincial level were also tabulated there. Provincial data sets were sent to the central office for merging to be regional and whole kingdom information. The main frames and PC are used for data processing. The software FoxPro, SAS, SPSS and Excel are used for data entry,

tabulating and analyzing the data.

### **Data dissemination**

16. Preliminary report is disseminated 6 months after the field operation for data at national level, while the final report is disseminated 2 months after the preliminary report at the National and Regional level, 6 regions and Bangkok and at the Provincial report, in 75 volumes.

#### *Utilizations and the main users of Economic Census*

17. The Utilization of the Economic Census data is as follows:

- Constructing the economic indicators
- A guideline for economic development in related sectors; manufacturing, business, construction, agriculture, real estate etc. in both macro and micro levels
- Formulating policies
- SMEs development
- Constructing the standard measurement in monitoring and evaluation
- A guidance in private decision making
- Economic analysis by academics, researchers and education institutes
- Database development for the economic and social warning system

18. The main users of Economic Census data are:

- National Economic and Social Development Board (NESDB)
- Bank of Thailand (BOT)
- Ministry of Industry
- Ministry of Commerce
- Universities and Colleges
- Thailand Development and Research Institute (TDRI)
- International Organization and statistical units of other countries

#### *Data products*

19. The results of the census are disseminated through various channels. In addition to the published reports for preliminary report (regional level and the whole kingdom) and the final report (provincial level, regional level and the whole kingdom), the electric media for faster and more convenience for dissemination, are on the web-site (<http://www.nso.go.th>), e-mail, diskette, and also CD-Rom.

20. *List of existing economic censuses/surveys.* At present, there are seven censuses/surveys presenting the collection of basic economic statistics in Thailand :

<b>Censuses/Surveys</b>	<b>Scope and coverage</b>
1) Industrial Census	In listing stage, basic information of all establishments engaged in categories D, G, H, K, O, P, F, I of ISIC Rev.3 were collected. In enumeration

	stage, detailed information of establishments with at least one person engaged only in manufacturing were enumerated.
2) Business Trade and Services Census	In listing stage, basic information of all establishments engaged in categories D, G, H, K, O, P, F, I of ISIC Rev.3 were listed. In enumeration stage, detailed information of establishments with at least one person engaged in wholesale trade, retail trade, restaurants and hotels and some sectors of services (categories: G, H, K,O) were enumerated.

<b>Censuses/Surveys</b>	<b>Scope and coverage</b>
3) Business Trade and Service Survey	The establishments with at least one person, located throughout the country, engaged in wholesale trade, retail trade, restaurants and hotels and some sectors of services classified according to ISIC Rev.3
4) Hotels and Guest-house Survey	All hotels and guest houses which registered under the 2004 Decree of the hotel
5) Construction Survey	The establishments with at least one person, located throughout the country, engaged in construction industry (category F of ISIC Rev.3)
6) Quarterly Retail Survey	The establishments, with at least one person, located throughout the country, engaged in retail trade, restaurants and hotels and some sectors of services.
7) Private Hospital Survey	All private hospitals or any health care centres where the inpatient service were available and registered under the 1998 Decree of the health care centre.

## ***Turkey***

### **Why Economic Census?**

1. Accurate and detailed information can be collected through the General Census of Industry and Business Establishments, in order to constitute a well-organized, highly competitive and sustainable industrial policy that should cover all of the aspects of economic, social, environmental and international developments in the light of the principle of the efficient use of resources, aimed in development plans.

2. This kind of information which would make international comparisons possible will be of beneficial use during the preparation of the development plans and annual programs, cast light on the process of taking measures and decisions as well as the measurement of the positive or negative effects of the economic policies, and eventually will be used in national accounts and calculation of national income.

3. The Last Economic Census of Turkey was The General Census of Industry and Business Establishments 2002. The main goals of The Census were:

- To obtain data for the shaping of the five years development plans and programs,
- To extract the sector profiles,
- To enable the conduction of to Input – Output and National Income studies,
- To make supra-national comparisons possible by keeping in line with international recommendations,
- To obtain data-sets on every non-agricultural sector compliant with the EU standards,
- to set up a “STATISTICAL BUSINESS REGISTERS SYSTEM” in accordance with the systems used in EU,
- To establish an updated and reliable frame and sampling criteria on the basis of legal unit, enterprise and local unit with the help of the register,
- To structure a basis for surveys, regarding statistical units that will be conducted in intermediate years.

4. *Statistical Unit.* Statistical Units were enterprise and local unit (establishment).

5. *Activity Classification.* Statistical Classification of Economic Activities in the European Community (NACE Rev.1) was used.

6. *Regional Classification.* NUTS (Nomenclature of Territorial Units for Statistics) level I, II and III were used. TurkStat has 26 Regional Offices in NUTS II Level since 2003.

- *NUTS I 12 Region*
- *NUTS II 26 Region*
- *NUTS III 81 Province*

## **Geographical coverage**

7. 2002 General Census of Industry and Business Establishments' geographical coverage is the entire territory of Turkey. Regardless of the population size all province and district centers with villages and, except for these places, gas stations and organized industrial areas on interurban roads are covered. For the first time, the localities which have population less than 2000 were also included in this census.

## **Sectoral coverage**

8. All activities included in NACE Rev.1 divisions from *C to K and from M to O* are covered:

- C Mining and quarrying
- D Manufacturing industry
- E Electricity, gas and water
- F Construction and public works
- G Wholesale and Retail trade
- H Hotel, restaurant, cafe and pastry shop
- I Transportation, storage and communications
- J Financial Intermediation Activities
- K Real Estate, Renting and Business Activities M Education
- M Health and Social Work
- O Other Community, Social and Personal Service Activities

9. Sectors excluded from the coverage:

- A Agriculture, Hunting and Forestry
- B Fishing
- L Public Administration and Defense, Compulsory Social Security
- P Household Industry Activities
- Q Extra – Territorial Organizations and bodies

## **Planning and Organization of Economic Censuses**

10. In Turkey eight censuses were carried out in 1927, 1950, 1963, 1970, 1980, 1985, 1992 and 2002. Turkish Statistical Institute was obliged to conduct in the years ending with three of the Decree Commanded as Law, No. 219 dated June 8, 1984 and as stated in the Item 2, Paragraph (d) of the Decree Commanded as Law, No. 357 dated January 27, 1989. In future it is not foreseen to conduct an economic survey.

11. In 2002 General Census of Industry and Business Establishments, Buildings Tables, Avenue, Street Control Table and administrative registers were used as address sources. All of establishments in the coverage were enumerated by interviewers.

12. The census was applied with two questionnaires: "The 2002 General Census of Industry and Business Establishments Scanning Questionnaire" and "The 2002 General Census of Industry

and Business Establishments Questionnaire”. The former was applied to businesses in non-municipal villages with less than 2000 population, while the latter was applied to businesses in other areas.

13. With the 2002 General Census of Industry and Business Establishments, for the first time, the administrative records were used. At the end of the studies, it was agreed that business registers used by Ministry of Finance are the most comprehensive records in terms of content and coverage especially when their usage for statistical purposes is taken into account.

14. In order that the registers of Ministry of Finance could be used in the 2002 General Census of Industry and Business Establishments, information in the province, county sub-district, village, sub-level municipality, quarter, avenue, street columns of approximately 5 million address records in the registry were revised by about 200 operators by using various address dictionaries through 5 month of work.

15. Before the Census, two pretests and a pilot study were implemented. Prime Ministry Circular 30.07.2002 No B.02.0.PPG.0.12-320-11817 on the implementation of the General Census of Industry and Business Establishments was sent to relevant institutions and organizations.

16. Following the PM Circular; Province Census Committees under presidency of Province Governors and their deputies in all provinces, County Census Committees under presidency of District Governors in all counties and Census Bureaus in all provinces and 243 counties were founded. Authorized staff of the relevant institutions and organizations was commissioned in these Committees and field organization of the Census was achieved through high collaboration.

17. The Census was carried out in two stages according to street-scanning method. In the first stage, each business in streets within the "census districts" which had been formed according to the relative nearness of streets, was enumerated by using "building tables (Form Population 1) maps and plats. In order to assure consistency, Tax numbers from the record of Ministry of Finance (MoF) were matched by computers in Province Census Bureaus with the ones in the questionnaires filled in the local units. Local units that existed in MoF records but not in fieldwork were rechecked in the field. Also, questionnaires for those whose activities is not in a stationary workplace, for instance hawkers, stallholders, individual goods and passenger transporters, whose registered address in MoF records appears as their home address, were filled in their home address.

18. The Census was carried out simultaneously in provinces by two groups: one in centurms and the other in counties. The Census for businesses in villages with less than 2000 population and without a municipal body was carried out by Province and County Agriculture Directorates.

19. Staff commissioned in the census were:

- a. In provinces and counties:
  - Regional coordinator
  - Province responsible

- Province responsible assistant (Istanbul)
  - Region responsible (Istanbul, Ankara, Izmir and where province responsible thinks necessary)
  - County responsible
  - Controller
  - Census officer
- b. Villages with less than 2000 population and without a municipal body:
- Province Director of Agriculture
  - County Director of Agriculture
  - Staff of County Directorate of Agriculture

20. Application period was April-July 2003.

21. Cooperating / supporting institutions and organizations were:

- a. Ministry of Finance: Giving efficient support for the implementation of the Census by helping with the usage of its administrative records, province and county organization of MoF provided coordination with tax and finance offices to which taxpayers are registered in case of a problem in fieldwork.
- b. Ministry of Industry and Trade: Province and county organization have been active participants and helped with the usage of their records.
- c. Ministry of the Interior: Having been commissioned as the president of the Census Committees, Province and District Governors managed to achieve success in preparation studies before the Census, during the Census, and in transmitting the results to the center in the aftermath of the Census. Assistance from Municipalities was demanded on administrative records, when necessary.
- d. Ministry of Agriculture and Rural Affairs: Implementation and organization of the Census for businesses in villages with less than 2000 population and without a municipal body have been achieved through cooperation with Province and County Agriculture Directorates. County Agriculture Directors were trained on questionnaires and were held responsible for the training of their staff.

### **Data collection and data processing**

22. The questionnaire contained 31 questions on identification variables, address variables, stratification variables, relationships, ownership, activities, economic figures etc. Filled questionnaires first collected in census bureaus and the comparison with MoF registers were done immediately by computer based programme. All questionnaires sent to the Head Quarter where all were scanned and automatically stored in database by using ICR (Intelligent Character Reader) technology. Checks were realized and data were evaluated.

### **Post-census activities**

23. Annual Industry and Service Statistics (AISS) Survey had started to conduct after The General Census of Industry and Business Establishments 2002. The purpose of this survey is:

- To determine structure of industry and service sector which constitutes important part of national economy and changes of the country's social and economic structure,
- To compile data to determine structure of the sectors,
- To compile data for international comparison and to meet national and international demand for data,
- To make available international statistical comparisons,
- To compile sector based data compatible with EU Structural Business Statistics regulations.

24. *Estimation dimension.* The aim of AISS is to produce information based on enterprise and local unit. For all sectors, statistics in terms of enterprise NACE 4- digit level and in terms of local units NACE 2-digit level regional estimations are produced.

25. Full enumeration limits: After estimation dimensions and the structure of the sectors are taken into consideration during the studies of AISS, full enumeration limits are determined as follows:

- All enterprises having 20+ employees,
- In terms of sectors, some NACE 4 digit activities are covered by full enumeration.

26. Sampling frame from BR and Sampling Size for AISS in year 2003-2008:

<b>Year</b>	<b>Frame (BR)</b>	<b>Sampling</b>	<b>Full Enumeration</b>	<b>Total Sampling</b>	<b>Estimation Level</b>
2003	1.872,701	38.310	44.841	83.151	4 - digits
2004	2.418.979	37.548	51.961	89.509	4 - digits
2005	2.932.914	9.593	65.012	74.605	2 - digits
2006	2.978.514	38.106	63.879	101.985	4 - digits
2007	2.982.108	38.248	61.504	99.752	4 - digits
2008	3.101.506	38.165	61.815	99.980	4 - digits

### **Dissemination of Economic Census results**

27. The first results of the Census released by news bulletin. Forms of dissemination of The Census are book, CD and web.

28. *Confidentiality issues.* If the number of the statistical unit in any cell of the data table formed by aggregating the individual data is less than three or one or two of the statistical units are dominant even if the number of units is three or more, the data in the concerned cell is considered

confidential.

