



Role of Economic Census in Development and Application of Technological Advancements

F. Nishi

Chief Adviser of the Project

*Professor, Statistical Research and Training Institute,
Ministry of Internal Affairs and Communications, Japan*

13th April 2018

Contents

I. Role of Economic Census

1. Basic Point

2. Output

3. Major Use

II. Application of Technological Advancements

1. Introduce e-Census to Enumeration

2. Introduce Tablet Computer to Enumeration

3. Use Satellite Imagery for Census Mapping

I. Role of Economic Census

Provide users with the **fundamental statistics** on all establishments and enterprises in Nepal except some industrial sectors based on international practices.

These statistics will disclose the actual situation of Nepal's economy.

Its users are not only government sector but also universities, private sector, etc.

I. Role of Economic Census (cont.)

Provide users with the directories of establishments and enterprises for the **sampling frame** of various sample surveys on businesses.

I-1. Basic Point

(1) Three major censuses are mentioned in “**UN Recommendations**” as follows:

a) Population and Housing Census

b) Agriculture Census

c) **Establishment Census**
(**Economic Census**)

I-1. Basic Point (cont.)

(2) There are 39 countries conducting Economic Census as follows:

Japan, USA, China, India, Korea, Indonesia, Cambodia, Sri Lanka, Viet Nam, Laos, etc.

Therefore, there is no doubt about the necessity of the Economic Census.

I-1. Basic Point (cont.)

(3) The national and local government offices need to know **how many establishments**, enterprises, and enterprise groups are in its territory, and need to know **how many persons engaged** are working there.

The importance of these indicators are equivalent to population and the number of households.

I-2. Output

(1) Fundamental statistics

For example, the number of establishments, enterprises, and enterprise groups **by area, industry, size of persons engaged** are the fundamental statistics.

Also the number of persons engaged by **area, industry, size of persons engaged** are the fundamental statistics.

I-2. Output

(1) Fundamental statistics (cont.)

Disclose the following things:

- the basic industrial structure of the entire territory of Nepal.
- the status of **newly opened** establishments

I-2. Output (cont.)

(1) Fundamental statistics (cont.)

Examples of using:

- Provide control totals for GDP estimation:
the number of establishments and
the number of persons engaged
by Section of International Standard
of Industrial Classification (ISIC)**
- Estimate the effects in the promotion of
economic policies beforehand.**

Table 11 Establishments and Persons Engaged
by Size of Persons Engaged (8 Groups) - Japan (2014)

Size of Persons Engaged (8 Groups)	Number of establishments	Number of persons engaged
Total	5,541,634	57,427,704
1 - 4 persons	3,225,428	6,897,835
5 - 9	1,090,283	7,137,319
10 - 29	881,001	14,242,071
30 - 49	161,096	6,052,377
50 - 99	101,321	6,913,604
100 - 299	49,065	7,751,570
300 or over	12,247	8,432,928
Loaned or dispatched employees only	21,193	-

I-2. Output (cont.)

(1) Fundamental statistics (cont.)

Ex.

**Number of foreign owners by nationality,
area, industry, size of persons engaged**

Ratio of foreign capital

**It is necessary to know the influence of
foreign countries exactly.**

I-2. Output

(1) Fundamental statistics (cont.)

Ex.

- the ownership rate of land and building
- access for credit
- disabled persons engaged
- seasonal business
- daytime and nighttime operations
- operating time and efficiency

Access for Credit

<p>AC1. Has this establishment or enterprise borrowed or paid back a financial loan for a business purpose within the last three years?</p> <p>▶ Circle the code.</p>	<p>1- Yes</p> <p>2- No</p>				
<p>AC2. From where has this establishment or enterprise borrowed the financial loan?</p>	<p>1- Bank</p> <p>2- Finance</p> <p>3- Micro Finance</p> <p>4- Cooperative</p> <p>5- Personal</p>				
<p>AC3. How much is its average interest rate per year?</p> <p>(Please round off it to one decimal place.)</p>			.		%
<p>AC4. Has this establishment or this enterprise had experience that it could not borrow institutional financial loan although it tried to do?</p> <p>▶ Circle the code.</p>	<p>1- Yes</p> <p>2- No</p>				

I-2. Output (cont.)

