SOCIALIST REPUBLIC OF VIETNAM
THE GENERAL STATISTICS OFFICE OF VIETNAM (GSO)

THE STUDY

ON

THE DEVELOPMENT OF INDUSTRIAL

STATISTICS

IN

THE SOCIALIST REPUBLIC OF VIETNAM

FINAL REPORT

(SUMMARY)

AUGUST 2006

JAPAN INTERNATIONAL COOPERATION AGENCY

UNICO INTERNATIONAL CORPORATION
HITACHI RESEARCH INSTITUTE

Abbreviation

DSO	:	District Statistics Office
FDI	:	Foreign Direct Investment
GDP	:	Gross Domestic Product
GSO	:	General Statistics Office
HCMC	:	Ho Chi Minh City
HS	:	Harmonized Commodity Description and Coding System
IIP	:	Index of Industrial Production
ISIC	:	International Standard Industrial Classification
JICA	:	Japan International Cooperation Agency
MOI	:	Ministry of Industry
MOLISA	:	Ministry of Labour, War Invalids and Social Affairs
MPI	:	Ministry of Planning and Investment
MSMIP	:	Monthly Survey of Major Industrial Products
PMO	:	Prime Minister Office
PSO	:	Province Statistics Office
SSI	:	Institute of Statistical Science
UNDP	:	United Nations Development Programme
UNIDO	:	United Nations Industrial Development Organization
VCPC	:	Vietnamese Central Product Classification
VND	:	Vietnamese Dong
VSIC	:	Vietnam Standard Industrial Classification

Exchange Rate:

The exchange rate applied in this report is: USD1=15,900 VND.

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Executive Summary

Executive Summary

1. Outline of the Development Plan for Current Production Statistics

This report proposes the basic development plan for the "current production statistics survey" and "production indexes," which will be institutionalized for sustainable implementation in the Social Republic of Vietnam. This section presents a general outline of the basic development plan, as follows.

(1) Design Principle
 1) The proposed survey is designed to collect numeric data relating to industrial activities on a commodity basis.
 2) It makes monthly production activities and trends of Vietnamese industries with sufficient levels of reliability and promptness.
 3) It produces current production statistics that are internationally comparable.
 4) It tabulates and publishes statistical data at national and local (by administrative unit) levels.
 5) It produces production indexes by using modern statistical techniques that comply with applicable international standards.
 6) It is designed with a view to reducing survey costs and burdens on surveyed subjects (enterprises/establishments).

(2) Name of the Proposed Survey
 The current production statistics survey to be implemented under the development plan is formally called "Monthly Survey of Major Industrial Products (MSMIP)."

(3) Survey Implementation Body
 As a supreme organization responsible for management of the new statistical survey system, the MISMIP Supervisory Board will be established. Under the supervision of the board, the GSO's Industry and Construction Statistics Department will serve as a leading agency responsible for implementation of the survey-related activities by using the GSO's network of local organizations including the PSOs and the DSOs.

(4) Survey Object
 The primary object of the current production statistics survey is establishments (and enterprises) that manufacture commodities listed in the questionnaire used for the survey.

(5) Size of Survey
 Number of industries: 75 (with the combined representation rate exceeding 90% of total industry output in Vietnam, of which 8 sectors are in

mining, 64 sectors are in manufacturing, and 3 sectors are in electricity/gas/water)

Number of commodities: 630 (with the combined representation rate exceeding 80% of the subject industry)

Number of establishments: 4,000 - 4,500 (Establishments of enterprises. With the combined representation rate exceeding 75% of the industry's total output)

Note that household industries may be added to surveyed establishments to meet the local needs as the result of further analysis on the Pre-survey.

(6) Survey Items

The survey covers six items, namely quantity of production, quantity of shipments, quantity of internal consumption, quantity of ending inventory, value of shipments (based on invoice), and quantity of projected monthly production.

(7) Start of the Survey

The current production statistics survey is scheduled to start in February 2007 (covering January) as the government's designated (official) survey.