29. Some variables published by economic activity code or regional breakdown such as; annual average number of persons, employees, owners and partners, unpaid family workers, legal status of enterprise, locality, employment size class, number of local units.

### **Future of Economic Census in the Economic Statistics Programmes**

30. Business Register was constructed by using General Census of Industry and Business Establishments results and Ministry of Finance records. Updates were realized by MoF records and annual inquiries.

31. For the New Statistics Law of Turkey 2005 there is not any statement for economic census or any other census to conduct specific years. If an economic census needs to be conduct it will be evaluated in the Statistical Council, but it is not foreseen that to conduct an economic survey in Turkey. Instead of a census it is planned to produce statistics from Business Register.

32. The aims of TurkStat in business statistics are:

- to finalize establishment of statistical Business Register,
- to decrease response burden and production cost,
- to use more administrative records/data instead of survey,
- to increase data quality and timeliness,
- to adapt European Statistical System

## *Uganda*

### **Why Economic Census – the case of Uganda**

1. It seems important, right from the beginning, to obtain a clear meaning of what “economic census” is as different countries may have different meanings for the terminology. In the past, the term census was used to mean complete coverage of all units under enumeration for the entire country. However, except for Population and Housing Censuses, this meaning has shifted; it no longer implies complete coverage of all businesses and establishments.
2. Today, it seems that an economic census may just be a large sample survey, which is instead called a census. This is because it is usually too expensive to conduct a complete coverage of all units, hence the need to sample. If however the survey is limited to covering all large businesses that pay tax, perhaps this could justifiably be called a census (of the “formal” sector). In business surveys, it is best practice to have strata that are completely enumerated. But, if smaller businesses are included on a sample basis, it really should not be called a census.
3. So it is not quite clear what it meant by the “Economic Census” to be discussed at the conference. In this paper we shall describe recent large-scale surveys in which annual accounting data have been sought, and the listing exercises that have preceded them. It excludes regular quarterly surveys of manufacturing, construction, cross border trade, among others.

### **Economic Surveys in Uganda**

4. Economic Surveys in Uganda date back to the 1960s, when the first survey of Industrial Production was conducted in respect to economic activity for the year 1963. The aim was to collect basic data like Gross Output and Value Added for individual establishments, which among other uses formed a benchmark for estimating GDP. More recently a large scale survey called a Census of Business Establishments (COBE) was undertaken in 1992.
5. Then, in 2001, every establishment with fixed premises in the country was listed, in advance of a more detailed but much smaller survey called the Uganda Business Inquiry (UBI). Over 160,000 thousand businesses were listed, the great majority of which had less than 5 employees (informal, 87%). At the time, this exercise was seen as the compilation of a comprehensive Business Register, although there was never any possibility of keeping it updated. It was in fact a real Census.
6. The follow-up UBI sample consisted of 147,160 businesses, seeking accounting data for the year 2000/01. No further surveys were undertaken until recently, when funding was made available to undertake a similar survey called the Annual Business Inquiry (ABI) with a target sample of 1500 enterprises and referring to the year 2006/07. On this occasion no prior Census listing took place. The sample was taken from a list of taxpayers.

7. The most recent surveys conducted are included in the Table 1 below:

**Table 1: Recent Economic Surveys conducted in Uganda**

<b>Exercise</b>	<b>Indicators</b>	<b>Period</b>	<b>Sectors Covered</b>	<b>Coverage</b>	<b>Comment</b>
<i>Listing of Business Establishments</i>	Number of businesses in the country, employment size etc	2001/02, 2006/07	All sectors except agriculture	Complete	Sampling frame for the UBI
<i>Uganda Business Inquiry (UBI)</i>	Main economic Indicators and business accounts (Value Added, Gross Output, Intermediate Consumption, among others)	2000/2001	All sectors were covered except the Public sector		Undertaken in 2003
<i>Annual Business Inquiry (ABI)</i>	Main Economic Indicators	2006/2007	All sectors are covered	Formal only	Undertaken in 2008

*Listings of Business Establishment*

8. In the 60's, the main sources were administrative records of enumeration of employees, membership lists to several associations, marketing boards, the Factories Inspectorate. This status continued until 1989 when the first Census of Business Establishments (COBE) was undertaken. Subsequently in 2001/02, another COBE was undertaken with the main objective of providing a sampling frame for the planned UBI. This census covered both formal and informal businesses but was restricted to businesses with fixed premises.

9. In 2006/2007, there was yet another listing but was much more limited in scope. It focused on mainly businesses employing 5 or more persons with the exception of such sectors as Law Firms, Clinics, Tour Companies, Forex Bureaus, among others.

10. This listing reported a total of nearly 26,000 businesses and of these, businesses employing five or more persons were 17,300 compared to 10,500 in 2001/02, showing a growth of over 60 percent. A distribution of businesses by employment size band showed that businesses employing 5 and above persons had the highest proportion, 64%.

**Table 2: Recent Business Listings conducted in Uganda**

<b>Exercise</b>	<b>Indicators</b>	<b>Period</b>	<b>Sectors Covered</b>	<b>Coverage</b>	<b>Comment</b>
<i>Listing of Business Establishments</i>	Number of businesses in the country,	2001/02,	All sectors	All Urban areas	Sampling frame for the Uganda

	employment by sex, location, ownership etc				Business Inquiry (UBI)
<i>Listing of Business Establishments</i>	Number of businesses in the country, employment by sex, location, ownership etc	2006/07	All sectors	Only businesses employing 5 or more persons	Sampling frame for the Annual Business Inquiry (ABI)

### *Uganda Business Inquiry (UBI)*

11. The UBI was undertaken in 2003 with a reference period of 2000/2001 and the sampling frame was the listing of businesses for the period 2000/01 which had a total of 160,000 business establishments. The sample for the UBI 2000/01 was 4300 businesses which was seen as the most affordable and practicable sample in terms of time and money. The sample for the UBI was designed while ensuring that all large businesses were covered, i.e., large employment was more than 20 employees.

12. In this survey, all sectors were covered including smaller businesses except small scale agriculture and the Public sector. Further more, all regions and all businesses with fixed location irrespective of the number of employees were covered. This survey had a much more detailed questionnaire but administered to a selected sample of businesses. The objective was to derive main economic Indicators (Value Added, Gross Output, Intermediate Consumption, among others).

### *Annual Business Inquiry (ABI)*

13. The ABI was limited to collecting information on the formal sector. The information collected was similar to the UBI and related to 2006/2007 financial years and it was conducted in the second half of 2008. Being annual does not mean that it will be done every year. This is due to resource constraint. Data cleaning and editing is on-going and about to be finalized.

14. It is important to note that, to conduct a business survey; there is need for a list of businesses. For the 2008 ABI, the sample was drawn from the 2006/2007 business register update, further supplemented by administrative data from the Value Added Tax list with the Revenue.

### **Under what circumstances the Economic Survey is conducted in Uganda and why the economic survey is necessary**

15. In Uganda, just like in any other country, economic survey is conducted in order to update and improve estimates of economic indicators, e.g., GDP and to provide a basis for Supply-Use Tables for the country. In addition, the output of such surveys provides a basis for rebasing different series and provides sampling frames for other economic surveys as earlier mentioned whose outputs are used to measure on-going variations in business activity.

**Goals of Economic Census in terms of units, activities and classifications, as well as in terms of geographical coverage; thresholds used etc.**

16. The goals of economic surveys are varied. In Uganda, these were to generate data for computation of Gross Output and Value Added.

17. Classification of industries in the UBI and ABI was according to the United Nations International Standard Industrial Classification of economic Activities (ISIC) Rev.3, although plans are now underway to move to ISIC Rev4. However, to be able to indicate the importance of certain key economic activities in Uganda, which would otherwise be impossible to scrutinize under the general ISIC codes, special local codes were assigned to such activities within the framework of ISIC Rev 3 and they are summarized below:

*Table 3. Classifications of Special Activities*

<b>Activity Description</b>	<b>Local Code</b>	<b>ISIC Code</b>	<b>ISIC Activity Class under which the described activity falls</b>
Coffee Processing	1530	1531	Manufacture of Grain Mill Products
Tea Processing	1534	1549	Other Food Products not elsewhere classified
Manufacture of Jaggery	1545	1542	Manufacture of Sugar
Cotton Ginning	1710	1711	Preparation and Spinning of Textile Fibres, Weaving of Textiles

**Scope and coverage of Economic Census in terms of units, activities and classifications, as well as in terms of geographical coverage; thresholds used**

18. For the COBE, all businesses with fixed premises where at least one person was employed, including market stalls, shops and kiosks were listed. All economic activities as listed in the ISIC were covered except Government Departments and Embassies. For Agriculture sector, only large scale agricultural enterprises were covered including Dairy Farms, Tea and Sugarcane Estates, Flower farms, among others.

**Approaches and methods used in Economic Survey**

19. One of the common practices in economic surveys is survey design. This relates to the questionnaire design and sample design and selection.

20. Separate questionnaires were designed for the different sectors to take into account the peculiarities in each sector and to collect data that was useful. A total of 12 questionnaires were used, 10 of which were large questionnaires meant for Businesses with Final Accounts, while the other two were targeting the informal businesses without final accounts. The questionnaires were:

1. Agriculture
2. Mining & quarrying
3. Manufacturing

4. Hotels & restaurants
5. Construction
6. Finance
7. Insurance
8. Services
9. Trade
10. Health and Education
11. Small manufacturing, mining and quarrying and construction
12. Small Trading and Services

21. The questionnaire was designed to provide data relating to:

- Activities and location of business
- General information on employment and ownership and statement of Fixed Assets
- Capital expenditure at the end of each year, and
- Total sales, income and costs.

22. The sample design for an economic survey is usually complex as compared to the Household Surveys. The sample was always drawn ensuring that all the large businesses were covered taking into account that at least 5 percent of the population was covered. The sample size for each sector was determined using Probability Proportional to Size (PPS) based on the number of employees and number of businesses in each sector. The broad categorization adopted during the sampling was:

***Table 4. Summary of Broad categories***

	Industry Group
1	Agriculture & Forestry
2	Business Services
3	Community, Social and Personal Services
4	Construction
5	Education
6	Finance & Insurance
7	Fishing
8	Food Processing
9	Health & Social Works
10	Hotels & Restaurants
11	Mining & Quarrying
12	Other Manufacturing
13	Post and Telecommunications
14	Trade
15	Transport
16	Utilities

23. Within each main industry group, the population was further stratified by number of employees based on predetermined employment size bands for each industrial group, e.g., 1-4, 5-9, 10-19, 20-49, 50-99, and 100 plus. The actual sample size n for each stratum was

determined based on the employment levels and number of businesses, taking into account that all large businesses were covered. The actual selection of businesses to be included in the survey in each stratum was selected using ‘cut off’ method and systematic sampling.

### **Uses of Economic Census results**

24. The main objectives of undertaking Business Inquiries was to obtain data from the big and small business establishments that would help achieve the following aims:

- Compute data on main economic indicators such as Value Added by Sector, Gross Output by sector and intermediate costs among others
- Value Added by sector is the basis of weight development in GDP estimation thus improving estimation of GDP
- Determine sector productivity and contribution of each sector to economic growth
- Development of Input-Output Tables (IOT), Supply and Use Tables (SUT) which finally feed into the Social Accounting Matrix (SAM)
- provide data required for macro-economic modeling as required by the Ministry responsible for planning and policy formulation
- provide a framework for monitoring economic development over time.
- Development of weights for use in index number computation such as Index of Industrial Production (IIP), Producer Price Index (PPI), etc
- Sampling frame for other detailed economic surveys such as “The Private Sector Investment Surveys undertaken by the Central Banks”, and “The Innovation Surveys by Ministry of Tourism, trade and Industry”
- Facilitate in-depth analysis by Researchers and their policy implication.

### **Planning and Organization of Economic Censuses**

#### *Legal provisions*

25. There exists a Statistical Law, called the Uganda Bureau of Statistics Act No. 12, enacted in 1998 by Act of Parliament that the Bureau operates within. The Act enlists the Bureau as the principal data collecting and disseminating agency also responsible for coordination, monitoring and supervision of the National Statistical System.

#### *Financial and budget provisions*

26. A large scale economy-wide survey requires adequate funding to undertake it. While the Government should provide funding for such exercises, they are very expensive. In the past, this has been a constraint and donor agencies have funded the surveys especially those conducted for the first time. These included the UBI in 2003 with reference period 2000/2001 was funded mainly by Department for International Development (DFID) and the Listing of Businesses that preceded it. The 2006/2007 Businesses Register update was co-funded by DFID and the World Bank. Since then, Government has taken over by making provision for the surveys in the national budget. The recent Annual Business Survey was undertaken with Government provision in the national budget for the FY2008/09.

