Developing Internationally comparable Industrial Statistics in East Asia

Edited by:

Tomoyuki KURODA

March 2009

Preface

With the increasing globalization of the real economy, the significant growth taking place in East Asia is leading to a growing interdependence and integration among national economies within the region. East Asia has begun to operate as a single economic area.

Yet the East Asian region has not yet established internationally comparable manufacturing statistics that can serve as the basis for research on the regional economy. One primary reason for this is that many East Asian nations were focused on organizing their own economic statistics to consider comparing them with those of other nations. That was good enough in the age of closed economies, but as the real economy globalized, these countries fell behind in adopting manufacturing statistics that take a regional view of their area of economic activity. Policymakers and economists now have an urgent need for statistics data to use in understanding their nation's position in the international and regional economies, and to identify practical trends of the economy.

For the East Asian region to organize internationally comparable manufacturing statistics, it must define industrial classification, survey subjects and survey categories, and understand the current status of data disclosure and statistical survey systems in the industrial statistics of each East Asian country, clarify the problems and issues that are hindering international comparisons, and develop approaches that can be put into effect. And to prevent any nation from falling behind in organizing statistics for the East Asian region, it must enthusiastically employ capacity building programs to nations that require support.

With knowledge of these facts, we adopted two different approaches in this fiscal year's ERIA Research project. One is the means of acknowledging the current status of manufacturing statistics in the East Asian region as stated in PART-I, and the other is the capacity building program that we conducted with industrial classification officials in CLM (Cambodia, Lao PDR and Myanmar) governments, as summarized in PART-II. This report consequently consists of two sections. While the two approaches do not unify into one policy recommendation, the synergy of conducting both projects at the same time was significant, and we believe that they will contribute to improving international comparability of manufacturing statistics in the East Asian region.

Finally, please let me express my sincere gratitude to those who cooperated in our project over the fiscal year.

TOMOYUKI KURODA, Ph.D.

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by Statistics Experts in East Asia

Executive Summary (PART-I)

When considering the future approach for organizing industrial statistics in the East Asian region, we set an ultimate target of setting up an internationally comparable statistics data and its database in a format that enables its use across a broad array of fields. Achieving this means that we will be capable of organizing statistics information that allow analyses of the effects of East Asian economic integration. Yet, countries in East Asia are at different stages of development, even in terms of implementation and organization of government statistics, and achieving this goal in the near future is unrealistic. Therefore, to draft and consider a roadmap towards this goal, we must define industrial classification, survey subjects and survey categories, identify and analyze the current status of data disclosure and statistical survey systems in the industrial statistics of each nation in East Asia, identify problems and issues hindering international comparison, and research the desired state for regional industrial statistics for East Asia.

As we have indicated in this report, EAMS, conducted under the ASEAN+3 framework, already works on industrial classification in our pursuit of international comparability of industrial statistics. Factors other than industrial classification that we need to consider include a definition of survey units and data categories, and studies on international differences in survey methods and confidentiality as well as on each nation's compatibility to international standards. Since UNSD disclosed these international standards as IRIS2008, our research project focused primarily on how to incorporate this IRIS into the current state of industrial statistics in the East Asian region. We chose Indonesia, the Philippines, Thailand and Vietnam as survey subjects. Experts of each nation discuss in this report topics such as how they would incorporate IRIS given their individual circumstances and what the current state of their nation's industrial statistics looks like under the IRIS standard.

The study concludes by indicating the importance of harmonization and of maintaining quality of statistics data and improving international comparability in directing East Asian industrial statistics toward the future. We expect that the findings of this research project will be reported in the economic, industrial and statistical meetings held as part of the policy meetings of EAS, ASEAN+6, ASEAN+3 and ASEAN that target the East Asia region.

We also propose the following recommendations:

(1) Conduct surveys into the current feasibility of the international comparison of industrial statistics for the remaining countries in the East Asia region.

(2) Identify issues in improving the international comparability of industrial statistics and draft action plans to resolve those issues.

(3) Recommend the establishment of a comparable regional database of industrial statistics in collaboration with regional organizations.

Executive Summary (PART-II)

The Standard Industrial Classification (NSIC) of each nation reflects the industrial structure of the nation and should consist of more detailed classifications (five-digit or six-digit classifications) than the International Standard on Industrial Classification.

Yet, the CLM nations (Cambodia, Lao PDR and Myanmar) have not yet drafted a National Industrial Classification (NSIC) that reflects the industrial structure of their nations and are merely adopting the International Standard on Industrial Classification (ISIC). Possibly because of this reason, the CLM nations do not have experts on industrial classification in the true sense of the word, something we have confirmed. We should prioritize our work on this issue when we assume that we are capable of organizing statistics in the CLM nations. This is because the entire East Asian region must work together in organizing internationally comparable industrial statistics as the ERIA Statistics Research Project and EAMS aim to do, and the first step toward this direction is to organize industrial classifications. When any nation falls behind in this process, it means that the region will not complete the organization of its statistics. To improve the quality of industrial statistics in the CLM nations, we must rapidly train industrial classification experts in these nations.

Given these circumstances, the CLM nations requested a capacity building program at an EAMS meeting conducted under the ASEAN+3 framework, and EAMS is following through on this activity. ERIA and its CLM capacity building project conducted its first workshop at Phnom Penh, Cambodia in December 2008 with a total of twelve participants from two nations, and the second workshop at Nay Pyi Taw, the new capital of Myanmar, in February 2009, with a total of twenty participants from three nations. Thanks to the tremendous efforts of the Statistics Offices (NSO) of each nation, statistics officials from relevant ministries and agencies also participated in the workshops held in both nations and together with the NSO employees they discussed on the industrial classifications (Section C) that better reflect the industrial structure of their nations. This is a significant advancement for CLM nations, which had hitherto been unable to take positive steps to draft an NSIC. This capacity building program benefits only a small population, but since its aim in the meantime is to develop core personnel (experts) in industrial classification, it limits the population it initially seeks to benefit. We are planning to expand the targets of our capacity building program from the next fiscal year by hosting seminars for government officials from agencies other than Statistics Offices.

In the last chapter of this report (PART-II), we stated our proposal for the capacity building program for the next fiscal year. We proposed establishing a system that aims to establish NSIC and hosting seminars for officials from ministries and agencies that would actually use the industrial classification.

PART-I

Developing Internationally comparable
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Part-I

Developing Internationally comparable Industrial Statistics in East Asia:

Current status, Issues and Challenges for improvement

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Background of the Study

Chapter 1: Background of the Study

1-1 Background

1) Progress of East Asia Economic Integration

    The remarkable economic growth in the East Asian region has taken center stage amid evolving globalization of the economy. This economic growth is characterized by its being driven by the manufacturing industry and its highly structured production and distribution networks—such as so-called vertical specialization networks—that extend across the national borders of all countries in the region and support the region's manufacturing industry. Especially in comparison with the EU and other economic zones, the strong relationship of mutual dependence in production is a major characteristic.

    In East Asia, the deepening of these relationships of mutual dependence is referred to as "de facto economic integration" not result from a systematic structure but brought on when economic facts take precedence. Even so, in recent years groundwork has begun on a system to make East Asia more efficient as a single economic zone. For example, a given within the ASEAN region, one EPA after another has been established between ASEAN as the hub, and China, Japan and South Korea. Ten ASEAN countries have also made it clear that by 2015 they aim to establish an ASEAN Community based on the ASEAN Charter, and have begun to develop the institutions to do so. In addition, the Economic Research Institute for ASEAN and East Asia (ERIA）was established in 2008 with 16 member countries (ASEAN 10, India, Australia, China, Japan, New Zealand and South Korea) preparing to launch full-scale research with the aim of promoting East Asian economic integration.

2) Economic Downturn since the Latter Half of 2008 and the Manufacturing Industry in East Asia

    The global economic recession progressed rapidly and extensively in the latter half of 2008 and, embodied by the bankruptcy of a major U.S. financial institution, came to generally be called a "crisis." Ripple effects have undoubtedly reached the world of the real economy, led mainly by the manufacturing industry, and have also severely affected East Asian manufacturing networks. Thus East Asia's manufacturing economy, which has developed quite steadily over a relatively long period, might be facing a major turning point.

    A look at the future of the East Asian economy finds it impossible to disregard the

highly advanced manufacturing networks that have been cultivated, irrespective of the economy's eventual course of development. Considering that the present economic recession urges addressing of qualitative and behavioral issues—such as the desirable relationship between the financial and real economies, and government intervention in the market economy, beyond quantitative aspects such as economic conditions and growth ratio—the East Asian manufacturing industry and manufacturing statistics that describe it must now assume a new role. This is a special role of contributing to studies on new economic approaches by objectively indicating current economic conditions and their changes thus far.

3) Objective of this Study

This study will carry out the following investigative research with the aim of helping develop internationally comparable industrial statistics for the East Asia region.

a) Conduct a current-situation survey of international comparability of industrial statistics on East Asia

b) Identify the issues for improving international comparability and create an action plan to address them

c)* Implement a capacity-building program for statistical office staff in Cambodia, Lao PDR and Myanmar with the help of current statisticians and other experienced people currently or previously employed at statistical offices in the ASEAN countries

d) Create a roadmap for the future development of industrial statistics in the East Asia region

* Item c) is mentioned here because it is part of the overall scope of this study. However, it will be addressed in a different ERIA project: "Capacity Building for Statisticians in CLM Countries by Statistics Experts in East Asia."

A characteristic of this study is that its process is basically driven by current statisticians/government officials and other experienced staff at statistical offices in the ASEAN countries. This is because in this field of statistics it is considered very difficult for researchers or economists who lack experience in government statistics jobs to study or examine the current status of international comparability and create highly persuasive policy recommendations for governments or international organizations.

The outcome of this study is planned for announcement at policy meetings of the East Asia Summit (EAS) and ASEAN+3 concerned with economy, industry and statistics,

and at meetings of the United Nations Statistics Division (UNSD) and ASEAN Secretariat, ASEAN Heads of Statistical Offices Meeting (AHSOM), East Asia Expert Meeting on Manufacturing Statistics (EAMS) and other meetings of international statisticians. Through such meetings, the information is expected to permeate the statistical agencies of national governments in the region, and become linked to development at the coalface.

Moreover, some precedents have already been set at the ASEAN-METI Economic and Industrial Cooperation Committee, Working Group on Statistics (AMEICC-WGS) and EAMS with regard to research on East Asian industrial statistics. This study will closely collaborate with these international meetings and seek to utilize a mutually beneficial outcome.

1-2 EAMS Initiative

1) What Is EAMS?

a) Establishment of EAMS

The East Asia Expert Meeting on Manufacturing Statistics (EAMS) consists of the 10 ASEAN countries plus Japan, China and South Korea; a total of 13 members. It was established in January 2007.

EAMS' goal is to improve the international comparability of manufacturing statistics within the ASEAN+3 region. It is made up of government statistics departments and agencies, particularly those responsible for manufacturing statistics (Table 1-1).

Table 1-1 EAMS participating organizations

Country	Organization	Country	Organization
Brunei	Jabatan Perancangan Dan Kemajuan Ekonomi (Department of Economic Planning and Development, Prime Minister's Office) (JPKE)	Myanmar	Central Statistics Office (CSO)
Cambodia	National Institute of Statistics (NIS)	Philippines	National Statistics Office (NSO)
China	National Bureau of Statistics (NBS)	South Korea	Korea National Statistical Office (KNSO)
Indonesia	Badan Pusat Statistik (BPS-Statistics Indonesia) (BPS)	Singapore	Economic Development Board (EDB)
Japan	Research and Statistics Department, Ministry of Economy, Trade and Industry (METI)	Thailand	National Statistical Office (NSO)
Laos	National Statistics Center (NSC)		Ministry of Industry (OIE/MOI)
	Ministry of Industry and Commerce (MOIC)	Vietnam	General Statistics Office (GSO)
Malaysia	Department of Statistics (DOS)	(Secretariat)	Research and Statistics Department, Ministry of Economy, Trade and Industry (Japan) ASEAN Secretariat

b) Scope of EAMS' Activities

The scope of specific activities carried out by EAMS can be summarized as follows, based on the Terms of Reference (TOR) and Work Program adopted at its first meeting in Tokyo.

- Use manufacturing statistical matrixes to highlight issues and foster common awareness among countries with regard to international comparability
- Initiating and conduct joint research among participating countries with an eye to establishing a four-digit industrial classification for the manufacturing industry
- Conduct a Pilot Study using model countries (focusing particularly on the establishment of a four-digit industrial classification system)

- Provide ISIC Rev.4/ACIC-compliant four-digit statistical data for the manufacturing industry in participating countries
- Implement regional capacity-building programs on an ongoing basis
- Establish and maintain a network linking departments and agencies responsible for manufacturing statistics in participating countries

c) Significance of EAMS

The primary significance of EAMS is its establishment of a forum to bring together statistics officials from each East Asian country under the common goal of improving international comparability, enabling them to develop shared awareness regarding matters such as issues and problems facing individual countries. Whereas numerous top-level meetings have been set up to date, including the ASEAN Heads of Statistical Offices Meeting (AHSOM), there have been virtually no regular meetings involving statistics officials focusing on actual work processes on an ASEAN+3 scale, and including Japan, China and South Korea.

As EAMS moves into its third year, its activities are progressing from the initial stages of building a consensus between the countries involved to a new phase geared toward producing more effective output (including a common four-digit industrial classification system for the manufacturing industry that will be usable by all ASEAN+3 countries). The positive start made by EAMS so far has also attracted the attention and full backing of the United Nations Statistics Division (UNSD), which continues to promote the establishment of global standards in statistics.

2) EAMS and International Standard Industrial Classification (ISIC)

As discussed, EAMS began surveys on international comparability from the viewpoint of industrial classification, and based them on the UNSD International Standard Industrial Classification (ISIC) Rev.4. But merely being consistent on the concept of classification obviously does not enable mutual comparison of industrial statistics. The method of statistical survey, its scope, period, definitions of surveyed items, usual accounting practices of statistical units (differences by country) and various other aspects need to be considered. However, surveying the consistency and inconsistency of industrial classification is quite logical and important as a first step for judging international comparability of statistics.

Although attempts by EAMS are far from perfect when viewed individually, they clarified issues that had existed since the initial stages and led to the next steps for improvement. This study by ERIA owes much to the EAMS survey results.

3) Current Status of EAMS

  a) EAMS Meetings

    - First Meeting: Tokyo, Japan (January 2007)

    - Second Meeting: Vientiane, Lao PDR (July 2007)

    - Third Meeting: Beijing, China (May 2008)

  b) Phase Progress of EAMS

    - FY2006: Consensus-making and establishment of EAMS

    - FY2007: Medium-term scope and draft of East Asia Manufacturing Industrial Classification (EAMIC; ISIC Rev.4 base) by four Pilot Study countries (Indonesia, Philippines, Thailand and Vietnam)

    - FY2008: Feedback on Draft EAMIC and revision

1-3 Approach to the Study (Expected Goals and Team Structure)

1) Expected Goals

 a) Final Policy Recommendations

As mentioned, the East Asian economies are about to advance from the stage of "de facto integration" to "institutional development." Internationally comparable statistics are indispensable for this. It is impossible to set up any kind of institution or undertake economic research without comparing objective values. Since mutual dependence in East Asia is particularly strong in the area of production, international comparability of industrial statistics is imperative.

Based on this awareness, policy proposals are intended for national statistical agencies, all national governments, international organizations (UNSC, etc.), AHSOM and the ASEAN Secretariat. Expected policy proposals are outlined below.

- Recommendations regarding the best form/structure for industrial statistics for the East Asian region
- Recommendations regarding measures to prepare active, internationally comparable industrial statistics for the East Asian region
- Recommendations regarding measures to avoid having countries lag behind the flow of improvements to statistics in the East Asian region
- Recommendations to UNSC regarding improvements to regional statistics based on the example of the East Asian region

To carry out these policy proposals, this study will implement the following initiatives:
- Clarify the current situation for international comparability of industrial statistics in East Asian countries
- Identify factors that inhibit international comparability and create an action plan to resolve the issues
- Create a roadmap for the future development of industrial statistics in the East Asia region
- While continuing to collaborate with EAMS and other international conferences, clarify how the database should work in order to increase its utility after studying precedents and the need for economic analysis

 b) Policy Recommendations in a Single Year (FY2008)

Policy proposals are intended for national statistical agencies, all national

governments, AHSOM and the ASEAN Secretariat. Expected policy proposals based on work undertaken in this fiscal year are:

- Recommendations regarding the importance of preparing internationally comparable statistics for the East Asian region
- Recommendations regarding proactive participation in the roadmap indicated by this study
- Recommendations regarding the need for capacity building for statistical experts in the East Asian region (This point might be dealt with in a different ERIA project: "Capacity Building for Statisticians in CLM Countries by Statistics Experts in East Asia.")

To carry out these policy proposals, this study will implement the following initiatives:

- Clarify the current situation in international comparability of industrial statistics in the East Asian countries, with the focus on industrial classification
- Identify the factors that inhibit international comparability
- Compile the features of the UNSD International Recommendations for Industrial Statistics 2008 (IRIS 2008) and clarify issues and courses of action to take from the viewpoints of Indonesia, the Philippines, Thailand and Vietnam
- Through such activities, consider what actions to take with regard to compiling regional industrial statistics in the future, and set to work to specify the long-term or medium-term activities of this study together with statistics specialists, including current employees and other experienced staff at statistical agencies in the ASEAN countries (create a roadmap)

2) Study Team Structure

a) The Whole Picture

This study consists of the Steering Committee, Study Team and Secretariat. Members of the Steering Committee should possess in-depth expertise in compiling industrial statistics; people such as leading economic researchers in East Asia or those who have amassed a wealth of practical experience at statistical agencies of international organizations or at government statistical agencies. The Steering Committee will meet in a timely fashion at the request of the Secretariat of the study (Hitachi Research Institute) and will provide advice and guidance as necessary. Members of the Study Team include current employees and other experienced staff at statistical agencies in the ASEAN countries, and will mainly undertake research on their respective countries, or analysis on each country report. In order to draw out viable policy recommendations, the Secretariat of the study will

appropriately manage the Study Team while making effective use of the Steering Committee. In order to facilitate the work of the study, the Secretariat will maintain close collaboration with external conferences, including EAMS.
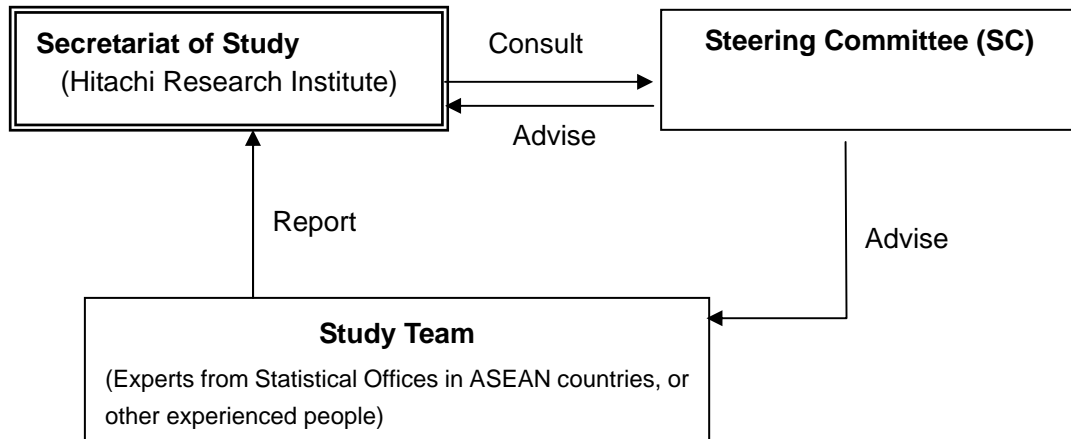
Chart 1-1 Study Team Structure

b) Steering Committee (SC)

Members: Dr. Fukunari Kimura   (ERIA / Keio University, Japan)

              Ms. Carmelita N. Ericta   (The Philippines)

              Dr. Tomoyuki Kuroda   (Hitachi Research Institute)

Resource person: Dr. Agus Sutanto   (ASEAN Secretariat)

- The Steering Committee will meet at the request of the Secretariat and will provide advice and guidance to the study.
- By virtue of their wealth of experience, the members of the Steering Committee will understand trends in regional policy meetings, regional national governments, international statistical agencies and other related institutions, and will share this information with the Secretariat and Study Team members as necessary.
- The Steering Committee will fulfill the role of bridge-building between the study and regional policy meetings, national governments in the region, international statistical organizations and meetings of statistical experts. Consequently, the Steering Committee may also report the outcome of the study to ERIA upon consultation with the Secretariat.

- If the Secretariat so requests, the Steering Committee may offer advice to the study as a whole, including the Study Team, to raise the study's utility and effectiveness.

c) Study Team

Team Leader: Ms. Pin Pin Quah (EAMS Secretariat / Consultant, Malaysia)
Coordinator: Dr. Tomoyuki KURODA (Mr.) (Hitachi Research Institute)
Members: Dr. Agus Suherman (Mr.) (Indonesia)
            Ms. Estela T. De Guzman (The Philippines)
            Ms. Luckana Yuvaprakorn (Thailand)
            Ms. Lien Thi Nguyen (Consultant, Vietnam)

- In order to produce guidelines for industrial statistics that are widely applicable across the East Asian region, members should, primarily, be solicited from the ASEAN countries, including countries where statistical compilation is relatively advanced and countries where it is not.
- Research items include:
  - Examining the UNSD IRIS2008 from the viewpoint of respective countries
  - Analyzing the country situation of the industrial statistics in terms of IRIS 2008
  - Analyzing each country report
  - Clarifying issues for promoting international comparability from the viewpoint of industrial classification
  - Based on the above, providing practical opinions for the future development of industrial statistics in the East Asia region

d) Secretariat (Hitachi Research Institute)

Chief Researcher: Dr. Tomoyuki KURODA (Mr.)
Senior Researcher: Mr. Yasushi Nakamura
Senior Researcher: Mr. Takashi Takahashi
Assistant Researcher: Ms. Pedreschi Melissa

1-4 Activities Carried Out in FY2008

1) Meeting Schedule

Table 1-2 Study Schedule for FY2008

	Steering Committee	**Study Team**	**Secretariat**
October	Organization	Organization	Planning
November			
December		Kick-Off Meeting	Management of the meeting
January	General Meeting (1)	Skelton of Report	Management of the meeting
February		Team Report	
March	General Meeting (2)	2nd Meeting	Management of the meeting
	Final Report		

2) Meetings and Study Process

- October 2008

Coinciding with the project's commencement in October 2008, the members of the Steering Committee, Study Team and the Secretariat coordinated to establish a research organization. Then, the parties involved communicated with each other on how to proceed with the project, plans for output and other matters, while at the same time starting the basic preparatory work.

- December 2008

On December 5, 2008, the Study Team held a kickoff meeting in the Cambodian capital of Phnom Penh. The participants again discussed the contents and significance of the project, and attempted to compile the various opinions. Agreements were reached on specific expectations of the FY 2008 Study Report, the contents to be written by each member and the actual length of the text. The members immediately began full-fledged survey activities and preparation for their respective parts of the report.

    * Date: 5 December 2008

    * Venue: Phnom Penh, Cambodia (Phnom Penh Hotel)

    * Participants:

        Team Leader: Ms. Pin Pin Quah (Consultant, Malaysia)

        Coordinator: Dr. Tomoyuki KURODA(Mr.) (Hitachi Research Institute)

        Members: Dr. Agus Suherman (Mr.) (Indonesia)

                Ms. Estela T. De Guzman (The Philippines)

Ms. Lien Thi Nguyen (Consultant, Vietnam)

Secretariat (Hitachi Research Institute)

Senior Researcher: Mr. Takashi Takahashi

Assistant Researcher: Ms. Pedreschi Melissa

- January 2009

On January 17, 2009, the first meeting of the Steering Committee was held in Singapore. Progress on the project since October 2008 was reported and discussions were held on what regional measures are necessary for improving the international comparability of East Asian industrial statistics from medium- to long-term perspectives, and what visions should the parties share on the future of industrial statistics on East Asia.

* Date: 17 January 2009
* Venue: Singapore (Grand Plaza Park Hotel City Hall)
* Participants:

Steering Committee (SC)

Dr. Fukunari Kimura   (ERIA / Keio University, Japan)

Ms. Carmelita N. Ericta   (The Philippines)

Dr. Tomoyuki Kuroda   (Hitachi Research Institute)

Resource Person:

Dr. Agus Sutanto   (ASEAN Secretariat)

Study Team Leader:

Ms. Pin Pin Quah   (Consultant, Malaysia)

- February 2009

The Study Team members made progress in the writing of country reports. The Leader and Secretariat summarized the discussions held so far, surveyed past research results and other matters and organized the results.

- March 2009

All the country reports by the Study Team members were turned in, and the Leader summarized and analyzed them. The Secretariat then organized them into the final report.

On March 23, the second meetings of the Steering Committee and Study Team were held in Jakarta. The activities during FY2008 for the project were reported and summarized, and the final report was completed.

Chapter 2

Current Status of International Comparability in Manufacturing Industry Statistics at a Four-Digit Level

Chapter 2: Current Status of International Comparability in Manufacturing Industry Statistics at a Four-digit Level

2-1 How Do We Measure International Comparability?

1) Difficulty in Measuring International Comparability

It is quite difficult to judge precisely whether certain statistics are internationally comparable with the same type of statistics from other countries. This is understandable considering that statistical surveys are conducted amid the diverse socioeconomic environments affecting each country, with differences surfacing in stages of economic development, regional systems and commercial and trading customs. In extreme examples, even surveys performed with exactly the same standards and processes can have their results affected considerably by differences in socioeconomic conditions and regional customs. Frequently, one attribute taken for granted in one region is totally unacceptable in another, and a question item easily understood in one country is incomprehensible in another.

Moreover, the method of statistical survey itself usually differs depending on the actual circumstances of each country. In other words, it is difficult to obtain statistical data on the same specific properties in regions with differing socioeconomic systems, customs and history, in addition to the differing methodology of the survey itself. As such, it is simply difficult to achieve international comparability among statistics and, above all, it is difficult to judge the current state of international comparability.

2) Industrial Classification

Under these circumstances, a clear focal point when discussing the international comparability of statistics is the difference in industrial classifications. For example, assume that statistical tables are prepared according to different industrial classifications using results from the same statistical survey in the same country. Obviously, the statistics will not be comparable. In other words, statistical values seemingly cannot be compared if the industrial classification, the final category of aggregation, differs; even if all other elements are the same.

For this reason, the East Asia Expert Meeting on Manufacturing Statistics (EAMS), which is establishing precedents for the project, focused first on differences in industrial classifications for judging the international comparability of manufacturing industry statistics. The UNSD International Standard Industrial Classification of All Economic Activities (ISIC) contains internationally recommended industrial classifications. EAMS

sought to judge primarily the international comparability of manufacturing statistics in the region by surveying consistencies and inconsistencies between ISIC and the National Standard Industrial Classification (NSIC) used in each East Asian country.

The project also clarifies the current state of international comparability of industrial statistics of East Asia based on the EAMS results. Needless to say, industrial classifications are not the only important factor for international comparability. However, consistency among industrial classifications is an important precondition for discerning comparable statistics, and is very effective for understanding whether international comparability exists.

At the outset, EAMS surveyed international comparability based on ISIC Rev.3. The project refers to the survey results, but discussions are underway for improving the international comparability based on UNSD recently announced ISIC Rev.4.

2-2 Past Study in EAMS

1) Data Collected in 2007

The results of the EAMS survey on international comparability referred to in the project are briefly described below.

Data was requested for a total of 14 items: number of establishments (or enterprises), number of establishments (or enterprises) with foreign capital, number of workers, number of employees, employment costs, input costs, raw material costs, spending on industrial and maintenance services, value of gross output, receipts for goods produced, receipts for services rendered, value added at market price, book value of fixed assets and book value of fixed assets other than land. The actual data provided as a result varied between countries that provided data for all items and those that only provided data for some.

Of the countries that provided four-digit data, only Myanmar provided data for all the above items. Data was provided for the fewest items by China (three) and Vietnam (five). Examining the results by individual item, there were only two items for which all countries provided data: number of establishments (or enterprises) and value of gross output. Eleven countries provided data for the number of workers, input costs and value added at market price, with China being the only exception. The item for which the fewest number of countries (three) submitted data was the number of establishments (or enterprises) with foreign capital. The items for which less than 10 countries provided data were spending on maintenance and industrial services (eight) and the book value of fixed assets other than land (nine).

Numerical matrixes for manufacturing industry statistics (four-digit) compiled based on the data provided are appended at the end of this publication.

Note: The data presented were graciously provided to EAMS by the respective national governments, only for the purpose of evaluating international comparability. The governments declared these data are not suited for analytical purposes. Readers are asked to handle the data carefully.

Table 2-1 Data provided in 2007 for EAMS (○: provided)

Data Provided 提供データ	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam	China	Japan	Koera
	ISIC compatible	ISIC compatible	NSIC	ISIC compatible	ISIC compatible	ISIC compatible	NSIC	Manufacturing industry classification	Manufacturing industry classification	Manufacturing industry classification	NSIC	Manufacturing industry classification	ISIC compatible
	2001	2000	2003	1999	2003	2002	2003	2003	2003	2003	2004	2004	2004
	All enterprises	Sample of establishments	Establishments with a workforce of 20 or more	Sample of enterprises	All establishments	All establishments	All establishments with a workforce of 20 or more,	All establishments	All establishments	All enterprises	All enterprises	Establishments with a workforce of. 30 or more	Establishments with a workforce of five or more
	3- & four-digit	3- & four-digit	3- & four-digit	two-digit	3- & four-digit	3- & four-digit	three-dig	four-digit	3- & four-digit	3- & four-digit	four-digit	four-digit	3- & four-digit
Number of establishments(or enterprises)	○	○	○	○	○	○	○	○	○	○	○	○	○
of which those with foreign capital			○	○		○							
Number of workers	○	○	○	○	○	○	○	○	○	○		○	○
of which employees	○	○		○	○	○	○		○			○	○
Employment cost	○	○	○	○	○	○	○	○	○			○	○
input cost	○	○	○	○	○	○	○	○	○	○		○	○
of which raw materials	○	○	○	○	○	○	○	○	○			○	○
of which maintenance and industrial services	○	○	○	○	○	○	○		○				
Value of gross output	○	○	○	○	○	○	○	○	○	○	○	○	○
of which goods produced	○	○	○	○	○	○	○	○	○			○	○
of which value of industrial services rendered	○	○	○	○	○	○	○	○	○			○	
Value added at market price	○	○	○	○	○	○	○	○	○	○		○	○
Book value of fixed assets		○	○	○	○	○	○	○	○		○	○	○
of which fixed assets other than land		○	○	○	○	○	○	○	○			○	

2) Current Status of International Comparability: from the Viewpoint of Industrial Classification

According to the EAMS Study, comparability among ASEAN+3 countries is as follows.

Table 2-2: Number of comparable categories of manufacturing industry statistics in the ASEAN+3 region (based on ISIC Rev. 3)

(○: Comparable; each number indicates the number of comparable classes)

ISIC		Number of three-digit categories	Number of four-digit categories	Number of comparable categories								
				two-digit			three-digit categories			four-digit categories		
				+3 only	ASEAN+3	ASEAN	+3 only	ASEAN+3	ASEAN	+3 only	ASEAN+3	ASEAN
D	Manufacturing	61	127	9	6	19	39	6	10	85	36	48
	(%)			39.13	26.09	82.61	63.93	9.84	16.39	66.93	28.35	37.80
15	Manufacture of food products and beverages	5	17	○			2	1	2	11	5	7
16	Manufacture of tobacco products	1	1	○			1	0	0	1	0	0
17	Manufacture of textiles	3	7			○	1	0	0	4	0	1
18	Manufacture of wearing apparel; dressing and dyeing of fur	2	2			○	0	0	0	0	0	2
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	2	3	○	○	○	2	0	0	3	1	1
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	2	5			○	1	0	0	4	4	5
21	Manufacture of paper and paper products	1	3	○	○	○	1	1	1	1	0	0
22	Publishing, printing and reproduction of recorded media	3	7				2	0	0	3	3	3
23	Manufacture of coke, refined petroleum products and nuclear	3	3	○	○	○	3	1	1	3	3	3
24	Manufacture of chemicals and chemical products	3	9			○	2	0	0	5	0	0
25	Manufacture of rubber and plastics products	2	3			○	1	1	2	2	0	1
26	Manufacture of other non-metallic mineral products	2	8			○	1	1	2	6	1	1
27	Manufacture of basic metals	3	4			○	2	0	0	3	0	0
28	Manufacture of fabricated metal products, except machinery and equipment	2	7			○	1	0	0	3	2	3
29	Manufacture of machinery and equipment n.e.c.	3	15			○	1	0	0	11	7	10
30	Manufacture of office, accounting and computing machinery	1	1	○			1	0	0	1	1	1
31	Manufacture of electrical machinery and apparatus n.e.c.	6	6			○	5	0	0	5	5	6
32	Manufacture of radio, television and communication equipment and apparatus	3	3	○	○	○	1	0	0	1	0	0
33	Manufacture of medical, precision and optical instruments, watches and clocks	3	5	○	○	○	3	0	0	5	2	2
34	Manufacture of motor vehicles, trailers and semi-trailers	3	3			○	2	0	0	4	0	0
35	Manufacture of other transport equipment	4	7			○	3	0	0	2	0	0
36	Manufacture of furniture; manufacturing n.e.c.	2	6			○	1	1	2	5	2	2
37	Recycling	2	2	○	○	○	2	0	0	2	0	0

Excludes Laos

Category 221: Publishing is not included in manufacturing industry surveys in China, Japan or Singapore.