(1) Fundamental statistics (cont.)

Ex. Small Area Statistics

Only censuses can provide small area statistics such as ward level results, and arbitrary lot results. Sample surveys cannot do it.

Small area statistics are necessary for the policy making such as disaster prevention, regional development, and city planning.

In private sector, small area statistics are mainly used for market research.

I-2. Output (cont.)

(2) Sampling Frame

It is indispensable for a national statistics office to provide the sampling frame for sample surveys targeting establishments and/or enterprises.

It means the sampling frame needs to cover the entire area of Nepal, and basic variables should be stored by enumeration area (EA) and ward for efficient sampling.

I-2. Output (cont.)

(2) Sampling Frame (cont.)

The sampling frame contributes to improving the accuracy of results of sample surveys.



I-2. Output (cont.)

(3) Establishment Directory

The establishment directory is also one of the sampling frames.

The establishment directory is a base of the business register, if it is updated regularly.

I-2. Output (cont.)

(3) Establishment directory (cont.)

Also the establishment directory contributes to improving the accuracy of results of sample surveys.

The establishment directory reduces the workload of enumerators of sample surveys.

The establishment directory helps introduction of e-Census if it includes e-mail addresses of establishments

I-2. Output (cont.)

(3) Establishment directory (cont.)

Examples of uses:

**Trade area analysis;
Advance plan of enterprises.**

(Small area statistics are often used for this purpose.)

Promote the use in private sector.

I-3. Major Use

(1) Evidence-based policy-making

The national and local government offices need to promote evidence-based policy-making by using the fundamental statistics so that their policies may be more effective.

Ex. National Strategy, white papers, budget distribution, promotion of SME, job security, gender balance

I-3. Major Use (cont.)

(2) International comparison and international standard

The national government needs to know its position in the world as compared with other countries so that it can make use of their good practices more effectively.

I-3. Major Use (cont.)

(3) Regional Comparison

Local governments need to know their positions in the country as compared with other regions for more effective policy-making.

II. Application of Technological Advancements

II-1. Introduce e-Census to Enumeration

E-Census allows respondents to respond to the Census form through Internet.

E-Census provides a safer way to respond to the Census form for respondents.

II-1. Introduce e-Census to Enumeration (cont.)

Nepal is a mountainous country. There are so many difficult places to send an enumerator. So, it is necessary to promote e-Census in Nepal to reduce the workload and costs of NEC2018.

E-Census will make the update of business register easier.

II-2. Introduce Tablet Computer to Enumeration

Distribute one tablet computer to one enumerator, and enter responded forms and submit them through e-Census application.

But this is to limited enumerators only.

Tablet computers will be able to reduce the workload and costs for data entry and data editing.

II-2. Introduce Tablet Computer to Enumeration (cont.)

It is possible for some enumerators to use EA map and other maps on a tablet computer. But it is also limited enumerators only.

Thus, CBS will be able to reduce the workload and costs for the printing of enumeration area (EA) maps and other maps.

II-3. Use Satellite Imagery for Census Mapping

The latest satellite imagery for 58 major municipalities have already been installed.

This satellite imagery is of maximum 30cm resolution. It means we can identify a 30cm object from satellite imagery.

II-3. Use Satellite Imagery for Census Mapping (cont.)

After the completion of the census mapping, CBS will be able to construct a database for municipal maps, ward maps, and EA maps.

This database will be available for the forthcoming Population Census and Agriculture Census with necessary maintenance.

Users such as sample survey planners will be able to select and print necessary maps very easily.



Homepage of the Project

<http://www.stat.go.jp/english/info/meetings/nepal/nepal.htm>