### *Administrative arrangements*

27. In Uganda, all large-scale economic surveys have been undertaken solely by the Bureau. However, before the UBI took place, stakeholders were invited to a workshop and invited to comment on the proposed questionnaires. Proper organization of office work with team spirit had been a key to a successful economic survey. The office activities involved among others:

- Questionnaire Design
- Preparation of field activities
- Providing technical support, staff payments
- Receiving of returns
- Editing of returns
- Data capture
- Data Analysis
- Report writing and Dissemination
- Managing and maintenance of vehicles
- Other administrative work etc

28. The different roles were usually distributed among the staff involved in the office activities.

*Economic Census plan and activities, incl. scope and methodology used for conducted pilot survey and preliminary sample test, zoning enumeration districts, preparation and maintenance of the establishment list for surveys, etc.*

29. In the year 2002, prior to the full listing of businesses was carried out; a pilot was carried out in one of the Municipalities - Entebbe Municipality. The objective was to determine the accuracy of the existing list of businesses which had been compiled some years before. A complete listing of all the businesses in the Municipality was compiled and the total number of businesses on the existing list was 400. Out of this, only about 7% of the actual number of businesses was found. As a result, it was decided that a complete enumeration of all businesses in the country be done in order to obtain a comprehensive list of businesses. This meant physically walking up and down the streets registering these businesses.

30. This experience illustrated how quickly a comprehensive list of businesses can go out of date. It is not possible to keep such a listing up-to-date in the absence of a requirement for businesses to register with the local authorities and for the local authorities to keep a viable register. In Uganda, statistics are centralized in UBOS, which does not have Zonal/District offices.

31. The sample for the Business Surveys was drawn based on activity irrespective of the location. The location of the businesses was as such not considered during the sampling as such the estimates derived were at national level except for some central districts which had a proportionately large business activity. Although it was planned that the establishment list for the Business Surveys be maintained regularly, this was not possible; however, efforts are underway to maintain this list using Administrative data from the Value Added Tax and Pay As You Earn

(PAYE) Registers from the Revenue Authority.

### *Staff recruitment and training*

32. Economic surveys are usually large-scale undertakings, staff recruitment is essential to beef up the existing staff of the organization. In the listing of businesses that was undertaken for 2001/02, the organization recruited a total of 30 temporary staff to assist registration exercise. Their duties included data collection, editing, data entry and data processing. Each staff was given a code for ease of identification. In order to better guide the data collectors, a manual of instructions was prepared with the corresponding forms to be used.

33. For the listing exercise, all staff were trained on how to administer the questionnaire and the allocation of the appropriate codes for each activity as provided in the ISIC Revision 3.

34. In the case of the Uganda Business Inquiry (UBI), participants were subjected to examinations after training to test their ability to extract data from specific Final Accounts. Further, role plays were done because the presentation of an enumerator before a General Manager would in most cases determine the kind of response obtained. It is important to note that good public relations and building of rapport between the enumerator and the respondent increased response rates. At the end of the training, the issue of confidentiality was emphasized and all staff engaged took an Oath of Secrecy.

### *Questionnaire development and design, in particular selection procedure of enumeration items*

35. In Uganda, the Uganda Business Inquiry (UBI) covered all businesses including the smaller businesses while the Annual Business Inquiry that covered only formal sector businesses, registered for VAT and paying tax on a regular basis. The same questionnaires (with minor changes) were used in both surveys. They were designed to reflect the commercial accountant's approach to compiling accounts.

36. Separate questionnaires were developed for the different sectors, as mentioned earlier, to take into account the peculiarities in each sector and collect data that would be useful. The questionnaire returns provided data related to:

- Activities and location of the business
- General information on employment, and ownership,
- Statement of Fixed Assets, and
- Total sales, income and costs.

37. The selection procedure for businesses to be covered was based on the broad categories as shown in Table 4 further stratified by employment size band.

### *Raising awareness and promoting the response to the Economic Census*

38. This has been a weak area in promoting response to Economic Surveys. Statistical advocacy was undertaken prior to the field work in especially the 2000/2001 UBI. This was mainly in form

of radio jingles and Paper Adverts in addition to the Stakeholder workshop. In the recent survey, ABI, owing to the limited funding, not much sensitization was undertaken. However, the other option included:

- Use of introductory letters to small and large businesses for ease of access to those businesses. To a certain extent, the letters provided assurance to the respondents that the data would be kept confidential.
- Area authorities called “Local Councilors” were used as guides to show clearly the boundaries of each area for small businesses.

#### *Field supervision and reappraisal of questionnaire responses*

39. In Uganda, field supervision was in-built into all economic surveys. Field supervisions were undertaken by senior technical officers. The purpose was to provide technical support to the field interviewers in terms of:

- Providing further explanation for the aim of the survey
- Providing entry to difficult respondents
- Meeting managers to seek their cooperation
- Verifying the quality of data in the questionnaires
- Checking on response rates

### **Data collection and data processing**

#### *Data items collected*

40. In the economic census such as the UBI in 2003 with a reference period of 2000/2001, data items collected were on:

- Operating characteristics for the unique identification of units (kind of activity, location, ownership, year of start of operation, etc.)
- Set of economic data that included:
  - Number of units
  - Employment data
  - Labour costs data
  - Statement of Fixed Assets
  - Capital expenditure at the end of the year, and
  - Total sales, income and costs and details of these

41. In the listing of businesses undertaken for the period 2001/2, the data items collected were on:

- Operating characteristics for the unique identification of units (kind of activity, location, ownership, year of start of operation, etc.)
- General information on employment and ownership

*Methods of data processing; wireless data transmission from field; principle of data collection and imputation by types of establishment (head offices and branch offices); guidelines for profiling multi-establishment enterprises, etc.*

42. In the case of Uganda, all data were physically collected from the field through administering questionnaires by field interviewers. The filled questionnaires were returned to office for physical data capture by the data entrants recruited for the purpose. The principal of data collection was that all sections of the questionnaire were to be filled in and all sampled businesses were to be interviewed.

43. For multi-establishment enterprises, data were collected from the head office. Hence one questionnaire was administered to the headquarters of multi-establishment enterprises and all required data were obtained pertaining to the enterprise. However, enterprises which were self accounting received a separate questionnaire.

*Use of Registers and Administrative data, for example use of tax data for the purpose of Economic Census*

44. Last year (2008), tax data (Value Added Tax, VAT) register was used for the first time to supplement the list of businesses in order to undertake the Annual Business Inquiry Survey in FY2008/09. This list showed the average monthly turnover of registered businesses in the period 2006/07.

45. The advantage of the VAT register was that the register was readily available and with Turn-over data, hence grossing up could be easily done. However, the problem with the tax data was that it was incomplete. Not all businesses were on the tax list and it lacked information on location and as such it was difficult to locate these businesses. However efforts are underway to improve and update the list.

*Use of sampling in Economic Census; sample survey application to small establishments (less than 5 employees)*

46. In the listing of business establishments carried out in the period 2001/2, there was no sampling as all businesses were covered. However, in the UBI for period 2000/01, sampling was applied since both large and small businesses were covered. For the small businesses that employed less than 5 employees, proportional allocation was used to determine sample sizes for each stratum and thereafter systematic sampling was used to select businesses.

*Technological Innovations for reducing costs of Economic Censuses (web based data collection system, internet survey)*

47. In Uganda, technological innovations in data collection for reducing costs of Economic Surveys have not been used much as yet. Few business establishments have well developed web-based systems and neither does UBOS. The internet services have been slow and intermittent. Hence data collection costs in Uganda remain high as data is physically collected.

This still applies up to-date, as insufficient resources are available to develop the necessary secure systems.

### *Quality assurance for the Economic Census Process*

48. Editing of completed questionnaires was an important stage in all the exercises undertaken in the past. Data editing was taken seriously such that it was undertaken both in the field and in office. In the field, the field interviewer was the first editor who passed over the completed questionnaire to his/her supervisor for further editing. For the questionnaires on Business Inquiry (2000/01), the editing included:

- Allocation of appropriate ISIC codes
- Ensuring the return is completed
- Ensuring the questionnaire is balancing.

49. When errors were discovered, the supervisor went back with the interviewer to the establishment and rectified the problems with the concerned authorities. This had to be done before submission of the questionnaire to the office. In office editing, “Intelligent Edits” were undertaken. This included checking issues such as the “Cost of Staff” being greater than the “Total Income of the business”. Where this happened, these were queried and follow up made and error corrected.

### **Post-census activities**

#### *Post-enumeration checks*

50. No special post-enumeration exercises have been undertaken in Uganda. Of course non-response is followed up as far as possible, but responses can still be lacking for some of the largest businesses. It is especially important to ensure the accounting data are captured accurately, as the addition of extra digits in error can have a big effect on the results. Comparison between the responses on the questionnaires and the Final Accounts of the business is also very important.

#### *The Economic Census as a basis for subsequent sample survey programmes*

51. The Economic Census was an integral part of all subsequent survey programs. For instance Uganda embarked on the production of the Producer Prices Index for Manufacturing using the data from the UBI. This data was a basis for the businesses sampled and the Gross Output figures were the basis for weight development. Also the on-going Private Sector Investment Survey (PSIS) was derived from the undertaking of the UBI and the other surveys such as the Index of Production had its weights developed based on value Added figures from the UBI. This among others illustrates the potential use of the data.

### **Dissemination of Economic Census results**

#### *Economic Census reports*

52. For all economic censuses and surveys reports were produced and they include:

- A report on the Uganda Business Register Update 2001/2002 published in 2003
- Report on the Uganda Business Inquiry 2000/2001 published in 2004
- A report on the Uganda Business Register Update 2006/2007 published in 2008

53. However, a report on Annual Business Inquiry (ABI) for the period 2006/07 survey undertaken in 2008/09 is yet to be produced.

#### *Forms of dissemination*

54. There are generic forms of dissemination of Economic Census reports. These include:

- Printed publications which were distributed to relevant stakeholders
- Printed publications put in the Organization Resource Centre
- Reports posted onto the organization website
- Reports disseminated through workshops.

55. The organization used all the above forms of dissemination for economic census reports.

#### *Confidentiality issues*

56. The issue of Data Confidentiality is covered in Section 19 of the UBOS Act No.12. In summary it provides that data collected on individual business establishments/persons will remain confidential to the Uganda Bureau of Statistics and the only data to be released to anyone, (other Departments, Industry groups or individuals), will be contained in tables of aggregated data from which it will not be possible to identify anything about any single establishment. Anybody who discloses information to any other person. “*commits an offense and is liable on conviction to a fine.. imprisonment or both*”.

57. In line with this, the Uganda Bureau Statistics (UBOS) developed “The Policy Statement of Maintaining the Confidentiality of Primary Unit Data” in 2004, which was revised in 2005. The statement affirmed a commitment to maintaining the highest standards in the handling of information gathered from respondents and a reassurance to stakeholders of this position. The Bureau adopted a rigorous confidentiality policy which policy statement was drawn on the strengths from the past existing policies. This policy statement has continued to be firmly based on established data protection principles.

#### *Evaluation, analysis and acceptance of Economic Census results*

58. *Evaluation of Economic Census results.* When the results of the Uganda Business Inquiry were being prepared, we had the services of an international expert who made numerous comments on the results as they became available. This scrutiny was important in ensuring major errors were eliminated and good quality results produced.

59. *Analysis of Economic Census results.* The data capture of the UBI data was done in MSAccess while the subsequent analysis was done in SAS. However due to the increased cost of obtaining SAS licenses, the Bureau adopted STATA for analysis and is hoped that analysis of subsequent surveys will be done in STATA.

60. The UBI of 2000/01 data was a primary source in the development of a Supply-Use Table and a Social Accounting Matrix for the year 2002 in Uganda. The Supply-Use Table was used as a basis for benchmarking and rebasing the estimates of GDP.

61. Among other uses, one of the uses of Economic census results is to facilitate in-depth analysis by Researchers and their policy implication. In Uganda, the research institutions that have been involved in in-depth analysis were Economic Policy Research Centre.

62. *Acceptance of Economic Census results.* The UBI results were accepted by UBOS management and published. There is no procedure for any other organizations to become involved in the acceptance of the results.