EAMS discusses international comparability simply from the viewpoint of compatibility with ISIC. Yet, at the same time, EAMS promotes the need to survey international comparability based not only on industrial classifications but also from the viewpoints of statistical survey methodology and definition of data items.

2-3 Why Manufacturing, Why Four-digit?

1) Why Manufacturing?

EAMS identifies three points regarding why manufacturing industry statistics are focused on when surveying the international comparability of statistics, despite the diverse types of statistics.

- East Asia has continually accounted for over 30% of the world's manufacturing production. The manufacturing industry occupies prominent positions in the domestic economy of each East Asian country. These tendencies are expected to continue in the future.

- Direct investments in East Asian countries by foreign entities have been made mostly in manufacturing. Compilation of manufacturing statistics in East Asia also has value for private enterprises making inroads into the region.

- The stage of economic development varies among East Asian countries, as does the extent to which government statistics have been compiled. However, statistics on manufacturing have been organized relatively well in all the countries, which facilitates discussion on international comparability. This also indicates that East Asian countries are highly interested in manufacturing industry statistics.

2) Why Four-digit?

Similarly, EAMS identifies four points regarding consideration of the four-digit classification.

- Components and intermediate commodities account for a large part of economic transactions within the East Asia region, as seen in machinery and other groups. In order to grasp information about production activities among minutely segmented industry groups, data need to be broken down to the four-digit level, which matches the most detailed ISIC classification.

- In East Asia, transactions are also active among unaffiliated companies. When trading with non-affiliated companies of other countries, available in-house data are usually scarce. As such, needs are high for internationally comparable government statistics. Especially considering that components and intermediate commodities are traded the most among East Asian manufacturers based on perpendicular division of labor, statistical data of greater detail are more desirable.

- By expanding from three to four digits, twice the amount and/or more detailed classifications are assured (61 classifications to 127, based on ISIC Rev.3). Also, three-digit classifications indicate the name of general industry groups while

four-digits indicates the name of groups including the product and commodity names. The volume of data acquired could expand significantly, helping to get closer to the real economy.

- Compilation of industrial statistics at the four-digit level also benefits personnel of the statistics divisions of each country, such as: a) more detailed statistical data can be provided to government sections that formulate policy measures, b) the possibility of breaking down secondary statistics (SNA, etc.) to more detail can be guaranteed, and c) data can be provided more smoothly to the UN, IMF and other international organizations.

These are likely to serve as useful references for the project as well. EAMS has compiled information about these matters in greater detail, but only brief descriptions are given here.

2-4 Beyond Classification: Toward More Comprehensive Scope

When pursuing international comparability among industrial statistics, factors for consideration other than industrial classification include statistical units, definitions of data items (employment compensation, output, intermediate consumption, value added, etc.), data compilation methodology, and confidentiality. It is also important to examine differences among countries in these factors, and compliance with international standards.

Regarding these factors, UNSD announced its International Recommendations for Industrial Statistics (IRIS) in February 2008. Intended as international standards, these were revised for the first time since 1983.

IRIS provides quite lenient standards compared to ISIC. Therefore, it might not be realistic to take the same approach for evaluating the international comparability of industrial classifications by judging the consistency between IRIS and statistical surveys conducted in each country. However, the 2008-released IRIS could perform an important role as a guideline when studying international comparability beyond the framework of industrial classifications.

Therefore, as a study topic the project examines how IRIS should be understood and treated in view of the current industrial statistics environment in East Asia. The next chapter discusses matters such as how should IRIS be understood in view of the situations in four countries—Indonesia, the Philippines, Thailand and Vietnam—and the current state of industrial statistics in each of these countries in relation to the IRIS standards.

Chapter 3

Characteristics of the International Recommendations

for Industrial Statistics (IRIS) 2008:

from the Viewpoint of the East Asia Region

Chapter 3: Characteristics of the International Recommendations for Industrial Statistics (IRIS) 2008: from the Viewpoint of the East Asia Region

3-1 What is IRIS 2008?

1) Background of IRIS

Readers are advised to access the following URL for UNSD's description of IRIS 2008.

http://unstats.un.org/unsd/isdts/
http://unstats.un.org/unsd/statcom/doc08/BG-IndustrialStats.pdf

The portion of the Introduction describing IRIS 2008 is cited for reference.

Since the 1950s, the United Nations (UN) has published international recommendations for industrial statistics of which the first was issued in 1953 (UN 1953) and subsequently revised in 1960 (UN 1960), 1968 (UN 1968a) and 1983 (UN 1983).

The purpose of developing these international recommendations was to establish a coherent and uniform measurement of industrial activities for national and international dissemination. The international recommendation for industrial statistics is an agreed intermediate output framework of a coherent set of internationally agreed principles, concepts and definitions of data items to be collected and published for the measurement of the industrial activity. The National Statistical Offices need to assess applicability and practicability of implementing the recommendations to their situation taking into account their circumstances, for example, identified user needs, resources, priorities and respondent burden.

The first revision in 25 years is described as follows.

The UN Statistical Commission at its thirty-seventh session in 2006 reviewed the industrial statistics programme and endorsed the proposal of the UN for the revision of the international recommendations for industrial statistics as there has been significant economic and statistical developments since these were formulated last (UNSC 2006).

The present publication revises the 1983 recommendations (UN 1983) in respect of developments in this area during the last 25 years. This revision reflects a comprehensive measure both in the approach adopted by the majority of countries to adapt the industrial statistics program to the needs of national accounts and the measurement of the industrial sector for the economy as a whole. Apart from the adopted comprehensive measure of the industrial sector aligned with the national

> accounts needs, this revision incorporates the harmonization with the revisions of various international statistical standards and regional regulations.

2) The Structure of IRIS 2008

The structure of the main text of IRIS2008 is as follows.
- IRIS comprises two parts and covers all aspects of industrial statistics
- Part-I includes international recommendations on industrial statistics covering the scope of industrial statistics, statistical units, characteristics of statistical units, data items and their definitions, and the data items for international reporting
- Part-II includes the international guidance to help implement the international recommendations and covers performance indicators, data sources, compilation methods and data collection strategy, data quality and dissemination of industrial statistics

3) Contents of IRIS 2008

Also from the Introduction of IRIS2008, the Table of Contents is cited to provide a more concrete picture.

Part – I International recommendations
(i) Chapter I provides the description of the industrial activities in terms of International Standard Industrial Classification of All Economic Activities (ISIC) Rev.4 and other classifications, discusses boundary issues and defines the scope of industrial statistics;
(ii) Chapter II describes the statistical units that are useful for collection of industrial statistics and economic analysis of the economy;
(iii) Chapter III explains the main characteristics of statistical units required for their unique identification and classification;
(iv) Chapter IV presents the definitions of data items for a general-purpose information system on industrial statistics with reference to the data items to be collected and statistics to be published. It also presents the data items for international reporting with annual and infra-annual periodicities;

Part – II Guidance for implementation
(v) Chapter V describes a set of main indicators useful for evaluating the performance of the industrial sector;
(vi) Chapter VI discusses the main data sources and methods used for compilation of

industrial statistics;

(vii) Chapter VII outlines a strategy for collection of data relating to industrial activities through annual and infra-annual industrial inquiries;

(viii) Chapter VIII discusses data quality and metadata relating to industrial statistics;

(ix) Chapter IX provides guidance and good practices on the dissemination of industrial statistics.

(x) Annex 1: Economic activities in terms of ISIC Rev 4 within the scope of industrial statistics; and

(xi) Annex 2: Identifying the principal activity of a statistical unit using the top-down method.

3-2 Country Report from Indonesia

APPLICABILITY OF IRIS 2008 AND ISSUES

FROM THE VIEWPOINT OF INDONESIA

by

Agus Suherman

February 2009

Note: The content of the report is of the view of the author, it does not represent the view of the Statistical Organization.

1. **Background and Objectives:**

   1.1. The statistical unit naturally occupies an important position in providing the tools for comparing two or more statistical collections covering the same economic activity over time, by applying standardization to both definitions and classifications so that internationally comparable statistics can be generated. However, the availability of too many standards can make implementation difficult, since individual institutions responsible for managing real sectors mostly have their own procedures and systems for recording the information they need. Changing the standardization of definitions and classifications will in the eyes of these institutions impose an additional operating burden, without a recognition that international comparisons are necessary, especially during the era of globalization. Only more senior people in the organization are concerned about the adoption of standardization for the purposes of comparing the same objects.

   1.2. BPS Statistics Indonesia (BPS) is the only agency in Indonesia with the responsibility to provide statistics for the government and other statistical users, through the regular and ad hoc release of official statistics. As a National Statistical Office (NSO), BPS is obliged to adopt international standard classifications. With the adoption of standardization, BPS has positioned itself within Indonesia as an organization pursuing a national system of statistics, and accordingly BPS is obliged to encourage any standardization of statistical gathering by other institutions and economic entities that produce and use statistics. Encouraging standardization at other government agencies has in the main been done effectively, but questions remain over the degree to which related agencies have adopted standardizations, since they also have their own standards. Some of their own standards are in line with the implemented standards in BPS while others are sometimes not compatible at all. Then again, their understanding of the importance of statistics to their business in general has improved dramatically, so that the position of BPS is becoming very important. Today, statistics are not only a tool in the planning and measurement of economic development; they are also a political tool for both the ruling government and the opposition in supporting and criticizing the progress. In conclusion, looking at the current situation, adopting the proper standardization is necessary, without neglecting the prevailing conditions for all stakeholders in the country.

   1.3. Although the effectiveness of pursuing nationwide standardization is still questionable, BPS has the considerable responsibility of modifying and harmonizing all statistical units in the organization, in adopting appropriate standardization that has the aim of not only improving the quality of statistics produced but also fulfilling the comparability for both domestically and internationally. Most of the problems in adopting standardization are associated with changes in the version of the standard itself. BPS

began with the international standards recommended by the UN and by issuing local adjustments applicable to individual sectors in Indonesia. But when the new version or revision is released, the subject matters specialists tend to see it as an additional burden, so that without strong enforcement and given the pressures of existing activities, the adoption of the new revision will be neglected over time. As a consequence, the function of the units in charge in managing the standard classification is becoming very important in the organization. They should have the power to adopt, adjust and enforce the implementation of any standard classification. They also have the obligation to continuously monitor and evaluate the progress of implementation. Communication among related units should be improved so integration and harmonization from the upstream to the downstream of the statistical flow can be achieved, and so that the national account units produce better quality GDP figures, reflecting individual sectors in the field and enabling international comparison.

1.4. With statistics becoming a critical measurement tool and as the only official statistical organization in the country, BPS senior management has come to the ultimate decision that changes and reform in the organization should commence immediately. Consequently, the project has been set up with the necessary funding to initiate it from several donor countries such as Japan and Australia, coordinated by the Word Bank. The project is called Statistical Capacity – Change and Reform in the Development of Statistics Project (Stat cap – Cerdas). The main goal of the project is to improve the quality of statistics produced by BPS so that it will be able to produce high-quality National Account figures featuring consistency between the National Account components and the sources of data, complete and timely source data, and the application of the latest and most appropriate methodologies. In executing the project, the adoption of international standard classifications should be taken into consideration, because no matter how good the statistics produced, they will lose relevance if they do not comply with international standards.

2. **Examining IRIS2008 and Applicability in BPS**
   I. SCOPE OF INDUSTRIAL STATISTICS

2.1   In general, the term "economic activity" has been adopted in BPS, especially when BPS conducted the 2006 Economic Census (SE06). It is known as a process of a combination of actions carried out by a certain entity that uses labor, capital, goods and services to produce specific goods or services. For statistical purposes, however, an entity engaged in more than one economic activity may produce more than one product. A statistical unit is defined by the way in which bookkeeping records are conducted. If it

is done for each product separately, then the statistical unit will depend on the way bookkeeping records are prepared. In practical terms, however, it is very difficult, especially in the field, to differentiate among an entity that has a single book-keeping record and an entity that has more than one book-keeping record, especially for micro and small business.

2.2   Most of the economic surveys conducted by BPS will treat a single economic activity as a single statistical unit, although there may be more than one unit of production. The recommendation regarding the integrated nature of economic activities has been adopted, however, given the difficulty in the field of differentiating among units of production, especially for household, micro and small business. However, proper procedure and methodology must be taken into consideration so that all economic activities are fully covered and properly classified in an integrated manner.

2.3   Principally, the recommendation regarding the scope and structure of industrial sectors is accepted by BPS at large, but the implementation has been somewhat delayed for both technical and non-technical reasons. BPS has adopted the Standard Industrial Classification of All Economic Activities but not all related subject matter units adopt the same version. Only subject matter units involved in the 2006 Economic Census (SE06) have adopted the ISIC rev 3, because this classification was fully implemented in the SE06. Some subject matter units, which are not directly involved in the SE06 and National Account units, have not fully implemented the latest version of the ISIC even the revision 3.

2.4   Industrial sector/category coverage (based on KBLI-2005/ISIC rev 3) is mostly done by the respective subject matter units, especially those involved directly in the 2006 Economic Census. Business activity covered in the SE06 encompasses all categories in the industrial sector, excluding agricultural, animal hunting, forestry, fishery (A, B category) and government administration, defense and compulsory social security (L category), which consist of:

 C. Mining and Quarrying
 D. Manufacturing
 E. Electricity, Gas, and Water Supply
 F. Construction
 G. Wholesale and Retail Trade
 H. Preparing accommodation and food and beverage
 I.   Transportation, warehousing, and communication
 J. Financial intermediaries
 K. Real estate, leasing and business services
 M. Education services

N. Health services and social activities.

O. Social services, cultural, entertainment and other individual services (except labor, religious, and political organization, which is not included in this SE06)

P. Household individual services.

II. STATISTICAL UNITS

A. An overview

2.5   There is agreement that, ideally, the most convenient way to obtain statistical data would be to collect data for entities for which complete sets of the required records are available. Practically, this is not feasible because in many cases, the flow and organizational structure of the economic entity is unknown. There are many outlines of the organization structure of the economic entities. However, since the legal and operational structures of economic entities as well as their record keeping practices are not developed yet in Indonesia to suit statistical purposes, it is preferable to provide guidelines for the collection, reporting and statistical units to be used for the purpose of data collection and dissemination so that comparable national and international statistics can be produced.

B. Statistical units

2.6 The statistical unit cited in the recommendation appears very normative. Conceptually, it is understandable but for practical purposes there is a need for further elaboration since the explanation mainly deals with economic entities as a statistical unit, and economic entities can vary. The existing structure of economic entities in the real sectors is quite likely not the same as that described in the recommendation. At this time, it is more important to encourage the adoption of the newest international standard classification in BPS. Once the internal implementation is complete, then BPS should endorse the recommendation to external stakeholders. However, basic knowledge of how economic entities exist as a statistical unit is very important as the basis for creating statistics for international comparison. Moreover, an explanation regarding the statistical, collection and reporting units is applicable only for big economic entities, and is probably less applicable to micro, small and medium economic entities. Frequently, the surveyor does not know who will complete the questionnaires.

C. Legal entities

2.7   In Indonesia, only large and midsize economic entities are also legal entities. Most micro and small economic entities are a single person and not a separate legal entity. There is widespread agreement on the characteristics of a legal entity: they can own

assets, they can incur liabilities, and they can enter into transactions with other entities. A legal unit is formed by itself or occasionally in combination with other legal units.

D. Types of statistical units

2.8   The understanding of the concept and definition of institutional units and the units used in the national accounts at BPS are broadly understood by subject matter units, although a more detailed explanation is needed to improve the understanding of the people responsible for compiling the GDP as well as other products of the National Accounts. When the definition becomes more detailed and encompasses new concepts, the operation in the field to acquire real values become more complicated and the values more difficult to obtain. For example, many assets are owned, or liabilities incurred, jointly by two or more members of the same household, while some or all of the income received by individual members of the same household may be pooled for the benefit of all members. Moreover, many spending decisions, especially those relating to the consumption of food, or housing, may be made collectively for the household as a whole. It may be impossible, therefore, to draw up meaningful balance sheets or other accounts for members of the household on an individual basis.

2.9   Concepts and definitions regarding the types of statistical units, such as institutional unit, enterprise group, enterprise, establishment and other statistical units, are well known and adopted by subject matter units and the national accounts group, although there may be some differences in the details. Unfortunately, there is no single reference published or documented available, so in every economic survey dealing with economic entities, every subject matter unit provides their own definition. Unlike other standard classifications such as ISIC or CPC, even though these standards are behind in adopting the latest revision and recommended definition, as the types of statistical units are recommendations only, there is no enforcement or even guidance.

E. Statistical units for industrial statistics

2.10 When BPS conducted SE06 in 2006, although it was not deliberately adopting the recommendation since no such recommendation was yet available, the targeted statistical unit in the census was the establishment. The establishment was chosen as the statistical unit because it was the smallest unit for which the range of data required is normally available. However, there were problems in the field due to the various types of statistical units in the field. Some could not complete the questionnaire and some could not complete the financial or balance sheet parts. Those who could not complete the questionnaire mostly answered that they did not have authority to answer or complete it. They would be reliant on their headquarters or central offices as the central authority in

the business, especially in the financial and banking institution categories. If their headquarters or central office are nearby, dealing with this problem would be much easier, but when the location is a different city or province (and in practice, most headquarters are located in the capital city) then strong coordination in the field operation is needed among the regional statistical offices.

F. Statistical units of the informal sector

2.11 Small and unorganized enterprises play an important role in developing countries in terms of production and generation of employment. This is also true in Indonesia. In the case of BPS, during the field operation of 2006 Economic Census, these sectors were classified as micro and small establishments. From the field results, there were more than 22.5 million micro and small scale establishments (99.37%). Most of these economic entities were household economic activities and were treated as informal sectors. The only standard classification implemented during the census was KBLI-2005, where this classification was derived from ISIC rev 3. Regarding the location, the approach of the field operation for this type of business was divided into two: establishment with fixed (permanent) location and establishment with mobile location, such as a business location in an alley/corridor, side-street vendor, mobile vendor, and motorcycle transportation. Again, the guidance for this type of collection is virtually nil. There are only limited sources available. This kind of international recommendation has not been broadly socialized.

III. CHARACTERISTICS OF STATISTICAL UNITS

2.12 The main characteristics of the statistical units are identification code, location, kind-of-activity, type of economic organization, type of legal organization and ownership, size and demographic characteristics. This identification has been broadly implemented in almost all economic surveys where the respondents are businesses or establishments. In the 2006 Economics Census, these types of characteristics are considered first, before moving on to more detailed questions.

A. Identification code

2.13 The identification code is a unique number assigned to a statistical unit, which may consist of digits identifying its geographic location, kind-of-activity, whether a unit is a principal producing unit or an ancillary unit, link to its subsidiaries/principal if any, and other information. By no means is it agreed that the identification code should cover characteristics related to the unique identity of the economic entity. For example, in the 2006 Economic Census questionnaire, these types of characteristics put in the first block/section (BLOCK I: Location Identification), which consist of a province code: 2

B. Location

2.14 The concept of location for any economic survey (especially after SE06) is the place where the economic activity occurs. This concept is in line with the recommendation that the location be defined as the place at which the unit is physically performing its activities, and not as its mailing address. Mailing addresses are unavailable for most micro and small business. There are more familiar with the local addressing system. Details of the mailing address, telephone and fax numbers, e-mail address and contact person are important identification variables, but these details are only applicable for medium and large establishments in the city or rural area where the facility is available. That is one reason why most surveys are conducted door-to-door, visiting all selected respondents in the selected census block.

C. Kind-of-activity

2.15 The kind-of-activity is defined as the type of production in which a unit is engaged. This characteristic is crucial when questioning the respondent. It should be done carefully because the kind-of-activity characteristic is the principal variable, determining whether a given statistical unit is included in the scope of industrial statistics and to which activity class it belongs. The kind-of-activity of the statistical unit should be determined in terms of ISIC; however, the local standard available is KBLI-2005, which is derived from ISIC rev 3. To some extent this is acceptable, but some surveys probably still use the previous version, which is compatible with ISIC rev 2.

D. Type of economic organization

2.16 Although it is said that the enterprise and the establishment are the main units used by countries for conducting industrial surveys, in Indonesia a distinction is drawn to a certain extent between an enterprise and an establishment. An enterprise is a group of establishments, which belong to a person or a group of people. The concept and definition is still unclear between the existing note and the real world. Thus, in a survey regarding the evaluation of a business network it is necessary to indicate whether the establishment is *the sole establishment* with a direct owner or whether it is a part of a network (*multi-establishment enterprise)*. If further details are required on this aspect of the industrial structure, the multi-establishment enterprises might be divided into classes

according to the number of constituent establishments. Adopting the appropriate recommendation will help make the economic surveys more accurate and comparable.

E. Types of legal organization and ownership

2.17 To some extent, there are similarities in the concept and definition of a *legal organization* between the explanation in the recommendation and the actual situation in the field. A concept and definition is needed so that the perception of information collected will not be biased. Some concepts and definitions used for the economic activities in the 2006 Economic Census are as follows:

2.18 Legal status is a legal acknowledgement by the government, which has the authority to issue formal approval when an entity is established and commences business:

a. Committee: In legal, technical and economic terms, has the intention of earning a benefit or profit. Committee with Legal Status: A business with separate financial capital, such as a public company, incorporated company, limited liability company, government company, cooperative, and foundation. Committee without Legal Status: A business with financial capital that is not separate, such as a CV, firm, and private entity.

b. Corporate (Inc): A company that has legal status, commencing with capital divided into units of shares and shareholders whose liability is limited to the value of their shareholding. Shareholders participate in the business of the company based on the extent of their shareholders, or based on another legal agreement.

c. Cooperative: Community economic organization that has social character with the members of people or cooperative corporate bodies that constitute economic arrangement system as collaboration business based on family principle.

d. Limited Partnership or *Commanditair Venootschap* (CV): A Company that has two or more investors consisting of an active partner and passive partner.

e. An active partner is a partner that provides financial capital and labor for the continuation of the company while a passive partner is a partner that deposits financial capital only.

f. Firm: A company with two or more investors in an active partnership. All partners have the obligation to deposit equity based on the articles of incorporation.

g. Foundation: A foundation is a corporate body that has distinct financial capital and that has been founded for social rather than commercial purposes.

h. Foreign Company Representative: The legal status of an establishment that adopts the name of a parent company that has legal status outside Indonesian territory.

i. Special Permission from related agency: A permit issued by a founding department/agency either at the province level or at the regency/municipality level to a company conducting a business activity

F. Size

2.19 It is acceptable that a measure of the size of a statistical unit be an important stratification characteristic. In general, the size classes of statistical units can be defined in terms of physical units like employment, or in monetary units such as turnover or net assets. Although the approach of size using monetary units is more difficult to apply, it could give a better result in the field with figures for monetary units representing the true condition of the economic entity. The approach of size using employment is the easiest to apply, but in reality it quite frequently proves misleading. In practice, there are many economic entities with few employees but, using sophisticated technology, high turnover/profit.

2.20 In the 2006 Economic Census, the size of economic entities as respondents is grouped into two ways. First, for the manufacturing category, the size of the business classified based on the number of workers (according to ILO recommendations). Micro business: 1-4 workers, Small Business: 4-19 workers, Medium Business: 20-99 workers, and Large Business: > 100 workers. Second, for other categories, the size of the business classified by the value of turnover (based on the thresholds in existing legislation on micro and small business).

3 The Adoption of International Standards in Indonesia (BPS)

A. General

3.1   IRIS2008 covers very broad topics that should be adopted by all National Statistical Offices (NSO), since it includes a set of internationally agreed principles, concepts and definitions of data items to be collected and published by the NSO. However, because of differences in circumstances among the NSO, implementation of the IRIS2008 needs to be adjusted based on the existing conditions of the NSO.

3.2   Implementation of the IRIS2008 in BPS Statistics Indonesia (BPS) is also mandatory, however the adjustment of several issues is necessary to fulfill the existing condition. Some points arise before IRIS2008 is fully implemented:

a. The main reason why BPS should adopt the IRIS2008 as guidelines in conducting data collection is for purposes of international comparison, so that it can become a member of the word statistical community.

b. There is no barrier to adopting the IRIS2008, since the BPS has always adopted international concepts in all data collection activities. However, adjustment is needed

to fit the surrounding circumstances, which are outside the control of BPS and which create discrepancies between the local concept and existing international concepts. Especially when there is a new or modified version of the international standard, due to existing requirements and the comparability of the time series data, the subject matter specialists are quite reluctant to make the changes.

c. The problems arise when a new or updated version of the guideline is released, such as the IRIS2008. The new version will have repercussions for the subject matter specialists in terms of additional workload, such as changes need to be made for definition, concepts, methodology etc between the new and the existing guidelines.. This scenario is common and is the main cause of delays in adopting the updated version of guidelines.

B. Adoption of International Standard Guideline

3.3 Regarding the implementation of IRIS2008, BPS will naturally benefit by synchronizing all subject matter units so that they move in the same direction, which finally will produce accurate national accounts in line with international standards. Thus, the quality of all statistics will be improved and all users of those statistics will be satisfied.

3.4 Although, technically there is no barrier to adopting the IRIS2008, there are still some obstacles due to internal hesitation about the changes, especially within the units responsible for introducing and coordinating the implementation of the standard classification in the organization. The major reason why adoption has been sluggish is the lack of skilled persons in the unit in charge and the lack of attention on the management side. Having a skilled person who knows how to create and manage a system of international standard classification is mandatory for every NSO. By improving the system management in introducing and promoting the implementation of the latest international standard classification through all units in the organization, the adoption of IRIS2008 will proceed rapidly.

3.5 In the future, the units in charges of introducing, implementing, and managing all international/local standard classifications should be improved and consequently should receive more attention from senior management and acquire more appropriate funding in developing a system for implementation standard classification. The unit with ultimate responsibility should have the power to set up a system and procedure in adopting the released standard classification that should be followed by all subject matter units as well as supporting units that are responsible for providing and utilizing the statistical data produced.

C. Adoption of Revised ISIC by the Subject Matter Units

3.6   The technical understanding of the IRIS2008, especially in the context of the national accounts, has been set out in the System of National Account (SNA) released by the UN. The question is why BPS has not yet implemented the SNA 1993, when an even newer one called SNA 2008 has been released. The ultimate reason is more the weakness in monitoring and evaluation of the adoption of international standard classifications in the national accounts, than any limitation or deficiency of data support from the subject matter units.

3.7   Most subject matter units are reluctant to change the standard classification used currently to the new version, because it can cause difficulty in producing time series data, especially when data is taken from the sample. This in turn delays the adoption of any new standard classification. For example, with the change of Indonesian Standard Industrial Classification - KLUI (based on ISIC rev 2) to Indonesian Standard Industrial Classification – KBLI-2005 (based on ISIC rev 3), one new KBLI code might constitute a fraction of an old KLUI code, while another new KBLI code is a grouping of several KLUI codes. The impact of this when converting from KLUI into KBLI is that there are some KLUIs that do not have any corresponding KBLI.

3.8   In the field of construction statistics, instead of implementing the current Indonesian SIC – KBLI-2005 (ISIC rev 3), the subject matter unit needs to comply with local standard classification (National Construction Services Development Agency - LPJKN). The depth of both standard classifications creates differences in the implementation so that some details of LPJKN do not have corresponding KBLI-2005.

D. Adoption of ISIC in the National Accounts

3.9   Indonesian GDP has been using KLUI (based on ISIC rev 2). The reasons why Indonesia has not adopted a new classification such as ISIC rev 3 or ISIC rev 4 are as follows:

Non-technical side: In the past, the push factor from the management to enforce the adoption of new standard was weak, thus not all the subject matter units involved in producing primary data for the compilation of GDP in BPS have adopted the new standard classification. One reason why enforcement was weak is that there was no complaint or requests from the users, thus the subject matter units did not feel the urgency to adopt the new standard classification. As a consequence, the implementation of the new standard classification is neglected. The situation took a turn when the users started to question the coverage of the GDP

With the released of ISIC Rev. 4, which is more comprehensive and has taken into accounts the newly evolved economic activities,,, the current management instructed

all subject matter units and the National Accounts compilers to adopt the new International Standard Industrial Classification., This process will be implemented through the project Statistical Capacity – Change and Reform in the Development of Statistics Project (Stat cap – Cerdas).

a. Technical side: Adoption of a new classification should be supported by the availability of related data. For example, in the ISIC rev 3, 2-digit (division) for "Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods" consisting of 5 divisions:

> 50: Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
>
> 51: Domestic wholesale trade
>
> 52: Retail trade
>
> 53: Exporter
>
> 54: Importer

The availability of the above five divisions in the category of "Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods" is almost nil, so implementation of the related classification in the GDP compilation becomes more difficult. However, by conducting the 2006 Economic Census in Indonesia, the availability of related data categorized by the KBLI-2005 as the basis for input of the new method made GDP compilation possible. As a consequence, the continuation of a related survey to acquire data is extremely important. Meanwhile, the newest classification (ISIC rev 4) has just been released, meaning that the adoption of the newest standard should be taken into consideration when adopting the recommendation for compilation of the GDP figures, namely whether to adopt the newest recommendation or the previous version.

From the above discussion, two important points emerge. First, continually providing the data needed to compile GDP based on the new recommendation has become mandatory, so all related subject matter units should follow the recommendation. Second, the adoption of the standard recommendation should be done at the appointed time, otherwise, when the latest standard is released, adoption becomes more complicated, causing more hesitation and ultimately broader discrepancies.

Moreover, there are more reasons for the adoption of new recommendations in the GDP compilation, especially the availability of data in the services category. Acquiring services data requires special efforts, not only in the field, but also in setting up the methodology. This subject is still a big obstacle in the case of Indonesia. Meanwhile, in ISIC rev 4, there are more detailed categories in services due to the adoption of a new era in the implementation technology.

The best solution to overcome the delay in adopting the new recommendation is total synergy of all related subject matter units and the GDP compiler... In this respect, BPS management has decided to start the changes by implementing the project of STAT CAP – CERDAS.

D. Current Adoption of International Standard Classification

3.10 Adoption of ISIC rev 3 (KBLI-2005) at BPS has not been widely achieved for many reasons. However, since the execution of the 2006 Economic Census, which covers all economic sectors except agriculture, animal hunting, forestry, and fishery, the use of KBLI-2005 has been fully adopted. It was agreed that the continuation of any collection activity at any category included in the 2006 Economic Census would use the standard of KBLI-2005.

3.11 International standard classifications that have been adopted by BPS consists of:

- o International Standard Industrial Classification (ISIC) rev 3
- o Harmonized Commodity Description and Coding System (HS)
- o Standard International Trade Classification (SITC)
- o Broad Economic Categories (BEC)
- o Central Products Classification (CPC).
- o International Classification of Status in Employment (ICSE)
- o International Standard Classification of Occupations (ISCO)

3.12 The first HS code used is the HS 1988. BPS used the HS 1988 in 1989, and the HS 1996 in 1996, then since 2007 BPS used the 10 (ten) HS code based on the 2007 Tariff and Duty Book published by the Customs Office.

- o In 1951, the UN statistical commission urged all governments to use the SITC (Original SITC). By 1960, many countries were compiling international merchandise trade according to SITC. Subsequently, an increase in the volume of trade and the geographical and commodity pattern changes throughout the years have resulted in further revisions to SITC (Rev. 2 in 1976, Rev. 3 in 1988 and Rev. 4 in 2007).
- o BPS now uses SITC Rev. 3 for its merchandise trade statistics. It has been used since 1996. BPS has also developed correlation tables between HS (10 digits) and SITC.
- o BPS now uses ISIC Rev. 2 for its merchandise trade statistics. It has been used since 1996. BPS also developed the correlation tables between HS (10 digits) and ISIC.