(8) Survey Cycle

Deadline for submission by surveyed establishments: 12th of each month
Submission from the PSO to the GSO: 18th of each month
Dissemination of preliminary results: 25th of each month

(9) Dissemination Policy
  1) Dissemination is made promptly and timely unless statistical reliability is affected.
  2) Dissemination is made in such manner to ensure fair treatment of all users.
  3) Dissemination is made on a preset date.
  4) Dissemination contains analysis and explanation that is appropriate or required for convenience of users.
  5) Dissemination contains explanation on statistical techniques employed, including the survey and data processing methods.
  6) Dissemination is accompanied by organized user service, such as responding to questions.

(10) Dissemination Contents
  1) Tabulated data on production, shipment, inventory, and projected production by product (actual number and year-to-year basis).
  2) Production index by product (value-added weight, production value weight), shipment index, inventory index, and projected production index.

3) Outline of trend report

Utilizing the national-level tabulated data but it is necessary to discuss to disseminate data by regional basis and by enterprise type in the future.

(11) Dissemination Method

1) Current production statistics on a national level and indexes, both preliminary and finial results, are published on the GSO's Web site and by printed reports.

2) National-level data, both preliminary and final results, are published in Vietnamese and English.

3) The GSO is responsible for dissemination of national and regional statistics (eight economic divisions) and the PSO publishes provincial and municipal statistics.

The following table compares the proposed MSMIP survey and the ongoing Monthly Industrial Sample Survey conducted by the GSO, and their major differences.

Table 1   Comparison of the Proposed Survey System "MSMIP" and the Present Survey System "Monthly Industrial Sample Survey"

	The proposed survey system "MSMIP"	The ongoing survey system for monthly industrial statistics	Major difference
Major objectives	◆ To understand the current state of industrial production by collecting monthly production data on a commodity basis. ◆ To develop production indices with international compatibility	◆ To understand industry trends by collecting production data on 34 key commodities, including the value of production. ◆ The IIP means the ratio of increase/decrease to the previous year's data.	◆ The new system emphasizes variation of production quantity of a large number of key commodities. ◆ The present system emphasizes the value of production with view to grasping the progress of economic development and the operating status of enterprises.
Target users	◆ Industrial and trade policymakers, manufacturers, consumers, exporters and importers, market researchers, foreign investment organizations, international economics researchers	◆ Organizations supervising central and local state enterprises or FDI enterprises, and central and local government offices	◆ The major user of the present survey system is a group of technocrats responsible for management of industrial production under a centrally planned economy. ◆ The new system will be used by industrial policymakers, researchers and decision

	The proposed survey system "MSMIP"	The ongoing survey system for monthly industrial statistics	Major difference
			makers who analyze industrial production trends under the transition period to a market economy, and representatives from private sectors.
Questionnaire	◆ The questionnaire consists of a single sheet designed for each of the surveyed sectors, which prints the name of commodities included in each type of industry.	◆ The questionnaire consists of a single sheet designed according to the type of enterprise.　The respondent to enter product information freely.	◆ The present questionnaire primarily contains questions on shipment value of enterprise and asks the respondent to enter information freely, resulting in variation of the degree of detail between respondents.
Survey items	1.　Items relating to products (1) Production quantity (2) Shipment quantity (3) Beginning inventory quantity (4) Internal consumption quantity (5) Shipment value (6) Projected production quantity	1.　Enterprise name 2.　Major business activities (1) Form of ownership (2) The following data for the current month, an accumulated total of the current year (from January to the current month), and the ensuing month (estimate): a.　Production (in 1994 constant price) (million dongs) b.　Total turnover (million dongs) c.　Turnover by industry (million dongs) d.　Consumption tax (million dongs) e.　List of manufactured items (code, unit, production quantity) f.　Operating status of enterprises in the surveyed month	◆ The new system will focus on production quantity by commodity as well as beginning inventory. ◆ The new system will collect data of shipment value of each product will be collected.
Comparison of the survey frame and the selection method	◆ The selection process starts with industrial sectors, in the order of	◆ All of state and FDI enterprises will be surveyed.	◆ The new system will select enterprises that produce major