### **Future of Economic Census in the Economic Statistics Programmes \_\_\_\_\_**

63. *Future plans.* The Bureau has designed the Long Term Survey program which takes into account the scheduling of economic censuses. It is planned that future plans for economic surveys in Uganda be held every five years to provide regular updates on the economy. Annual surveys should continue to be done. However all this will depend on availability of funds.

#### 64. *Key Issues:*

- Non-response from key enterprises
- Quality of responses
- Need to exploit administrative data to the full
- How to minimize survey costs
- What is an economic census?
- Training in the undertake of economic censuses
- Coding

## ***United States Census Bureau***

### **Why an Economic Census?**

#### ***Circumstances and Necessity of the Economic Census***

*Under what circumstances is the economic census conducted in your country? Why is the economic census necessary?*

1. In the United States, the Economic Census is required by law. According to Title 13, U.S. Code, Section 131:

“The Secretary [of Commerce<sup>12</sup>] shall take, compile, and publish censuses of manufactures, of mineral industries, and of other businesses, including the distributive trades, service establishments, and transportation (exclusive of means of transportation for which statistics are required by law to be filed with, and are compiled and published by, a designated regulatory body), in the year 1964, then in the year 1968, and every fifth year thereafter, and each such census shall relate to the year immediately preceding the taking thereof.”

2. The February 1954 report of the Watkins Commission supported the need for the Economic Census with the following justification, which remains true more than 50 years later:

“The fact-gathering program of the [Census] Bureau is not one of assembling statistics for statistics' sake. Rather, it is a purposive program authorized by the Congress for the periodic measurement of the condition of the country. These measures serve in themselves as a basis for innumerable decisions and actions, throughout our national life.”

“Census measures serve also as the foundation for the great structure of current economic indicators maintained by Federal, state, and local governmental agencies and by nongovernmental institutions and agencies and business concerns and organizations. These economic indicators in turn serve as indispensable guides to action by all agencies of government and by the many millions of separate units composing our society, and not least by our 4 million business concerns.”

“Without these census records, it would not be possible to construct or interpret this system of economic indicators. Business executives, farmers, labor leaders, professional men, scholars, scientists, government officials, and administrators in all phases of our society are dependent on census records or on economic indicators based on census records. . .”

“[The] comprehensive system of economic indicators...based on relatively low-cost sampling studies and representative indexes...rests in one way or another on the benchmark

---

<sup>12</sup> The U.S. Census Bureau is part of the Department of Commerce. The Secretary of Commerce delegates authority to conduct the censuses to the Director of the Census Bureau.

statistics provided by the Bureau of the Census.”

### ***Goals, Scope, and Coverage***

*What are the goals, scope, and coverage of the economic census in terms of units, activities, and classifications, as well as in terms of geographical coverage; thresholds used etc.*

3. The Economic Census provides a comprehensive and detailed profile of the U.S. economy. It produces statistics that serve as benchmarks for the national accounts, other economic indicators, and current economic surveys; meet the needs of the Congress and other government policymakers; and support a wide variety of analytical uses by businesses, economic and academic researchers<sup>13</sup>, and the general public. Core data products comprise some 1,600 reports that provide basic statistics for detailed industries and geographic areas; information on sales, receipts, revenue, or shipments by product; and data from a broad array of industry-specific special inquiries. Additionally, census-related programs produce statistics on topics of special interest, including business expenses for industries in the services sectors, the characteristics of business owners, and data on the flow of domestic freight shipments.

4. The unit of enumeration for the Economic Census is the *establishment*; this statistical unit is defined as a single physical location where business is conducted or where services or industrial operations are performed (for example, a factory, mill, store, hotel, movie theater, mine, sales office, warehouse, or central administrative office). Generally, the establishment represents the smallest operating entity for which business records provide information on the cost of resources, materials, labor, and capital employed to produce the units of output. Further, the establishment is the unit to which the North American Industry Classification System (NAICS) is applied. Such a localized and granular unit of enumeration is required to produce the detailed industry and geographic area statistics presented in Economic Census data products.

5. The Economic Census’ geographic coverage is determined by Title 13, U.S. Code, Section 191; it includes establishments located in the 50 States and the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa. For 2007, coverage of the 50 States and the District of Columbia included establishments in the NAICS sectors shown by Table 1. Industry coverage varied by program for the Census of Puerto Rico and the Island Areas, the Business Expenses Survey, the Survey of Business Owners, and the Commodity Flow Survey.<sup>14</sup>

---

<sup>13</sup> The Census Bureau’s Center for Economic Studies and its network of Census Research Data Centers give qualified researchers access to confidential microdata, including data from the Economic Census, for the purpose of conducting approved economic research projects. The projects must benefit Census Bureau programs conducted under Chapter 5 of Title 13, U.S. Code, and researchers must have Census Bureau special sworn status, which obligates them to uphold the confidentiality provisions of Title 13.

<sup>14</sup> Details on industry coverage for census-related programs are available on the Census Bureau’s website: <[www.census.gov/econ/www/](http://www.census.gov/econ/www/)>.

**Table 1. Industry Coverage for the 2007 Economic Census Core Programs:  
50 States and the District of Columbia<sup>15</sup>**

NAICS Code	North American Industry Classification System (NAICS) Sector
21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing <i>excluding NAICS 482—Rail Transportation and NAICS 491t—Postal Service</i>
51	Information
52	Finance and Insurance <i>excluding NAICS 525—Funds, Trusts, and Other Financial Vehicles except NAICS 52593—Real Estate Investment Trusts (REITS, which are covered)</i>
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services <i>excluding NAICS 6111—Elementary and Secondary Schools; NAICS 6112—Junior Colleges; and NAICS 6113—Colleges, Universities, and Professional Schools</i>
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (Except Public Administration) <i>excluding NAICS 8131—Religious Organizations, NAICS 81393—Labor Unions and Similar Labor Organizations, NAICS 81394—Political Organizations, and NAICS 814—Private Households</i>

### ***Approaches and Methods Used in the Economic Census***

6. The Economic Census is a complete enumeration of covered establishments. For 2007, the total target population for the 50 States and the District of Columbia amounted to 7.2 million establishments with paid employees and nearly 22 million businesses without paid employees. Of these, 4.5 million establishments were covered by direct collection. This direct collection component included all establishments of multi-establishment enterprises (multi-units); larger

<sup>15</sup> The Economic Census does not cover NAICS Sector 11, Agriculture, Forestry, Fishing, and Hunting; the Department of Agriculture’s National Agricultural Statistics Service conducts a separate Census of Agriculture that covers NAICS 111, Crop Production, and NAICS 112, Animal Production. Also, the Economic Census does not cover NAICS Sector 92, Public Administration; the Census Bureau conducts a separate Census of Governments that provides statistics on the activities, employment, and finances of State and local government entities. The reference periods for the Economic Census, Census of Agriculture, and Census of Governments are coordinated; all cover years ending in ‘2’ and ‘7’.

single-establishment enterprises (single units) with paid employees, as determined by industry-specific annual payroll thresholds; and a sample of smaller (below threshold) single units with paid employees. Smaller single unit employers excluded from direct collection and all businesses without paid employees were represented by classifications and basic economic measures obtained from administrative records of other Federal agencies, mostly tax records obtained from the Treasury Department's Internal Revenue Service (see Item 3.3 for more information on Economic Census use of administrative records). Direct collection was done by means of more than 530 questionnaires that were tailored to specific industries or to small groups of related industries. These questionnaires were available in both electronic versions sent/returned via secure Internet transmission and paper versions sent/returned by postal mail.

### ***Uses of Economic Census Results***

7. Economic Census data provide the foundation for most of the United States statistics on business and industry. Every five years, census measures provide the benchmarks for the national income and product accounts and for key economic indicators, such as Producer Price Indexes and measures of industrial productivity. Federal and State agencies also use Economic Census data to gauge the effectiveness of programs such as minority contracting guidelines, trade policies, and job retraining. Emergency response agencies use Economic Census data on the location of businesses by industry and geographic area to estimate potential losses to employment and productive capacity that might result from a major hurricane, flood, or other disaster.

8. Economic Census data are also essential for businesses making marketing and investment decisions. They use the data to assess the size or competitiveness of markets, locate new facilities, design sales territories, and set sales quotas. Economic development offices use local area data from the Economic Census to help business owners assess their marketing and management challenges and develop business plans. Economic Census data are also an essential ingredient for industrial research; the data are essential to assessing the changing industrial structure of communities and to identify opportunities for expanding the local tax base.

### **Planning and Organization of the Economic Census**

#### ***Legal Provisions***

9. Title 13, U.S. Code<sup>16</sup>, covers the activities of the U.S. Census Bureau. It grants authority to the Secretary of Commerce, who delegates responsibility to the Director of the Census Bureau. Provisions of Title 13 that relate most directly to the Economic Census are as follows:

- Section 131 directs the taking of Economic Censuses at 5-year intervals, as noted above (see the excerpt quoted in Item 1.1).
- Section 191 determines the geographic scope of the Economic Census.
- Section 195 authorizes the use of sampling.
- Section 224 makes it mandatory for businesses to report to the Economic Census and to

---

<sup>16</sup> The complete text of Title 13, U.S. Code, is available at: <[www4.law.cornell.edu/uscode/13/](http://www4.law.cornell.edu/uscode/13/)>.

related economic surveys.

10. Other general provisions that pertain more broadly to Census Bureau activities, including the Economic Census, are as follows:

- Section 5 gives the Secretary of Commerce the authority to determine content for censuses and surveys covered by the statute.
- Section 6 authorizes the Secretary of Commerce to acquire information from other Federal agencies and from State and local governments and to use such information in lieu of direct collection “to the maximum extent possible and consistent with the kind, timeliness, quality and scope of the statistics required...”
- Section 9 makes information reported to the Census Bureau confidential. In particular, the information collected under this law may be used only for statistical purposes; data products may not disclose data furnished by any particular business or individual; only sworn officers and employees may examine individual reports; and reports submitted to the Census Bureau are immune from legal process. There is an exception to these confidentiality provisions for public records information collected by the Census of Governments and by interim current surveys of governments.

11. Title 26, U.S. Code (the Internal Revenue Code) also has an important provision that authorizes the Census Bureau’s use of certain tax data. According to Section 6103(j)(1), “the Secretary [of the Treasury] shall furnish...such returns, or return information reflected thereon, to officers and employees of the Bureau of the Census...as the Secretary [of the Treasury] may prescribe by regulation for the purpose of, but only to the extent necessary in, the structuring of censuses...and conducting related statistical activities authorized by law.”

12. Finally, under Public Law 104-13 (The Paperwork Reduction Act), the Office of Management and Budget (OMB) must review and approve all requests by Federal agencies to collect information. This is done to improve the quality and practical utility of the information collected and to reduce the paperwork burden on the public. Accordingly, all Economic Census questionnaires are reviewed and approved by the OMB before use, and the questionnaires must cite the OMB approval number and its expiration date.

### ***Financial and Budget Provisions***

13. The 2007 Economic Census consisted of eight core program components and several related data collections. The core components are separately tailored for each major domestic business sector, provide comprehensive and detailed information on the structure of the U.S. non-farm economy, and are the cornerstone of our nation’s economic statistics programs. The related data collections are more specialized and provide supplementary information on businesses owned by women and minorities, supplementary information on expenditures and expenses for non-goods producing businesses, transportation information on the movement of goods, and periodic census information on the economies of Puerto Rico and the island territories.

14. The Economic Census budget is broken into the following five line items based on census activities:

- **Direction:** Direction includes planning and support activities required to conduct the census. Specific activities include providing overall direction and coordination of census planning, design, collection, processing, and dissemination operations.
- **Content Determination/Design:** Activities include a review of census program components and content, including the Survey of Business Owners and other census-related surveys, with business and government analysts, data providers, and other data users, as well as the design and printing of more than 530 industry specific report forms.
- **Mail List Development and Mailout:** Activities include assembling and preparing the census enumeration list of nearly 29 million business locations. Specific activities include computer specifications, procurement and processing of administrative records, programming support, and labeling and assembly of initial mailing, follow-up, and correspondence packages. Postage costs also are included in this line item.
- **Collection and Processing:** Activities include all collection and clerical operations conducted in Jeffersonville, Indiana at the Census Bureau's National Processing Center. Activities include check-in of forms, data capture, customer support associated with handling incoming telephone calls and correspondence, re-mailing of forms and telephone follow-ups of delinquent businesses, computer edits of reported data, and the correction of erroneous and/or inconsistent data. This line item also includes the development, testing, and maintenance of processing systems and computer programs that support data collection and processing, including an electronic reporting infrastructure to support the electronic reporting option offered to nearly 3.7 million businesses.
- **Publication and Dissemination:** Activities include all operations related to the final review of tabulated census data, the development of census products, and the dissemination of census results. More than 1,600 census products will be developed and delivered in electronic media supported by metadata, which describes the data to users, and support tools that let users access information across subject-related topics. Products will profile industries, geographic areas, and special subjects.