3.13 The reasons why the KBLI-2005 need to be revised are as follows:

- o There are more activities in the field that have not been covered yet in the KBLI-2005 as well as ISIC rev 3, consequently, the activities can be seen in any existing categories in the KBLI-2005.

- o ASEAN countries agreed that starting 2007 each member should have a standardized classification of the industrial classification up to the 3-digit level called the ASEAN Common Industrial Classification (ASEAN – CIC). The ASEAN-CIC is adopted from ISIC rev 4 with slight modifications.

- o Guaranteeing internationally consistent and comparable data is mandatory for the future of BPS.

- o BPS management has decided to fully agree and enforce not only revisions but also implementations of existing recommendation.

- o Draft structure of KBLI-2009:
  - Category: Alphabet – 21 categories
  - Main Group: 2 digits – 88 main groups
  - Group: 3 digits – 242 groups

The Development of KBLI:
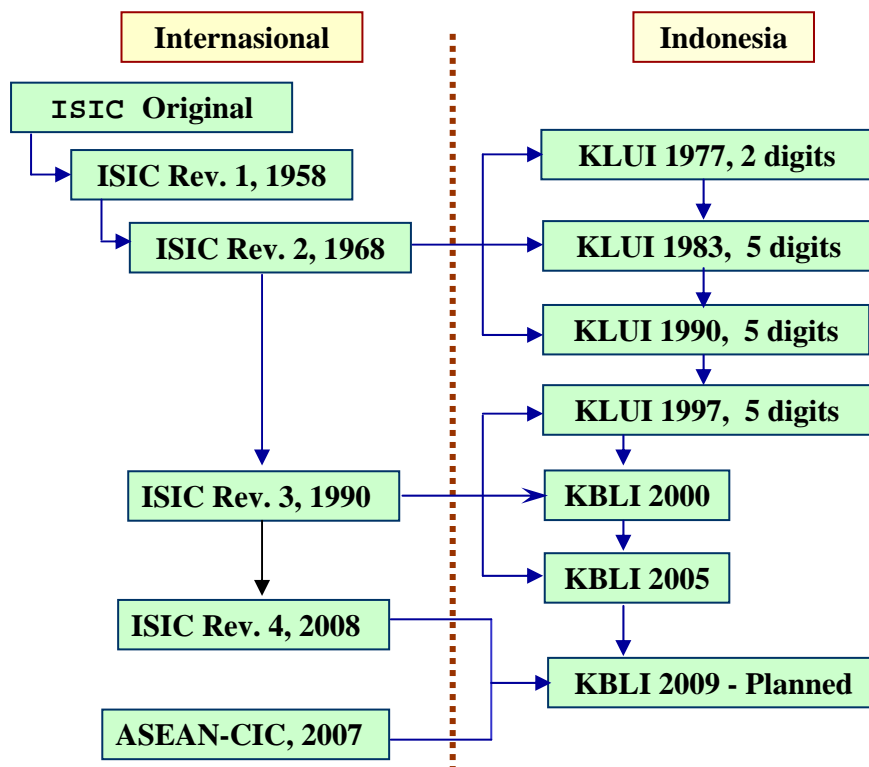
3.14 ACIC is created based on ISIC revision 4. The changes from the ISIC revision 3 are mainly adding categories for services. The addition includes creating new categories for new industries and creating new categories from existing different components. Moreover, the adding process includes dividing one category into two or more categories.

- o There will be four categories for industries that produce goods and 17 categories for industries that produce services.
- o The main groups (2 digits) are created based on a similarity in process and equal type of character and usage. There will be 40 main groups for industries that produce goods and 48 main groups for industries that produce services.
- o The groups (3 digits) represent further or more detailed classifications of the main groups by following the similarities of criteria. There will be 111 groups for industries that produced goods and 131 groups for industries that produce services.

4 Future developments in Indonesia (BPS) in Adopting International Standard

4.1 There will be some major impacts and initiatives in implementing the newest ISIC revision 4 in the GDP compilation in BPS. Prior to implementation of the new standard, BPS should decide whether adoption should jump directly to the newest ISIC revision 4 or continue to finalize implementation of SNA93, which is based on ISIC revision 3. Major impacts are in relation to the GDP of new categories, since the partial value of the GDP per category may cause discrepancies. A detailed explanation should be provided clearly to explain to each related government sector or department in charge of sectors. More efforts are needed to collect appropriate input data using the related standard classification. Then each data source will need to be converted from the previous classification used into the new standard classification that will be adopted.

4.2 BPS has set a target of upgrading KBLI-2005 to KBLI-2009 by accommodating the upgrading of ISIC revision 3 to ISIC revision 4 in the third quarter of 2009. This means that the subject matter units can only adopt the new standard after issuing the new version (KBLI-2009), and so actual implementation will take more time after the conversion of the old version of data into the new version is done. Accordingly, ISIC rev 4 can not be adopted within 2009 since changes have to be made to enable comparability of GDP figures and to meet requests to break GDP down by current categories. As a result, the decision of choosing which standard to adopt in implementing the version of ISIC in GDP compilation becomes very crucial.

4.3 Based on the current situation, adoption of the ISIC rev 4 at all relevant units in BPS at the same time apparently could not be done punctually. There will be gradual steps in adopting the ISIC rev 4, although the final target is adopting the newest version

of the standard. First, those units responsible for providing sector data by category, have to adopt the newest standard, while the GDP compiler group must adopt the ISIC revision 3 as soon as possible. When all subject matter units started to provide data based on ISIC revision 4, the GDP compilation using newest standard should soon start. However, practical changes in the new standard from the existing standard is very time consuming and needs more attention, not only in technical aspects but also in the form of a strong willingness in the organization, from the senior management level to the technical person in charge of a specific area.

4.4 STAT CAP – CERDAS: As mentioned earlier, BPS has set up a very important initiative, which will enable BPS to set itself up for the future as well as addressing some more urgent issues associated with the quality of statistics. The project is the so-called Statistical Capacity – Change and Reform in the Development of Statistics Project (Stat cap – Cerdas). Through this project, BPS will usher in a new era in providing high-quality statistics by making changes internally, comprehensively improving quality, including a change in the attitude of how to produce the best quality data. It is also true that it may be possible to modify the existing organizational structure. Thus, the organization will adopt IRIS2008 but with some adjustments to fit the current situation in Indonesia. The focus of the project will be on the most important initiatives that are largely driven by the most important user needs and the infrastructure improvements needed to ensure that these improvements are sustainable. The most important initiatives will be focusing on very limited product lines, which cover the following areas: National Accounts, Foreign Trade, Production Statistics, Price Statistics, and Labor and Poverty Statistics. The reason for limiting the product lines is mainly the limited budget of the donor agency. However, by optimizing the local budget, other product lines will also be improved in line with the project.

5 Conclusion and Summary

5.1 In general, IRIS2008 is very valuable for adoption by NSO, although in many points the adjustments are necessary, since the circumstances in each country, especially developing countries, are different. The ultimate target of every NSO is to present high quality statistics to users. High quality means regionally and internationally comparable, thereby implementing international standards will deliver more benefits to achieving the goals. However, there are some points that need to be taken into consideration when international standards are adopted:

- o Strong commitment from top management at the NSO in all related aspects as a consequence of adopting international standards, including appointing responsible units in the NSO to initiate, set up, monitor and evaluate the implementation.
- o Create adjusting recommendations so that the standard will be applicable locally by providing a transformation method to enable international comparison. Based on the actual condition, generally subject matter units are slow in applying new standard.

5.2 For BPS, although currently the adoption of the current international standard has not been widely done, the initiative has long been underway. The problems occurred when the new version or revision was released. Changing from the old version to the new version became very slow. Once they lagged in adopting the new standard, there will be a leisurely start to updates. Less attention from senior management and weaknesses in the internal system in enforcing the use of new standard classifications are the sources of suspending the adoption. However, with the new commitment from top level management, BPS will begin presenting high quality statistics by initiating the STAT CAP-CERDAS project.

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**APPLICABILITY OF IRIS 2008 AND ISSUES
FROM THE VIEWPOINT OF THE PHILIPPINES**

by

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February 2009

Note: The content of the report is of the view of the author, it does not represent the view of the Statistical Organization.

I. BACKGROUND

Rationale of the Country Report

1. In preparation for the establishment by 2015 of an ASEAN Community based on the ASEAN Charter, the Economic Research Institute for ASEAN and East Asia (ERIA) was established in 2008. Its main objective was to launch full-scale research aimed at promoting economic integration in East Asia. Internationally comparable statistics will play an important role in undertaking this economic research. For East Asia, mutual dependence is particularly strong in the area of production; hence international comparability of *industrial* statistics among member countries is highly important.

2. Toward this end, the Hitachi Research Institute has proposed to the ERIA a research project to establish a Working Group on Developing Internationally Comparable Industrial Statistics in East Asia. One of the tasks of the Working Group is to undertake a survey of the current situation of the international comparability of industrial statistics in the East Asian countries. Specifically, this country report will, from the viewpoint of the Philippines, examine the 2008 International Recommendations on Industrial Statistics (IRIS 2008) issued by the United Nations Statistics Division (UNSD). It will also analyze the situation for industrial statistics on the Philippines in terms of IRIS 2008.

Overview of the Philippine Statistical System

3. The government-wide Philippine Statistical System (PSS) provides statistical information and services to the public. Its decentralized structure is comprised of the major statistical agencies and other units in the government, both national and local, engaged in the production of statistics resulting from surveys and censuses, and administrative/management and regulatory functions. The major statistical agencies in the PSS include a statistical policymaking and coordinating body, National Statistical Coordination Board (NSCB); producer of general purpose statistics, National Statistics Office (NSO); producer of agriculture and fishery statistics, Bureau of Agricultural Statistics of the Department of Agriculture; producer of specific purpose statistics on labor and employment, Bureau of Labor and Employment Statistics, Department of Labor and Employment; producer of monetary and banking statistics, Department of Economic Statistics, Bangko Sentral ng Pilipinas; and a research and non-formal training institution on statistics, Statistical Research and Training Center. Each institution has its own role and responsibility in the system. Other data producers of statistics in the government include the divisions/units usually within the planning service of the various departments and bureaus.

4. The NSCB formulates policies, delineates responsibilities, and sets priorities and standards on statistics. It maintains multi-sectoral frameworks and indicator systems to monitor the economy and the socio-economic status of the Philippine public. It is primarily responsible for the compilation of the Systems of National Accounts in the Philippines. The NSCB provides links and forums for coordination among key players in the PSS. It also serves as the statistical clearing house and liaison for international matters.

5. To develop new statistical activities, draft policies and resolve policy and technical issues, inter-agency committees (IACs) and technical working groups are created. Among these IACs is the Technical Committee on Statistical Standards and Classifications (TCSSC). Created by NSCB Executive Board Resolution No. 5, Series of 1988, the TCSSC is tasked with establishing statistical standards and classification systems by providing a mechanism for coordination and a proper forum for the exchange of views and expertise in order to resolve technical issues and problems of data users and producers.

Philippine Standard Industrial Classification

6. One of the mechanisms implemented by the NSCB to promote a more efficient statistical system and to ensure reliable, relevant and accessible information is the maintenance of a standards and classification system. The NSCB Executive Board formulates policies and resolutions to provide directions and guidelines. The board issues standard concepts and data classification systems to ensure consistency among data producers. Among the standard classification systems maintained by the NSCB and adopted by the key players of the PSS are the Philippine Standard Geographic Codes, Philippine Standard Commodity Classification, Philippine Standard Occupational Classification, Philippine Standard Classification of Education Statistics and the Philippine Standard Industrial Classification (PSIC). A standard industrial classification is necessary to ensure uniformity and comparability of statistics on economic activities compiled in the country.

7. The current standard industrial classification adopted by the PSS is the 1994 PSIC. This is based on the International Standard Industrial Classification Revision 3 (ISIC Rev. 3) issued by the United Nations in 1989. Its adoption by concerned government agencies and instrumentalities is embodied in NSCB Executive Board Resolution No. 7, Series of 1995. NSCB Executive Board Resolution No. 3, Series of 2002 approved for adoption the amended 1994 PSIC which accounted for changes in various economic activities brought about by the introduction of new technologies.

8. With the release of the ISIC Rev. 4 by the UN, its adoption by the PSS and concerned government agencies, including the NSO, will have to undergo a similar process.

Specifically, the Technical Working Group (TWG) on industrial classification will review ISIC Rev. 4 and its relevance and applicability to the Philippines. The TWG will present its output to the Technical Committee on Statistical Standards and Classification. After a thorough review process the TC-SSC will recommend to the NSCB Executive Board the adoption of the PSIC based on ISIC Rev. 4. Only after the issuance of a Board Resolution can the concerned government agencies and instrumentalities officially adopt the PSIC based on ISIC Rev. 4.

Overview of the Philippines National Statistics Office

9. The NSO is the major statistical agency in the Philippines, responsible for collecting, compiling, classifying, producing, publishing and disseminating general-purpose statistics as provided for in Commonwealth Act No. 591. This was the original law of the NSO which took effect on August 19, 1940. Among other duties, the NSO is tasked with undertaking all censuses on population, agriculture, commerce and industry; conducting statistical surveys by enumeration, sampling and other methods, and compiling and classifying other statistical data and information; and publishing and disseminating all information related to the above functions.

10. Other legislative acts and presidential directives authorizing the NSO to undertake censuses and surveys are: Presidential Decree No. 418, dated March 20, 1974, which remade the Bureau of the Census and Statistics as a new agency known as the National Census and Statistics Office (NCSO) under the administrative supervision of the National Economic and Development Authority; Executive Order No. 121 dated August 4, 1987, which renamed the NCSO as NSO, which would become the major statistical agency responsible for generating general purpose statistics and undertaking censuses and surveys as designated by the NSCB Executive Board; and Executive Order No. 352, dated July 1, 1996, which designated statistical activities that would generate critical data for government and private sector decision-making.

11. To carry out its mandate to produce industrial statistics, the NSO undertakes the following projects and activities: Census of Philippine Business and Industry (CPBI), Annual Survey of Philippine Business and Industry (ASPBI), Quarterly Survey of Philippine Business and Industry (QSPBI) and the Monthly Integrated Survey of Selected Industries (MISSI). The CPBI, ASPBI, QSPBI and MISSI are designated statistics under EO 352. The NSO also maintains a List of Establishments which is used as the framework for establishment censuses and surveys.

II. APPLICABILITY OF THE IRIS 2008 FROM THE VIEWPOINT OF THE PHILIPPINES

Scope of Industrial Statistics

12. IRIS 2008 defines industrial statistics, in general, as statistics reflecting characteristics and economic activities of units engaged in a class of industrial activities defined by the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC Rev. 4). The term "industry" thus refers to a class of ISIC, which encompasses all economic activities including agriculture and service-production. The broad definition of industry also holds true in the Philippines, but the amended 1994 Philippine Standard Industrial Classification (PSIC) currently being adopted is based on ISIC Rev. 3. The scope of establishment censuses and surveys in the Philippines covers the following major divisions: Agriculture, Hunting and Forestry; Fishing; Mining and Quarrying, Manufacturing; Electricity, Gas and Water Supply; Construction; Wholesale and Retail Trade and Repair of Motor Vehicles, Motorcycles and Personal and Household Goods; Hotels and Restaurants; Transportation, Storage and Communication; Financial Intermediation; Real Estate, Renting and Business Activities; Education; Health and Social Work; and Other Community, Social and Personal Services. Excluded major divisions in the 1994 PSIC are: Private Households with Employed Persons; Extra-Territorial Organizations and Bodies; and Public Administration and Defense, Compulsory Social Security.

13. The recommendations of IRIS 2008 on industrial statistics are relevant to a limited set of economic activities primarily in the following areas: mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply and water supply; sewerage, waste management and remediation activities. Basically, the limited scope of industrial statistics in the Philippines covers Mining and Quarrying; Electricity, Gas and Water Supply and Manufacturing. By broad industry group in the SNA, that is, Agriculture, Industry and Services, with Industry including Construction in addition to Mining and Quarrying; Electricity, Gas and Water Supply; and Manufacturing.

Statistical Units

14. According to IRIS 2008, statistical units may be defined following many criteria: legal, accounting or organizational; geographical; and production. The relative importance of these criteria depends on the statistical purpose of compilation and dissemination. A legal or institutional criterion helps to define units that are recognizable and identifiable in the economy. In some cases, legally separate units need to be grouped together as they are not sufficiently autonomous in their organization. In order to define an institutional

unit, accounting or financial criteria also have to be applied. The NSO adopts the aforementioned criteria in defining a statistical unit.

15. In terms of legal entity or legal organization, the NSO has the following categories to classify a statistical unit:

   ❖ Single Proprietorship refers to a business establishment organized, owned and managed by one person who alone assumes the risk of the business enterprise.

   ❖ Partnership refers to an association of two or more individuals for conducting a business enterprise based on 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.

   ❖ Government Corporation is a private corporation organized for private aim, benefit or purpose, and owned and controlled by the government.

   ❖ Private Corporation is a corporation organized by private parties.

   ❖ Cooperative is an organization composed primarily of small producers and/or consumers who voluntarily join together to form a business enterprise which they own, control and patronize.

   ❖ Others include private associations, foundations, NGOs or other forms of legal organizations not classified in any of the above.

16. By organizational criteria or economic organization, the NSO classifies a statistical unit according to the following:

   ❖ Single establishment (EO=1) is an establishment which has neither a branch nor a main office.

   ❖ Branch only (EO=2) is an establishment which has a separate main office located elsewhere.

   ❖ Establishment and main office (EO=3) are both located in the same address and with branch(es) elsewhere.

   ❖ Main office only (EO=4) is the unit which controls, supervises and directs one or more establishments of an enterprise.

   ❖ Ancillary unit other than Main Office (EO=5) 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: warehouses of plants or wholesale establishments; repair shops, garage or terminals of transport establishments

17. A unit can be geographically identified. Observational and analytical units are defined in so as to permit data to be compiled for local, regional and national economy. The rule regarding geographical criteria is helpful in order to permit consolidation and avoid omissions and duplications of units. In the Philippines, establishments are classified by

18. In terms of production criteria, entities engaged in similar economic activities are grouped together as it helps in analyzing homogeneous categories of foods and services produced in the economy following the application of homogeneous production technologies. Economic activities undertaken by statistical units in the Philippines are determined with reference to the specific categories of the amended 1994 PSIC.

Statistical Units for Industrial Statistics

19. The NSO conforms to the IRIS 2008 recommendation, which states that the statistical unit for industrial statistics should ideally be an establishment, as this is the most detailed unit for which the range of data required is normally available. The data gathered, in order to be analytically useful, need to be grouped according to such characteristics as type of activity, geographical area and size, and this is facilitated by the use of the establishment unit.

20. The NSO adopts the international definition of an establishment, which is an economic unit under a single ownership or control, i.e., under a single legal entity, engaged in one or predominantly one type of economic activity at a single, fixed location. This ideal concept of the establishment is applicable to many of the situations encountered in industrial inquiries, particularly in manufacturing.

21. In actual practice, however, there are difficulties in applying the ideal definition, so the NSO defined an establishment in operational terms to take into account the organization and record-keeping practices of certain sectors by making the single location and activity criteria more flexible. Thus, the operational definition of an establishment is as follows: A unit engaged in the production of the most homogeneous 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 the production of these goods and services and the materials, labor and physical resources used in this production.

Characteristics of Statistical Units

Identification Code

22. The identification code is a unique number assigned to a statistical unit, which may comprise digits identifying its geographic location, type of activity, whether a unit is a principal producing unit or an ancillary unit, link to its subsidiaries/principal if any, etc. At

the NSO, each establishment is assigned a unique 14-digit Establishment Control Number (ECN). The first four digits represent the province and municipality codes; the next six digits represent the establishment sequence number in the List of Establishments, the next two digits represent the year the establishment was listed in the LE; the Alpha represents the sector code in the PSIC as listed in the LE and the last digit is a check digit.

Size

23. The NSO adopts the IRIS recommendation on the definition of size based on the average number of employees for the establishment during the reference period, which is as of November 15 for the annual surveys and censuses. The size classification consisted of classes of the following sizes measured in terms of the average number of employees: 1-4, 5-9, 10-19, 20-49, 50-99, 100-199, 200-499, 500-999, 1,000-1,999 and 2,000 and over.

Demographic Characteristics

24. The demographic characteristics provide information about the period of economic activity of a given unit and include the date of commencement and cessation of its activity. Given the dynamics of creation (birth)/cessation (death) of an economic unit in the economy, these characteristics also have significance for identifying units as a target population for statistical surveys. As recommended in IRIS 2008, the NSO stores the demographic characteristics of the statistical unit, the establishment, in a Business Register or the List of Establishments (LE).

Data Items

25. IRIS 2008 lists the data items recommended for the collection and publication of industrial statistics. Compilers are encouraged to use the as reference for developing a list of data items in accordance with their own statistical circumstances, respondent load and available resources. IRIS 2008 also provides the definitions for the data items to be used for international comparability.

26. Attachment 1 shows a comparison of the data items on industrial statistics recommended by IRIS 2008 and those actually compiled by the NSO.

Data Collection Strategy

27. The aim of industrial statistics is to obtain comprehensive and accurate statistical information on industrial activity in the economy. This information may be obtained through statistical surveys or through institutional links with data sets available from other

administrative sources. In the Philippines, information on industrial statistics is mostly obtained from statistical surveys and censuses.

Business Register

28. The statistical business register, a register of enterprises or establishments engaged in production of goods and/or services, is an essential tool for data collection. A list of all economic units in the survey target population serves as a sampling frame used for conducting sample surveys for data collection. The sampling frame should include all accurate and up-to-date data items associated with units required for stratification, sample selection and contact purposes; for example, industrial, geographical, size codes, name, address and description of the unit, telephone and preferably a contact name. In the case of an existing business register, the statistical units may be assigned a unique identification code that may provide the necessary information for identifying the enterprise to which the establishment belongs and vice-versa. The business register may also store the name of the owner enterprise and the address of its central office and other establishments.

29. As a minimum, IRIS 2008 recommends that the business register should include the following information: name and physical location of each enterprise; mailing address, which may be different from its physical location; name and address of the central office or the headquarters of the enterprise and establishments that are part of a multi-establishment enterprise; type of economic activity, description or code; legal organization - incorporated or unincorporated; type of ownership: public (by central, state and local governments); national, private or foreign controlled; number of employees; volume of sales or value of output; and source and date of information.

30. The NSO has maintained a Business Register or List of Establishments (LE) since 1961. This is used as the sampling frame for its establishment surveys and censuses. The LE captures the business births of establishments. It contains the business name or registered name and address of the establishment, geographic code, street code, building serial number, establishment serial number, tax identification number, telephone/fax number, email address, economic area name, description of main economic activity, PSIC code, establishment control number (a unique identification code assigned to an establishment), average total employment and ATE code, number of paid employees, economic organization, legal organization, total assets (exclusive of land), year operation started, name and address of main office for branch or ancillary unit, name and address of reporting unit, LE indicator and current status of the establishment.

From the minimum recommended data items of IRIS 2008 to be included in the Business Register, only volume of sales or value of output is not included in the LE of the NSO. This item is difficult to acquire in a comprehensive field listing.

31. IRIS 2008 recommends that the frame for every list-based enterprise survey for industrial inquiry should be derived from a single, general-purpose business register maintained by the statistical office, rather than the option of using standalone registers for each individual survey. There are two basic reasons for using a single business register. First, and most importantly, the business register operationalizes the selected model of statistical units and facilitates classification of units according to the agreed conceptual standards for all surveys. If survey frames are independently created and maintained, there is no means of guaranteeing that surveys are properly coordinated with respect to the coverage they provide. Second, it is more efficient for a single organizational unit within the national statistical office to be responsible for frame maintenance than for each survey unit to create the frames for each of its surveys.

32. The NSO follows this recommendation. The LE is the only sampling frame it uses in all its establishment surveys and censuses. It is maintained by a single unit within the NSO, the Statistical Sampling and Operations Division, under the Industry and Trade Statistics Department.

33. To keep the coverage of the business register as representative as possible, it should contain current information on its constituents. This means the register should be maintained over time to take note of changes in enterprise dynamics. The LE of the NSO is continuously updated either through field listing and mail inquiries and/or through secondary sources such as the Securities and Exchange Commission, industry associations, local government units and other government agencies. Survey feedback from other censuses and surveys of the NSO is also utilized to update and validate the LE.

Data Collection Strategy

Economic Census

34. Economic or establishment censuses can normally provide the most comprehensive set of small area data for establishing the parameters of the universe. Notwithstanding the strength of the census instrument, this is generally a resource-intensive exercise and requires large inputs of manpower and time. This tends to limit censuses to a low frequency, such as once in five years, without fixed location.

35. The Philippines has a long history of undertaking economic censuses. The latest, the 2006 Census of Philippine Business and Industry (CPBI) is the 14th in a series of economic censuses. It is preceded by those for 1999, 1994, 1988, 1983, 1978, 1975,

1972, 1967, 1961, 1948, 1939, 1918 and 1903. The census of establishments, or economic census, is a comprehensive collection, compilation, evaluation, analysis and publication of data about the economic activities of the country. It is the source of information for establishing a benchmark level for the measurement and comparison of national, regional and provincial economic growth. Data collected in the census are shown in the Attachment.

36. As previously mentioned, the CPBI covers 14 sectors of the economic activities defined in the PSIC. Among the sectors covered by the CPBI are sectors producing industrial statistics: Mining and Quarrying; Electricity, Gas and Water Supply, Construction and Manufacturing.

37. Based on the system of designated statistics, economic censuses should be conducted every five years. Resource constraints, however, prevented the NSO from undertaking an economic census as designated. The latest 2006 census, conducted in 2007, was undertaken seven years after the last census, the 2000 CPBI for reference year 1999.

Annual Inquiry

38. All countries, regardless of the development of their statistical system, have a limit to the resources available for data collection. Nonetheless, countries should endeavor to provide estimates that cover all industrial establishments, using complete enumeration of all establishments above a certain size and sampling for the others, including those in the non-list frame segment.

39. Another major source of industrial statistics is the NSO annual survey of establishments. The Annual Survey of Philippine Business and Industry (ASPBI) aims to collect and generate information on the structure and trends of economic activities over the entire country. The first Annual Survey of Manufactures was undertaken in 1956. The ASPBI also covers all the 14 sectors of economic activities classified under the PSIC. Data items covered by the ASPBI are also shown in the Attachment.

40. The system of designated statistics states that an annual survey of establishments will be undertaken during intercensal years. Likewise, resource constraints prevented the NSO from undertaking an annual survey for reference years 2002, 2004 and 2007.

Infra-annual inquiry

41. The coverage of the infra-annual inquiry, normally quarterly or monthly, is necessarily more restricted than that of the annual inquiry. Even in countries with a highly developed statistical system, it would be difficult to cover small establishments monthly or quarterly to generate short-term production-related statistics to establish the business cycle on supply, demand and production factors.

42. Since 1960, the NSO has conducted the Quarterly Survey of Philippine Business and Industry (QSPBI) for the purpose of providing indicators on gross revenue and/or sales, employment and compensation for the various sectors of the economy on a quarterly basis. The results of the QSPBI are primarily used by the NSCB as direct inputs in the compilation of the quarterly national accounts. The survey data are also used in the construction of the national indices on employment, compensation and revenue as an indicator of quarterly economic trends. The QSPBI is a nationwide survey covering all establishments with average total employment of 20 or more, except those in the agriculture, hunting and forestry and fishing sectors. Data items included in the QSPBI are employment, compensation, revenue, sales, value of production, cost, inventories and capacity utilization. The industry domains are key industries in the region and industry players in each sector and sub-sector.

43. The NSO also undertakes a Monthly Integrated Survey of Selected Industries (MISSI). The results of the MISSI are intended to provide flash indicators on the performance of the manufacturing sector. Also a designated statistical activity undertaken by the NSO, the results of the MISSI are used to compile indices on the Value of Production, Volume of Production, Value of Net Sales and Volume of Net Sales. The latest MISSI indices have 2000 as the base year. Capacity utilization of the manufacturing sector is also available from the MISSI.

Reference Period

44. The NSO follows the recommended reference period of IRIS that the data compiled in both the annual surveys and census should relate to a 12-month period. Except for employment data, which is as of November 15, all data collected for the ASPBI and the CPBI are for January to December of the reference year. For the MISSI, the reference period is the calendar month and for the QSPBI, the calendar quarter, that is, January-March, April-June and so on.

Data Compilation Methods

Data Validation and Editing

45. Data collected in establishment surveys and censuses are affected by various response and non-response errors. To resolve these problems of missing, invalid or inconsistent responses, editing and imputation have become an integral part of all establishment surveys' data processing operations. Editing is the systematic examination of data collected from respondents for the purpose of identifying and eventually modifying inadmissible, inconsistent and highly questionable or improbable values, according to predetermined rules. It is an essential process for assuring the quality of the collected

data. Micro-editing (also called input editing) focuses on the individual record or questionnaire, as opposed to macro-editing, where checks are performed on aggregated data.

46. It is standard practice at the NSO to undertake data validation and editing not only for industrial surveys, but in all its surveys and censuses. Processing or editing of survey data is done to check for completeness, consistency and reasonableness of data. It consists of two stages: manual editing and machine processing.

47. For the CPBI and ASPBI, completed questionnaires undergo field editing and manual editing in the field offices. Field editing is conducted by the interviewers and provincial office staff to check for completeness and consistency of entries. Standard editing procedures are prescribed in the Field Operations and Processing Manual. Any inconsistent or missing data are corrected at this stage as staff can immediately receive verification from the respondents. Office verification of inconsistent or missing data is done by directly contacting the establishments via phone or email.

48. After manual editing at the field offices, completed questionnaires undergo validation and verification at the Central Office. NSO subject matter specialists perform both micro-editing and macro-editing. Validation is conducted by comparing the current data with data from administrative sources such as from the Securities and Exchange Commission and data from previous surveys and censuses. Telephone inquiry and the internet are utilized to validate the responses.

49. After manual processing, the completed questionnaires undergo data entry. The data entry program has built-in facilities to check completeness and simple consistency, such as checking if the sum of details equals the total. After data entry, the data files undergo completeness check, consistency checks and ID validation. In addition to data entry, machine processing involves validation and structural edits, completeness check and generation of summary file reports.

50. The microcomputer-based machine processing and tabulation system developed by the Information Resources Department of the NSO utilizes , a software package developed by the International Programs Center of the US Census Bureau. This software has several modules specifically designed for processing census and survey data. Modules used for processing the census and survey are the data dictionary editor, data entry, batch edit and cross tabulations.

51. An innovation introduced by the NSO to keep track of the distribution and collection of questionnaires is the Monitoring and Tracking System (MTS), a computer program developed to provide immediate information on the status of the questionnaire from the time it is distributed to the sample establishment; the date it was collected and transmitted to the Central Office. The MTS enables field offices to submit progress

reports on the field operation electronically to the Central Office. A similar system developed for the Central Office enables the Industry and Trade Statistics Department to inform management and provide feedback to field offices on the progress of the census and survey operations. Progress and status reports are prepared periodically through the MTS. This strategy has encouraged the field offices to improve their collection of questionnaires, thereby increasing the response rates of the censuses and surveys.

52. For the QSPBI, reports of establishments also undergo an evaluation procedure for validity. The growth rates of the variables in the current quarter report are compared with the previous quarter report. The ratio of these reports for the employment, compensation and revenue variables should be within the range of 0.75 to 1.50 based on the evaluation of historical QSPBI reports. Reports that deviate from these ranges are verified with the sample establishment for correction or explanation.

 Imputations

53. Missing data often encountered in most surveys create problems during data editing. Data may either be missing for a particular data item on the questionnaire (item non-response) or the selected unit may not return the filled-in questionnaire at all (unit non-response). The technique of imputation is used for estimating the missing data in the case of item non-response. The problem of unit non-response is usually dealt with by re-weighting. Item non-response and invalid data in the data set ultimately affect the quality of the survey results. Imputation consists of replacing one or more erroneous responses or non-responses in a record, or more than one record, with plausible and internally consistent values. This is the process of filling gaps and eliminating inconsistencies, and the means of producing a complete and consistent file containing imputed data.

54. Among the variety of methods for imputation recommended by IRIS 2008, the following methods are adopted by the NSO for the ASPBI and CPBI:

   ❖ Substitution: Relies on the availability of comparable data. Imputed data can be the value for the establishment from the same survey occasion in the previous year, adjusted to reflect the average increase (decrease) of the data item in the stratum.

   ❖ Cold deck**:** Makes use of a fixed set of values, which covers all data items. Values can be constructed with the use of historical data, subject matter expertise, etc. A "perfect" questionnaire is created in order to answer complete or partial imputation requirements.

   ❖ Hot deck**:** Used to describe a family of imputation methods widely used in survey practice. A hot deck method is generally one in which each missing value is replaced by the available value from a "donor," i.e. a similar participant in the same survey. The donor can be randomly selected from a pool of donors with the same set of predetermined characteristics. A list of possible donors matching these criteria is

created and one is randomly selected. Once a donor is found, the donor response (for example, yearly income) replaces the corresponding missing or invalid response.

❖ Nearest-neighbor imputation or distance function matching**:** The donor can also be found through a method called nearest neighbor imputation, which assigns an item value for a failed edit record from a "nearest" passed edit record. In this case, "nearest" is defined using a distance function in terms of other known variables. The closest unit to the missing value is then used as the donor.

55. In the case of the MISSI, missing data are mainly due to late reporting by sample establishments. In few cases, imputation is also done for problem data that need verification from the sample establishments. The current imputation method used is historical imputation without trend adjustment, that is, the latest available data on the sample establishment is used to replace the missing monthly data. For the 200-based MISSI, imputed cases are few because response rates are high, reaching 95%.

Dissemination of Industrial Statistics

56. Data dissemination consists of distribution or transmission of statistical data to policymakers, the business community and other users. This is one of the important activities of the national statistical office.

Statistical Confidentiality

57. Data furnished by statistical units relating to their business is considered to be confidential, and should not be used for any other than statistical purposes. Section 4 of Commonwealth Act No. 591, the organic law of NSO, states that:

"… Data furnished to the Bureau of the Census and Statistics by an individual, corporation, partnership, institution or business enterprise shall not be used as evidence in any public office either as evidence for or against the individual, corporation, association, partnership, institution or business enterprise from whom such data emanates; nor shall such data or information be divulged to any person except authorized employees of the Bureau of the Census Statistics, acting in the performance of their duties; nor shall data be published except in the form of summaries or statistical tables in which no reference to an individual, corporation, association, partnership, institution or business enterprise shall appear. Any person violating the provisions of this section shall, upon conviction, be punished by fine of not more than six hundred pesos or by imprisonment for not more than six months, or by both…"

58. Confidential treatment covers not only the questionnaire but also the published tables that do not contain information from individual respondents but aggregated information referring to a number of respondents. Sometimes it is possible to deduce information about an individual respondent from the total especially when the contribution of one respondent dominates the total. To avoid this, the NSO suppress data that would reveal the activities of a single establishment. Published data include, as a minimum, data for

three establishments. Another means used by the NSO to protect confidential data is to aggregate a confidential cell in a table with another cell; then the information is disseminated for the aggregate and not for the two individual cells.

Equality

59. Statistics compiled by national statistical offices are collective goods that imply that no users are privileged and every citizen can utilize statistical data under equal terms. It is important to ensure that no new data are supplied to anyone before these are officially released. To ensure simultaneous dissemination of industrial statistics to all users, the NSO prepares and announces an advance release calendar, which is posted on the NSO website before the end of the year.

Objectivity

60. The independent and objective position of national statistics does not permit subjective interpretations. The NSO sees to it that the released data are not accompanied by judgments or recommendations.

Dissemination Formats

61. Industrial statistics in the Philippines are disseminated both electronically (online or on CD-ROM) and in paper publications. Due to the high cost of printing publications, the NSO use less voluminous printed materials such as press releases, special releases and bulletins. Preliminary results of the MISSI are disseminated in the form of monthly press releases, 55 days after the reference month. These are posted on the NSO website. Final tabulations are available in printed hard copy. For the CPBI and ASPBI, preliminary results are provided in the form of special releases posted on the NSO website. Final results are made available in printed publications. In addition to statistics routinely disseminated, the NSO can make special tabulations available to users upon request. Dissemination of the results of the industrial statistics is accompanied by technical notes or metadata comprising the data coverage, periodicity, methodology, data confidentiality and dissemination formats.

62. With the assistance of the UN ESCAP, the NSO utilized Microdata Management Toolkit v1.04 for archiving and documenting survey results of the 2003 and 2005 Annual Survey of Philippine Business and Industry.

CONCLUSION

63. In general, the Philippines NSO conforms to the recommendations of IRIS 2008 on the compilation of industrial statistics. There is much room for improvement though. Areas which need strengthening and will need further research for international comparability and to address SNA data requirements are the enterprise survey and the informal sector.

A Comparison of the Data Items Recommended by IRIS 2008 and Industrial Statistics Compiled by the Philippines National Statistics Office

Data Items Recommended by IRIS 2008	Remarks
1. Demography	
1a. Characteristics of statistical units	
Identification code	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Location	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Period of operation	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Type of economic organization	Included in the LE, MISSI, QSPBI, ASPBI and CPBI, but statistical unit used is establishment rather than enterprise
Single-establishment enterprise	
Multi-establishment enterprise	
No. of establishments in the multi-establishment enterprise	
Type of legal organization and ownership	Included in the LE, MISSI, QSPBI, ASPBI and CPBI, but statistical unit used is establishment rather than enterprise
Incorporated enterprises except limited liability partnerships and cooperatives	Included in the LE, MISSI, QSPBI, ASPBI and CPBI, but statistical unit used is establishment rather than enterprise. No prior data on ownership. Data item on capital participation included starting with 2008 ASPBI.
Public ownership	
National private	
Foreign controlled	
Cooperatives and limited liability partnerships	Included in the LE, MISSI, QSPBI, ASPBI and CPBI, but statistical unit used is establishment rather than enterprise. No prior data on ownership. Data item on capital participation included starting with 2008 ASPBI
Public ownership	
National private	
Foreign controlled	
Non-profit institutions	Not included; non-profit institutions are not covered in the LE
Public ownership	
National private	
Foreign controlled	
Unincorporated enterprises Of which:	Starting with the 2006 CPBI, the scope and coverage of the census and annual surveys includes only the formal sector. Establishments whose economic organization is classified as single establishment, legal organization – single proprietorship and with Average Total Employment of less than 10 are excluded from the CPBI and CPBI.

Appendix (cont.)

Data Items Recommended by IRIS 2008	Remarks
Informal sector enterprises	Covered by a separate survey on the informal sector but not in establishment surveys and censuses
Size	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Kind–of-activity	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Type of unit	Included in the LE, MISSI, QSPBI, ASPBI and CPBI
Principal producing unit	
Ancillary unit	
1b. Number of statistical units	
Number of enterprises	Not yet included
Multi-establishment enterprises	
Number of establishments	Included in the ASPBI and CPBI
Single establishment enterprises	Included in the ASPBI and CPBI; can be determined from the economic organization of the establishment
2.Employment by Sex	
Total number of persons employed Of which:	Included in the ASPBI and CPBI; also included in the QSPBI but not disaggregated by sex
Working proprietors	Included in the ASPBI and CPBI; also included in the QSPBI but not disaggregated by sex
Unpaid family workers	Included in the ASPBI and CPBI; also included in the QSPBI but not disaggregated by sex
Employees Of which:	Included in the ASPBI and CPBI
Production workers Of which:	Included in the ASPBI and CPBI
Employees engaged in research and development	Not included in the ASPBI and CPBI but in a separate survey on Research and Survey Personnel undertaken by the NSO with the Department of Science and Technology
Employees engaged in mineral exploration and evaluation	Not included
Employees engaged in software and database development	Not included
Employees engaged in production of artistic originals	Not included
Employees engaged in own account fixed asset formation and major repair	Not included
Other employees	
Number of leased employees	Not included
Total number of persons employed in the informal sector	Not included
Employees in the informal sector	
Other persons	

Appendix (cont.)

Data Items Recommended by IRIS 2008	Remarks
2b. Average number of persons employed by sex	
Average number of persons employed Of which:	Derived from total employment
Employees	
Production workers	
Other employees	
2c. Hours worked by employees by sex	Not available
Hours worked by employees Of which:	
Hours worked by production workers by sex Of which:	Included in ASPBI and CPBI with no breakdown by type of production worker
Employees engaged in research and development	
Employees engaged in mineral exploration and evaluation	
Employees engaged in software and database development	
Employees engaged in production of artistic originals	
Employees engaged in own account fixed asset formation and major repair	
Hours worked by other employees	
Hours worked by leased employees	Not available
3.Compensation of employees	
Wages and salaries in cash and in kind of employees Of which:	Included in QSPBI, ASPBI and CPBI with no breakdown by type of worker or employee
Production workers Of which:	
Employees engaged in research and development	
Employees engaged in mineral exploration and evaluation	
Employees engaged in software and database development	
Employees engaged in production of artistic originals	
Employees engaged in own account fixed asset formation and major construction	
Other employees	
Payments to directors of incorporated enterprises for their attending meetings	Excluded
Social insurance contributions payable by employers	Included in ASPBI and CPBI

Appendix (cont.)

Data Items Recommended by IRIS 2008	Remarks
4. Other Expenditures	
4a. Purchases of goods and services	
Cost of raw materials and supplies except gas, fuel and electricity Of which:	Included in ASPBI and CPBI but with no breakdown
Purchases or receipts of raw materials and supplies from other enterprises	
Value of raw materials and supplies delivered by other establishments of the same enterprise	
Cost of materials for own-account capital formation Of which:	
for research and development	
for mineral exploration and evaluation	
for software and database development	
for production of artistic originals	
for own account fixed asset formation and major repair	
Cost of gas, fuel and electricity purchased	
Cost of individual fuel and gas purchased	Included in ASPBI and CPBI
Cost of electricity purchased	Included in ASPBI and CPBI but lumped with water purchased
Cost of water and sewerage services	
Cost of water purchased	Included in the ASPBI and CPBI but lumped with electricity purchased
Cost of wastewater services purchased	
Cost of sewerage services purchased	Not included
Purchases of services except rental	
Cost of industrial services purchased and also delivered by other establishments of the same enterprise Of which:	Included in ASPBI and CPBI
Maintenance, repair and installation (except construction) services	Included in ASPBI and CPBI under Other industrial services done by others
Contract and commission work	Included in ASPBI and CPBI
Fees paid for leased employment	Not included
Cost of non-industrial services purchased and also delivered by other establishments of the same enterprise	Included in the ASPBI and CPBI

Data Items Recommended by IRIS 2008	Remarks
Maintenance and repair of buildings and structures	Included
Communication services	Included in ASPBI and CPBI but lumped under other non-industrial services done by others
Transport services	Included in ASPBI and CPBI but lumped under other non-industrial services done by others
Advertising and promotional services	Included in ASPBI and CPBI but lumped under other non-industrial services done by others
Financial services (excluding interest payments)	Included in ASPBI and CPBI but lumped under other non-industrial services done by others
Other non-industrial services	Included in ASPBI and CPBI but lumped under other non-industrial services done by others
Purchases of goods and service for resale in the same conditions as received	Included in ASPBI and CPBI
Rental payments	
Rental payments for machinery and equipment	Included in ASPBI and CPBI as other rental expense
Rental payments for dwellings and structures	Included in ASPBI and CPBI
Non-life insurance premiums payable on establishment property	Included in ASPBI and CPBI under other cost
4b. Data items on quantity	**Not included**
Quantity of individually important materials and supplies	
Quantity of individual fuel and gas purchased	
Quantity of electricity purchased	
Quantity of electricity generated	
Quantity of electricity sold	
Total energy consumed (tera joules)	
Quantity of water purchased	
Quantity of water abstracted for own use	
Quantity of water sold	
Total water used (cubic meters)	
Quantity of wastewater treated on site prior to discharge	
Quantity of wastewater discharged without treatment	
5. Value of shipments, receipts for services and other revenues	
5a. Turnover, sales, shipments, receipts for services and other revenues	
Value of shipments/sales/turnover, including transfers to other establishments of the same enterprise	Included in ASPBI and CPBI
Value of shipments/sales/turnover of goods produced by the establishment	

Data Items Recommended by IRIS 2008	Remarks
Value of shipments/sales/turnover of goods produced to other enterprises	Included in ASPBI and CPBI
Transfers of goods produced to other establishments of the same enterprise	Included in ASPBI and CPBI
Exported to customers and affiliated foreign branches	Included in ASPBI and CPBI
Value of shipments/sales/turnover of all goods and services purchased for resale in the same condition as received	Included in ASPBI and CPBI
Receipts for industrial work done or industrial services rendered to others Of which:	
Contract and commission work	Included in ASPBI and CPBI
From units not resident in the country	Not available
Maintenance, repair and installation (except construction) services Of which:	Included in ASPBI and CPBI under other industrial services done for others
Installation work	Lumped under other industrial services done for others
Research and development work of an industrial nature	Not available
Industrial services rendered to other enterprises	Breakdown not available
Industrial services rendered to other establishments of the same enterprises	Breakdown not available
Other revenues	
Revenue from the rental or lease of machinery and equipment	Included in ASPBI and CPBI under other rental income
Revenue from the rental or lease of buildings	Included in ASPBI and CPBI
Other revenues, n.e.c.	Included in ASPBI and CPBI
Value of own-account fixed assets	
5b. E-commerce	
E-commerce sale/turnover/value of shipments/receipts for services or other revenues	Not included in ASPBI and CPBI but in a Survey of Information and Communication Technology undertaken by the NSO in 2002 and the 2008 SICT that will be conducted this year
5c. Data items on quantity	**Not included**
Quantity and value of individually important products	

Data Items Recommended by IRIS 2008	Remarks
6. Inventories	
Total inventories	Included in ASPBI and CPBI
At the beginning of the period	Included in ASPBI and CPBI
At the end of the period	Included in ASPBI and CPBI
Change	Can be derived
Inventories of materials, fuel and supplies	
At the beginning of the period	Included in ASPBI and CPBI
At the end of the period	Included in ASPBI and CPBI
Change	Can be derived
Work-in-progress	
At the beginning of the period	Included in ASPBI and CPBI
At the end of the period	Included in ASPBI and CPBI
Change	Can be derived
Inventories of finished goods	
At the beginning of the period	Included in ASPBI and CPBI
At the end of the period	Included in ASPBI and CPBI
Change	Can be derived
Inventories of goods purchased for resale in the same condition as received	
At the beginning of the period	Included in ASPBI and CPBI
At the end of the period	Included in ASPBI and CPBI
Change	Can be derived
7. Taxes and Subsidies	
Other taxes and subsidies on production	
Taxes	
Other taxes on production	Included in ASPBI and CPBI
Subsidies received	Included in ASPBI and CPBI but with no breakdown
Subsidies on products	Included in ASPBI and CPBI but with no breakdown
Other subsidies on production	Included in ASPBI and CPBI but with no breakdown
8. Output	
Gross output at basic prices	Can be derived
Census output at basic prices	Can be derived
9. Intermediate consumption and census input	
Intermediate consumption at purchasers' prices	Can be derived
Census input at purchasers' prices	Can be derived
10. Value Added	
Total value added at basic prices	Can be derived
Census value added at basic prices	Can be derived

Appendix (cont.)

Data Items Recommended by IRIS 2008	Remarks
11. Gross Fixed Capital Formation	
Assets, capital expenditures, retirements and depreciation	
Gross value of fixed assets (at acquisition cost) at the beginning of the period	Included in ASPBI and CPBI
Dwellings	Included in ASPBI and CPBI lumped as buildings, other structures and land improvements
Other buildings and structures	Included in ASPBI and CPBI lumped as buildings, other structures and land improvements
Machinery and equipment	Included in ASPBI and CPBI
Transport equipment	Included in ASPBI and CPBI
ICT equipment	Included in ASPBI and CPBI
Other machinery and equipment	Included in ASPBI and CPBI
Intellectual property products	Included in ASPBI and CPBI as other intangible assets
Research and development	
Mineral exploration and evaluation	Included in ASPBI and CPBI as other intangible assets
Computer software and databases	Included in ASPBI and CPBI as other intangible assets
Entertainment, literary and artistic originals	Included in ASPBI and CPBI as other intangible assets
Other	Included in ASPBI and CPBI as other intangible assets
Capital expenditure on new and used fixed assets (acquisitions) during the period	
Dwellings	
Other buildings and structures	
Machinery and equipment	
Transport equipment	
ICT equipment	
Other machinery and equipment	
Intellectual property products	
Research and development	
Mineral exploration and evaluation	Included in ASPBI and CPBI as other intangible assets
Computer software and databases	Included in ASPBI and CPBI as other intangible assets
Entertainment, literary and artistic originals	Included in ASPBI and CPBI as other intangible assets
Other	Included in ASPBI and CPBI as other intangible assets

Appendix (cont.)

Data Items Recommended by IRIS 2008	Remarks
Gross value of fixed assets sold, retired and scrapped (disposal) during the period	Included in ASPBI and CPBI
Dwellings	Included in ASPBI and CPBI
Other buildings and structures	Included in ASPBI and CPBI
Machinery and equipment	
Transport equipment	Included in ASPBI and CPBI
ICT equipment	Included in ASPBI and CPBI
Other machinery and equipment	Included in ASPBI and CPBI
Intellectual property products	Not available
Research and development	
Mineral exploration and evaluation	
Computer software and databases	
Entertainment, literary and artistic originals	
Other	
Depreciation	Cannot be determined as separate data; book value of fixed assets included with the depreciation charges already deducted
Dwellings	
Other buildings and structures	
Machinery and equipment	
Transport equipment	
ICT equipment	
Other machinery and equipment	
Intellectual property products	
Research and development	
Mineral exploration and evaluation	
Computer software and databases	
Entertainment, literary and artistic originals	
Gross value of fixed stock at the end of the period	Included in ASPBI and CPBI
Dwellings	
Other buildings and structures	
Machinery and equipment	
Transport equipment	
ICT equipment	
Other machinery and equipment	
Intellectual property products	
Research and development	
Mineral exploration and evaluation	
Computer software and databases	
Entertainment, literary and artistic originals	
12. Orders	Not included
13. Environmental protection expenditures	Not included

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APPLICABILITY OF IRIS 2008 AND ISSUES

FROM THE VIEWPOINT OF THAILAND

by
Luckana Yuvaprakorn

February 2009

Note: The content of the report is of the view of the author, it does not represent the view of the Statistical Organization.

I. BACKGROUND

Rationale of the Country Report

1. Economic growth in East Asian has moved on the stage of success, with the East Asian now occupying a pivotal position in terms of the volume of the global economy for which its account. The characteristics of economic growth are driven by manufacturing industry. In recent years, groundwork has begun on a system to make East Asian more efficient as a single economic zone. Ten Asian countries aim to establish an ASEAN Community based on the ASEAN Charter by 2015.

2. The Economic Research Institute for ASEAN and EAST Asia (ERIA) was established in 2008. The objective was to launch full – scale research with the aim of promoting economic integration in East Asia. The aim of ERIA research is to establish a Working Group on developing internationally comparable industrial statistics in EAST ASIA. One of the task of Working Group is to implement on clarifying the current situation in international comparability of industrial statistics in the East Asian countries. The country report will examine IRIS 2008 issued by United Nations Statistics Division (UNSD) from the viewpoint of Thailand and also analyzing the situation of the industrial statistics in terms of IRIS 2008.

Overview of Statistical system in Thailand

3. Statistical system is an operating system of statistical practices at the national level. Generally there are 2 systems, namely Centralized Statistical System and Decentralized Statistical System.

- Centralized statistical system is a system in which a statistical unit (or statistical office) run by government is a sole compiler of all statistical data.
- Decentralized statistical system is a system with many government agencies compiling data, including the central statistical office who also in charge with coordinating and supervising the operations of data producers.

4. Thailand is now using 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 work of statistical 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.

5. Decentralized statistical system, is able to prioritize the importance of the statistics so that the most important one can be compiled promptly. With specialized subject matter specialists in each ministry to collect data in each specific area, it reduces the workload of the NSO. However, the drawback is that the limited statistical resources have to be thinly scattered around, and also the possibility of duplication of work if not well coordinated; maintaining of statistical standard becomes more difficult; incomplete coverage of data in some areas; and it adds burden to the public if similar data are being collected by different agencies, this will lead to low respond rate of the respondents. The NSO recognized these problems and in the process of setting up a Statistical Master Plan to solve the problems arises form the decentralization statistical system of the country.

Applicable law

6. 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 at the lowest unit level. The information will be compiled and aggregated at national level before it can be released.

Thailand Standard Industrial Classification

7. The statistical system in Thailand is regarded as a decentralized system. The National Statistical Office (NSO) is the core organization in collecting and producing basic statistical data, while other agencies in various ministries also produce their own statistical data for their own purposes. In order to make comparison of both national and international statistics, NSO has established the system of statistical standard and encouraged all statistical agencies to use international concepts, definitions and classifications.

8. The NSO has adopted International Standard Industrial Classification of All Economic Activities (ISIC) Revision 3, 1989, United Nations.

Overview of the National Statistics Office of Thailand

9. The NSO is the main organization which collect and disseminate data in accordance to international standard and guidelines, this is an important source of data for country planning and policy making. The administration of the NSO is divided into the central administrations and the provincial administration.

- The Central Administration consists of 7 departments namely;
    1) Information and Communication Technology Center
    2) Economic and Social Statistics Bureau
    3) Policy and Statistical Techniques Bureau
    4) Statistical Forecasting Bureau
    5) Office of the Secretary
    6) Field Administration Division
    7) Public Opinion Division
- Provincial administrations consists of 75 Provincial Statistical Offices (PSO) located in every province of Thailand.

II. APPLICABILITY OF THE IRIS 2008 FROM THE VIEWPOINT OF THAILAND

A. Scope of Industrial Statistics

10. As recommendations made in IRIS 2008 on industrial statistics are relevant to a limited set of economic activities undertaken by all resident units in the reporting country that are engaged primarily in the following areas:
    (1) Mining and quarrying (section B)
    (2) Manufacturing (section C),
    (3) Electricity, gas, steam and air conditioning supply (section D); and
    (4) Water supply; sewerage, waste management and remediation activities (section E).
    For Thailand, limited scope of industrial statistics cover only manufacturing sector.

B. Statistical Units

Statistical Units

11. Statistical units may be defined following many criteria namely, legal, accounting or organizational criteria; geographical criteria; and production criteria. The relative importance of these criteria depends on statistical purpose of compilation and dissemination. The NSO defined the statistical unit according to IRIS 2008 as an establishment, that is situated in a single location and in which only a single productive activity is carried out or in which the principle productive activity accounts for most of the valued added.

12. In terms of legal entity or form of legal organization, the NSO has the following categories to classify a statistical unit:
    1) Individual proprietor refers to a privately-owned establishment or an establishment owned by or organized in the form of partnership, but not registered.

2) Juristic partnership refers to an establishment which is legally registered by at least 2 persons who were bound together to form and share there responsibilities in a business.

3) Company limited or Public company limited

- Company limited refers to an establishment, which was established and legally registered by an initiative group of at least 7 persons.

- Public company limited refers to an establishment, which was established and legally registered by an initiative group of at least 15 persons.

4) Government or State enterprise refers to an establishment, which entirely owned by the government or more than 50 percent of its shares belonged to the government.

5) Cooperatives refers to an establishment, which was organized on cooperative lines and registered under the Cooperation Act. With an initiative group of not less than 10 persons.

6) Others refers to establishments other than those mentioned earlier.

13. For the organization criteria or form of economic organization, the NSO classifies a statistical unit as follows:

1) Single unit refers to an establishment, which was not a branch of any establishment or which had no branch or subsidiary

2) Head office is a head quarter establishment, which owned or controlled their branches or subsidiary unit.

3) Branch or subsidiary refers to an establishment, which was a branch or a subsidiary of another establishment.

Statistical Units for Industrial Statistics

14. As recommended in IRIS 2008 which states that the statistical unit for industrial statistics should ideally be the establishment. The establishment is recommended as the statistical unit because it is the most detailed unit for which the range of data required is normally available. The data gathered, in order to be analytically useful, need to be grouped according to such characteristics as kind-of-activity, geographical area and size, and this is facilitated by the use of the establishment unit.

C. Characteristics of Statistical Units

Identification Code

15. The identification code is a unique number assigned to a statistical unit, which may comprise digits identifying its geographic location, kind-of-activity, whether a unit is a principal producing unit or an ancillary unit, link to its subsidiaries/ principal if any etc. According to

IRIS 2008, the NSO agreed that the identification code should cover characteristics related to the unique identity of the economic entity. For the establishment sampling frame, the identification has 15 digits which consist of census year code: 2 digits, provincial code: 2 digits, Sequence number of the establishment: 7 digits and ISIC code: 4 digits.

Kind-of-activity

16. Kind of activity is defined as type of production which a unit engaged. The kind-of-activity of a statistical unit is determined by the kind of its main activity in term of ISIC rev.4. An activity that contributes most to the Value Added of the unit is being classified as main activity.

Size

17. NSO adopts the IRIS recommendation on the definition of size base on the average number of persons engaged. For the sizes of the establishment used in the 2007 industrial census classified into 12 groups according to number of persons engaged: 1-5 ,6-10 , 11-15 , 16-20 , 21-25 , 26-30 , 31-50 , 51-100 , 101-200 , 201-500 , 501-1000, 1001 and more.

D. Data Items

Definitions of data items

18. The IRIS 2008 provides summary definition of data items of industrial statistics recommended for collection and publication together with additional items of data derived from the basic system . Compilers are encouraged to use data items listed as reference. NSO adopted some significant data items in the 2007 Manufacturing Census. (See Annex)

Performance Indicators

19. The increasing demand for a wide range of data for assessing businesses' strategic interests like, profitability, productivity and efficiency have led to intense interest in performance measures. Performance indicators make it possible to evaluate performance of producers units and to assess how well the industrial sector is performing in relation to other economic activities both in the national economy or internationally. NSO also compiled the indicators, that is output per person engaged and per employee, value added per person engaged and ratio of value added to gross output. These indicators are useful to measure the broad performance of the industrial sector.

E. Data Compilation Methods

Data Validation and Editing

20. In practice, NSO undertakes data validation and editing for all surveys and censuses. Processing or editing of data is done to check for accuracy and consistency of data.

Imputations

21. The technique of imputation is used for estimating the missing data in case of item non-response. The problem of unit non-response is usually dealt with by re-weighting.

22. For the non-response or missing value, the following imputation methods applied:

   1) Mean imputation: the imputed value is the average of responses of units considered to be similar to the unit requiring imputation.

   2) Ratio imputation: the imputed value for a data item is calculated by taking a response for the same unit (from a previous cycle of the survey or from a different data item) and with adjustment factor applied

   3) Donor imputation: impute values are obtained by 'borrowing' survey responses from another unit considered to be similar to the unit requiring imputation. The 'donor' may be from the current cycle (hot deck) or the previous cycle (cold deck). Look-up table imputation – imputation is done using a look-up table which assigns impute values to a unit according to its characteristics (such as state and industry classification).

F. Data Collection Strategy

Data Collection Strategy

23. The aim of the industrial statistics programme is to obtain comprehensive and accurate statistical information on the industrial activity in the economy. This information may be obtained either through the statistical surveys or through institutional links with the data sets available elsewhere – administrative sources. Generally the mix of the two approaches in used for collection of industrial statistics. The extent of the use of one over the other depends upon the statistical system of a particular country. Countries with developed statistical system make progressively more use of administrative sources for coverage of the industrial activities. In Thailand, information on industrial statistics are mostly obtained from statistical survey and censuses.

Business Register

24. A list of all economic units in the survey target population is known as sampling frame which is used for conducting sample surveys for data collection. The sampling frame should include all accurate and up to date data items associated with units that are required for stratification, sample selection and contact purposes, for example, industrial, geographical, size codes, name, address and description of the unit, telephone and preferably a contact name. The sampling frames of the establishment surveys are compiled from the listing of the establishment censuses, i.e. Business Trade and Services census and Industrial census.

25. The problems and issues in compiling, updating and using the sampling frame are as follow:

   • No complete sources of information for constructing the good frames.

   • Data from register system could not be used as a frame because:

     - Unclear information on the establishment activity in the records;

     - Outdated lists because of an uncompleted updating of the birth and death business;

     - Inconsistency of definitions and classifications used in the register systems and those with the users' requirements;

     - Register name of establishments (about 25% are different);

     - Using the data from the listing of census for constructing the frame is costly, so one frame has to be used for many years. Updating the frame using the data from register, however, is necessary.

Industrial Census

26. Economic Census in Thailand is covered the manufacturing industry and trade and services industry. Normally, Economic census can provide the most comprehensive unit set of all area for establishing the sampling frame. Manufacturing statistical data is vital for policy formulation and economic development plan of the country.

27. NSO carried out the latest Industrial Census in 2007. It is preceded by those of 1964 and 1997, according to the United Nations recommendation, the countries should conduct the census every 10 years. In conducting the 2007 ,the operational plan has been divided into two stages. The listing stage, which basic information of all the establishments engaged in all the economic activities was collected. The listing stage covered establishments with one person engaged and over in economic activities classified according to *the International Standard Industrial Classification of All Economic Activities (ISIC : Rev.3)*, which consisted of Business trade and services, Manufacturing, Construction, Other land transport, Storage and warehousing, Activities of travel agencies and Telecommunications and Hospital activities.   The enumeration stage, which detailed information of establishments engaged in only manufacturing. The complete enumeration was planned for the establishments with more than 10 persons and Stratified Systematic Sampling for the establishments less than 11 persons.

Reference Period

28. NSO follows the recommended reference period of IRIS that the data compiled in both the annual surveys and censuses should relate to a 12-month period. All data collected refer to the operation period of establishment during January to December of the reference year.

G. Dissemination of Industrial Statistics

Statistical Confidentiality

29. The criteria for suppression of confidential data are individual data will not be published and the aggregate data published should be consisted of more than 3 establishments. The method of indication of confidential data on official publication is the information of less than 4 establishments would be disclosure prohibited. The letter "D" is used for disclosure prohibited.

Dissemination Formats

30. The industrial statistics are disseminated both electronically (on-line or on CD-ROMs) and publications. In addition to the printed copies of the preliminary report (regional level and the whole kingdom) and final report (provincial level, regional level and the whole kingdom), data are being posted on the website and also on CD-ROMs.