15. Each census cycle consists of six budget years. Total costs for the 2007 Economic Census are estimated to be \$513 million. This is about 60% higher than the 2002 census, which cost \$320 million. The higher costs are related to expanded content, increased procurement costs for administrative records, growing security costs, and additional costs related to maintaining response rates. These increases are on top of the typical inflationary increases associated with staff, postage, and contracted services that occur over a six-year period. The estimated cost of the 2012 Economic Census is about \$695 million. Table 2 below compares costs by major budget activity for the 2007 and 2012 Economic Censuses.

**Table 2. 2007 and 2012 Economic Census Full-Cycle Costs by Budget Line Item**

	2007 Cycle		2012 Cycle		Cycle to Cycle Change
	Estimated Full Cycle Costs (\$1,000)	% Line Item	Estimated Full Cycle Costs (\$1,000)	% Line Item	
Economic Censuses					
Direction	\$29,130	6%	\$37,702	5%	129%
Content Determination and Design	\$44,762	9%	\$75,681	11%	169%
Mail List Development and Mailout	\$38,769	8%	\$47,618	7%	123%
Collection and Processing	\$279,696	55%	\$389,499	56%	139%
Publication and Dissemination	\$120,180	23%	\$144,940	21%	121%
Total Actual and Estimated Obligations	\$512,537	100%	\$695,440	100%	136%

**Administrative Arrangements**

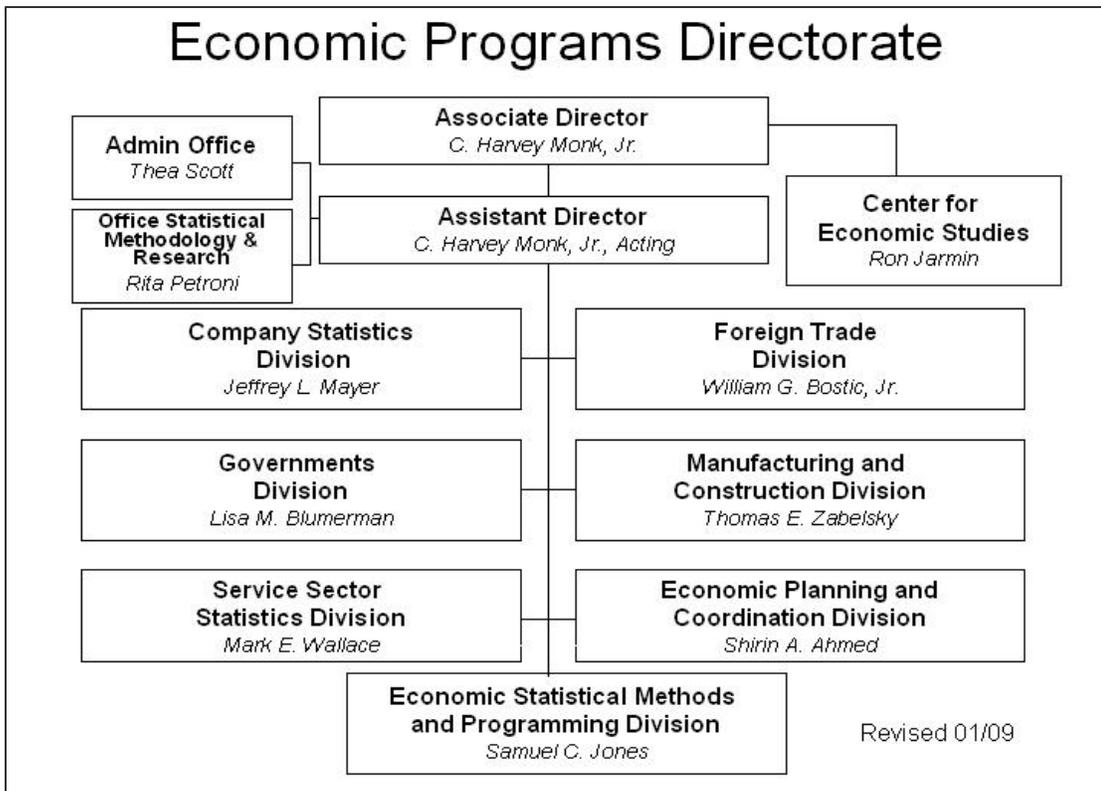
16. As noted above, Title 13, U.S. Code grants authority for Census Bureau activities to the Secretary of Commerce, who delegates responsibility for day-to-day operations to the Director of the Census Bureau. Within the Census Bureau, the Associate Director for Economic Programs has primary responsibility for the Economic Census and a variety of annual, quarterly, and monthly business surveys; for the Census of Governments and interim current surveys of governments; for monthly Foreign Trade Statistics; and for economic research conducted through the Center for Economic Studies. The Economic Programs Directorate maintains a permanent staff to plan and manage the activities of the Economic Census and other economic programs. The chart below shows the Directorate’s organizational structure.

17. Major duties and responsibilities for the Economic Census are carried out as follows:

- The Associate Director and Assistant Director direct the program, plan and allocate resources, and make or approve major program decisions. Further, they act as the program’s chief representatives and advocates in the budget process and in broader dealings with the Census Bureau, the Department of Commerce, the Office of Management and Budget, the Congress, and other key Federal stakeholders.
- The Company Statistics Division plans, implements, and manages program components for the Economic Census of Puerto Rico and the Island Areas and the Survey of Business Owners.
- The Manufacturing and Construction Division plans, implements, and manages program components for manufacturing, mining, and construction sectors.
- The Service Sector Statistics Division plans, implements, and manages program components for the services sectors (i.e., for NAICS Sectors 22, 42, 44-45, 48-49, 51, 52, 53, 54, 55, 56, 61, 62, 71, 72, and 81; see Table 1 on page 3 for descriptive sector titles and for industries in these sectors that are out-of-scope to the census), the Business

Expenses Survey, and the Commodity Flow Survey.

- The Economic Planning and Coordination Division plans, coordinates, and manages Economic Census projects and business processes that affect the program as a whole or cross division boundaries. In particular, it plans processing systems used throughout the Economic Census, develops requirements, oversees testing, and manages production; further, this division manages the Business Register that provides the Economic Census enumeration list and it plans and implements collection activities.
- The Economic Statistical Methods and Programming Division (ESMPD) plans, engineers, develops, deploys, maintains, and manages Economic Census processing systems; administers databases; and otherwise manages data for those systems.
- The Center for Economic Studies and its network of Research Data Centers oversee and support approved projects that use confidential microdata from the Economic Census, other Census Bureau economic surveys, and other sources in economic research that benefits the Census Bureau's Title 13, Chapter 5 programs.
- The Office of Statistical Methodology and Research, working in collaboration with counterparts in the Divisions, develop statistical methods related to sampling, estimation, variance estimation, editing, imputation, and disclosure avoidance and provide advice and assistance in implementing these methods.



18. Other Census Bureau Divisions and offices also support the Economic Census; the following assist most directly:

- The National Processing Center (NPC) in Jeffersonville, Indiana provides staff and other resources to carry out many Economic Census data collection and processing operations, including mailout preparation and mailout; receiving, checking in, opening, and sorting responses; follow-up mailings and telephone calls; scanning of returned paper questionnaires; data capture (key from image); response to toll-free telephone assistance calls; and first-level problem resolution for front-end Business Register edits and back-end trade edits. The NPC supplements its permanent staff with intermittent or temporary employees during periods of peak Economic Census workload.
- The Geography Division provides processes that assign geographic classifications to establishments in the Census Bureau's Business Register based on business address. The Economic Census uses these classifications to produce geographic area statistics that summarize data for States, metropolitan statistical areas, counties, and places (cities, towns, and census designated places).
- The Administrative and Customer Services Division assists with preparing and administering contracts for commercial printing of paper questionnaires and for coordinating those contracts through the Government Printing Office.

### ***Economic Census Plan and Activities***

19. *Includes scope and methodology used for conducting a pilot survey and preliminary sample test, zoning enumeration districts, preparation and maintenance of the establishment list for surveys, etc.*

20. The U.S. Economic Census is based on a foundation of many decades' experience. The methods and systems used for each 5-year iteration generally build upon and improve those of the predecessor censuses. Major innovations may be introduced for selected processes (recent examples include electronic reporting and key from image data capture), but other changes tend to be evolutionary and incremental; therefore, it generally is not necessary to test Economic Census methods and procedures through pilot surveys.

21. Exceptions have occurred when there has been a major expansion of industry scope, as was done most recently for the 1992 Economic Census. In this case the Census Bureau conducted a 1989 Census Test that covered a sample of establishments in sectors added by the expansion; this test was designed to evaluate new questionnaires developed for industries in those sectors. The test was limited to data collection and analytical evaluation of responses; it was not a complete, front-to-back test of census processes.

22. When planning a new inquiry or making a substantial revision to an existing inquiry, the Census Bureau does not conduct a census test. Instead, it performs cognitive testing for a relatively small number of businesses; to conduct these tests, specialists visit the business, ask the respondent to complete a questionnaire that includes the new or revised inquiry, observe the response process, and debrief the respondent regarding his/her understanding of the inquiry and the factual content of the data reported, all in an effort to determine whether the inquiry's design

and wording were effective and whether the resulting data were reported correctly. The U.S. Economic Census does not use zoning enumeration districts.

23. The enumeration list for the Economic Census is derived from the Census Bureau's Business Register, which is maintained continuously by means of updates from administrative records and an annual Company Organization Survey, which updates the establishment composition and organization information for multi-establishment enterprises. See Item 3.2 on page 14 for more information on the Business Register and its use in the Economic Census.

### ***Staff Recruitment and Training***

24. During the five-year cycle for the U.S. Economic Census, the number of staff members working on the program range from a low of about 600 in the year preceding the Census to a high of almost 900 during the data collection year. The low number reflects the permanent staff, which is devoted to Economic Census management, planning, and development activities throughout the cycle. Approximately 300 staff members are added on a temporary basis during the data collection year; these additions are primarily clerical personnel who work in one of five processing units at the NPC. The units are Check-in, Open and Sort; Batch/Scan; Data Capture; Telephone; and Problem Solving. The NPC maintains a list of persons who have previously worked for the Census Bureau on an intermittent or temporary basis, and they are called first to fill positions. New applicants must apply through our employment web site and be qualified according to Federal civil service hiring procedures. Applicants are recruited via job fairs, Census Bureau web sites, and newspaper advertising.

25. The Census Bureau permanent staff provides all training. Experienced managers in each area provide training both in classrooms and on-the-job.

### ***Questionnaire Development and Design***

*In particular, describe selection procedure of enumeration items*

26. The Census Bureau designed approximately 530 industry-specific questionnaires<sup>17</sup> with both electronic and paper versions to collect data for the 2007 Economic Census. Additionally, a smaller number of general forms was used to collect information about company affiliation and to obtain improved classifications for small single-establishment employers that the Census Bureau's Business Register could not assign to a 6-digit NAICS industry. The Census Bureau determined the content of the Economic Census in consultation with other federal agencies, businesses, other data users, and the academic community.

27. Question wording, question formats, and other question attributes are recorded in the Economic Metadata Repository (EMR), and the Generalized Instrument Design System (GIDS) uses information from the EMR to generate both paper and electronic layouts for Economic Census questionnaires. Paper layouts are rendered as Adobe Portable Document Format (pdf) files for commercial printing and as PostScript files for on-demand report form printing by

---

<sup>17</sup> Adobe Portable Document Format versions of all 2007 Economic Census questionnaires are available at: [bhs.econ.census.gov/ec07/CEN\\_2007FORMS.html](http://bhs.econ.census.gov/ec07/CEN_2007FORMS.html).

Xerox DocuPrint equipment located in NPC; electronic layouts are used by the Surveyor electronic reporting system. GIDS also produces reports from templates that give X/Y coordinates for all answer areas and provides this information to the data capture system described in Item 3.5 on page 17.