List of Data Items

Comparison Data Items of Industrial Statistics between IRIS 2008 and NSO of Thailand

1. Demography
1a. Characteristics of Statistical units

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
1.1	Identification code	Yes
1.2	Location	Yes
1.3	Period of operation	Yes
1.4	Type of economic organisation	Yes
1.4.1	Single-establishment enterprise	Yes
1.4.2	Multi-establishment enterprise	Yes
1.4.2.1	Number of establishments in the multi-establishment enterprise	-
1.5	Type of legal organisation and ownership	Yes
1.5.1	Incorporated enterprises except limited liability partnerships and cooperatives	Yes
1.5.1.1	Public ownership	No
1.5.1.1.1	By central government	No
1.5.1.1.2	By state government	No
1.5.1.1.3	By local government	No
1.5.1.2	National private	No
1.5.1.3	Foreign controlled	No
1.5.2	Co-operatives and limited liability partnerships	Yes
1.5.2.1	Public ownership	-
1.5.2.1.1	By central government	-
1.5.2.1.2	By state government	-
1.5.2.1.3	By local government	-
1.5.2.2	National private	Yes
1.5.2.3	Foreign controlled	No
1.5.3	Non-profit institutions	No
1.5.3.1	Public ownership	-
1.5.3.1.1	By central government	-
1.5.3.1.2	By state government	-
1.5.3.1.3	By local government	-
1.5.3.2	National private	-
1.5.3.3	Foreign controlled	-
1.5.4	Unincorporated enterprises	No
	Of which:	
1.5.4.1	Informal sector enterprises	No
1.6 *	Size	Yes
1.7	Kind-of-activity	Yes
1.8	Type of unit	No
1.8.1	Principal producing unit	-
1.8.2	Ancillary unit	-

1. (b) Number of Statistical units

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
1.10 *	Number of enterprises	No
1.10.1 *	Multi-establishment enterprises	No
1.10.1.1 *	Number of establishments	Yes
1.10.2 *	Single establishment enterprises	No

2. Employment
2. (a) Number of persons employed

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
	Male/ Female/ Total	
2.1 *	Total number of persons employed	Yes
	Of which:	
2.1.1	Working proprietors	Yes
2.1.2	Unpaid family workers	Yes
2.1.3	Employees	Yes
	Of which:	
2.1.3.1	Production workers	Yes
	Of which	
2.1.3.1.1	Employees engaged in research and development	-
2.1.3.1.2	Employees engaged in mineral exploration and evaluation	-
2.1.3.1.3	Employees engaged in software & database development	-
2.1.3.1.4	Employees engaged in production of artistic originals	-
2.1.3.1.5	Employees engaged in own account fixed asset formation and major repair	-
2.1.3.2	Other employees	Yes
2.2	Number of leased employees	No
2.3 *	Total number of persons employed in the informal sector	No
2.3.1	Employees in the informal sector	No
2.3.2	Other persons employed in informal sector	No

2. (b) Average number of persons employed

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
	Male/ Female/ Total	
2.4	Average number of persons employed	No
	Of which:	
2.4.1	Employees	No
2.4.1.1	Production workers	No
2.4.1.2	Other employees	No

2. (c) Hours worked

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
	Male/ Female/ Total	
2.5	Hours worked by employees	Yes
	Of which:	
2.5.1	Hours worked by production workers	Yes
	Of which	
2.5.1.1	Employees engaged in research and development	-
2.5.1.2	Employees engaged in mineral exploration and evaluation	-
2.5.1.3	Employees engaged in software & database development	-
2.5.1.4	Employees engaged in production of artistic originals	-
2.5.1.5	Employees engaged in own account fixed asset formation and major repair	-
2.5.2	Hours worked by other employees	Yes
2.6	Hours worked by leased employees	No

3. Compensation of employees

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
3.1	Wages and salaries in cash and in kind of employees	Yes
	Of which:	
3.1.1	Production workers	Yes
	Of which	
3.1.1.1	Employees engaged in research and development	-
3.1.1.2	Employees engaged in mineral exploration and evaluation	-
3.1.1.3	Employees engaged in software & database development	-
3.1.1.4	Employees engaged in production of artistic originals	-
3.1.1.5	Employees engaged in own account fixed asset formation and major construction	-
3.1.2	Other employees	Yes
3.2	Payments to directors of incorporated enterprises for their attending meetings	No
3.3	Social insurance contributions payable by employers	Yes

4. Other expenditures

4. (a) Purchases of goods and services

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
4.1	Cost of raw materials and supplies except gas, fuels and electricity	Yes
	Of which:	
4.1.1	Purchases or receipts of raw materials and supplies from other enterprises	No (not separate)
4.1.2	Value of raw materials and supplies delivered by other establishments of the same enterprise	No (not separate)
4.1.3	Cost of materials for own-account capital formation	No
	Of which:	
4.1.3.1	for research and development	-
4.1.3.2	for mineral exploration and evaluation	-
4.1.3.3	for software & database development	-
4.1.3.4	for production of artistic originals	-

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
4.1.3.5	for own account fixed asset formation and major repair	-
4.2	Cost of gas, fuel and electricity purchased	Yes
4.2.1	Cost of individual fuels and gas purchased	-
4.2.2	Cost of electricity purchased	-
4.3	Cost of water and sewerage services	-
4.3.1	Cost of water purchased	-
4.3.2	Cost of wastewater services purchased	-
4.3.3	Cost of sewerage services purchased	-
4.4	Purchases of services except rental	No
4.4.1	Cost of industrial services purchased and also delivered by other establishments of	
	the same enterprise	No
	Of which:	
4.4.1.1	Maintenance, repair and installation (except construction) services	Yes
4.4.1.2	Contract and commission work	Yes
4.4.1.2.1	Fees paid for leased employment	No
4.4.2	Cost of non-industrial services purchased and also delivered by other establishments	No
	of the same enterprise	
4.4.2.1	Maintenance and repair of buildings and structures	Yes
4.4.2.2	Communication services	Yes
4.4.2.3	Transport services	Yes
4.4.2.4	Advertising and promotional services	Yes
4.4.2.5	Financial services (excluding interest payments)	No
4.4.2.9	Other non-industrial services	Yes
4.5	Purchases of goods and services for resale in the same conditions as received	Yes
4.6	4.6 Rental payments	Yes
4.6.1	Rental payments for machinery and equipments	Yes
4.6.2	Rental payments for dwellings and structures	Yes
4.7	Non-life insurance premiums payable on establishment property	Yes

4. (b) Data items on quantity

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
Q4.1	Quantity of individually important materials and supplies	No
Q4.2	Quantity of individual fuels and gas purchased	No
Q4.2.1	Quantity of electricity purchased	No
Q4.2.2	Quantity of electricity generated	No
Q4.2.3	Quantity of electricity sold	No
Q4.2.4	Total energy consumed (tera joules)	No
Q4.3.1	Quantity of water purchased	No
Q4.3.1.1	Quantity of water abstracted for own use	No
Q4.3.1.2	Quantity of water sold	No
Q4.3.1.3	Total water used (cubic maters)	No
Q4.3.2	Quantity of wastewater treated on site prior to discharge	No
Q4.3.3	Quantity of wastewater discharged without treatment	No

5. Value of shipments, receipts for services and other revenues

5. (a) Turnover, sales, shipments, receipts for services and other revenues

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
5.1	Value of shipments/sales/turnover, including transfers to other establishments of the same enterprise	Yes
5.1.1	Value of shipments/sales/turnover of goods produced by the establishment	Yes
5.1.1.1	Value of shipments/sales/turnover of goods produced to other enterprises	-
5.1.1.2	Transfers of goods produced to other establishments of the same enterprise	-
5.1.1.3	Exported to customers and affiliated foreign branches	-
5.1.2	Value of shipments/sales/turnover of all goods and services purchased for resale in the same condition as received	Yes
5.1.4	Receipts for industrial work done or industrial services rendered to others	Yes
	Of which:	
5.1.4.1	Contract and commission work	Yes
5.1.4.1.1	From units not resident in the country	-
5.1.4.2	Maintenance, repair and installation (except construction) services	Yes
	Of which	
5.1.4.2.1	Installation work	Yes
5.1.4.3	Research and development work of an industrial nature	-
5.1.4.4	Industrial services rendered to other enterprises	-
5.1.4.5	Industrial services rendered to other establishments of the same enterprise	-
5.2	Other revenues	Yes
5.2.1	Revenue from the rental or lease of machinery and equipment	-
5.2.2	Revenue from the rental or lease of buildings	Yes
5.2.3	Other revenues n.e.c.	Yes
5.3 *	Value of own-account fixed assets	No

5. (b) E-commerce

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
5.4	E-commerce sale/turnover/value of shipments/receipts for services or other revenues	No

5. (c) Data items on quantity

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
Q5.1	Quantity and value of individually important products	No

6. Inventories

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
6.1 *	Total inventories	Yes
6.1.1	At the beginning of the period	Yes
6.1.2	At the end of' the period	Yes
6.1.3 *	Change (plus or minus)	Yes
6.2	Inventories of materials, fuels and supplies	Yes
6.2.1	At the beginning of the period	Yes
6.2.2	At the end of the period	Yes
6.2.3 *	Change (plus or minus)	Yes
6.3	Work-in-progress	Yes
6.3.1	At the beginning of the period	Yes
6.3.2	At the end of the period	Yes
6.3.3 *	Change (plus or minus)	Yes
6.4	Inventories of finished goods	Yes
6.4.1	At the beginning of the period	Yes
6.4.2	At the end of the period	Yes
6.4.3 *	Change (plus or minus)	
6.5	Inventories of goods purchased for resale in the same condition as received	Yes
6.5.1	At the beginning of the period	Yes
6.5.2.	At the end of the period	Yes
6.5.3 *	Change (plus or minus)	Yes

7. Taxes and subsidies

7. Other taxes and subsidies on production

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
7.1	Taxes	No
7.1.1	Other taxes on production	No
7.2	Subsidies received	No
7.2.1	Subsidies on products	No
7.2.2	Other subsidies on production	No

8. Output

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
8.1 *	Gross output at basic prices	Yes
8.2 **	Census output at basic prices	No

9. Intermediate consumption and census input

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
9.1 *	Intermediate consumption at purchasers' prices	Yes
9.2 **	Census input at purchasers' prices	No

10. Value added

10. Total value added and census value added

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
10.1 *	Total value added at basic prices	Yes
10.2 **	Census value added at basic prices	No

11. Gross Fixed Capital formation

11. Assets, capital expenditures, retirements and depreciation

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
11.1	Gross value of fixed assets (at acquisition cost) at the beginning of the period	Yes
11.1.1	Dwellings	Yes
11.1.2	Other buildings and structures	Yes
11.1.3	Machinery and equipment	Yes
11.1.3.1	Transport equipment	Yes
11.1.3.2	ICT equipment	Yes
11.1.3.3	Other machinery and equipment	Yes
11.1.4	Intellectual property products	No
11.1.4.1	Research and development	No
11.1.4.2	Mineral exploration and evaluation	No
11.1.4.3	Computer software and databases	Yes
11.1.4.4	Entertainment, literary and artistic originals	No
11.1.4.5	Other	-
11.2	Capital expenditure on new and used fixed assets (acquisitions) during the period	Yes
11.2.1	Dwellings	-
11.2.2	Other buildings and structures	-
11.2.3	Machinery and equipment	-
11.2.3.1	Transport equipment	-
11.2.3.2	ICT equipment	-
11.2.3.3	Other machinery and equipment	-
11.2.4	Intellectual property products	-
11.1.4.1	Research and development	-
11.1.4.2	Mineral exploration and evaluation	-
11.1.4.3	Computer software and databases	-
11.2.4.4	Entertainment, literary and artistic originals	-
11.2.4.5	Other	-
11.3	Gross value of fixed assets sold, retired and scrapped (disposal) during the period	Yes
11.3.1	Dwellings	-
11.3.2	Other buildings and structures	-

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
11.3.3	Machinery and equipment	-
11.3.3.1	Transport equipment	-
11.3.3.2	ICT equipment	-
11.3.3.3	Other machinery and equipment	-
11.3.4	Intellectual property products	-
11.1.4.1	Research and development	-
11.1.4.2	Mineral exploration and evaluation	-
11.1.4.3	Computer software and databases	-
11.3.4.4	Entertainment, literary and artistic originals	-
11.3.4.5	Other	-
11.4	Depreciation	No
11.4.1	Dwellings	-
11.4.2	Other buildings and structures	-
11.4.3	Machinery and equipment	-
11.4.3.1	Transport equipment	-
11.4.3.2	ICT equipment	-
11.4.3.3	Other machinery and equipment	-
11.4.4	Intellectual property products	-
11.1.4.1	Research and development	-
11.1.4.2	Mineral exploration and evaluation	-
11.1.4.3	Computer software and databases	-
11.4.4.4	Entertainment, literary and artistic originals	-
11.4.4.5	Other	-
11.5 *	Gross value of fixed stock at the end of the period	No
11.5.1 *	Dwellings	-
11.5.2 *	Other buildings and structures	-
11.5.3 *	Machinery and equipment	-
11.5.3.1	Transport equipment	-
11.5.3.2	ICT equipment	-
11.5.3.3	Other machinery and equipment	-
11.5.4 *	Intellectual property products	-
11.1.4.1	Research and development	-
11.1.4.2	Mineral exploration and evaluation	-
11.1.4.3	Computer software and databases	-
11.5.4.4	Entertainment, literary and artistic originals	-
11.5.4.5	Other	-

12. Orders

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
12.1	New orders received	No
12.2	Unfilled orders at the end of the inquiry period	NO

13. Environmental protection

13. Environmental protection expenditures

Items No.	Data Items of IRIS 2008	Data Items of industrial Statistics of TNSO
13.1	Environmental protection expenditures	No
:	:	

* This item will often be derived by the statistical office from other items of collected data, although in some cases countries may prefer to include the item on the questionnaire, for example, to verify the accuracy of other figures supplied.

** Measurements of 'census output', 'census intermediate consumption' and 'census value added' are not part of the present recommendations, only when countries would like to maintain their time series on these aggregates, they could opt for continuing their measurements.

Note: The capital formation of each component of intellectual property products comprise two components, (a) those that are investment goods acquired from other enterprises and (b) those that are developed on own-account or for own use. The latter can only approximated by cost of production which is equal to the sum of material and supplies costs, compensation of employees, other taxes on production, depreciation of the fixed assets used in production, and an imputed margin for overhead costs and profits if possible. The estimate of the gross output (item 8.1) has to be adjusted by the national statistical office by the imputed value of the own-account capital formation to the extent of the cost of material and supplies used for the production of the intellectual property products.

APPLICABILITY OF IRIS 2008 AND ISSUES

FROM THE VIEWPOINT OF VIETNAM

by

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Note: The content of the report is of the view of the author, it does not represent the view of the Statistical Organization

I. Background

Industrial statistics play an important part in statistics. They reflect the performance of different industries and their contribution to a nation's economic growth. For a lot of countries, the industrial sector plays a vital role in the economy. Likewise, in Vietnam, it is a crucial element in overall economic growth, contributing to over 30% of Vietnam's GDP. Hence, industrial statistics have received a lot of interest from users.

Industrial statistics have been used for the following major purposes:

- As a basis for formulating strategies, policies and development plans for the industrial sector.

- For enterprises, industrial statistics are used to evaluate their markets, to estimate their market share, to appraise growth opportunities, and to calculate production productivity.

- For the statistics profession, industrial statistics is an important part of the System of economic indicators as well as a crucial element in the System of National Accounts.

In Vietnam, in the past few years, industrial statistics have been constantly improved, step-by-step to international standards, yet still keeping in line with the system of National Accounts, fulfilling their microeconomic and macroeconomic management purposes. Most recently, with JICA's assistance, The General Statistics Office has successfully implemented a nationwide project called "Developing the Methodology for Calculating the Industrial Development Index." These indices are used to measure monthly/quarterly industrial growth, replacing the use of industrial gross production value growth for growth evaluation.

However, industrial statistics in Vietnam need much improvement. Several issues that need to be addressed include: (i) regarding the statistical unit, except for the National Survey of Businesses that used "establishment" as the statistical unit, industrial statistics now only use "independently accountable" enterprises and household business as the statistical unit. Hence, we face great difficulty in classifying units according to geographical areas, kind of activity (in the case of an enterprise operating from several locations and in several sectors); (ii) the use of industrial output at constant prices to measure growth is no longer suitable nor reliable, yet is still used by several provinces. Moreover, there are some limitations in implementing the methodology of valuation of industrial output at basic prices, in several yearly surveys of enterprises, valuation of industrial output at 1994 price methodology is still used. (iii) The valuation of industrial output for some specific industries (such as water and electricity) is inconsistent across provinces and (iv) up until now, CPC Statistics have not yet been applied to products/services statistics.

The above issues lead to discrepancies between provincial and national statistics, and between National Accounts and statistics for different industries. They also reduce the comparability of Vietnam industrial statistics with their international counterparts.

II. Some general comments on IRIS 2008.

Today, with rapid technological developments, changes are seen in many production and business processes. Moreover, there has been an increased tendency towards globalization in each country's economic development. To precisely reflect economic performance and improve the comparability of data between countries, regions and internationally, statistical methods, including industrial statistics, need to be improved, standardized and used as a universal tool.

UNSD has therefore drafted the "International Recommendations for Industrial Statistics 2008" with the aim of providing a pro-active support for National Statistics Agencies in achieving the above objective. The recommendations have been developed with additions and amendments from the "International Recommendations for Industrial Statistics 1983."

In general, this is quite a complete publication on statistical methodology and is very necessary for national statistics agencies and statisticians, especially in developing countries. Though titled "Recommendations for Industrial Statistics," it actually can be regarded as a general guide to economic statistics, since it deals with many general concepts, definitions and methodologies of economic statistics, such as the nature of economic activity, statistical units and their characteristics, data sources, data collection methods, and dissemination of statistic data .

The content and structure of the publication is similar to those of some other specialized statistics publications, with a complete list of categories such as the scale and the unit of statistics, concepts, definitions, observed indicators, indicators for calculations, data sources, data compilation, and data dissemination. In additions, categories that have been added and updated include "Characteristics of statistical units," "Data items and their definitions," "Data quality and metadata," "Statistical units of the informal sector," and "Performance indicators." These added contents help statisticians understand the essence of the concepts and definitions, which is helpful for them in choosing which is the most appropriate. Another advantage of this publication is that some data items have been added and definitions revised to reflect the update of SNA 1993. Besides, the publication has been able to mention and deal with common pitfalls as well as recommend alternative solutions in industrial statistics. Examples are:

- Very detailed coverage of industrial activities

- Different types of statistical units, with special attention paid to establishments, ancillary units (separating them and looking at their performance individually), statistical units of the informal sector

- Methods to deal with some special cases of industrial activity, such as outsourcing, especially outsourcing of production processes that involve ownership or non-ownership of material inputs and outputs

- Using the basic price or producer's price for compiling the value of output and the value added

The publication has two parts: (i) Part I: International recommendations, and (ii) Part II: Guidance for implementation. In other words, part I deals with the theory and part II provides practical guidelines. This structure is a reasonable one and is user-friendly.

However, we think that IRIS 2008 is a little biased towards the theory part. For developing countries where statistics capacity is at a lower level, this is not the simplest approach. Moreover, the publication does not mention financial indicators such as capital, assets, or costs. Although these indicators have been dealt with in financially specialized publications, it would be more convenient for readers if some commonly-used financial indicators could be included in the IRIS 2008.

III. Analyzing the situation of the industrial statistics of Vietnam in terms of IRIS 2008:

1. Scope and structure of industrial sector

According to IRIS 2008, economic activities covered include:

   (1) Mining and quarrying (section B)

   (2) Manufacturing (section C),

   (3) Electricity, gas, steam and air conditioning supply (section D); and

   (4) Water supply; sewerage, waste management and remediation activities

   (section E).

For Vietnam's industrial statistics, the recommended scope of industrial statistics including the four above-mentioned Level 1 sector is relevant. Vietnam agrees that the scope of international activities has been extended to include activities of sewerage, waste collection, treatment and disposal activities, for the following reasons:

Currently, according to Vietnam's VSIC that was recently published in 2007 (based upon UNSD ISIC 4 and the general sector classification of ASEAN), sewerage and waste management fall under Section E. Accordingly, Section T "activity to support individual and community" has been moved to Section E "Water supply; sewerage, waste management and remediation activities." The re-classification is consistent with the fact that waste collection is nowadays closely tied with waste treatment and waste recycling. Previously, these activities were classified into Section T "activities to support individual and community" (except that recycling is still classified as manufacturing), because waste collection and treatment merely involve the burying, burning or use of some simple physical or chemical treatment methods with the main purpose of ensuring environmental safety for human beings.

We would like to take this opportunity to discuss more about the scope of the term "industry." We know that the term "industry" thus often referred to a class of ISIC, and encompasses all economic activities including agriculture and services producing activities in an economy. In the IRIS 2008, the scope of industrial statistics are engaged primarily in four areas:

(1) Mining and quarrying (section B)

(2) Manufacturing (section C),

(3) Electricity, gas, steam and air conditioning supply (section D); and

(4) Water supply; sewerage, waste management and remediation activities

(section E).

It can be said that sometimes "industry" refers to manufacturing activities alone but in other cases to a more expanded list of activities that may also include activities such as construction and mining. Our question, therefore, is why does "industry" only encompass the four above-mentioned areas and is it possible that the definition of "industry" also varies among different countries? In other words, there are some limitations to the comparability of industrial statistics.

In Vietnam, industrial statistics have involved only the four areas mentioned above. Namely, they have not included Construction. However, according to the statistics of "GDP according to economic sectors," which are announced quarterly and yearly, over many years, Construction is treated in the same group as Industry (according to this classification, economic activities are classified into three sectors: (i) Agriculture, Forestry and Aquaculture (ii) Industry, Construction and (iii) Services)

The major reason for this definition of the industry sector is the different characteristics in the statistics of the sectors and construction statistics.

Moreover, recently, there has been an ongoing discussion of whether construction is a manufacturing or a service sector. To date, Construction has been treated as a manufacturing sector.

(We would be very interested to hear comments from you on this topic.)

Outsourcing

As in many other countries, in Vietnam, the trend of outsourcing manufacturing activities has been growing recently. Therefore, we agree that it is imperative that the criteria for the classification of the principal outsourcing its economic activity have to be clarified to ensure international consistency.

We also agree that the criterion on where to classify the principal should be based on the ownership of the physical input materials by the principal only. Based upon this principle, IRIS recommends the classification of the principal and the contractor in the following three cases:

1. *Outsourcing of support functions*

2. *Outsourcing of parts of the production process*

3. *Outsourcing of the complete production process*

This principle is also used in Vietnam's statistics. It is worth mentioning that IRIS 2008 guidelines are very clear and specific. This provided us with a good basis to compare and to make changes and additions to the Vietnamese guidance documents.

2. Coverage of units and activities

Coverage of economic units for industrial statistics collection in Vietnam now includes:

- Enterprises: enterprises belonging to the State, cooperatives, private businesses and foreign invested enterprises.

- Informal sector: small, unorganized businesses, mainly belonging to households, not registered under the Enterprise Law. These household businesses include businesses that employ outside laborers or businesses that only employ family members in their industrial activities.

The Enterprise sector contributes a significant portion (90%) of total production value and total value added in the Vietnamese economy, with the informal sector playing an insignificant role. However, in Vietnam, the informal sector receives a lot of attention because it helps to address a few issues besides economic growth, such as employment and social security. Moreover, the informal sector statistics plays a crucial part in the compilation of the National Accounts, Institutional Units.

The coverage of units in IRIS 2008 includes units of all sizes and types of ownership, including the government and household units. This is new compared to the previous recommendation. This coverage is much broader and is very suitable for developing countries like Vietnam.

Regarding the coverage of units by activities, in Vietnam today, enterprises are often engaged in more than one sector. There are enterprises that register to do businesses in more than ten sectors, carrying out those different activities simultaneously or at different points in time, at the same or at different geographical locations. Moreover, in these cases, the determination of a principal activity is not always easy. In Vietnam, we currently classify an enterprise according to its principal activity. This is a common principle applied not only in industrial statistics. However, the issue is what basis / standards should we use to determine which is a principal activity. According to the current guidelines, the value-added criteria are used to determine the principal activity, whereas in many cases it is impossible to measure the value added of each activity of an enterprise. In these cases, we have to resort to other criteria such as gross production value or number of employees.

As a result, data collection based upon the kind-of-activity unit is difficult and conducted very differently depending on each country's circumstances, leading to incomparability of data across countries.

3. Economic/Business units and Statistical units

3.1. Economic/Business units

First of all, a further explanation should be provided about some definitions of economic and/or business units, manufacturing units and statistical units currently used in Vietnam. Different legal frameworks and language problems have led to the fact that the terms "Business Units" and "Economic Statistical Units" as defined in Vietnam's legislation and statistics are used inconsistently with international standards. For example:

(i) Enterprise: According to the Law on Enterprises which was issued by Decision No 60/2005-QH11- an enterprise is defined as below:

An economic organization that has its own name, assets, stable transactional office and that is registered in compliance with stipulations of law for the purpose of conducting business activities. Under this law, there are four types of enterprises:

- Private enterprise

- Partnership enterprise

- Limited liability company

- Shareholding companies

These can include: enterprises which only have one establishment and are located in only one place, enterprises which have more than one location, enterprises which conduct only one business activity and enterprises which conduct multiple business activities. In fact, the majority are enterprises which have more than one branch and conduct more than one business activity.

(ii) Collective Enterprise: According to the Law on Collective Enterprise that was issued by Decision No .../2003-QH11- a Collective Enterprise is defined as below:

A collective enterprise is a collective economic entity formed by individuals, households and/or legal parties that have common needs and interests on a voluntary basis of sharing capital and labor under the law, with the purpose of conducting effective manufacturing/business activities.

A collective enterprise is one type of enterprise, it has legal status and legal liability upon financial obligations defined within its scope of registered capital, accumulated capital and capital of other sources as stipulated by law.

Similarly to other types of enterprises, a collective enterprise can have more than one branch, be located in more than one place and conduct more than one business activity.

(iii) Business household: According to the Degree No 88/2006/ND that was issued 2006, the business household is defined as below:

A business household is an entity owned by an individual or a group of individuals or a household. It is registered for business in a single location, has no more than 10 workers, does not own a legal stamp and is liable for its own manufacturing/business activity with all of its assets. A business household can conduct more than one business activity.

3.2. Statistical units

Currently in Vietnam, only two main statistical units are used in economic and industrial statistics:

(i) Enterprise, including collective enterprise (as definition above) &

(ii) Establishment

These two statistical units are used in surveys and businesses' periodical reports.

3.2.1.Statistical unit is enterprise:

The **advantages** of using this as a statistical unit are:

+ Ensuring convenient and precise collection of some overall data about the enterprise:

- Address of main location, tax code

- Organizational (structural) type

- Legal type

- Ownership

- Fields of activities

- Labor

- Revenue

- Costs

- Financial indicators (capital, assets...)

- Inventory

+ Providing a sample frame of enterprises for sample surveys

Disadvantages:

As mentioned elsewhere, the majority of enterprises are those that conduct more than one business activity, have more than one branch, located in more than one place, in more than one province and even abroad. Many of these have low management and accounting capacity, and are not in full compliance with the Accounting and Statistics Laws. Therefore, using an enterprise as a statiscal unit has the following disadvantages:

- It makes it difficult to identify the major business activity of the enterprise. Under current GSO regulations, the major business activity is identified as one that contributes the most to the added value of the enterprise. However, low accounting capacity makes it nearly impossible to separate the added value that each of the activities contribute to the total added value of the enterprise; and so other indicators, e.g. percentage of revenue, or numbers of employees, have to used instead.

- It also makes it difficult to group business performances into business activity groups or geographic groups. This also creates reduplication, for example, when total production values/revenues have been accounted to the headquarters of the enterprise, which is located in province A, but then the production values/revenues of each of its branches are attributed to the province where the branch is located, resulting in reduplicated total domestic revenues which are tallied from provincial figures.

3.2.2. Establishments as statistical units

In Vietnam, an establishment is a statistical unit, and not a legal unit. Its definition is:

- The smallest economic unit that is situated in a single location and in which only one productive activity is carried out, under single ownership or control. (But in fact there may be one or more secondary activities carried out.)

In the case of most small and medium-sized businesses, the enterprise and the establishment will almost be identical.

Some enterprises are large and complex with different kinds of economic activities undertaken at different locations. Such enterprises should be broken down into one or more establishments provided that smaller and more homogeneous production units can be identified for which production data can be meaningfully compiled.

Advantages:

The establishment is particularly useful as a statistical unit for the compilation and dissemination of information related to its production activities which include the following:

- Location

- Field(s) of activity

- Labor

- Revenue

- Products

Using an establishment as a statistical unit makes it convenient to synthesize production, labor and productivity into mere economic industries and into geographical groups;

Disadvantages:

However, this type of statistical unit has only been used in the establishment census. It is yet to be used in periodical sample surveys for the following reasons:

- The definition of establishment is sometimes not understood consistently

- The use of the establishment as a statistical unit has not been supported by some managers and statisticians of the statistics agency.

- Collecting data from an establishment is difficult given a lack of strict regulations on the establishment's obligation to provide information (as opposed to regulations imposed on enterprises)

- Establishments in general have low management and accounting skills so it is very difficult for them to fulfill their obligations when it comes to providing information.

- There has not been a sample frame of good quality. Vietnam has conducted three economic censuses, and therefore should theoretically have obtained overall sample frames of establishments. For several reasons, however, some of which have been mentioned elsewhere, the data collected have not been of good quality, especially when it comes to identifying and encoding establishments' fields of activities.

Some comparisons with the IRIS 2008:

- There are still some inconsistencies in the definition of "enterprise" as defined in Vietnam and in IRIS 2008. Specifically:

Enterprises as defined by Vietnam laws and statistics practice only consist of economic units which are formed and function according to "Law on Enterprises"- issued at Decision No 60/2005-QH11 and "Law on Collective Enterprises." They are the limited liability company, share-holding company, partnership and sole proprietorship.

Meanwhile, an "enterprise" as defined in IRIS 2008 may be a corporation (or quasi-corporation), a non-profit institution, or an unincorporated enterprise. Of these, Corporate enterprises and non-profit institutions are complete institutional units and unincorporated **enterprise" refers to an institutional unit—a household or government unit—only** in its capacity as a producer of goods and services.

This will lead to inconsistency in the data collected from the same statistical unit (such as missing units in the household sector).

Vietnam's definition of "establishment" as used in its basic economic census is identical with the definitions provided in many UNSD's publications as well as in IRIS 2008 and some other countries. However, some challenges exist, such as the definition used in Vietnam

being more focused on "having an economic activity, a separate location, an executive manager" and not on the ability to collect data. Indeed, with this definition, it is very difficult in many cases to identify the fields of activity as well as collect data from an establishments, for example when an "establishment" is the "ancillary unit" or when it is the "headquarters of an enterprise."

Therefore, we find the "Statistical Units" presented in IRIS 2008 very interesting. This section has provided clear and detailed explanations of each of the statistical units, as well as their advantages and disadvantages, and where they should be applied. This will be the foundation to improve guidelines on economic statistics in Vietnam in general and industrial statistics in particular, and will be especially helpful in tackling the setbacks described above. In reality, when collecting data and producing regular monthly/quarterly/yearly reports of specific statistics and National Accounts, the General Statistic Office almost always uses the statistic unit of "Enterprise" (for Corporate sector) and "Individual Business Unit" (for informal sector).

This is a major limitation since users are now demanding information segregated according to economic sector and different provinces, which can be met by the use of such units of statistics as "establishment," "local unit," "kind-of-activity," "local kind of activity."

To overcome this issue, leaders of Vietnam statistics need to show more determination in changing users' habit of using "traditional" unit of statistics and make a plan for using other units of statistics. At the same time, staff needed to be trained in this regard so that the plan can be practically implemented

4. Data Items and their definitions.

This chapter of IRIS provides the name and summary definitions of data items of industrial statistics recommended for collection and publication. We agree that some of the data items may not exist or that they may be of minor importance for some of the economies, but the list of data items is a good reference for developing a list of data items in accordance with the statistical circumstances of each country. The data item list of IRIS 2008 is divided into 13 groups:

1. Demography
2. Employment
3. Compensation of employees
4. Other expenditures
5. Value of shipments, receipts for services and other revenues
6. Inventories
7. Taxes and subsidies
8. Output
9. Intermediate consumption and census input
10. Value added
11. Gross Fixed Capital formation
12. Orders

13. Environmental protection

We think that the 13 groups listed above are data items on identification, address, employment, resources, finances, costs/expenses and production/business performance. These are helpful in providing a good overview of an economic unit and its performance, and are adequate inputs for compiling general statistical indexes for the industrial sector as well as the system of national accounts. This is essential in the "statistic database," and is key to the development of general statistic indexes and statistic products.

A comparison between the groups of data items collected and compiled in Vietnam's industrial statistics and IRIS 2008 recommendations shows that:

- Vietnam has basically collected and compiled industrial statistics on all 13 groups listed above
- More specifically, Annex 1 offers a relative comparison between the list of data Items of IRIS 2008 and the data items collected in GSO's annual statistical surveys that are related to industrial statistics (from questionnaires in enterprise surveys and individual business establishment surveys).
  The table in Annex 1 shows that:

  The numbers of data items in each group that have been collected and compiled in Vietnam's industrial statistics are far less than the list of data items in IRIS. Even when data items from surveys of the system of national accounts (such as the survey on administration unit and the survey on enterprise to establish an IO table) and from several other non-periodical surveys, only a few more data items have been included.

  This is a setback in the process of data collecting in Vietnam's industrial statistics, leading to a lack of data that is detailed enough for compiling and grouping general indexes. Moreover, the quality of the data collected is not high. Therefore, there are limited numbers of publicized industrial statistical indexes of low international comparability. At the same time, the industrial statistical database is poorly furnished with limited and hard-to-work-on materials collected from questionnaires that are used in industry-related surveys.

- However, there are too many IRIS data items and they are too detailed. It suggests a feeling that they are listed just to reflect the aspects that arise during the production process of the enterprise and to serve the mere purpose of creating input/output tables. If the purpose is indeed to collect data that are helpful for developing such indexes as industrial production values, added values, or the industry's contribution to the overall economy, then too many details will not be necessary and will become a burden for both data providers and statisticians.

- Of the 13 groups listed above, the following items cannot be directly observed from the accounting records of industrial establishments; It is calculated from data items of the other data items groups.

    8. Production value
    9. Value added

These are two important indexes in general economic statistics as well as in industrial statistics.

IRIS has given an explanation on these two indexes and how they are calculated.

The way in which the two indexes are defined and calculated in Vietnam's industrial statistics is shown below – to offer a comparison with IRIS.

(a) Industrial Production Values at current price

Industrial production values are calculated on current prices or basic prices (which are selling prices exclusive of consumers' taxes such as VAT, special consumers' tax, and/or export tax).

This is basically in agreement with the method introduced in IRIS

However, to eliminate the price factor in assessing the growth rate of industrial production values and to calculate GDP with comparative prices, Vietnam also utilizes the industrial production values based on comparative prices. Historically, this index has been calculated in comparison with the 1994 fixed price. Recently, it has been switched to the following formula:

$$\text{Industrial production values (at comparative price)} = \frac{\text{Industrial production values (at current price)}}{\text{Output producer price index (to the year compared)}}$$

(b) Intermediational costs calculated upon prices in real terms and comparative prices

IRIS uses a direct calculation method to calculate intermediate costs from costs that arise during the production process. Intermediational costs as such include the following components:

+ Core and supporting materials
+ Fuel
+ Energy
+ Outsourcing expenses

In Vietnam, intermediate costs are theoretically defined and calculated similarly, but in reality, the following practice is used to lessen the burden on data providers and statisticians:
- A sample survey is conducted on annual intermediational costs
- Each type of intermediational costs is then rationalized upon total production values
- The ratios are then used as coefficients to calculate intermediate costs for a certain year as follows:

Intermediational costs	**= Production Values x**	**Coefficient**
At current price	At current price	of intermediational costs

Industrial intermediate costs at comparative price calculated as follows:

Intermediational costs   Intermediational costs at current price

At comparative price   =   --

                                     input producer price index

Added value at current price and comparative price

A – Added value (at current prices) = Production value (at current prices) – Intermediate costs (at current price)

b- Added value (at comparative prices) = Production value (at comparative prices) – Intermediate costs (at comparative prices)

Moreover, the Index of Industrial Production (IIP), which is key to evaluating monthly and quarterly industrial growth, is not included in any part of IRIS (although it is listed in the "List of variables for data for international dissemination with quarterly periodicity"). We think that IRIS should include guidance on this index.

Below is a brief introduction of the index as used in Vietnam:

Index of Industrial Production-IIP

Historically, to evaluate monthly and quarterly industrial growth, GSO has used the Index of Industrial Production at 1994 fixed prices, where national industrial production values are grossed up from provincial/municipal production values, which in turn are grossed up from production values of enterprises located within each province/city. The method has proven unsuitable, as reduplication has happened within an enterprise and between enterprises as production becomes more and more specialized (for instance, each establishment or enterprise only is responsible for one or two parts of a product). It is also a burden for an enterprise to bear the responsibility to calculate its own production values, which results in unqualified data produced.

Therefore, the project to develop "Index of Industrial Production" is an important improvement for Vietnam's industrial statistics.

As mentioned elsewhere, IIP, or the "Index of Industrial Product Volume," is being used by GSO to evaluate monthly and quarterly industrial growth rate, replacing the index of production value growth rate at a fixed price that had previously been used.

IIP is a percentage that reflects the growth of the volume that is produced during the report term compared to a selected anchor year.

IIP is calculated as follows:

$$I_x = \sum_{n=1}^{k} i_{Xn} W_{Xn}$$

- I_X: General production index;

- i_{Xn}:   Production index of the nth product (or industry)

- W_{Xn}: Production weight of the nth product (or industry)

The application of this method has shown initial advantages: Industrial growth rate as shown by this index is close to what is shown by the added values index, or in other words, it reflects more precisely the contributions of industries to the overall economy. So far, 63 provinces and municipals have deployed this new method. However, the quality of the index is still low for certain provinces/cities. Therefore, the GSO needs to enhance training and follow-up monitoring to improve the quality, while users should get better acquainted to using this index instead of absolute figures on production values and its monthly growth rate in evaluating industrial growth.

5. Implementation of industrial statistics

About "Performance indicators" mentioned in IRIS, we think that,

This is a frequently used indicator in statistics analysis. The methodology for measuring these indicators is quite simple, and user-friendly to statisticians. There are a number of other indicators that can be measured besides the ones mentioned in IRIS. Hence, we think that this part can be shortened in IRIS.

6. Data sources and data compilation methods.

6.1. Data sources :

Data for industrial statistics in Vietnam are mainly collected from two sectors: "enterprises" (following the Law on Enterprise of Vietnam) and "individual business establishments" (following the Decree 88 ND). Data on the operating performance of these sectors are mainly collected through the Enterprise Survey and Individual Business Unit Survey, on a monthly (with a small sample size), quarterly and annual basis.

When conducting both of these surveys, we incur a number of issues in designing the survey forms including:

- There are numerous errors in assigning codes to the activities (by VISIC) that an enterprise/individual is operating in, affecting the quality of sample selection in the survey.

- Since there is no Center of Business Registers in Vietnam yet, the filing, storing and updating information on the enterprise/individual are limited.

- There is almost no coordination among the three administering bodies: the Ministry of Finance, who issues business licenses to enterprises, the Tax Authority (belonging to the MoF) who administers the tax-paying enterprises/individuals and the GSO, which is in charge of a list of enterprises/individuals in business.

- Since Vietnam is still a developing economy, the annual change in the number of enterprises/individuals business units is quite large (newly established, operating idle or ceasing to exist)

Since 2001, the GSO conducts two annual surveys, an "enterprise survey" and "Individual business unit survey," which cover all enterprises/individuals business units operating in all

economic sectors except for the agriculture, forestry and fishery sectors. Industrial statistics are collected from enterprises that are mainly involved in the industrial sector, enterprises whose major activities are non-industrial but are involved in industry in their second or third activity, and individual business units that are involved in industrial sectors.

However, due to the limitations in units of statistics, survey forms, survey samples, survey methodology, survey questionnaires, survey management and the limited quality of accounting numbers kept by enterprises, the collected data are normally not detailed and not accurate enough for the compiling of high-quality industrial statistics. These practical features of Vietnamese industrial statistics are reasons for differences with IRIS. In addition, the differences are magnified by differences in legal backgrounds, in users' habits in using statistical units and in survey management practices…

The IRIS recommendation is a great reference document. However, through our comparison, we also notice that it would not be easy to have conversing methodology nor to increase data comparability across countries.

6.2. Data compilation methods

6.2.1. Data validation and editing.

This is a very important step in a survey process, the aim of which is to improve the results of surveys. IRIS has a very detailed and systematic presentation on this step. We are very much in agreement that there are many reasons that lead to shortcomings in data collected in surveys. One of the reasons is the lack of well-designed questionnaires with unclear questions that lead to undesired answers. Therefore, apart from ways to correct the shortcomings that already exist in data collected, which IRIS presents quite clearly, there's also a need to improve the ability to develop good questionnaires. Designing good questionnaires is one of the setbacks in Vietnam's statistics, as amongst other weaknesses, many questions require statistical skills and/or a lot of calculations to answer. (For example: questions on "production value" in the questionnaire of the Enterprise Survey)

In Vietnam, data validation and editing is a regular step and apparently required as a must in every survey. This is done by statistical staff, as well as through computerized programs during data entry where a lot of common mistakes are detected. However, double-checking for and particularly correcting mistakes is in fact not done properly as required. Little attention is given to guidance on how to correct mistakes. Although data is theoretically validated from the local level (where questionnaires are collected and data gathered) to the central level (where data is compiled at a national level), the actual practice is in fact random and inconsistent and is subject to personal experience, capacity and a sense of responsibility.

IRIS's presentation therefore is helpful for Vietnam to improve its guidance on detecting and correcting mistakes during surveys.

6.2.2 Data compilation methods

The common practice in Vietnam in compiling economic statistical data including industrial statistical data is: After data is checked from questionnaires at the local level, it is entered into a computerized system developed by GSO. Data is then transmitted to GSO's IT Center

for a final check. Once this final check is completed, data is returned to the local level where it comes from, together with principle output tables for each survey and a software program that helps explore and generalize those forms. At the same time, the center generalizes the output tables at a national level and develops a detailed database for every survey. Yet, so far, for an individual survey, apart from certain numbers of output tables/forms as required by GSO, the metadata is not used effectively and there is little possibility of further exploration beyond the Subject Department of GSO which was responsible for the survey. It is therefore very difficult to share resources among the different Subject Departments of GSO and with other users.

6.3 Data collection strategy

As Vietnam's statistical system is operated top-down from central down to provincial and even lower levels, data collection is usually performed by Local Statistical Offices with guidance from GSO. Currently, industrial data is collected annually through the Enterprise Survey and Individual Business Unit survey, as is other types of economic data; and GSO conducts two small sample-sized surveys every month to collect data that helps calculate industrial production values and IIP.

However, the quantity and quality of the data collected is not up to expectations. As mentioned elsewhere, some difficulties in collecting statistical data include the following:

- GSO does not have a sample frame with adequate numbers of selected units that are precisely coded (following the VSIC coding system). This limits the quality of the sample surveys.

- GSO does not have permanent enumerators. Different enumerators are called for in every single survey, and even for different phases of a single survey. Limited capacity and skills mean the quality of data collected is low.

- Funding for statistical surveys is generally limited, especially funding particularly for the collection step.

To deal with these problems, several recent actions have been taken by GSO Leaders:

- According to the Development Strategy of GSO, the Business Register Centre has been developed since 2003-04, mainly to develop and update sample frames for statistical surveys, update the metadata to improve transparency and enhance consistency in statistical methods that are in use. The desired objective of this is to have a sample frame that is updated adequately and on regular basis. Sample surveys will then be ably conducted for individual sector (e.g. manufacturing/mining) instead of gross surveys of all business sectors in a single "enterprise survey" or "individual business establishment surveys" that are currently in use.

- A national statistical survey program is being developed, which regulates periodical surveys conducted by GSO and other surveys conducted by specifically related ministries/industries. With this program, GSO will be proactive in planning surveys as

well as being able to identify factors related to the survey, including information on the types and numbers of surveyors needed.

- A team of collaborators (as enumerators) is developed to create and retain enumerators and to enhance their capacity.

6.4 Data quality and metadata and dissemination of industrial statistics

This is mentioned with a good level of detail in IRIS. However, we think that it is hard to separate industrial statistics from economic statistics. In other words, what is covered in this section indeed forms the general requirements of economic statistics. For this reason, IRIS has not been able to provide specific recommendations for industrial statistics.

Data quality is of much interest in Vietnam's statistics. In recent years, many measures have been suggested to improve the quality of data, one of which is to approach international standards and develop a Business Register Centre including metadata. Changes, however, are slow. We understand that data quality is not just about collecting good data but it is about the whole issue of the Statistical Agency's structure and capacity. For example, to apply international standards, one must clearly and precisely understand those standards, and at the same time have a clear understanding of the actual situation in Vietnam, and therefore must be able to apply the standards flexibly while ensuring their principles and core contents. This requires that Vietnam GSO has close connection with International and Regional Statistical Organizations, and that there are statisticians who are capable professionally and who are fluent in English, who can participate efficiently in international workshops and conferences, understand precisely the guidance available, and become trainers for training courses.

The development of a Business Register Centre is further evidence of the aim to improve statistics and statistical surveys. This was initiated at GSO a long time ago, but was discontinued over the past few years. This is obviously something that needs to be restored and continued.

As far as the dissemination of industrial statistics is concerned: According to GSO's regulations, statistical data, including industrial ones, are disseminated on the following bases:

- Monthly (including quarterly, bi-quarterly, tri-quarterly, and annual estimates, to disseminate indexes of industrial production values (of several selected provinces/cities and of the whole country) at the end of each quarter, bi-quarter, tri-quarter, and/or the indexes of industrial production values and value growths at current prices and 1994 fixed prices, and production volumes of several major industrial products. Since 2008, IIP has also been distributed for reference since the IIP method is being tested.

- Annually (including multi-annual data): Production values and growth indexes (at current prices and 1994 prices) categorized into different industries, economic

sectors and geographical areas; production volumes of several major industrial products.

- Moreover, the results of the annual "Enterprise Survey" & "Individual Business Units" are also made available in the form of books and CDs, where more index breakdowns can be found, such as:

    + Numbers of enterprises (categorized in types of enterprises, business fields, and geographical areas)

    + Employment, including numbers of female employees (")

    +Capital

    + Assets

    + Revenues

    + Costs

Industrial statistical indicators from the informal sector are disseminated every year together with other statistical indicators in the publication of survey on Individual Business Units.

Vietnam has also participated in IMF's General Data Dissemination System (GDDS), which is a system that provides, amongst other things, data as well as definitions/explanations of industrial statistics indexes.

IV. How we should develop the Guideline for Industrial Statistics "Good Practice" in East Asia:

What:

As mentioned in Part II "Some general comments on IRIS" this is a very complete set of guidelines on economic statistical methodology, since industrial statistics is part of economic statistics. However, the guidelines for good practice should focus on:

1. Background:
- The need to compare data within a region.
- Characteristics of economic and statistical development levels within a region.

2. The scope of industrial statistics (what types of industries should be included, should we develop the scope)

3. Statistical units that should be used (with specific reminders for special cases such as establishment unit, ancillary units, units that belong to informal sector, and households)

4. Data items and their definitions that need to be collected for industrial statistics (with special clarification of common pitfalls in industrial statistics, such as outsourcing, excluding indexes that require calculations such as production value, value added-- these can be put under bullet 6 below)

5. Data sources and data compilation methods

- Administrative sources

- Surveys (purpose, creation, maintenance of Business Register, survey methods, classifications, etc.)

6. Core industrial statistical indicators and explanation on the content, scope and how to calculate each of the indexes (for SNA, analysis of industrial activity performance, international comparison, entering data into the database of the region, etc.)

7. Recommend indexes that should be included in the ASEAN industrial statistical database

How:

- Work from reports by members of the study team to select common pitfalls and problems that each country encounters.

- Revise common pitfalls and discuss their solutions

- Draft the major content and circulate it amongst members for consultation and feedback

- Revise for final editing.

V. Conclusions

In this report, I have discussed the need for industrial statistics guidelines, commented on IRIS 2008, reviewed the current status of Vietnam industrial statistics, and recommended an action plan for the development of industrial statistics in East Asia.

However, since this project is conducted within a limited time frame and falls outside of my plan, it's unfortunate that I have not been able to exchange ideas with other Study team members. Hence, the study inevitably has some drawbacks.

I hope this report will serve as a first draft and I am looking forward to receiving your comments on how it can be improved.

List of Data Items
Comparison between IRIS 2008 and Vietnam

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
1. Demography	
1a. Characteristics of Statistical units	
1.1 Identification code	x (tax code)
1.2 Location	x
1.3 Period of operation	x
1.4 Type of economic organization	x
1.4.1 Single-establishment enterprise	x * single enterprise
1.4.2 Multi-establishment enterprise	x *multi-branch enterprise
1.4.2.1 Number of establishments in the multi-establishment enterprise	-
1.5 Type of legal organization and ownership	
1.5.1 Incorporated enterprises except limited liability partnerships and cooperatives	x
1.5.1.1 Public ownership	x
1.5.1.1.1 By central government	x
1.5.1.1.2 By state government	x
1.5.1.1.3 By local government	x
1.5.1.2 National private	x
1.5.1.3 Foreign controlled	x
1.5.2 Co-operatives and limited liability partnerships	x
1.5.2.1 Public ownership	x
1.5.2.1.1 By central government	x
1.5.2.1.2 By state government	x
1.5.2.1.3 By local government	x
1.5.2.2 National private	x
1.5.2.3 Foreign controlled	x
1.5.3 Non-profit institutions	x
1.5.3.1 Public ownership	x
1.5.3.1.1 By central government	x
1.5.3.1.2 By state government	x
1.5.3.1.3 By local government	x
1.5.3.2 National private	x
1.5.3.3 Foreign controlled	x
1.5.4 Unincorporated enterprises	x
Of which:	
1.5.4.1 Informal sector enterprises	x*(individual business unit)
1.6 * Size	?
1.7 Kind-of-activity	x
1.8 Type of unit	x
1.8.1 Principal producing unit	x
1.8.2 Ancillary unit	0
1. (b) Number of Statistical units	
1.10 * Number of enterprises	x*
1.10.1 * Multi-establishment enterprises	x*
1.10.1.1 * Number of establishments	x (each 5 year)
1.10.2 * Single establishment enterprises	x
2. Employment	
2. (a) Number of persons employed	
Male/Female Total	**x**
2.1 * Total number of persons employed	x
Of which:	
2.1.1 Working proprietors	x
2.1.2 Unpaid family workers	x (informal sector)
2.1.3 Employees	x

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
Of which:	
2.1.3.1 Production workers	...
Of which	
2.1.3.1.1 Employees engaged in research and development	o
2.1.3.1.2 Employees engaged in mineral exploration and evaluation	o
2.1.3.1.3 Employees engaged in software & database development	o
2.1.3.1.4 Employees engaged in production of artistic originals	o
2.1.3.1.5 Employees engaged in own account fixed asset formation	o
and major repair	
2.1.3.2 Other employees	x
2.2 Number of leased employees	o
2.3 * Total number of persons employed in the informal sector	x
2.3.1 Employees in the informal sector	
2.3.2 Other persons employed in the informal sector	
2. (b) Average number of persons employed	**0**
Male Female Total	**0**
2.4 Average number of persons employed	0
Of which:	
2.4.1 Employees	0
2.4.1.1 Production workers	
2.4.1.2 Other employees	
2. (c) Hours worked	**0**
Male Female Total	**0**
2.5 Hours worked by employees	0
Of which:	0
2.5.1 Hours worked by production workers	0
Of which	
2.5.1.1 Employees engaged in research and development	0
2.5.1.2 Employees engaged in mineral exploration and evaluation	0
2.5.1.3 Employees engaged in software & database development	0
2.5.1.4 Employees engaged in production of artistic originals	0
2.5.1.5 Employees engaged in own account fixed asset formation	0
and major repair	
2.5.2 Hours worked by other employees	0
2.6 Hours worked by leased employees	0
3. Compensation of employees	
3.1 Wages and salaries in cash and in kind of employees	x
Of which:	
3.1.1 Production workers	0
Of which	
3.1.1.1 Employees engaged in research and development	0
3.1.1.2 Employees engaged in mineral exploration and evaluation	0
3.1.1.3 Employees engaged in software & database development	0
3.1.1.4 Employees engaged in production of artistic originals	0
3.1.1.5 Employees engaged in own account fixed asset formation and major construction	0
3.1.2 Other employees	0
3.2 Payments to directors of incorporated enterprises for their attending meetings	0
3.3 Social insurance contributions payable by employers	0
4. Other expenditures	
4. (a) Purchases of goods and services	**x**
4.1 Cost of raw materials and supplies except gas, fuels and electricity	x
Of which:	
4.1.1 Purchases or receipts of raw materials and supplies from other enterprises	0
4.1.2 Value of raw materials and supplies delivered by other establishments of the same	0 (not separate)

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
enterprise	
4.1.3 Cost of materials for own-account capital formation	0 (not separate)
Of which:	
4.1.3.1 for research and development	0
4.1.3.2 for mineral exploration and evaluation	0
4.1.3.3 for software & database development	0
4.1.3.4 for production of artistic originals	0
4.1.3.5 for own account fixed asset formation and major repair	x
4.2 Cost of gas, fuel and electricity purchased	x
4.2.1 Cost of individual fuels and gas purchased	x
4.2.2 Cost of electricity purchased	x
4.3 Cost of water and sewerage services	x
4.3.1 Cost of water purchased	x
4.3.2 Cost of wastewater services purchased	0
4.3.3 Cost of sewerage services purchased	0
4.4 Purchases of services except rental	0
4.4.1	
Cost of industrial services purchased and also delivered by other establishments of	0
the same enterprise	
Of which:	
4.4.1.1 Maintenance, repair and installation (except construction) services	0
4.4.1.2 Contract and commission work	0
4.4.1.2.1 Fees paid for leased employment	0
4.4.2 Cost of non-industrial services purchased and also delivered by other establishments	0
of the same enterprise	
4.4.2.1 Maintenance and repair of buildings and structures	0
4.4.2.2 Communication services	x
4.4.2.3 Transport services	x
4.4.2.4 Advertising and promotional services	x
4.4.2.5 Financial services (excluding interest payments)	x
4.4.2.9 Other non-industrial services	x
4.5 Purchases of goods and services for resale in the same conditions as received	0
4.6 Rental payments	0
4.6.1 Rental payments for machinery and equipments	
4.6.2 Rental payments for dwellings and structures	
4.7 Non-life insurance premiums payable on establishment property	
4. (b) Data items on quantity	
Q4.1 Quantity of individually important materials and supplies	0
Q4.2 Quantity of individual fuels and gas purchased	0
Q4.2.1 Quantity of electricity purchased	0
Q4.2.2 Quantity of electricity generated	0
Q4.2.3 Quantity of electricity sold	0
Q4.2.4 Total energy consumed (terajoules)	0
Q4.3.1 Quantity of water purchased	0
Q4.3.1.1 Quantity of water abstracted for own use	0
Q4.3.1.2 Quantity of water sold	0
Q4.3.1.3 Total water used (cubic maters)	0
Q4.3.2 Quantity of wastewater treated on site prior to discharge	0
Q4.3.3 Quantity of wastewater discharged without treatment	0
5. Value of shipments, receipts for services and other revenues	
5. (a) Turnover, sales, shipments, receipts for services and other revenues	
5.1 Value of shipments/sales/turnover, including transfers to other establishments of the same enterprise	x
5.1.1 Value of shipments/sales/turnover of goods produced by the establishment	x
5.1.1.1 Value of shipments/sales/turnover of goods produced to other enterprises	0 (not separate)

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
5.1.1.2 Transfers of goods produced to other establishments of the same enterprise	0(not separate)
5.1.1.3 Exported to customers and affiliated foreign branches	0 (not separate)
5.1.2 Value of shipments/sales/turnover of all goods and services purchased for resale in the same condition as received	0 (not separate)
5.1.4 Receipts for industrial work done or industrial services rendered to others	0 (not separate)
Of which:	
5.1.4.1 Contract and commission work	0
5.1.4.1.1 From units not resident in the country	0
5.1.4.2 Maintenance, repair and installation (except construction) services	0
Of which	
5.1.4.2.1 Installation work	0
5.1.4.3 Research and development work of an industrial nature	0
5.1.4.4 Industrial services rendered to other enterprises	0
5.1.4.5 Industrial services rendered to other establishments of the same enterprise	0
5.2 Other revenues	x
5.2.1 Revenue from the rental or lease of machinery and equipment	0
5.2.2 Revenue from the rental or lease of buildings	0
65	
5.2.3 Other revenues n.e.c.	x
5.3 * Value of own-account fixed assets	0
5. (b) E-commerce	
5.4 E-commerce sale/turnover/value of shipments/receipts for services or other revenues	0
5. (c) Data items on quantity	
Q5.1 Quantity and value of individually important products	x
6. Inventories	**x**
6.1 * Total inventories	x
6.1.1 At the beginning of the period	x
6.1.2 At the end of the period	x
6.1.3 * Change (plus or minus)	x
6.2 Inventories of materials, fuels and supplies	0
6.2.1 At the beginning of the period	0
6.2.2 At the end of the period	0
6.2.3 * Change (plus or minus)	0
6.3 Work-in-progress	0
6.3.1 At the beginning of the period	0
6.3.2 At the end of the period	0
6.3.3 * Change (plus or minus)	0
6.4 Inventories of finished goods	x
6.4.1 At the beginning of the period	x
6.4.2 At the end of the period	x
6.4.3 * Change (plus or minus)	
6.5 Inventories of goods purchased for resale in the same condition as received	0
6.5.1 At the beginning of the period	0
6.5.2. At the end of the period	0
6.5.3 * Change (plus or minus)	0
7. Taxes and subsidies	**x**
7. Other taxes and subsidies on production	
7.1 Taxes	x
7.1.1 Other taxes on production	x
7.2 Subsidies received	0
7.2.1 Subsidies on products	0
7.2.2 Other subsidies on production	x

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
8. Output	
8.1 * Gross output at basic prices	x (fix price- at 1994)
8.2 ** Census output at basic prices	
9. Intermediate consumption and census input	**x**
9.1 * Intermediate consumption at purchasers' prices	x
9.2 ** Census input at purchasers' prices	
10. Value added	**x**
10. Total value added and census value added	
10.1 * Total value added at basic prices	x
10.2 ** Census value added at basic prices	
11. Gross Fixed Capital formation	**x**
11. Assets, capital expenditures, retirements and depreciation	**x**
11.1 Gross value of fixed assets (at acquisition cost) at the beginning of the period	x
11.1.1 Dwellings	0 not separate
11.1.2 Other buildings and structures	0
11.1.3 Machinery and equipment	0
11.1.3.1 Transport equipment	0
11.1.3.2 ICT equipment	0
11.1.3.3 Other machinery and equipment	0
11.1.4 Intellectual property products	0
11.1.4.1 Research and development	0
11.1.4.2 Mineral exploration and evaluation	0
11.1.4.3 Computer software and databases	0
11.1.4.4 Entertainment, literary and artistic originals	
11.1.4.5 Other	
11.2 Capital expenditure on new and used fixed assets (acquisitions) during the period	0
11.2.1 Dwellings	0
11.2.2 Other buildings and structures	0
11.2.3 Machinery and equipment	0
11.2.3.1 Transport equipment	0
11.2.3.2 ICT equipment	
11.2.3.3 Other machinery and equipment	
11.2.4 Intellectual property products	
11.1.4.1 Research and development	
11.1.4.2 Mineral exploration and evaluation	
11.1.4.3 Computer software and databases	
11.2.4.4 Entertainment, literary and artistic originals	
11.2.4.5 Other	
11.3 Gross value of fixed assets sold, retired and scrapped (disposal) during the period	0
11.3.1 Dwellings	
11.3.2 Other buildings and structures	
11.3.3 Machinery and equipment	
11.3.3.1 Transport equipment	
11.3.3.2 ICT equipment	
11.3.3.3 Other machinery and equipment	
11.3.4 Intellectual property products	
11.1.4.1 Research and development	
11.1.4.2 Mineral exploration and evaluation	
11.1.4.3 Computer software and databases	
11.3.4.4 Entertainment, literary and artistic originals	
11.3.4.5 Other	
11.4 Depreciation	0
11.4.1 Dwellings	
11.4.2 Other buildings and structures	
11.4.3 Machinery and equipment	
11.4.3.1 Transport equipment	

Data Items of IRIS 2008	Data Items of Industrial Statistics of GSO
11.4.3.2 ICT equipment	
11.4.3.3 Other machinery and equipment	
11.4.4 Intellectual property products	
11.1.4.1 Research and development	
11.1.4.2 Mineral exploration and evaluation	
11.1.4.3 Computer software and databases	
11.4.4.4 Entertainment, literary and artistic originals	
11.4.4.5 Other	
11.5 * Gross value of fixed stock at the end of the period	
11.5.1 * Dwellings	
11.5.2 * Other buildings and structures	
11.5.3 * Machinery and equipment	
11.5.3.1 Transport equipment	
11.5.3.2 ICT equipment	
11.5.3.3 Other machinery and equipment	
11.5.4 * Intellectual property products	
11.1.4.1 Research and development	
11.1.4.2 Mineral exploration and evaluation	
11.1.4.3 Computer software and databases	
11.5.4.4 Entertainment, literary and artistic originals	
11.5.4.5 Other	
12. Orders	**0**
12.1 New orders received	0
12.2 Unfilled orders at the end of the inquiry period	0
13. Environmental protection	**x**
13. Environmental protection expenditures	**x**
13.1 Environmental protection expenditures	x

List of Variables for Data for International Dissemination
with Quarterly Periodicity
Comparison Between IRIS 2008 and Vietnam

Data item	Level of details		Minimum reporting level (in terms of ISIC Rev. 4)		Time lag (after close of reference year)	
	International	*GSO-Vietnam*	*International*	*GSO Vietnam*	*International*	*GSO Vietnam*
A. Demography						
1.10 Number of enterprises	Broken down by activity, size class	Acivty Size of employment	3-digit level for activity breakdown	2 digit level	18 months	12 months
			1-digit level for size class breakdown			
B. Employment						
2.1 Total number of persons employed	Broken down by activity and size class	Yes Activity	3-digit level for activity breakdown	2 digit level	18 months	18 months
			1-digit level for size class breakdown			
2.1 Total number of employees	Broken down by activity and size class	Yes by activity	3-digit level activity breakdown	2 digit level	18 months	18 months
			1-digit level for size class breakdown			
C. Compensation of employees						
3.1 Wages and salaries in cash and in kind of employees	Broken down by economic activity	no	3-digit level	no	18 months	no
H. Output						
8.1 Gross output (at basic prices)	Broken down by economic activity	yes	3-digit level	2	18 months	18 months
J. Value added						
10.1 Total value added (at basic prices)	Broken down by economic activity	yes	3-digit level	1	18 months	18 months
K. Gross fixed capital formation						
Gross fixed capital formation	Broken down by economic activity	yes	1-digit level	1	18 months	18 months
M. Environment						
13.1 Environmental protection expenditure	Broken down by economic activity	not yet	3-digit level		18 months	
Q4.2.4 Total energy consumed (terajoules)	Broken down by economic activity	not yet	3-digit level		18 months	

Data item	Level of details		Minimum reporting level (in terms of ISIC Rev. 4)		Time lag (after close of reference year)
Q4.3.1.3 Total water used (cubic meters)	Broken down by economic activity	not yet	3-digit level		18 months

Appendix 3

List of Variables for Data for International Dissemination
with Quarterly Periodicity
Comparison IRIS 2008 and Vietnam

Data item	Level of details		Minimum reporting level (in terms of ISIC Rev. 4)		Time lag (after close of reference year)	
	International	*Vietnam*	*International*	*Vietnam*	*International*	*Vietnam*
B. Employment						
2.1 Total number of persons employed	Broken down by economic activity	no	2-digit level		3 months	
2.1.3 Total number of employees	Broken down by economic activity	no	2-digit level		3 months	
C. Compensation of employees						
3.1 Wages and salaries in cash and in kind of employees	Broken down by economic activity	no	2-digit level		3 months	
L. Orders						
12.1 New orders received	Broken down by economic activity	no	2-digit level		3 months	
12.2 Unfilled orders	Broken down by economic activity	no	2-digit level		3 months	
Index of Industrial production						
Index of industrial production	Broken down by economic activity	Yes (monthly)	2-digit level		3 months	

Chapter 4

How Should We Develop Industrial Statistics in

East Asia

Chapter 4: How Should We Develop Industrial Statistics in East Asia

4-1 Issues for Promoting International Comparability in the Region: From the Viewpoint of Industrial Classification

To facilitate international comparable industrial statistics, it is necessary to set up international standards, including an international standard industrial classification and an international commodity classification in this region. Until now, the standard industrial classification of a country (NSIC) has been based on ISIC and modified and extended according to national conditions.

The Lesson in Developing EAMIC

Developing the East Asia Manufacturing Industrial Classification (EAMIC) was the first step in the harmonization of industrial statistics in East Asia, becoming the basis for manufacturing statistics generated by the country. The Harmonization of Statistical Classification Project of EAMS revealed several challenges in ensuring harmonization of statistical classifications.

The first challenge is the difference in the level of experience in formulating and using industrial standard classifications. Some countries have been consistently developing their own standard industrial classification based on international standards. They have also developed a schedule of revision either based on regular intervals or based on the issuing of new international industrial classifications. In these countries, most agencies implement the national standard industrial classification. Another group of countries, however, took for granted the industrial classification and only those agencies aware of and interested in producing internationally acceptable manufacturing statistics use the international standard industrial classification without revision. Other government agencies, in general, have their own industrial classification based on their needs.

Countries that have developed national standard industrial classifications have done so based on international standards. In the absence of regional coordination, there was very limited discussion, or indeed none at all, among countries on the development of national standard industrial classifications. Member countries with national standard industrial classifications might have difficulty adopting the EAMIC in formulating new classifications. A correspondence table should be developed between ACMIC and

individual national standard classifications.

One of the positive outcomes of EAMIC is the raising of awareness among ASEAN countries in using standard industrial classifications that would enable them to meaningfully compare their manufacturing statistics with other countries and to ensure that their statistics are consistent with international classification. The response of other government agencies has also encouraged the focal statistical agency to develop its own standard industrial classification. To some extent it has also provided opportunities for the countries to assess their own approach in developing the national standard industrial classification.

4.2. How Should We Develop Industrial Statistics in the Region

The Importance of the Harmonization of Statistics

Reflecting globalization and borderless economic activities, the interdependency among ASEAN countries has become deeper and more complex.

In the manufacturing industry, intra-industry trade and interdependence among international industries in the East Asia and ASEAN regions have grown rapidly since the early 1990s. Now the production activities of these countries are closely linked with foreign production activities. At the same time, international competition among the industries of different countries has become increasingly intense. Through trade, production in one country now has a significant impact on foreign production. Increases in the exports of one country consequently compete with the exports of other countries in the same region. Production capacity and scale have now increased to the point where this can cause decreases in the exports of other countries. Given the increased interdependence in the region and intensified competition, it seems there is a growing need to have a constant understanding of foreign production activities—not just domestic industrial activities—to establish economic or industrial policies.

For this reason, policymakers need to understand production activities among countries and determine how to respond to those trends. As a consequence, it is important to promote International Comparability in Manufacturing Statistics in the Region.