28. To report electronically, respondents download the Surveyor software, a manifest that lists establishments for which reports are required, and applicable forms via secure Internet transmission. Respondents then install the Surveyor software on their personal computer and use the application to complete the questionnaires; they also may import data into Surveyor from industry standard spreadsheets. When finished, respondents upload the completed response to the Census Bureau's servers, again via secure Internet transmission.

29. Under provisions of the Paperwork Reduction Act, the OMB must review and approve all information collections proposed by Federal agencies. Prior to submitting draft questionnaires to OMB for approval, the Census Bureau publishes a notice of its intention to carry out the Economic Census in the Federal Register. In the notice, the Census Bureau asks for public comments and suggestions on questionnaire content and design. In addition to the Federal Register notice, the agency seeks feedback and suggestions from its advisory committees, other federal stakeholders (particularly the Bureau of Economic Analysis, the Council of Economic Advisors, the Federal Reserve Board of Governors, the Bureau of Labor Statistics, and the Office of Trade and Economic Analysis), industry groups, and professional and business associations.

30. Some questions are commonly asked across all questionnaires and other questions are specific to a sector or industry. Occasionally new questions or major revisions to existing questions are suggested. In these instances, the Census Bureau conducts cognitive testing in an attempt to word questions in a manner most easily understood and answered by all the respondents.

### ***Raising Awareness and Promoting Response to the Economic Census***

31. The Census Bureau conducted a comprehensive program to encourage business response to the 2007 Economic Census. The effort involved systematic improvements in direct mail communication, partnership with business organizations and news media to distribute supporting messages to potential respondents, development of a new web site, <business.census.gov>, to demonstrate the value of the data, managed relationships with large businesses, and communication of a strong message regarding the legal requirement to respond.

32. Research has shown that awareness of the reporting requirement improves business response. We therefore provided a message, "Your Response is Required by Law" on outgoing envelopes and in the text of much-simplified cover letters. We also adopted standardized formatting and wording of questionnaire elements. To ensure delivery of census forms, we sent several reminder letters with replacement forms.

33. In focus groups and other research, businesses have told us that they look to their industry associations, chambers of commerce, and news media to understand and prioritize government regulatory requirements. To spread the word about the importance of the census, we assembled a

list of over 10,000 business and news organizations. We placed particular emphasis on accounting organizations and payroll providers that often are called upon to complete the census forms, as well as about 20 associations that represent industries with the most numerous businesses; we met frequently with these organizations and provided tailored messages for their member publications. We also provided resources for the entire list of 10,000 organizations: monthly e-mails provided the status of census collection and included a brief message that could be included directly in a member publication.

34. As part of the association effort, we developed a new website, <business.census.gov>, to demonstrate the value of the data and answer the business question “What’s in it for me?” The website uses a graphic interface that businesses find attractive, and it provides easy access to case studies and other information that show how businesses can use the data. “Industry Snapshots” on the site provide ratios that businesses can use as metrics to benchmark their performance against industry averages.

35. We sent a “Contact Exchange Card” to the 15,000 largest businesses, asking them to provide the name, telephone number, and verified address for the person in their organization who would coordinate census reporting. Our experience with previous Economic Censuses has shown that companies are about 13 percent more likely to respond if they have returned such a contact exchange card. In addition, we assigned Account Managers (AM) to each of the top 1,200 companies; these companies represent about one third of US employment and over 650,000 business locations. The AM worked with their assigned company contact to help the company prepare for the census, use the electronic reporting tool, and provide whatever assistance might be necessary.

36. Toward the end of data collection, we sent letters to nonresponding companies from the Census Bureau’s top legal official. The letters advised companies that they had failed to provide mandatory census information and could be subject to fines; it then requested a completed response within fifteen days. These letters were mailed to over 400,000 single location businesses; unlike earlier reminder letters, a replacement form was not enclosed. About 65 percent of the delinquent small businesses completed and returned their census forms after receiving the letter. Similar letters were mailed to about 200 very large companies, but these letters were personalized and sent by express mail to senior company executives. Most of the companies receiving the letter immediately reached out to their AM, and all but ten submitted a completed response.

### ***Field Supervision and Reappraisal of Questionnaire Responses***

37. The Census Bureau does not employ a field force for Economic Census operations; all data collection is done by means of electronic instruments that are sent/returned via the Internet or by paper questionnaires that are sent/returned by postal mail. These methods are supplemented by telephone follow-up to selected establishments that have not responded.

38. All questionnaire responses are examined by computer edits. These edits identify missing items, data that are logically inconsistent, and data relationships that are statistically extreme in relation to distributions observed for establishments in the same industry. When an apparent

anomaly in the questionnaire response is a relatively simple problem, the computer edits also take action to resolve it. When an apparent anomaly is a more complex problem or when the establishment is significant in its industry, the edits refer the problem to an industry analyst; the analyst will then review the problem and resolve it based on examination of the entire questionnaire, knowledge of the industry, other data sources, follow-up contact with the respondent, and other considerations. For more information on the computer edits, see ,methods for data processing below.

## **Data Collection and Data Processing**

### ***Data Items Collected***

39. The variety of activities within the economy and within the major economic sectors precluded complete standardization in questionnaire design and content (for example, the Census Bureau used 292 separate questionnaires to enumerate establishments in the manufacturing sector). However, all questionnaires requested the following basic data items (excluding the shorter classification forms sent to some small single-establishment employers):

- Months in Operation
- Employer Identification Number (EIN, which is the Federal government's identifier for business tax-paying entities)
- Physical Location of the Economic Activity
- Number of Employees
- Payroll
- Value of Sales, Receipts, Revenue, Work Done, or Equivalent
- Certification (name, address, telephone number, etc., of the person completing the questionnaire)

40. Within each major economic sector, the Census Bureau customized the questionnaires to the greatest extent possible for ease of response, but the data requested varied considerably from sector to sector.

41. Specialized inquiries on questionnaires for particular sectors or industries are grouped into six general categories:

- Inventories: This item measures the tangible inventories owned by an establishment.
- Assets and expenditures: This item asked for information on assets, capital expenditures, and depreciation; rental payments; and lease rents.
- Costs and Expenses: Two questions asked for information on costs and expenses of business operations.
- Check Box Inquiries: These inquiries were used to collect relatively simple information on specific subjects that could be answered by checking off an appropriate box on the questionnaire. Four general kinds of check box inquiries were used: kind of business/type of operation, class of customer, method of selling, and activity of operating establishments.
- Selected Sections: These sections of the questionnaires included three primary kinds of

questions directed toward specific industries or industry groups. For example, they might request data on type of construction (i.e., building or non-building, by respective type), shipping and handling (whether receipts for shipping and handling were received, what the value of those receipts was, and whether they were included in the sales and receipts totals reported elsewhere on the questionnaire).

- Special Inquiries: Individual items that varied from industry to industry and appeared on virtually all the questionnaires. The specific items were customized to the industry to which the questionnaire was tailored.

### ***Methods of Data Processing***

42. *Include wireless data transmission from field; principle of data collection and imputation by types of establishment (head offices and branch offices); guidelines for profiling multi-establishment enterprises, etc.*

43. The Economic Census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. Head and branch offices generally are treated as separate establishments. Companies engaged in distinctly different lines of activity at one location (e.g., a restaurant in a hotel) are asked to submit a separate report for each activity if business records permit such a separation and if the activities are substantial in size. For selected industries, only payroll, employment and classification were collected for individual establishments; revenue and other data were collected for consolidated reporting units that represent industry segments of multi-establishment enterprises.

44. Nonresponse is handled by imputing missing data. Imputation is defined as the replacement of a missing or incorrectly reported item with a value derived from logical edits or statistical procedures. The methodology for imputing missing data is established by experts in each major trade area and thus varies by trade and by item. Imputation for most data is done by first utilizing all available reported data and data from administrative sources; then estimates for missing items are calculated using models derived from industry regression factors (industry averages).

### ***Use of Registers and Administrative Data***

*For example, use of tax data for the purpose of Economic Census*

45. Authorized by Title 13, U.S. Code and a 1968 OMB directive, the Census Bureau's Business Register provides establishment information for the Census Bureau's economic censuses and periodic surveys. Its coverage includes establishments of all domestic employer and non-employer businesses (except agriculture, forestry, and fishing; private households; and governments). It contains information on more than 180,000 multi-establishment enterprises that have more than 1.8 million affiliated establishments, nearly 5.9 million single units with paid employees, and nearly 22 million businesses without paid employees.<sup>18</sup>

---

<sup>18</sup> The Business Register data is establishment-based and includes business location, organization type (e.g., subsidiary or parent), industry classification, and operating data (e.g., receipts, payroll, and employment). The scope, detail, and reference period for information vary by establishment type and size and by the source of list information. Business Register information is maintained separately for each establishment, company, and major

46. The Business Register functions as a universe file that controls questionnaire mailing and data processing for the Economic Census. Business Register information is maintained continuously using administrative records data from the Internal Revenue Service, the Bureau of Labor Statistics, and the Social Security Administration. Additionally, the Census Bureau conducts the annual Company Organization Survey to maintain Business Register information about the establishment composition and organization of multi-establishment enterprises. As part of its preparations for the census, the Census Bureau also conducted the 2006 Classification (Refile) Survey to obtain a NAICS classification for single-establishment employer enterprises that had missing or incomplete industry codes on the Business Register. The Census Bureau uses Business Register data as the primary source for Economic Census statistical operations, including preparation, mailout and follow-up operations, data processing, quality assurance, and disclosure avoidance. Census

### *Use of Sampling in Economic Census*

*For example, sample survey application to small establishments (less than 5 employees)*

47. The 2007 Economic Census covered nearly 29 million establishments. Of these, nearly 1.6 million were affiliated with multiunit enterprises, and all such establishments were asked to complete a regular census questionnaire; there was no payroll threshold for active multiunit establishments. Treatment of single units with paid employees varied somewhat by sector as outlined below. Generally, larger single units, as identified by industry-specific annual payroll thresholds, were asked to complete a regular census questionnaire; below-threshold mining and manufacturing single units were asked to complete a short form that collected minimal basic information, whereas below-threshold single units in other sectors were excluded from direct collection and were represented instead by classifications and basic economic measures from administrative records. Some below-threshold single units that otherwise would have been excluded from direct collection were asked to complete a very brief census classification form because the Business Register could not assign the required 6-digit NAICS industry code. Finally, nearly 22 million businesses without paid employees were excluded from direct collection and were represented entirely by data from administrative records.

48. The payroll thresholds for single unit employers generally were set so that the establishments excluded from direct collection accounted for about 3 percent or less of total sales, receipts, revenue, or value of shipments for their respective industries, but some industries had a payroll threshold of \$0, causing all single unit employers to receive a questionnaire. While the below-threshold single units represented a small percentage of total dollar volume, they accounted for a relatively large number of establishments because the establishment size distributions are highly skewed.

49. Mail selection for sectors or groups of related sectors was done as follows:

- Mining: All multiunit establishments and above-threshold single unit employers received

---

intra-company organizational unit. U.S. Census Bureau, "Business Register," <[www.census.gov/econ/overview/mu0600.html](http://www.census.gov/econ/overview/mu0600.html)>, February 28, 2008.

one of 19 industry-specific mining long forms; all below-threshold single unit employers received a mining short form.

- Manufacturing: Multiunit and single unit employer establishments that were in the sample for the Annual Survey of Manufactures (ASM) received an ASM questionnaire.<sup>19</sup> For non-ASM establishments, multiunits and above-threshold single unit employers received one of 292 industry-specific manufacturing long forms, whereas below-threshold single unit employers received a manufacturing short form.
- Construction: All multiunit establishments received a census questionnaire. Single unit employers were sampled (treated as below-threshold) by partitioning the frame into two overlapping components. The primary component consisted of establishments that could be classified to a 6-digit NAICS industry code with high confidence; a stratified probability proportionate to size (PPS) sample was selected from this group. The secondary component included all remaining single unit employers; a PPS sample was selected from this group as well. Finally, a small supplemental sample was drawn from 2007 entries (“births”) identified after the initial sampling operation.
- Other sectors (services): All multiunit establishments received a census questionnaire. For single units, an annual payroll threshold was established for each 8-digit NAICS industry (payroll for establishments that operated part-year was projected to a full-year basis); for some industries, the threshold was \$0, placing all single unit employers above the cutoff. Establishments at or above the industry threshold received a census questionnaire, whereas those below the threshold were represented by administrative data. Some below-threshold single unit employers received a classification form.
- Puerto Rico and the Island Areas: All multiunit and single unit employer establishments received census questionnaires; there was no payroll threshold.