The Regional Manufacturing Database
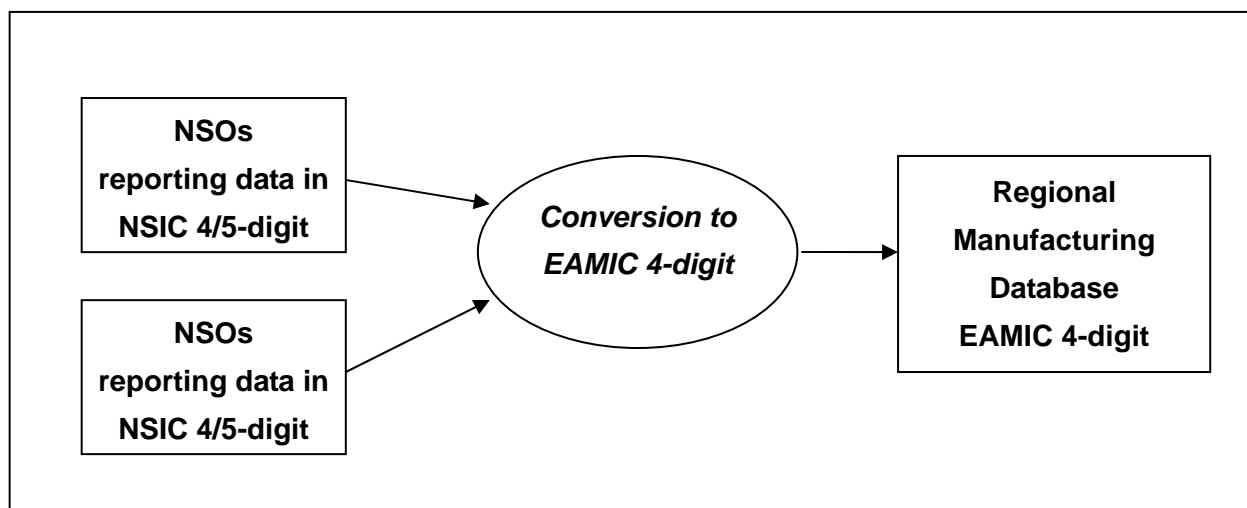
Other Issues in the Harmonization of Statistics

While standard classification is important in the harmonization of statistics among the ASEAN countries, several statistical issues related to the harmonization of statistics are critical for enhancing statistics in support of regional integration. One such issue is the definition, concepts and coverage applied in collecting key statistics.

An initial activity in this area is to assess and compile practices together with the concepts, definition and coverage used by the countries in collecting key statistics and in compiling derived statistics from the basic statistics. This will initially enable users of statistics to evaluate the quality, reliability and comparability of key statistics of member countries.

Potential Determinants of Data Quality and Comparability

- o   Registry of establishments/enterprises (size of non-registered/informal sector)
- o   Scope of the national industrial survey (survey cut-off point, geographical area, activity
- o   Response rates and treatment of non-responses
- o   Statistical concepts and definitions

- o Industrial classification
- o Methodology for data production

Data Quality Assurance

- o Identification and documentation of deviation from international standards
- o Correction of reporting errors
- o Data imputation/estimation to fill data gap

Sources of Differences in Variable Definitions
- o Employment: Employment data refer to employees or persons engaged; Different treatment of unpaid family workers, home workers and part-time employees, including seasonal workers. The reference period may differ between countries.

- o Wages and salaries: Inclusion of payments to family workers and of employers' contributions to social security schemes; Exclusion of payments-in-kind. The numerical effects of these differences are probably of small consequence both within and between countries

- o Output and value added: The most important elements are the differences in concept (census or National Account concept) valuation (in producers' prices or factor values). These differences can be significant, for certain industries in particular, depending on the relative amounts of, for instance, advertising costs or government subsidies received

Quality Requirements for Industrial Statistics

In order to produce timely and reliable empirical outputs, the data need to be:
- o Relevant
- o Accurate and coherent
- o Easily accessible
- o Comparable
- o Complete, and
- o CURRENT

Chapter 5

Policy Recommendations: Towards the Long-term Scope

for the Future comparability

Chapter 5: Policy Recommendations: Towards the Long-term Scope for the Future comparability

The improvement in the international comparability of industrial statistics in the East Asia region that this WG is aiming for will improve the quality of statistical information required when the ASEAN Economic Community, the East Asia Summit (EAS) or AEM considers regional policies, and will enable higher precision informational and economical analyses. We expect that the findings of this research project will be reported in the economic, industrial and statistical meetings held as part of the policy meetings of EAS, ASEAN+6, ASEAN+3 and ASEAN that target the East Asia region.

The Recommendations

- o Conduct surveys into the current feasibility of the international comparison of industrial statistics for the remaining countries for the East Asia region.
- o Identify issues in improving international comparability on Industrial Statistics and draft action plans toward resolving those issues.
- o Recommend the establishment of a comparable regional database on Industrial Statistics through the collaboration with Regional Organizations.

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Appendix:

Comparative Matrix Table for

Manufacturing Industry Statistics

Appendix

Comparative Matrix Table for Manufacturing Industry Statistics (from EAMS Report)

Note:
The data presented were graciously provided to EAMS by the respective national governments, only for the purpose of evaluating international comparability. The governments declared these data are not suited for analytical purposes. Readers are asked to handle the data carefully.

Number of Establishments / Enterprises ---4 Digit (ISIC Rev.3)

	Name of statistics	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines(1)	Philippines(2)	Singapore	Thailand	Vietnam	China	Japan	Korea	
	Name of statistics	2002 Economic Census	Survey of Industrial Establishment 2000	Annual Manufacturing Survey (Large and Medium)	Survey of Industrial Eatablishments 1999	Annual Survey of Manufacturing Industries 2004	National Manufacturing Survey for Private Sector	2003 Annual Survey of Philippine Business and Industry	2003 Annual Survey of Philippine Business and Industry	Census of Manufacturing Activities 2003	2003 Manufacturing Industry Survey	Based on Enterprises, 2000 and 2003		Census of Manufactures 2004	Mining and Manufacturing Survey	
	Reference Year	2001	2000	2003	1999	2003	2002/03	2003	2003	2003	2003	2003	2004	2004	2004	
	Stastiscal unit	Enterprise	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Enterprise	Enterprise	Establishment	Establishment	
	Size coverage	All active registered enterprises	All manufacturing establishments	20 or more workers	10 or more workers	All manufacturing establishments	All manufacturing establishments	20 or more workers	Less than 19 workers	All manufacturing establishments	All manufacturing establishments	All manufacturing enterprises	All active registered enterprises	30 or more workers	5 or more workers	
D	Manufacturing	482	7,857	20,324	410	19,141	88,508	5,899	115,284	8,597	359,657	16,663	256,999	45,964	113,310	D
1511	Production, processing and preserving of meat and meat products	2		33		54	138			55	3,405	78	2,665	431	704	1511
1512	Processing and preserving of fish and fish products	3	36	523		131	716			44	3,657	597	1,580	1,262	1,850	1512
1513	Processing and preserving of fruit and vegetables			69		54	1,287			16	2,284	100 a)	3,065	452	728	1513
1514	Manufacture of vegetable and animal oils and fats			326		447	4,107			17	236	36 b)	4,612	63	99	1514
1520	Manufacture of dairy products	2		39		41	1,670			6	887	27	898	326	106	1520
1531	Manufacture of grain mill products			430		278	28,236				69,713	1,272	3,143	121	701	1531
1532	Manufacture of starches and starch products		4,390	225		25	164			8	96	93	554	19	89	1532
1533	Manufacture of prepared animal feeds			85		84	214				237	232	2,268	96	284	1533
1541	Manufacture of bakery products	24	215	498		762	1,313			227	4,833	72	932	1,111	1,085	1541
1542	Manufacture of sugar		9	118		8	1,209				57		329	49	3	1542
1543	Manufacture of cocoa, chocolate and sugar confectionery			100		66	37			7	1,384	52	416	264	114	1543
1544	Manufacture of macaroni, noodles, couscous and similar farinaceous products	2	116	302		258	2,533			91	4,690	48	722	336	163	1544

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1549	Manufacture of other food products n.e.c.	7	133	1,422		658	4,011				6,340	379	b)	2,806	1,681	1549
1551	Distilling, rectifying and blending of spirits; ethyl alcohol production from fermented materials		134	11	a) 26	427					60	35	1,419	113	48	1551
1552	Manufacture of wines			7		0	29			210		15		153	130	1552
1553	Manufacture of malt liquors and malt		9	3	a)							179	570	25	11	1553
1554	Manufacture of soft drinks; production of mineral waters	2	473	223		96	1,149				2,333	842	a)	201	255	1554
1600	Manufacture of tobacco products		67	788		231	1,222				549	26	210	18	12	1600
1711	Preparation and spinning of textile fibres; weaving of textiles		50	646		49	3,430			9	48,715	275	11,922	320	2,426	1711
1712	Finishing of textiles			472		68	326				1,038	103	2,495	282	1,912	1712
1721	Manufacture of made-up textile articles, except apparel	16		196		170	65			86			c) 21,678	253	1,812	1721
1722	Manufacture of carpets and rugs			20		14					8,037		c)	42	54	1722
1723	Manufacture of cordage, rope, twine and netting		25	28		8	241			19			187	48	256	1723
1729	Manufacture of other textiles n.e.c.			120		51	74						1,770	192	883	1729
1730	Manufacture of knitted and crocheted fabrics and articles		152	365		91	10			14	903	97	c)	117	1,628	1730
1810	Manufacture of wearing apparel, except fur apparel	295	254	1,882		2,318	1,397			582	70,484	1,206	c)	1,456	8,280	1810
1820	Dressing and dyeing of fur; manufacture of articles of fur		3	1		0				0	39	5	c)	3	130	1820
1911	Tanning and dressing of leather			69		7	233			28	1,663	14	1,130	27	231	1911
1912	Manufacture of luggage, handbags and the like, saddlery and harness		18	93		44	1					100	1,593	64	451	1912
1920	Manufacture of footwear		44	350		176	482			32	2,702	280	3,881	134	1,303	1920
2010	Sawmilling and planing of wood	14	48	564		428	3,477			7	985	376	546	190	712	2010
2021	Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board and other panels and boards	9	47	230		126				5	181	118	2,718	187	251	2021
2022	Manufacture of builders' carpentry and joinery		12	377		341	455			29	821	120	499	264	367	2022
2023	Manufacture of wooden containers			37		81	37			38	271	23	265	34	400	2023
2029	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials		47	242		213	174			33	42,592	549	d) 39,392	52	272	2029

Number of Establishments / Enterprises ---4 Digit (ISIC Rev.3)

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2101	Manufacture of pulp, paper and paperboard		5	152		93	194					169	6,418	348	438	2101
2102	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard			177		182	7			128	1,599	299		830	1,777	2102
2109	Manufacture of other articles of paper and paperboard		8	46		122	151					212	1,109	420	738	2109
2211	Publishing of books, brochures and other publications		22	222		76				....		25	....	....	769	2211
2212	Publishing of newspapers, journals and periodicals			35		41	8			....	768	34	....	....	993	2212
2213	Publishing of music			3						....		2	....	....	32	2213
2219	Other publishing	2		42		43				....		27	....	....	90	2219
2221	Printing	20		200		276	3,716			792	3,866	576	4,777	1,903	3,149	2221
2222	Service activities related to printing			40		359	13			118	142	77	265	394	921	2222
2230	Reproduction of recorded media			3		3				10	38	12	97	37	73	2230
2310	Manufacture of coke oven products			6		0				0	11	1	x	8	-	2310
2320	Manufacture of refined petroleum products	3		48		50	42			17	78	9	1,110	91	110	2320
2330	Processing of nuclear fuel					0					1		x	6	1	2330
2411	Manufacture of basic chemicals, except fertilizers and nitrogen compounds			243		108	70			50		71 e)	7,276	497	562	2411
2412	Manufacture of fertilizers and nitrogen compounds		5	63		23	65				762	98	1,923	44	303	2412
2413	Manufacture of plastics in primary forms and of synthetic rubber		27	49		85	42			30		23 e)		140	560	2413
2421	Manufacture of pesticides and other agro-chemical products			37		24	10					43	741	45	72	2421
2422	Manufacture of paints, varnishes and similar coatings, printing ink and mastics		5	118		122	85			38		143	2,719	356	348	2422
2423	Manufacture of pharmaceuticals, medicinal chemicals and botanical products			206		108	275			40	1,448	160 d)		546	464	2423
2424	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet			127		127	60			48		112 d)		313	562	2424
2429	Manufacture of other chemical products n.e.c.			144		91	14			98		105	5,144	163	931	2429
2430	Manufacture of man-made fibres			16							53	4	1,482	37	92	2430

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2511	Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres			313		73	6			57	1,016	34	433	39	45	2511
2519	Manufacture of other rubber products		60	141		357	305					131	2,099	538	1,086	2519
2520	Manufacture of plastics products	5		968		1,131	724			365	2,855	746	d)	2,987	7,437	2520
2610	Manufacture of glass and glass products			69		110	44			37	459	78	2,818	359	801	2610
2691	Manufacture of non-structural non-refractory ceramic ware					73	2				a) 2,773	237	1,499	169	340	2691
2692	Manufacture of refractory ceramic products			84		81	29				a)	77	1,195	124	104	2692
2693	Manufacture of structural non-refractory clay and ceramic products	6	496	716		85	1,723				1,704	569	2,536	61	106	2693
2694	Manufacture of cement, lime and plaster	4		112		47	174			109	a)	112	5,491	74	96	2694
2695	Manufacture of articles of concrete, cement and plaster	6	17	296		285	275				4,740	133 d)		651	1,526	2695
2696	Cutting, shaping and finishing of stone			199		69	277				a)	103	1,323	71	506	2696
2699	Manufacture of other non-metallic mineral products n.e.c.	2		42		80	178				a)	76	f) 3,118	220	626	2699
2710	Manufacture of basic iron and steel		8	109		209	56				582	168	7,141	713	1,530	2710
2720	Manufacture of basic precious and non-ferrous metals	4		70		94	1,043			25	425	17	d) ※excluded confidential number	338	694	2720
2731	Casting of iron and steel			22		246	2,717				205	51	3,314	276	383	2731
2732	Casting of non-ferrous metals			8		24	257				561	30	405	88	225	2732
2811	Manufacture of structural metal products	17	15	159		1,149	1,361			458	11,959	534	4,049	1,025	3,477	2811
2812	Manufacture of tanks reservoirs and containers of metal		30	37		55	470			17	294	74	967	354	422	2812
2813	Manufacture of steam generators, except central heating hot water boilers					0	2			10		9		40	59	2813
2891	Forging, pressing, stamping and roll-forming of metal; powder metallurgy		49	21		233	23			78	7,127	151	918	827	1,776	2891
2892	Treatment and coating of metals; general mechanical engineering on a fee or contract basis		5	66		56				149	5,063	62	1,194	797	5,102	2892
2893	Manufacture of cutlery, hand tools and general hardware		34	191		132	30			25		77	d)	371	1,246	2893
2899	Manufacture of other fabricated metal products n.e.c.	5	210	422		606	36			485	1,081	666	d) ※excluded confidential number	959	2,547	2899

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	Reference Year	2001	2000	2003	1999	2003	2002/03	2003	2003	2003	2003	2003	2004	2004	2004	
	Stastiscal unit	Enterprise	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Establishment	Enterprise	Enterprise	Establishment	Establishment	
	Size coverage	All active registered enterprises	All manufacturing establishments	20 or more workers	10 or more workers	All manufacturing establishments	All manufacturing establishments	20 or more workers	Less than 19 workers	All manufacturing establishments	All manufacturing establishments	All manufacturing enterprises	All active registered enterprises	30 or more workers	5 or more workers	
2911	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines			40		8	16			12		14	653	127	314	2911
2912	Manufacture of pumps, compressors, taps and valves			35		46	26			28		43	3,368	462	1,357	2912
2913	Manufacture of bearings, gears, gearing and driving elements			37		27	51			20	605	15	2,047	336	533	2913
2914	Manufacture of ovens, furnaces and furnace burners			11		8	14					8 g)	9,088	11	199	2914
2915	Manufacture of lifting and handling equipment			8		38	10			115		13	1,361	283	1,128	2915
2919	Manufacture of other general purpose machinery	2	30	55		197	1			185	450	56	4,463	889	2,495	2919
2921	Manufacture of agricultural and forestry machinery			27		56	156				2,286	77	964	184	1,391	2921
2922	Manufacture of machine-tools			31		501	3,946			545	229	44 g)		704	446	2922
2923	Manufacture of machinery for metallurgy					5	81				29	1	663	17	77	2923
2924	Manufacture of machinery for mining, quarrying and construction			7		40	8			109	194	20 g)		218	509	2924
2925	Manufacture of machinery for food, beverage and tobacco processing			3		21	44			26	145	22	667	233	197	2925
2926	Manufacture of machinery for textile, apparel and leather production			19		16	122				384	16	1351	123	498	2926
2927	Manufacture of weapons and ammunition			4		4					18	67		15	59	2927
2929	Manufacture of other special purpose machinery			21		69	287			451	282	87 g)	※excluded confidential number	1,376	5,112	2929
2930	Manufacture of domestic appliances n.e.c.			92		68	28			11	178	7	2,082	518	1,024	2930
3000	Manufacture of office, accounting and computing machinery			8		57				36	51	10	1,254	635	746	3000
3110	Manufacture of electric motors, generators and transformers			42		71	441			52	497	37	3,258	434	1,419	3110
3120	Manufacture of electricity distribution and control apparatus			55		129	3			77	240	45	2,664	715	2,071	3120
3130	Manufacture of insulated wire and cable	6		64		125	8			51	91	79	3,153	182	604	3130
3140	Manufacture of accumulators, primary cells and primary batteries		5	32		17	1,304			7	38	21	849	86	82	3140
3150	Manufacture of electric lamps and lighting equipment			26		46	2			9	121	27	2,249	230	979	3150
3190	Manufacture of other electrical equipment n.e.c.			28		63	85			15	103	78 f)		697	818	3190

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3210	Manufacture of electronic valves and tubes and other electronic components			146		275				200		54	5,671	1,124	2,385	3210
3220	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy			17		31				8	674	28	2,742	311	1,566	3220
3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods			43		132				37		62		1,448	935	3230
3311	Manufacture of medical and surgical equipment and orthopaedic appliances			15		7	202			55		31	498	270	1,008	3311
3312	Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment			9		19	340			31	266	10	1,775 ※excluded confidential number	639	899	3312
3313	Manufacture of industrial process control equipment						28			15		5	748	48	236	3313
3320	Manufacture of optical instruments and photographic equipment			11		15	1			13	43	6	813	272	522	3320
3330	Manufacture of watches and clocks			14		10				5	38	10	396	52	137	3330
3410	Manufacture of motor vehicles			13		15	25				105	52	754 a) ※excluded confidential number	51	22	3410
3420	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers		24	83		117				66	192	21	288	137	179	3420
3430	Manufacture of parts and accessories for motor vehicles and their engines			160		200	1,969				882	187	5,593	2,542	3,438	3430
3511	Building and repairing of ships			141		100	77			484	412	198	594	194	800	3511
3512	Building and repairing of pleasure and sporting boats					17	30					21	23		8	3512
3520	Manufacture of railway and tramway locomotives and rolling stock			4		0					4	4	706	63	104	3520
3530	Manufacture of aircraft and spacecraft			3		6				54	6	4		89	62	3530
3591	Manufacture of motorcycles			114		36	148			8	177	102	1,695 a)		70	3591
3592	Manufacture of bicycles and invalid carriages			70		22	1,548				82	51	670	49	19	3592
3599	Manufacture of other transport equipment n.e.c.	6		2		5	244				20	41		34	31	3599

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	Size coverage	All active registered enterprises	All manufacturing establishments	20 or more workers	10 or more workers	All manufacturing establishments	All manufacturing establishments	20 or more workers	Less than 19 workers	All manufacturing establishments	All manufacturing establishments	All manufacturing enterprises	All active registered enterprises	30 or more workers	5 or more workers	
3610 Manufacture of furniture		18	453	1,356		1,385	2,525			682	6,820	888	3,025	551	3,282	3610
3691 Manufacture of jewellery and related articles			65	94		171	244			135	5,021	48	294	54	336	3691
3692 Manufacture of musical instruments				21			20					12	235	50	127	3692
3693 Manufacture of sports goods				44		20	1			308	10,103	26	792	87	341	3693
3694 Manufacture of games and toys				86		17	6					34	1,457	52	241	3694
3699 Other manufacturing n.e.c.				254		384	742					211 d)		537	1,519	3699
3710 Recycling of metal waste and scrap			1	2			374				30	12	267	65	154	3710
3720 Recycling of non-metal waste and scrap			1	61		13	3				96	15	119		281	3720

Note: The total numbers for some sectors do not exactly correspond to its sum due to confidenciality reasons.

" ···· " indicates the class is out of the manufacturing industry.

Malaysia

a) 1551 includes 1553

Thailand

a) 2691 2692,2694,2696, 2699

China

a) 1513 includes 1554

b) 1514 includes 1549

c) 1721 includes 1722,1730,1810, 1820

d) 2029 includes 2423,2424,2520, 2695,2720,2893, 2899,3699

e) 2411 includes 2413

f) 2699 includes 3190

g) 2914 includes 2922,2924,2929

Japan

a) 3410 includes 3591

PART-II

Capacity Building

for Statisticians in CLM Countries

by Statistics Experts in East Asia

Part-II

Capacity Building
for Statisticians in CLM Countries
by Statistics Experts in East Asia:

Table of Contents

Chapter 1:

Background of this Capacity Building

Chapter 1: Background of this Capacity Building

1-1 Background

1) Economic Integration and Industrial Statistics in East Asia
 a) East Asia Economic Integration

    Amidst the increasing mutual dependence in the East Asian economy, significant discussions have taken place in recent years on the East Asia Community concept and East Asia Economic Integration. Activities can be seen in multiple areas, including the fact that political forums including the EAS (East Asia Summit), ASEAN Plus Three summit meetings, and ministerial meetings among member states are taking place more and more frequently within the East Asia region, and that efforts are being made toward developing free economic trade within the region, as symbolized by the recent establishment of a multinational EPA between China, Japan and Korea revolving around ASEAN.

    These activities indicate that relationships within East Asian regions are becoming stronger than they were under de facto economic integration, both in terms of exchanges at the ministerial level and through the establishment of a trade system. Under these circumstances, industrial statistics that objectively present the characteristics of various industries within the region are becoming more important than ever. Moreover, these statistics need to be comparable on an international basis.

b) Recent Progress of the Projects for Industrial Statistics in East Asia

    Several research projects have been undertaken in East Asia concerning the international comparability of industrial statistics from this perspective. First, the AMEICC-WGS (ASEAN-METI Economic and Industrial Cooperation Committee, Working Group on Statistics) surveyed the characteristics of industrial statistics for the past five years in ten ASEAN nations, and discussed the possibility of international comparison. Then EAMS (East Asia Expert Meeting on Manufacturing Statistics), which was established in 2007 under the ASEAN Plus Three framework, took the efforts of AMEICC-WGS one step further by testing international comparison, mainly within the manufacturing industry, to the four-digit ISIC (International Standard Industrial Classification of All Economic Activities) level.

2) Needs for CLM Capacity Building in Industrial Statistics
    This work has revealed that the industrial classification system adopted by nations

within the region is not necessarily fully compatible with ISIC, which is hindering international comparison. It was confirmed that the CLM (Cambodia, Lao PDR, Myanmar) countries in particular lack sufficient experts on industrial classification because their classification system, NSIC (National Industrial Classification), does not exist in a practical sense. This is an issue that needs to be resolved without delay if we expect internationally comparable statistics to be structured in the CLM countries. That is because industrial classifications will not be used merely for particular statistics but in a wide range of fields, and if industrial classification is neglected, it will hinder future international comparison of a large range of statistics.

3) Objective of this Capacity Building

   Based on this understanding, this project plans to provide the following technical assistance, mainly to statistics agency employees of CLM countries.

   a) Organize a team of experts employing a wide array of people with knowledge of the East Asian economy and industrial statistics, such as current or former officials of statistics offices in AMS, and provide assistance and guidance in drafting an NSIC for each CLM country. Specific methods would include the conduct of workshops and/or seminars.

   b) Provide sideline assistance as necessary on work within CLM countries such as creating an NSIC draft, and help the countries to complete an NSIC that is relevant within each CLM country while ensuring the international comparison.

   c) Provide training assistance beyond statistics agencies and for line ministries and agencies of each CLM country during the above process, and encourage them to set up and adopt the NSIC.

   This project's activity is closely related to the project of "Developing Internationally Comparable Industrial Statistics in East Asia" that is conducted separately from this contract as an ERIA Research Project.

1-2 Capacity Building Carried Out in EAMS

1) What Is EAMS?

　　The East Asia Expert Meeting on Manufacturing Statistics (EAMS) consists of the ten ASEAN countries plus Japan, China and South Korea, making a total of 13 members. EAMS was established in January 2007.

　　EAMS' goal is to improve the international comparability of manufacturing statistics within the ASEAN+3 region. It is made up of government statistics departments and agencies, particularly those responsible for manufacturing statistics.

2) Capacity Building in EAMS' Activities

　　According to the Terms of Reference (TOR) and Work Program adopted at the first meeting in Tokyo in 2007, EAMS is emphasizing the importance of regional capacity building so that the international comparability is accomplished without any country left-behind.

　　However, capacity building initiatives undertaken in the past by EAMS (Table 1-1) targeted all ASEAN nations instead of focusing on CLM countries, and the method adopted was offering seminars. Experienced lecturers were dispatched from the central statistics bureau of the host country and from other countries and organizations, to give lectures to the participants. It was not a participatory-type seminar (such as a workshop) where participants actually engage in tasks. Moreover, it was only possible to hold a seminar lasting one to two days once a year (once every fiscal year). This proved insufficient, both in terms of duration and frequency.

Table 1-1 Capacity building program under EAMS

Period	Place (targeted country)	Countries other than the host country providing lecturers
Nov. 2006	Brunei	Malaysia, Thailand, Japan
March 2007	Philippines	Indonesia, Thailand, Japan, UNESCAP
July 2007	Lao PDR	Japan, Philippines, ASEAN Secretariat, EAMS Secretariat
Sept. 2007	Thailand	Japan, Indonesia, Vietnam, Philippines, UNESCAP
March 2008	Malaysia	Japan, Philippines, Indonesia Thailand

3) Development after the Second EAMS Meeting (July 2007: Vientiane, Lao PDR)

 a) 2nd EAMS in 2007（Vientiane, Lao PDR）

Needless to say, improvements in statistical comparability cannot be achieved with the efforts of a single nation alone. As gleaned from the term "comparability," the effects become apparent only when multiple countries—as many as possible—have reached a similar level of statistics capacity building. For EAMS, which has focused on international comparability in the ASEAN Plus Three region, it is important to maintain a balance among the statistical capacity building status of the countries involved.

In this regard, the ASEAN Secretariat and representatives from Cambodia, Lao PDR and Myanmar requested intensive capacity building in the three countries, at the Second EAMS Meeting (in July 2007 at Vientiane, Lao PDR). In the East Asia region, where statistical capacity building has progressed in recent years, the three countries have been relatively slow in making progress. Needless to say, statistical capacity building has been also pursued with a high awareness at the level of the central statistics bureau in these countries. However, to standardize and execute work at a working level, support by experts from outside the region is needed.

All EAMS participating countries consented to the request, and it was decided to continue studying specific measures.

 b) 3rd EAMS in 2008（Beijing, China）

In 2008, a full effort began to establish ERIA, as proposed by the Japanese government. In response, Ministry of Economy, Trade and Industry of Japan, which serves as the EAMS secretariat, proposed that capacity building for Cambodia, Lao PDR and Myanmar can be undertaken as an ERIA project at the Third EAMS Meeting (May 2008; Beijing, China).

EAMS is a meeting of government statistics organizations of 13 countries, within the framework of ASEAN Plus Three nations. A number of restrictions are likely to be imposed on support activities in the framework. However, ERIA is for think tank activities pursued by experts in various areas, unlike meetings between governments. In this regard, ERIA is considered quite desirable for capacity building, as a scheme for flexibly utilizing the capabilities of statistics experts inside and outside of the region.

The proposal by Ministry of Economy, Trade and Industry of Japan was accepted by the CLM countries and other EAMS participating countries. Planning of CLM capacity building was then promoted based on the ERIA scheme.

4) From EAMS TO ERIA

In view of the above, the first workshop for CLM capacity building (July 2008, in Vientiane, Lao PDR) was held as an EAMS project. Then, as the ERIA project organization took form, the second workshop (December 2008, Phnom Penh, Cambodia) and the third workshop (February 2009, Nay Pyi Taw, Myanmar) were held as ERIA projects. In these projects, two core members were invited from each of the three CLM countries to the host country, instead of targeting participants from the host country only. The measure aims to enhance the impact of seminars and training.

1-3 Approach (Expected Goals and Team Structure)

1) Expected Goals
  a) Expectations for Final Policy Recommendations
     Policy recommendations are not limited to the CLM countries, but are also intended for the national statistical agencies that should provide support to CLM, all national governments, international organizations (UNSD etc.), AHSOM and the ASEAN Secretariat. Expected policy proposals are outlined below:
      - Recommendation regarding construction of NSIC to reflect industrial structure of own country
      - Recommendation regarding system to support and train industrial classification experts in the East Asian region
      - Recommendation regarding system to support and train statistical experts in the East Asian region
      - Recommendation regarding building a human network of industrial statistical experts in the East Asian region

     To carry out the policy recommendations mentioned above, this project will implement the following initiatives:
      - Train experts on industrial classification in CLM (including both statistical offices and other associated ministries/agencies as a target).
      - Complete, enforce and set up NSIC in CLM.
      - Improve the quality of the overall database of East Asian industrial statistics by improving the standard of industrial statistics in CLM.
      - Establish a system of training industrial statisticians within the region, using a team of statistics experts.

  b) Expected Policy Recommendations within this single year (FY2008)
     Policy recommendations are intended for statistical agencies in the CLM countries, CLM national governments, AHSOM and the ASEAN Secretariat. Expected policy proposals for CLM countries based on work undertaken in this fiscal year are outlined below:
      - Recommendation regarding construction of NSIC (Section C) to reflect industrial structure of own country
      - Recommendation regarding urgent training for industrial classification experts
      - Recommendation regarding capacity building for statistical experts

- Recommendation regarding raising awareness of the accountability of statistics

To carry out the policy recommendations mentioned above, this project will implement the following initiatives:
- Organize a team of experts employing a wide range of people with knowledge of the East Asian economy, industrial statistics and industrial classification such as current or former members of statistics agencies in ASEAN nations.
- Host workshops aimed at producing a draft NSIC (for the manufacturing industry).
- Through these activities, identify issues related to training CLM statistics personnel and suggest the types of assistance that should be provided by international institutions and governments in order to resolve these issues.
- Scrutinize specific details and set to work to create roadmaps regarding capacity building for statistical experts.

2) Team Structure
a) The Whole Picture

The team comprises of Experts on Industrial Classification (WG) and a Secretariat. Experts on Industrial Classification is formed by people with knowledge of the East Asian economy, industrial statistics and industrial classification such as current or former staff of statistics offices in ASEAN nations. Experts on Industrial Classification assume teaching roles in workshops and seminars in CLM, and develop their programs. In order to make viable policy recommendations, the Secretariat of WG manages Experts on Industrial Classification.