---

<sup>19</sup> The ASM collection is integrated into the Economic Census collection for census reference years.

**Table 3. 2007 Economic Census Mail Counts**

	Number of Establishments *				Classifi- ca tion Forms
	Total *	Multiunits	Single Units		
			Above Threshold	Below Threshold Sample	
50 States and the District of Columbia	<b>3,543,038</b>	<b>1,573,401</b>	<b>1,487,875</b>	<b>481,762</b>	<b>951,019</b>
Construction	128,407	15,638		112,769	159,296
Minerals	15,423	6,030	8,188	1,205	242
Minerals long	14,218	6,030	8,188		
Minerals short	1,205			1,205	
Manufactures	194,468	62,269	91,812	40,387	6,542
ASM	56,824	37,334	19,490		
Manufacturing long	97,257	24,935	72,322		
Manufacturing short	40,387			40,387	
Wholesale trade	398,962	120,965	277,997		
Retail trade; accommodations and food services	1,015,439	584,518	342,521	88,400 (12.3%)	187,571
Utilities; transportation and warehousing	144,678	52,606	75,731	16,341 (19.8%)	27,024
Finance and insurance; real estate and rental and leasing	427,545	210,548	180,705	36,292 (11.1%)	155,667
Other services	1,218,116	520,827	510,921	186,368 (10.9%)	358,003
Unclassified (general classification form)					56,674
<b>Puerto Rico and the Island Areas</b>	<b>48,252</b>	<b>9,881</b>	<b>38,371</b>		
Puerto Rico	41,512	8,544	32,968		
U.S. Virgin Islands, Guam, Northern Mariana Islands, American Samoa	6,740	1,337	5,403		

\* Excludes classification forms, which are shown separately in the right-most column.

***Technological Innovations for Reducing Costs of the Economic Censuses***

*For example, web-based data collection system, Internet survey*

50. The integrated Computer Assisted Data Entry (iCADE) system was created by Census Bureau employees with experience in large-scale data capture systems specifically designed to meet demanding census requirements. This system performed data capture on the 2002 and 2007 Economic Censuses. The Economic Census is an extremely complex process consisting of 4,500 distinct page designs, 20,000 data concepts, and over 125,000 answer-zone locations that must be recognized and processed by the imaging system. The 2007 Economic Census was processed at 40% of the cost of the same census 10 years earlier, and in less calendar time, largely due to efficiencies realized by iCADE. An evaluation was performed of several surveys that have used

the iCADE system and it was determined there was a 60% savings in data capture cost versus traditional key-from-paper methods. When iCADE is coupled with the technology at Census that stores the paper images, the average cost is reduced to \$0.19 per image.

51. Surveyor software enabled businesses to download, complete, and submit electronic questionnaires. Also, it allowed businesses to import information from spreadsheets produced by industry-standard office automation software, which greatly facilitated reporting and reduced response burden for multiunits that had to complete reports for many establishments. Once the respondent imported the data from the spreadsheet(s) into Surveyor for all establishments and made any corrections flagged by the software, the completed electronic questionnaires were submitted directly to the Census Bureau via secure Internet transmission. More than 28% of all responses and more than 54% of responses by multiunit establishments were submitted electronically. Electronic responses saved approximately \$0.58 per establishment in mail-back postage and data capture costs.

52. For the first time, the 2007 Economic Census provided respondents with a secure means of communicating with the Census Bureau via e-mail. A Secure Messaging Center was deployed as part of the Business Help Site<sup>20</sup>, which is a set of web pages designed to assist businesses in responding to the census.

### ***Quality Assurance for Economic Census Processes***

53. The Census Bureau applies statistical quality assurance procedures to key Economic Census processes and work products. For deterministic processes, these procedures generally select a sample from each lot of completed work and assess the quality of the lot by comparing results for the sample to a standard or to results obtained by reworking the sample independently. If the apparent error rate for a lot is below the acceptance threshold, apparent errors are adjudicated and corrected as needed, and the lot is accepted; on the other hand, if the apparent error rate exceeds the acceptance threshold, the lot is rejected and reworked completely. For less deterministic processes, quality assurance procedures monitor work samples for acceptability and provide feedback needed to improve staff skills and resolve observed process errors.

54. Economic Census processes and work products subjected to quality assurance include:

- Administrative records—These records serve as an input for maintaining the Business Register, which serves as the basis for the census enumeration list; administrative records also provide Economic Census data for many smaller single units with paid employees and all businesses without paid employees, as described above in Item 3.4, pages 15 – 17.
- Correspondence processing.
- Geographic coding.
- Census questionnaires printed commercially.
- Questionnaires printed on-demand by Xerox DocuPrint equipment.
- Questionnaire labeling.
- Mailout package assembly.

---

<sup>20</sup> See <[bhs.econ.census.gov/BHS/index.html](http://bhs.econ.census.gov/BHS/index.html)>.

- Scanning of questionnaires.
- Data capture (key from image).
- Clerical resolution of front-end Business Register edit referrals (mainly business register coverage and related problems).
- Clerical resolution of back-end trade edit referrals (mainly census reporting problems).

55. Interactive updates to Economic Census data are carefully controlled by applications that assign Census Bureau employees to user classes with varying levels of access and update authority. Automated validity and consistency edits enforce data integrity rules for these updates. Additionally, data from the Economic Census are subjected to a variety of statistical microdata edits and macrodata analyses designed to detect and resolve reporting errors as the information is prepared for use in statistical products.

56. The Economic Census has also gone through the Office of Management and Budget's Program Assessment Rating Tool (PART) process. The PART is a series of questions designed to provide a consistent approach to rating programs across the Federal government. The PART relies on objective data to inform evidence-based judgments to assess and evaluate programs across a wide range of issues related to performance.

57. As an assessment of the program overall, the PART also examines factors that the program or agency may not directly control but which are within the influence of the program or agency. To date, seven Census Bureau programs have been PARTed. While all Census Bureau programs have scored well above the average for the Department of Commerce, the Census Bureau's parent organization, and other Federal programs, the Economic Census' 90% is the highest Census Bureau score and second highest in the Department of Commerce.

## **Post-Census Activities**

### ***Post-enumeration Checks***

58. The U.S. Economic Census does not use post-enumeration checks.

### ***The Economic Census as a Basis for Subsequent Sample Survey Programs***

59. Final data from the Economic Census strengthen the Census Bureau's annual, quarterly, and monthly business surveys in the following ways. First, sample survey estimates are benchmarked to results of the latest Economic Census. Second, Economic Census data are incorporated into the Business Register, where they improve the quality of NAICS classifications, basic size measures, and activity measures that are important to frame construction and sampling. Third, some surveys use Economic Census data directly in sampling because it provides product detail and other relevant information that is not available from the Business Register; for example, sampling procedures for the Annual Survey of Manufactures incorporate data from the Census of Manufactures.

### ***Economic Census Reports***

60. The data from the 2007 Economic Census are released in more than 1,600 reports, which are released over a 2-year period. These reports are grouped into the publication series described below. The majority of these data reports cover statistics for a single NAICS sector, but selected ones cover all Economic Census sectors.

61. The Core Business Statistics Series includes four distinct reports. The first, the Advance data files, present data at the 2- and 3-digit 2007 and 2002 NAICS levels for all Economic Census sectors for 2007. These are the first data files released from the Economic Census. These files include statistics on the number of establishments; employment; payroll; and output for establishments of firms with paid employees at the U.S. level only. These data are superseded by data released in later files.

62. Following the release of the Advance data files are the files from the Industry Series. These files present data at a much more detailed 2007 NAICS level by sector for 2007 and include statistics on the number of establishments; employment; payroll; product shipments and sales; and other items for establishments of firms with paid employees at the U.S. level only.

63. Released next are the data files from the Geographic Area Series. These files include data at the 2- through 6-digit (plus selected 7- and 8-digit) 2007 NAICS levels by sector for all valid economic geographies for 2007. The list of covered geographies varies by Economic Census sector. These files include similar statistics as are shown in the Industry Series.

64. The Geographic Area Series also includes the Economy-Wide Key Statistics data file. This file consolidates the data for all published 2007 NAICS levels, all valid economic geographies, and all Economic Census sectors for 2007 into one file. This file includes statistics on the number of establishments; employment; payroll; and value of sales, receipts, revenue, or shipments for establishments of firms with paid employees. In addition, for the first time, this file will also include statistics on the number of firms and receipts for establishments with no paid employees (or "Nonemployers").

65. Following the release of the Geographic Area Series data files are the files from the Subjects and Summary Series. These files present high-level summaries of the data presented in the Industry Series and Geographic Areas Series files. They also include a number of miscellaneous, detailed tabulations of statistics not included in these earlier data files. These data are primarily published at the U.S. level but selected data are available for lower geographic levels.

66. The Core Business Statistics Series also includes the Comparative Statistics and the Bridge Between 2007 NAICS and 2002 NAICS files. These files are released following the Subjects and Summary Series files. The Comparative Statistics file presents data at the 2- and 3-digit, and selected 4 through 7-digit 2002 NAICS levels for all sectors for 2007 and 2002. This file includes similar statistics as the Advance report at the U.S. and State levels. The Bridge Between 2007 NAICS and 2002 NAICS files present data for 2007 for industries whose NAICS classification have changed between 2002 and 2007 and outline the components of the change from 2002 to 2007 and visa versa. These files include similar statistics as the Advance files at the U.S. level only.

67. The fourth and final set of data files from the Core Business Statistics Series, the Franchise Statistics file, is new for the 2007 Economic Census. It presents data for selected 6-digit 2007 NAICS codes, which have establishments engaged in franchising. This file includes the same statistics as the Advance files at the U.S. level only.

68. The final data files released from the Economic Census are the ZIP Code Statistics files. These files present data at the 2- thru 6-digit (plus selected 7- and 8-digit) 2007 NAICS levels for selected Economic Census sectors for 2007. They only include statistics on the number of establishments by sales size by U.S. Postal Service ZIP Code.

### ***Forms of Dissemination***

69. For the 2002 and prior economic censuses, the primary mode of data dissemination was printed reports and Portable Document Format (PDF) files on the Census Bureau Internet site. Data were also available on CD-ROM and DVD-ROM, in HTML tables, and (starting for the 1997 Economic Census) the new American FactFinder (AFF) online database system, but these formats were considered secondary to the PDF files.

70. The 2007 Economic Census is following the Census Bureau's move away from printed (and print-format) publications and distribution of diskettes by disseminating all 2007 data via the Internet using AFF and eliminating these other formats. This change acknowledges data users' preferences for user-friendly data dissemination, but it also eliminates printing costs, and speeds the agency's ability to provide data to the public.

71. The Census Bureau's AFF is an Internet-enabled information system that makes a wide range of census information available to agency personnel and external users. The system is interactive and allows easy access and efficient dissemination, and inquiry of data. Although the Census Bureau initially developed AFF to disseminate Census 2000 data, the system now disseminates data generated by programs throughout the agency (i.e., economic censuses and some economic surveys, demographic surveys, and the American Community Survey).

### ***Confidentiality Issues***

72. Title 13, U.S. Code, Section 9, stipulates that no statistical data may be published that would disclose information about an individual business. Further, the Census Bureau has a Disclosure Review board that is responsible for examining and approving disclosure avoidance methodology.

73. According to the Census Bureau's disclosure rules, the number of establishments in a NAICS industry is not considered a disclosure; therefore, this information may be released even though other information is withheld.

74. For most Economic Census data products, dissemination processes examine statistical summaries in order to identify data cells that would disclose information about an individual enterprise; this determination is made according to a standard rule, the details of which must be treated as confidential in order to preserve the integrity of disclosure avoidance measures. Such

cells are withheld from publication as primary disclosures. Once the primary disclosures have been identified, another examination is done to identify additional cells that would make it possible to derive the cells withheld as primary disclosures; those additional cells are also withheld from publication as complementary or secondary disclosures.

75. Data products for the Economic Census of Puerto Rico and the Island Areas, Nonemployer Statistics, and the Commodity Flow Survey use an alternate methodology. For these programs, primary disclosures are withheld, but complementary disclosures are not. Instead, a relatively small amount of protective noise is infused (i.e., the original data are multiplied by a factor that is  $1 \pm$  a small random percentage) into the microdata upon which the tabulations are based. This noise prevents derivation of accurate estimates for the cells withheld as primary disclosures.

#### Evaluation, Analysis and Acceptance of Economic Census Results

76. All data compiled in the Economic Census are subject to non-sampling errors. Non-sampling errors can be attributed to many sources during the development or execution of the census:

- Inability to identify all cases in the actual universe;
- Definition and classification difficulties;
- Differences in the interpretation of questions;
- Errors in recording or coding the data obtained; and
- Other errors of collection, response, coverage, processing, and estimation for missing or misreported data.

77. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of non-sampling errors. It is believed that most of the important operational errors were detected and corrected during the U.S. Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensated in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the data files.

78. The Census Bureau obtains limited information extracted from administrative records of other federal agencies, such as gross receipts from federal income tax records and employment and payroll from payroll tax records. This information is used in conjunction with other information available to the Census Bureau to develop estimates for non-employers, small employers, and other establishments for which responses were not received in time for publication.

79. In addition, selected data from the Economic Census were expanded to account for establishments that did not respond to the particular inquiry for which data are presented. Files in which data were expanded include a coverage indicator for each publication category, which shows the effect of this expansion.

80. Data for the Construction sector (as well as selected statistics for other sectors) are also subject to sampling errors. The estimates of the magnitude of the sampling errors are provided by

the standard errors of estimates shown in the data files.

## **Future of the Economic Census in Economic Statistics Programs**

### ***Future Plans***

81. A direct-Internet reporting option will be developed and offered to the single-unit companies and classification forms for the 2012 Economic Census. The Census Bureau intends to pilot direct-Internet reporting in the 2010 and 2011 Annual Survey of Manufactures and the 2011 Refile in preparation for the 2012 Economic Census and will continue to offer Surveyor for multiunit companies.

82. In 2011, the Census Bureau will begin disseminating data by means of a new and improved American FactFinder. The new American FactFinder system will be available in late spring of 2011, and its first uses for new economic data will be the 2009 County Business Patterns and 2009 Nonemployer Statistics releases. Data products from the 2012 Economic Census will be released through the new system, and 2007 Economic Census products will be migrated to the system as well.

83. The Census Bureau is considering a new Enterprise Statistics Program (ESP), which would be based substantially on the Economic Census and would draw on existing governmental data sources to create a new database linking data on establishments and enterprises, assigning these entities to flexibly definable industry categories, and tracing the experience over time of both the enterprises and their component parts. The database would provide a foundation for a range of data products describing and enabling the analysis of business performance at the enterprise level.

84. The Business Register data would provide a framework and much of the content for an enterprise statistics database, and would support a range of new ESP data products. The Business Register contains information at the establishment and enterprise levels, with links to complementing administrative data, for all known U.S. businesses. The Business Register also includes comprehensive and current data on the organizational changes of U.S. businesses.

85. For the new series of data products about enterprises, we propose adding a limited number of items to the 2012 Economic Census to better measure globalization and innovation. Such items may include, for example, questions about manufacturing services to better assess the value chain and role of enterprises in production of goods. Additionally, to support the Bureau of Economic Analysis' announced plan to integrate the Research and Development satellite account into the National Income and Product Accounts in 2013, we may also include questions about the size and use of intangibles by enterprises as part of their business model.

### ***Key Issues***

86. The Census Bureau's first major challenge is securing adequate resources for our statistical programs. Over the past 50 years, the fundamental need for the U.S. Economic Census has been seriously challenged only once in 1953; however, securing adequate funding, especially in data

collection years has been a periodic problem. In 1953, the Eisenhower Administration failed to provide funding for the 1953 Economic Census. Then Secretary of Commerce, Charles Sinclair Weeks, wanted to know if the Economic Census was indeed necessary. To answer his question, in October 1953, he appointed Dr. Ralph J. Watkins, Director of Research for Dun and Bradstreet, Inc., to form an Intensive Review Committee to study the issue. The Committee released its report, "Appraisal of Census Programs," in February 1954. Thereafter known as the "Watkins Commission Report," its series of unreserved testimonials – from the business, financial, professional, and governmental groups represented on the Committee – led to the recommendation to reinstate the Economic Census for 1954.

87. The most recent major threat to the Economic Census occurred in 2003 when the Senate Appropriations Committee threatened to cut the budget request by 30% or \$25 million, two months before the mailing of 5 million report forms. We ultimately received full funding 5 months into the fiscal year, but only after the personal involvement of Allan Greenspan, Chairman of the Federal Reserve Board, who characterized the Economic Census as "indispensable to understanding America's economy," and Glenn Hubbard, the Chairman of the Council of Economic Advisors, and the vocal support of a number of business and trade organizations such as the National Association of Manufactures.

88. Over the past 6 years the Census Bureau has fared very well, obtaining new funding for the American Community Survey, full funding for the 2002 and 2007 Economic Census data collection and processing, and additional monies for new service and e-business statistics. While we have been very fortunate in recent years we cannot expect the future to be as rosy. The Census Bureau is not going to be the only organization facing this problem and we are going to need the energetic and effective support of government, business, and other stakeholders. This support will only be forthcoming if we continue to provide data that responds to the needs of these constituencies. We cannot use budget constraints as an excuse for retaining the status quo.

89. In fact, our second challenge is to ensure that our programs change and improve even in the face of constrained resources. Otherwise we jeopardize future funding for existing programs. Terminating programs and program components is always difficult, but if this is the only way we can fund program improvements, terminate we must.

90. Our third major challenge is improving cooperation and maintaining high response rates. Relevant, accurate, and timely statistics require the continued cooperation of our data providers and suppliers. We cannot take this support for granted. We must proactively and aggressively seek innovative ways to reduce reporting burden on businesses. To accomplish this goal, we must better understand our data providers' environments and needs. We need to improve our knowledge of their record keeping practices, organizational structure, reporting processes, and data availability. We also need more information about how data providers understand our concepts, questions, and instructions, their reporting problems and concerns, and their ideas about how we can facilitate and simplify reporting. Bottom line, we need to make sure that our data requests align more closely with accounting conventions and companies' record keeping practices.

## **Chapter III**

### **Ways forward: an overview of good practices**

#### *Findings and conclusions of the Second International Workshop on Economic Census*

The workshop:

1. Expressed gratitude to the United Nations Statistics Division and the Korea National Statistical Office for organizing the Second International Workshop on Economic Census (IWEC) as such workshops assist countries in improving their economic census programmes by exchanging experiences in dealing with various challenges and focusing on good practices; confirmed, in this connection, the conclusion of the 1st IWEC that the periodic conduct of such workshops is desirable.
2. Concluded that the economic census refers to an infrequent statistical inquiry (usually with periodicity of five or more years) aiming at enumeration of all economic units except for units subject to separate sectoral censuses or data collection arrangements (e.g., agriculture or public administration). The data items collected include normally both identification and economic variables.
3. Agreed that international statistical standards (e.g., classifications) should be used to ensure better quality of the collected data and their cross country comparability.

#### **Why economic census?**

4. Found that the range of collected economic variables vary from country to country depending on their specific needs and priorities. Many countries conduct an economic census to collect only the identification variables together with a very limited number of economic variables. The primary purpose of such a census is to establish/update the survey frame and/or business register (such economic censuses are frequently referred to as censuses of establishments). Some other countries use in their censuses an expanded list of economic variables in order to obtain a more detailed picture of a country's economy including distribution of economic activities by various geographical, administrative and small area breakdowns.
5. Concluded that collection of additional economic variables provides basis for a more comprehensive analysis of the structure of an economy (macro, micro, regional, activity etc. levels) and for benchmarking purposes; however, recognized that the number of variables included in the census should be commensurate with country needs and not lead to an unwarranted increase in overall (census and more frequent surveys) respondent burden and diminishing data quality.
6. Concluded further that if a sound statistical business register containing the unique identifiers of the economic units and their activity classification codes is established and updated using appropriate administrative data sources with acceptable frequency, an economic census programme might be discontinued and replaced with a programme of more frequent economic

surveys (usually, annual and infra-annual); a careful cost/benefits analysis should precede such a decision.

### **Planning and organizing**

7. Emphasized that the content of an economic census should be user needs driven and public awareness of its relevance should be maintained, in particular to ensure a high response rate. Emphasized further that securing adequate legal and financial support as well as establishing appropriate and clear institutional arrangements between agencies involved are necessary preconditions for a successful economic census.

8. Agreed that an economic census should preferably be conducted every 5 years with understanding that countries will decide on the census periodicity based on their needs and resources and other considerations.

9. Concluded that early planning is a good practice as several years are usually required to make necessary preparations including costing of various census sub-programmes, pilot testing and staff training etc.

10. Took note that the efficiency of an economic census may be increased by making it more company-centric to ensure a better communication and work with the data providers (this, for example, includes assisting data providers in the interpretation of the census inquiries in terms of the business accounting).

### **Data collection and data processing**

11. Confirmed that the establishment is the most appropriate statistical unit while the reporting unit can be the establishment or the enterprise depending on circumstances.

12. Found that special attention should be paid to multi-establishment enterprises to ensure better accuracy of data on distribution of economic activities by its various categories as well as by geographical and administrative areas thus enabling compilation of a higher quality and more detailed national accounts including input-output tables and sub-national economic statistics.

13. Concluded that, in addition to direct data collection from individual respondents, various methods of data gathering can be utilized including use of administrative data and sampling.

14. Agreed that the increased use of IT technologies (e.g., ICR , PDA's etc.) and electronic data collection/reporting should be promoted (e.g., transition from downloadable questionnaires to web data entry)

15. Stressed that to make data processing more effective an application of improved computerized editing procedures as well as more robust estimation procedures of missing data and data imputation should be planned and implemented.

16. Concluded that quality assurance should be an obligatory part of data collection and

processing and encouraged countries to review their practices in this area.

### **Post census activities**

17. Agreed that post census activities should be an integral part of the economic census programme and be carefully planned and executed.

18. Found that such activities may vary from country to country and may include post census checks, updating sample survey frame/business register, analysis of effectiveness of applied procedures, etc.

### **Dissemination of census results**

19. Agreed that timeliness of the data dissemination remains one of the country concerns and recognized the need to continuously work toward its improvement.

20. Further agreed that user needs should guide the dissemination policies, however, they have to be analyzed and prioritized.

21. Agreed that a range of dissemination formats should be used to meet needs of various user groups; recognized that searchable databases are the preferred means of dissemination for increasing number of users.

22. Emphasized that data exchange between various government institutions has to be promoted but any arrangements to this effect should comply with the confidentiality rules (such arrangements include Memorandum of Understandings, oath taking, developing an improved legislation); however, preserving the confidentiality remains an obligation and the trust of data reporters should not be compromised.

### **Post workshop activities**

23. Encouraged all participants to maintain the established network of census statisticians to further share experiences and assist each other in future work.

24. Concluded that preparation of a handbook on country experiences in economic census focusing on both challenges and good practices is highly desirable and advised participants to actively cooperate with UNSD in this endeavor.

## Annex 1

### United Nations Statistics Division

#### *Questionnaire on the Economic Census*

Country:		
Name and position of the contact person completing this questionnaire:		
E- mail:		
Fax:		
#	Questions	Response*
1	Do you conduct periodic censuses of economic units? <i>If No, please go to question 8</i>	
2	In what year was the <b>first</b> census of economic units conducted in your country?	
3	In what year was the <b>most recent</b> census of economic units conducted in your country?	
4	How often do you conduct censuses of economic units? ( <i>e.g., every 5 or 10 years etc.</i> )	
5	In the most recent economic census, units from what kind of economic activity were not covered? <i>Please tick the applicable items:</i>	
	Agriculture	
	Public administration	
	Other ( <i>please specify</i> )	
6	Do you apply a threshold (in terms of employment or revenues/turnover) when defining the population of units to be completely enumerated in the economic census? <i>If Yes, please define your threshold.</i>	
7	How do you cover units below that threshold? <i>Please tick the applicable items:</i>	
	Using information from the sample surveys (incl. household types surveys)	
	Using information from the most recent population census	
	Using administrative sources of data	
	Other ( <i>please specify</i> )	
8	If you conducted the economic censuses in the past, what was the year of the <b>last</b> census?	
9	If you do not conduct an economic census, how is the compilation of the basic information about economic units organized in your country? <i>Please tick the applicable items:</i>	
	Using the systematically updated statistical business register	
	Using results of regular economic surveys programme	
	Using administrative sources of data	
	Other ( <i>please specify</i> )	
10	Do you have plans to conduct an economic census in the future?	

Please provide the address of your website where we can access materials describing your country practices in economic census.