The Secretariat of WG collaborates closely with the Steering Committee established within the "Developing Internationally Comparable Industrial Statistics in East Asia" project, which is conducted as an ERIA Research Project separately of this project. By doing so it operates this project effectively to enable it to develop statistics personnel in CLM countries in conjunction with the entire East Asian region's project to improve the international comparability of industrial statistics. The Secretariat of WG collaborates with EAMS and other associated meetings outside the region.
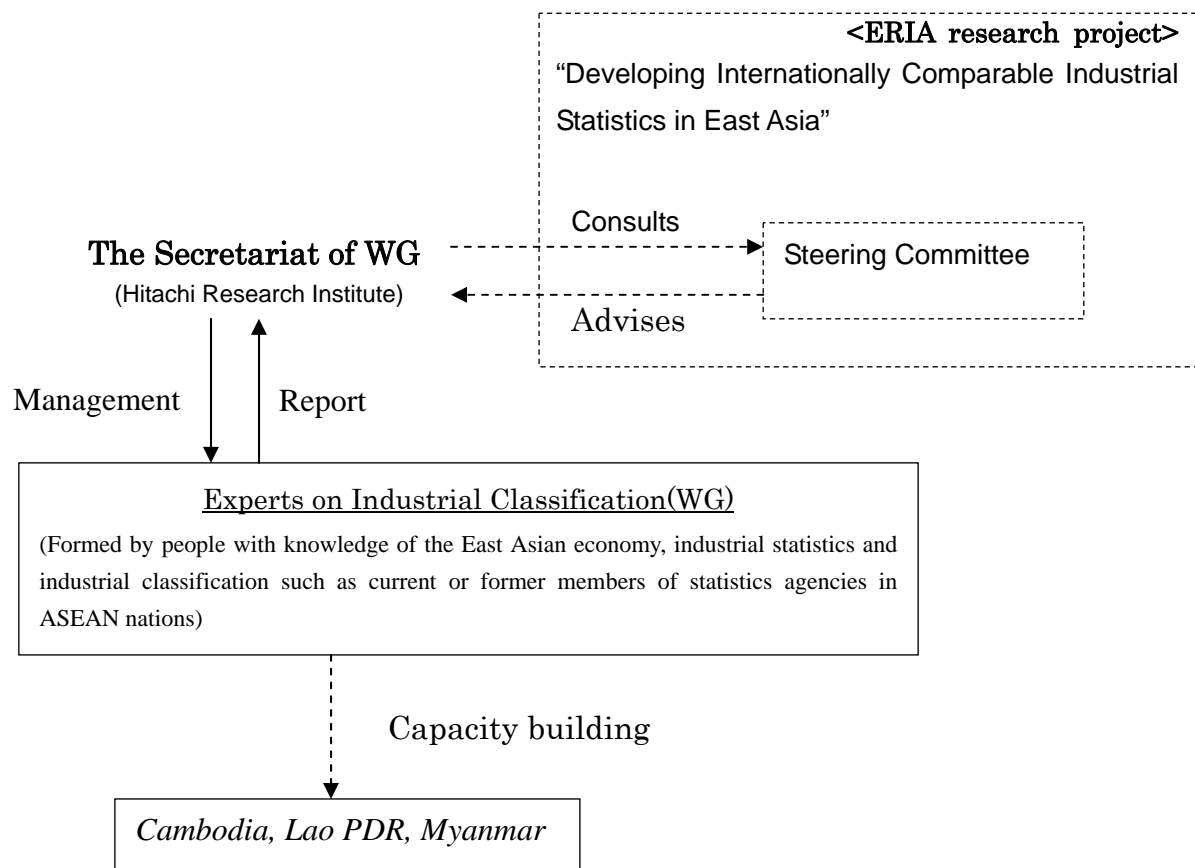
<ERRA research project>

"Developing Internationally Comparable Industrial Statistics in East Asia"

The Secretariat of WG
(Hitachi Research Institute)

Consults →

Advises

Steering Committee

Management | Report

Experts on Industrial Classification(WG)

(Formed by people with knowledge of the East Asian economy, industrial statistics and industrial classification such as current or former members of statistics agencies in ASEAN nations)

Capacity building

Cambodia, Lao PDR, Myanmar

Chart 1-1 Team Structure

b) Team Members

 Leader: Dr. Tomoyuki Kuroda (EAMS Secretariat / Hitachi Research Institute)

 Members: Ms. Pin Pin Quah*   (Consultant, Malaysia)

   Ms. Estela T. De Guzman* (The Philippines)

   (*) s indicates members of Working Group.

 Resource Person: Dr. Agus Sutanto (ASEAN Secretariat)

c) Working Group Members (Experts on Industrial Classification)

 Team Leader:Ms. Pin Pin Quah (EAMS Secretariat / Consultant, Malaysia)

 Member: Ms. Estela T. De Guzman (The Philippines)

 - Formed by people with knowledge of the East Asian economy, industrial statistics and industrial classification such as current or former members of statistics agencies in ASEAN nations.

- Research items include:
  * Host workshops in each CLM country with the aim of producing a draft NSIC (for the manufacturing industry), and assume teaching roles.
  * Assist each CLM country with creating a draft NSIC (for the manufacturing industry).
  * Through these activities, identify issues related to training CLM statistics personnel and make suggestions for resolving them.

d) Secretariat (Hitachi Research Institute)

Chief Researcher:	Dr. Tomoyuki Kuroda (Mr.)
Senior Researcher:	Mr. Yasushi Nakamura
Senior Researcher:	Mr. Takashi Takahashi
Assistant Researcher:	Ms. Melissa Pedreschi

1-4 Activities Carried Out in FY2008 (Workshops)

1) Meeting and Workshop Schedule

Table 1-2 Meeting and Workshop Schedule for FY2008

	Experts on Industrial Classification (WG)	**Secretariat**
October	Organization	Planning
November		
December	WG Meeting in Cambodia	Management of WG Meeting
	WS in Cambodia	Management of WS
January	(Planning for the Next WS)	
February	WS in Myanmar	Management of WS
March	Experts' Team Report	
	Final Report	

2) Workshop and Reporting Process

- October 2008

    In October 2008 when the Project started, the Team Members and Secretariat collaborated to establish the research organization. Those involved then worked together to develop schemes on how to proceed with the Project, images of participants involved with capacity building, program planning and other matters. In these efforts, the outcomes of the first CLM Workshop of EAMS (July 2008, Vientiane, Lao PDR) proved to be very useful as a reference.

- December 2008 (WG Meeting)

    At the Meeting, the plan for a workshop held in the same city (Phnom Pehn) on the following day was finalized, and discussions were held on the scheme for the workshop to be held in Myanmar in February 2009, as well as the results obtained by the end of FY2008.

    During the Meeting, Mr. Foo Suan Tow, former official of Malaysian statistics bureau, offered temporary assistance. (He also served as a lecturer at the Phnom Penh Workshop, together with Ms. Pin Pin Quah.)

* Date: 3 December 2008

* Venue: Phnom Penh, Cambodia (Phnom Penh Hotel)

* Participants:

    Leader: Dr. Tomoyuki Kuroda (EAMS Secretariat / Hitachi Research Institute)

    WG Team Leader: Ms. Pin Pin Quah (Consultant, Malaysia)

      Temporal Member: Mr. Foo Suan Tow (Consultant Malaysia)

    Secretariat (Hitachi Research Institute)

        Senior Researcher: Mr. Takashi Takahashi

        Assistant Researcher: Ms. Melissa Pedreschi

- December 2008 (CLM Workshop in Cambodia)

On December 3 to 4, 2008, the first CLM Workshop was held by ERIA in the Cambodian capital of Phnom Penh. Details are discussed below, and only the dates and participants are indicated here.

    * Date: 3-4 December 2008

    * Venue: Phnom Penh, Cambodia (Phnom Penh Hotel)

    * Participants:

      Cambodia:

        Mr. Kanthul Mich (National Institute of Statistics, Cambodia)

        Mr. Teav Rongsa (National Institute of Statistics, Cambodia)

        (Other 7 observers from the line Ministries (Ministries/Agencies concerned))

      Lao PDR:

        Mr. Bounmy Vilaychith (Department of Statistics, Lao PDR)

        Ms. Sengphet Sengmeuang (Ministry of Industry and Commerce)

      Myanmar:

        (Failed to attend due to the Bangkok International Airport's shut down)

      WG Team Leader / Workshop Facilitator:

        Ms. Pin Pin Quah (Consultant, Malaysia)

      Temporal Member (Temporal Lecturer):

        Mr. Foo Suan Tow (Consultant Malaysia)

      Secretariat (Hitachi Research Institute)

        Chief Researcher: Dr. Tomoyuki Kuroda

Senior Researcher: Mr. Takashi Takahashi

Assistant Researcher: Ms. Melissa Pedreschi

- February 2009

Following the CLM Workshop in Cambodia, the second CLM Workshop of the ERIA Project was held in the new capital of Myanmar, Nay Pyi Taw, on February 25 and 26, 2009. The details are discussed below, so only the dates and participants are indicated here.

* Date: 25-26 February 2009
* Venue: Nay Pyi Taw, Myanmar (Royal Kumudra Hotel)
* Participants:

Cambodia:

Mr. Kanthul Mich (National Institute of Statistics, Cambodia)

Mr. Teav Rongsa (National Institute of Statistics, Cambodia)

Lao PDR:

Mr. Bounmy Vilaychith (Department of Statistics, Lao PDR)

Ms. Sengphet Sengmeuang (Ministry of Industry and Commerce)

Myanmar:

Mr. Aung Myint Than (Central Statistical Organization, Myanmar)

Ms. Khin Mar Yi (Central Statistical Organization, Myanmar)

(Other 15 observers from the line Ministries (Ministries/Agencies concerned))

* Mr. Tun Tun Naing (Deputy Director General, CSO-Myanmar) chaired the group session for Myanmar.

WG Team Leader / Workshop Facilitator:

Ms. Pin Pin Quah   (Consultant, Malaysia)

Secretariat (Hitachi Research Institute)

Chief Researcher: Dr. Tomoyuki Kuroda

Senior Researcher: Mr. Takashi Takahashi

- March 2009

The WG Members and the Leader compiled the Country Reports for Cambodia, Lao PDR and Myanmar. The Reports were made possible through information exchange between Ms. Pin Pin Quah, the WG Team Leader who served as the

facilitator at the two Workshops (three Workshops if the one held by EAMS in July 2008 is included), and Ms. Estela T. De Guzman, a WG Team Member who is an expert on industrial statistics in the ASEAN region.

The Secretariat added supplementary comments to some of the Chapters, producing the Final Report.

On March 23rd, 2009, the final Meeting of the Team Members was held in Jakarta. Activities of the CLM Workshop during FY2008 were reported, and the Final Report was approved.

Chapter 2:

Introduction: CLM Workshop in Lao PDR by EAMS

Chapter 2: Introduction: CLM Workshop in Lao PDR by EAMS

2-1 EAMS and CLM Capacity Building

1) Background of the Efforts

The direct factor that resulted in the holding of this Workshop was that the ASEAN Secretariat and representatives of Cambodia, Lao PDR and Myanmar indicated the need for intensive capacity building efforts in these three nations, at the second EAMS Meeting (July 2007, Vientiane, Lao PDR). Moreover, in the Third EAMS Meeting held in 2008 (Beijing, China), the Japanese government proposed that the CLM capacity building be promoted at ERIA.

However, it was decided to implement CLM capacity building at EAMS as a tentative measure, until the ERIA Project organization was finalized. This was quite natural, considering the series of events that had hitherto taken place. Even though it was a tentative measure, this was the first instance of capacity building efforts focusing on CLM nations in the area of industrial statistics. It can be an important test case for future ERIA Projects. Another innovative measure was that the Workshop proceeded through two-way communications between the Facilitator and participants, to identify important perspectives for configuring the National Standard Industrial Classification (NSIC).

2) Workshop style and development

It has been a custom of EAMS to hold seminars that mainly focus on lectures. However, it was easy to see that creating NSIC would involve tasks that require an exchange of technical opinions, rather than sitting and listening to experts' lectures. It was therefore decided to hold a participatory-type Workshop for the CLM capacity building.

The next topic discussed was how to develop the Workshops, or whether to hold several Workshops that target one CLM nation, or to hold several Workshops that focus on all three nations. It was decided to adopt the latter method, considering the current status of industrial classification in the three nations and the time needed for NSIC configuration, among other factors. CLM capacity building started based on the basic scheme of EAMS to improve the international comparability of statistics. In this regard, simultaneous configuration of industrial classifications among the three nations was considered desirable. It was therefore reasonable that the latter method of development be adopted.

In this case, holding several Workshops targeting all three nations means that the

core members (two persons as a rule) from the three CLM nations are participating in all Workshops irrespective of where they are held, and the host country is to solicit as many related persons as possible to attend as observers, including officers of related ministries and agencies.

2-2 CLM Workshop in Vientiane, Lao PDR

   1) Venue and participants
- Date: 29-31 July 2008
- Venue: Vientiane, Lao PDR (Lao Plaza Hotel)

- Participants:
   Cambodia:
      Mr. Kanthul Mich (National Institute of Statistics, Cambodia)
      Mr. Teav Rongsa (National Institute of Statistics, Cambodia)
   Lao PDR:
      Mr. Bounmy Vilaychith (Department of Statistics, Lao PDR)
      Ms. Sengphet Sengmeuang (Ministry of Industry and Commerce)
      (Eight other observers from the line ministries (ministries/agencies concerned))
   Myanmar:
      Mr. San Myint (Central Statistical Organization, Myanmar)
      Mr. Aung Myint Than (Central Statistical Organization, Myanmar)

   Workshop Facilitator:
      Ms. Pin Pin Quah   (EAMS Secretariat / Consultant, Malaysia)

   Secretariat (Hitachi Research Institute)
      Chief Researcher: Dr. Tomoyuki Kuroda
      Researcher: Mr. Akira Shibanuma
      Assistant Researcher: Ms. Melissa Pedreschi

2) Objective
     To help improve the international comparability of manufacturing industry statistics, support is given to efforts for configuring NSIC (pursuant to ISIC Rev.4/EAMIC, only for Section C [Manufacturing industries]) by CLM nations (Cambodia, Lao PDR and Myanmar).

3) Program outline
  - 29 July 2008
     * Purpose of workshop and administrative matters (Workshop Facilitator)
     * Country Presentation on the usage and implementation of NSIC

* Presentation on ISIC Rev.4 and EAMIC (Workshop Facilitator)

- 30 July 2008
    * Group workshop on the development of Draft NSIC (manufacturing sector)

- 31 July 2008
    * Revision and preparation of presentation materials by working groups
    * Presentation by working groups

4) Current status and issues of each CLM nation
   a) Current status

   The current status and issues of each country, which were clarified through the Workshop, are organized into the following Table.

Table 2-1 Current Status and Issues of Three Nations at the time of EAMS Lao PDR Workshop (as of July 2008)

	Cambodia	Lao PDR	Myanmar
Application of industrial classifications	• The National Institute of Statistics (NIS) uses ISIC Rev.4 (four or three digits). • The use of ISIC has not progressed in other ministries	• Department of Statistics (DoS) uses ISIC Rev.4 (four digits) (by correspondence table from Rev.3) • The use of ISIC has not progressed in other ministries	• Central Statistical Organization (CSO) uses NSIC based on ISIC Rev.3
Operating body of industrial classification	• Standard classification preparation is managed by NIS • A division in charge (statistical standards and analysis) is to be established in NIS	• Preparation of standard classifications is under management of DoS • There is a division in charge (Data Collection Department) within DoS	• Preparation of standard classifications is managed by the First Industrial Ministry • There is no division in charge within CSO
Progress in NSIC configuration	• The person in charge at NIS is preparing drafts	• A working team made up of persons in charge at related ministries is at work	• The CSO representative is preparing a draft
Major issues	• Getting related ministries involved • Obtaining the support of officers of aid organizations active with NIS	• Gaining the understanding of the head of each ministry	• Getting related ministries involved

b) Future directions

The following items are expected to grow in importance in future processes:

- Holding of several Workshops for preparing the NSIC (NSIC preparation workshops)
- Maintenance and continuation of study meetings by officers in charge of industry classifications and manufacturing industry statistics of CLM nations
- Organization of a team in which related ministries are also members, in addition to those of the statistics bureau
- NSIC draft preparation led by the above team, and support by experts and a facilitator
- Even if NSIC is successfully prepared, support for consolidation is needed for it to find practical application
- Organization of reference materials that can be useful in actual tasks (Conversion table with ISIC Rev.4, major classification examples, etc.)

(Reference) Examples of NSIC (Section C) Draft at CLM Workshops of EAMS

<Policies for preparation (examples)>

-Structural change is not made at the levels of ISIC Rev.4 and four-digit EAMIC (changing to terms that would not affect the structure is acceptable)

- The fifth digit (Sub-class) will be established when it becomes necessary to break down the ISIC Rev.4 and four-digit (Class) of EAMIC further, to reflect the socioeconomic situation of each country.

<Examples>

ISIC		NSIC Draft	
1071	Manufacture of bakery products	1071	Manufacture of bakery products
		10711	Manufacture of western bakery products
		10712	Manufacture of traditional bakery products

ISIC		NSIC Draft	
1077	Manufacture of processed spices, sauces, condiments, and other cooking products	1077	Manufacture of processed spices, sauces, condiments, and other cooking products
		10771	Manufacture of processed spices
		10772	Manufacture of sauces
		10779	Manufacture of processed condiments, and other cooking products

ISIC		NSIC Draft	
2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
		20231	Manufacture of soap
		20232	Manufacture of detergents
		20233	Manufacture of cleaning and polishing preparations and toilet preparations
		20234	Manufacture of perfumes
		20239	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations, n.e.c

ISIC		NSIC Draft	
3011	Building of ships and floating structures	3011	Building of ships and floating structures
		30111	Building of commercial vessels
		30112	Building of fishing boats
		30119	Building of ships and floating structures, n.e.c

Chapter 3:

CLM Workshops in ERIA Project (FY 2008)

3-1 Overall Plan

The capacity building project for the CLM countries on the development of the NSIC (Manufacturing Sector) at the 5-digit level based on the ISIC Rev.4/ EAMIC was initiated under the EAMS project in July 2008.

During the workshop held in Lao P.D.R. as reported in Chapter 2, all three participating countries successfully developed a preliminary draft structure of their respective NSIC.

Each participating county was expected to form a working team to continue working on the draft and circulate the draft to related line ministries for comments and feedback.

With this, a work plan was formulated under a similar structure for ERIA Project FY2008.

A two-day workshop was held in Cambodia on December 3 and 4, 2008, with two participants from each country. For the host country, observers from line ministries and agencies as well as from the Statistical office were invited to the workshop.

The main objective of this workshop was to review the draft NSIC developed during the first workshop held in Lao P.D.R., with feedbacks received from the line ministries and other team members.

The last workshop of the FY 2008 was held in Myanmar on February 25-26, 2009, the structure and format of the workshop remained the same.

The main objective of this workshop was to review the NSIC draft structure and to start drafting the detail notes for the five-digit NSIC.

The purpose of holding the workshop once in each country was to enable more officials from the Statistical Organization of the host country as well as the officers from the line ministries/agencies to be involved.

At each workshop, participants were presented with an overview of the United Nations classification family in general and the International Standard Industrial Classification of All Economic Activities (ISIC Rev. 4) in particular. The importance and purpose of ISIC, the changes made in ISIC Rev. 4 from ISIC Rev. 3, which is a much improved tool for

international data comparison were emphasized.

3-2 CLM Workshop in Phnom Penh, Cambodia

1) Venue and participants
  - Date: 3-4 December 2008
  - Venue: Phnom Penh, Cambodia (Phnom Penh Hotel)
  - Participants:

       Cambodia:

          Mr. Kanthul Mich (National Institute of Statistics, Cambodia)

          Mr. Teav Rongsa (National Institute of Statistics, Cambodia)

          (Seven other observers from the line ministries (ministries/agencies concerned))

       Lao PDR:

          Mr. Bounmy Vilaychith (Department of Statistics, Lao PDR)

          Ms. Sengphet Sengmeuang (Ministry of Industry and Commerce)

       Myanmar:

          (Unable to attend due to shutdown of Bangkok International Airport)

       WG Team Leader / Workshop Facilitator:

          Ms. Pin Pin Quah   (Consultant, Malaysia)

       Temporal Member (Temporal Lecturer):

          Mr. Foo Suan Tow   (Consultant, Malaysia)

       Secretariat (Hitachi Research Institute)

          Chief Researcher: Dr. Tomoyuki Kuroda

          Senior Researcher: Mr. Takashi Takahashi

          Assistant Researcher: Ms. Melissa Pedreschi

2) Objectives

The Workshop was a continuation of the one held in Lao PDR in July 2008 as a Project of EAMS, but it was the first CLM Workshop held as part of the statistics projects of ERIA. The actual work performed was to closely examine the NSIC of each country at the five-digit level (for the manufacturing section only). The opinions of related ministries were obtained, with the aim of completing the main industrial classifications.

3）Program (Main items)

- 3 December 2008

  * Explanation of the objectives of the Workshop and sharing of recognition (Facilitator）
  * Presentation by each country:

       Current status of Draft NSIC (five-digit) preparation work
  * Explanation on uses of ISIC Rev.4 and NSIC and their importance (Speaker）

- 4 December 2008

  * Presentation by each country:

       Current status of adjustments being made with related Ministries regarding Draft NSIC
  * Group Workshop (Work by each country for completing the draft NSIC)
  * Discussion

4) Progress in Workshop

The following presentations by each country, the participants started work on completing the draft NSIC (five-digit). This was the core task of the Workshop.

Since Lao PDR had already clarified the issues, work progressed steadily, mainly through direct conversations with the speaker. Cambodia took advantage of its position as host country and formed a working team of seven to eight members, including the personnel in charge at NIS and related ministries, to configure NSIC.

5) Conclusion

Even though Lao PDR proceeded steadily with the work, the outcome was only a draft by staff from the Department of Statistics (DOS) and Ministry of Industry and Commerce (MOIC). They will take the draft back to their country and make adjustments within the Ministry and with related ministries.

The Cambodian team continued with the work to the last minute, but the draft was not completed and some issues had yet to be resolved.

The work was continued at the next Workshop (Myanmar), with each country starting to draft the detail note for each classification.

3-3 CLM Workshop in Nay Pyi Taw, Myanmar

1) Venue and participants
- Date: February 25-26, 2009
- Venue: Nay Pyi Taw, Myanmar (Royal Kumudra Hotel)
- Participants:
    * Cambodia:
        Mr. Kanthul Mich (National Institute of Statistics, Cambodia)
        Mr. Teav Rongsa (National Institute of Statistics, Cambodia)
    * Lao PDR:
        Mr. Bounmy Vilaychith (Department of Statistics, Lao PDR)
        Ms. Sengphet Sengmeuang (Ministry of Industry and Commerce)
    * Myanmar:
        Mr. Aung Myint Than (Central Statistical Organization, Myanmar)
        Ms. Khin Mar Yi (Central Statistical Organization, Myanmar)
        (Fifteen other observers from the line ministries (ministries/agencies concerned))
        Mr. Tun Tun Naing (Deputy Director General, CSO-Myanmar) chaired the group session for Myanmar.

    WG Team Leader / Workshop Facilitator:
        Ms. Pin Pin Quah   (Consultant, Malaysia)

    Secretariat (Hitachi Research Institute)
        Chief Researcher: Dr. Tomoyuki Kuroda
        Senior Researcher: Mr. Takashi Takahashi

2) Objectives

As a continuation of the Workshop held in Phnom Penh in December 2008, work continued to closely examine the NSIC of each country at the 5-digit level. The three points of focus at the Workshop were as follows:

- Follow-up for Myanmar representatives who were unable to participate in the previous Workshop because of the closing of Bangkok airport
- East Asia Manufacturing Industry Classification (EAMIC), which the CLM countries have used as the basic reference for NSIC, was partially revised as EAMIC Ver.1 in February 2009. The information was shared and the revision was reflected in the DRAFT NSIC.
- Start compiling detailed notes, in addition to preparing five-digit codes for NSIC (Section C only)

3) Program (major items)

- 25 February 2009
    - * Introduction to ISIC Rev.4 for agencies concerned in Myanmar (from Facilitator)
    - * East Asia Manufacturing Industry Classification (EAMIC) Ver.1 (from Facilitator)
    - * Group workshop on detailed notes for Draft NSIC (Section C)
- 26 February 2009
    - * Group workshop on detailed notes for Draft NSIC (Section C)   *(cont,)*
    - * Discussion

4) Progress in Workshop

Many observers from the host country Myanmar attended, so the Facilitator introduced the industrial classification system at the beginning of the Workshop. Thereafter, each country worked to configure the industrial classifications as in the previous Workshop.

The work volume was substantial, especially for the preparation of detailed notes for each of the classes (4-digit) and sub-classes (5-digit) of the industrial classifications, so the majority of the two-day work period was devoted to this purpose.

The outcomes of these tasks are summarized in Chapters and References below.

Chapter 4:

Country Report on CLM Countries:

Through the Workshops in FY2008

4-1 Country Report for Cambodia

The National Institute of Statistics (NIS) had fully adopted the International Standard Industrial Classification of All Economic Activities (ISIC) for its surveys:

ISIC Rev. 2 was used for the Establishment Survey 1993
ISIC Rev. 3 was used for the Establishment Survey 1995 and 2000
ISIC Rev. 4 was used for the Establishment Survey 2007

Using ISIC at a higher level or at the 4-digit level will not be able to classify the economic activities which are of importance to the country. Under this project, the NIS has started developing the CSIC at 5-digit level based on the ISIC Rev. 4/Draft EAMIC.

Participants were briefed on the importance of having a national standard industrial classification and the basic principles that are used in the construction of the national standard industrial classification had been discussed and highlighted during all the workshops sessions. Despite the one to one session during the country working group session, the status of the Draft CSIC structure was still unsatisfactory. This was mainly due to:
- o Limited knowledge on the subject matter (Manufacturing Industry)
- o Tendency to develop code without referring to the source document (ISIC Rev.4)

With this, at the end of the workshop held in Myanmar, the draft CSIC still remained at the preliminary draft CSIC structure.

The work plan of NIS is to implement the CSIC by 2010. In order for the plan to materialize, NIS needs to form a bigger working group consisting of officials who are subject matter specialists (Manufacturing Sector) and who have basic knowledge in ISIC. Consultative workshops need to be carried out to review and provide guidance to the NIS working group.

4-2 Country Report for Lao P.D.R.

The Department of Statistics (DOS) has never developed its own National Standard Industrial Classification to be used in coding the industrial surveys/census. DOS fully adopted the ISIC Rev. 3 for their previous industrial surveys, and has used the ISIC Rev. 4 for their more recent economic census and surveys.

In collaboration with main stakeholders, DOS had initiated the idea of developing NSIC in 2005, when the ASEAN Common Industrial Classification (ACIC) Task Force was established.

During the workshop held in Lao P.D.R. in July 2008, the main stakeholders were invited to participate in the workshop, and an inter-agency working team was formed. The main stakeholders are as follows:
  o   Ministry of Industry and Commerce
  o   Ministry of Energy and Mines
  o   Ministry of Finance (Tax and Customs Department)
  o   Ministry of Agriculture and forestry
  o   Ministry of Public Work and Transportation

With the active participation of the line ministries officials, the Draft LSIC structure was developed. The structure was further revised at the workshop held in Cambodia. At the workshop held in Myanmar, the participants started to work on detailed notes of the Draft LSIC structure. During the process, the Draft LSIC was being reviewed further and a better Draft LSIC structure was developed.

Even though the participants had attempted to insert detailed notes for the 5-digit draft LSIC, the format used was not fully proper and the detailed notes were incomplete.

To facilitate the development of the Draft LSIC with detailed notes, a small working team need to be formed within DOS and consultative workshops need to be carried out to review and provide guidance to the DOS working group

4-3 Country Report for Myanmar.

Myanmar first developed the National Standard Industrial Classification known as the Burma Standard Industrial Classification (BSIC) in 1954 based on ISIC 1948. The Central Statistical Organization used this BSIC until the 1980s without any changes or updating.

Under the e-ASEAN framework agreement, Myanmar established a number of working groups, one of which was the Working Group for Industrial Classification Codes (ICC). In view of the BSIC which was outdated and was not suitable to be used for the National Manufacturing Survey (NMS) 2003, the WG ICC developed a National Industrial Classification at the 4-digit level which was not based on ISIC, the coding structure was based on the framework of the National Income compilation. Thus, this classification system is not compatible to ISIC.

CSO and the WG ICC started the work plan on revising the national classification based on ISIC Rev. 4 when the ASEAN Common Industrial Classification (ACIC) Task Force was established.

The 1st draft of the MSIC (Manufacturing Sector) structure at the 5-digit level based on ISIC Rev. 4/Draft EAMIC was developed during the CLM Workshop held in Lao P.D.R.

The draft MSIC structure (Manufacturing Sector) was further reviewed with valuable inputs from the line ministries officials who attended the workshop held in Myanmar on February 25-26, 2009.

To speed up the development of the MSIC (Manufacturing Sector) 5-digit level with detailed notes, CSO set-up an inter-agency committee to discuss and review the draft MSIC on a regular basis.

The line ministries involved were:
- o Ministry of Livestock & Milk Products Enterprise
- o Energy Planning Department
- o Central Equipment Statistics and Inspection Department
- o Foreign Economic Relations Department
- o Planning Department

- o Department of Cottage Industries
- o Department of Electric Power
- o Department of Industrial Supervision & Inspection
- o Directorate of Industry
- o Directorate of Myanmar Industrial Planning

Even though the line ministries officials had participated actively during the workshop held in Myanmar, it was noted that the line ministries officials still did not perfectly understand the purpose and nature of standard industrial classification and the scope of classification.

A more specific briefing on the purpose and nature of the classification, the structure and coding system and scope of classification to the CSO working team as well as the line ministries officials will enhance the development of MSIC (Manufacturing sector) at 5-digit level.

Chapter 5:

POLICY RECOMMENDATIONS: ISSUES AND

PROPOSAL FOR THE FURTHER CAPACITY

BUILDING IN CLM COUNTRIES

5.1 Summary of Issues and Proposals

One common feature among the CLM countries was that there was no national standard industrial classification developed based on the International Standard Industrial Classification of All Economic Activities (ISIC). Cambodia and Lao P.D.R. applied the 4-digit ISIC codes directly for their economic surveys/census. Myanmar developed their own 4-digit industrial codes which were not conformed to the ISIC structure.

The lack of full understanding of the importance of having a national standard industrial classification among the line ministries existed in all the countries.

In the case of Lao P.D.R., the establishment of an inter-agency working team had enhanced the development of the Draft LSIC (manufacturing sector). Working on the Economic Census data also gave the Department of Statistics officials, who were the focal point for the development of the LSIC, a better understanding of the manufacturing industries.

The constraints faced by Lao P.D.R was a lack of manpower at the Department of Statistics.

For Cambodia, the status of Draft CSIC structure (Manufacturing) was a long way behind schedule. The main reasons were:
  o Officials involved have limited knowledge of industrial classifications
  o Limited knowledge on the subject matter(Manufacturing Industry)

It was noted that good progress was made at the first workshop, but the activity slowed from the second workshop and little progress was made during the third workshop.

To be able to develop a good CSIC (Manufacturing Sector), there was an urgent need to form a working team at the National Institute of Statistics, consisting of officials who were members of the ASEAN Common Industrial Classification(ACIC) Task Force, officials who had attended various meeting/workshops on ISIC Rev. 4 since 2002, and officials who are subject matter specialists in manufacturing statistics.

Myanmar has made good progress, despite the fact that Myanmar participants were not

able to participate in the second workshop held in Cambodia in December 2008 due to the closure of Bangkok International Airport.

The proactive approach taken by the Central Statistical Organization was the setting up of an inter-agency committee with the aim of helping line ministries understand the importance of national standard classifications.

It was noted that the basic principle of the ISIC was still not perfectly understood by the officials from the line ministries, and that further explanation is necessary so the members involved will not get confused between the industry code and the commodity code.

5.2 Suggestion for the Future Capacity Building Programs for CLM Countries

To enable the capacity building program for CLM countries to move forward more efficiently and effectively, it is recommended that bilateral workshops be conducted.

To be able to complete the task of capacity building for CLM countries in developing their respective NSIC, the approach for the FY2009 should be:

Two bilateral consultative workshops shall be conducted by an expert in industrial classification, particularly on ISIC Rev. 4/EAMIC and ACIC.

The first consultative workshop

The duration of the bilateral consultative workshop shall be five days. The workshop shall be held at the National Statistical Office.

The workshop shall be conducted in two parts. Part 1 will be a one-day workshop involving participants from the line ministries as well as the core team members from the statistical organization. The participants will be taught the principles of statistical classifications, the use of statistical classifications for policy decisions and implementation, definitions, concepts, structure setting, rules for identifying detailed categories and the preparation of detailed notes. Participants will also be taught the concept and definition of manufacturing as an economic activity.
Part 2 will be hands-on working and discussion with the core team members from the

statistical organization who are responsible for the development of the NSIC.

The second consultative workshop

The duration of the bilateral consultative workshop shall be five days and shall be held at the National Statistical Office.

The workshop consists of three parts. Part 1 will be a review of the work done by the core team members, with further discussion and a check of the consistency of the full draft NSIC (manufacturing sector) at the 5-digit level including the detailed notes.

Part 2 will be a one-day workshop with the participation of all line ministries. The core team members from the statistical organization will present the full draft NSIC (manufacturing sector) at the 5-digit level with detailed notes to all participants for discussion and suggestions.

Part 3 will be a one-day meeting with the core team members to discuss and review the comments and suggestions received at the inter-agency workshop. Incorporate the changes and finalize the Draft NSIC (Manufacturing Sector) at the 5-digit level for presentation to the Statistical Organization for endorsement and implementation.