	The proposed survey system "MSMIP"	The ongoing survey system for monthly industrial statistics	Major difference
	value added. ◆ For each industrial sector, major commodities will be selected. ◆ For each commodity, enterprises will be selected. ◆ In the final stage, around 7,000 enterprises will be selected for the survey.	◆ As for non-state enterprises, the sample survey is carried out (15% on the average). ◆ The total number of enterprises surveyed, including state, FDI and non-state enterprises, is approximately 5,200 (The sample survey covers 1,880 out of 12,535 non-state enterprises the mining and manufacturing sector.)	commodities that are selected for the survey. ◆ The survey frame for the present system consists of state and FDI enterprises (100%) and non-state enterprises (sampled, 15% coverage). ◆ Sample of Household will be selected by GSO's own decision.
Survey objectives	◆ Establishment base	◆ Enterprise base	◆ To cover production sites
Comparison of survey organizations and methods	◆ Unified under the organization consisting of GDO, PSOs and DSOs.	◆ State and FDI enterprises are surveyed by the PSOs according to the reporting system and the results are reported to the GSO. ◆ Non-state enterprises selected by sampling are surveyed by the PSO/DSO team, with the average sampling rate of 15%.	◆ The new system conducts the production quantity survey by commodity under a unified organization in order to ensure that target enterprises are surveyed accurately in terms of sector and commodity.
Tabulation, analysis and dissemination methods	◆ Questionnaires collected are checked at each DSO for any omission or error and are then sent to the PSO, where questionnaires collected from all DSOs under the PSO are assorted. After data input, the data is sent to the GSO by the electronic file format. ◆ The GSO rechecks questionnaires sent from the PSOs and tabulates the results, which are analyzed and	◆ Questionnaires collected from state and FDI enterprises are tabulated at each PSO and the results are sent to the GSO. ◆ Questionnaires completed by non-state enterprises are collected by the DSOs. After preliminary check, they are tabulated to estimate the total figures, which are then sent to the PSO. After the summation and tabulation at each PSO, final data are sent to the	◆ Under the new system, data obtained from completed questionnaires are sent to the GSO in two steps (DSO and PSO), which streamline preliminary reporting and prevent any error or undue manipulation from occurring in the collection process.

	The proposed survey system "MSMIP"	The ongoing survey system for monthly industrial statistics	Major difference
	published as a preliminary report.	GSO.	
Commodity classification used for the summary table for survey results	◆ Approximately 630 commodities (final goal) according to the international classification standard.	◆ 34 major commodities which source of classification is unknown.	◆ The new system relies on the international classification standard to ensure international comparison.
Representation by type of enterprise and region	◆ While almost all of state and FDI enterprises will be covered by the survey, some non-state enterprises, small enterprises in particular, will not covered as their share of total production is very small. ◆ As for geographical representation, further study and examination is required.	◆ All of state and FDI enterprises are covered. ◆ Non-state enterprises are sampled (15%) uniformly in terms of enterprise size and region, but a relatively small sample size appears to cause a significant error between the estimated and actual figures in some cases.	◆ Examination should be made as to how current production statistics (by commodity) and indices can be used at ministerial levels.
Use of statistics at local level	◆ As the proposed system primarily aims to produce production quantity statistics by commodity covering the entire country, the need for tabulation on a regional basis will be discussed in the future. ◆ Examination should be made as to possibility of region-based production index.	◆ Industrial production statistics are being used by ministries and local governments for administrative purposes. ◆ Production statistics covering 34 commodities are tabulated on a provincial basis.	◆ Possible use of the summary table under the new system will be examined further in the future.

2. Outline of the Preliminary Development Plan for Production Indexes

(1) Index Calculation Method

The Laspeyres formula, internationally recognized, is used for calculation of production indexes in Vietnam.

Laspeyres production index: $\dfrac{\sum P_0 Q_t}{\sum P_0 Q_0} \times 100$

(2) Index items

Four basic indicators are selected as indexed items, namely production, shipment, inventory, and project production indexes.

Table 2   Items to Calculate Indexes

Index Items	Purpose	Representation	Weight
Production Index (Value-added Weight)	Representation of production or supply trend	VSIC 1 and 2 digit	Value added
Production Index (Value of production Weight)	Representation of production trends with comparison to shipment and inventory index	VSIC 1 and 2 digit	Value of production
Shipment Index	Representation of demand for products	VSIC 1 and 2 digit	Turnover
Inventory Index	Representation of inventory level	VSIC 1 and 2 digit	Inventory Value
Projected Production Index	Representation of production in the next reference month	VSIC 1 and 2 digit	Value added

(3)   Weight Calculation

1)   Weight at Industry Level

The "expansion" method is used to calculate a weighted share of selected industries so that they can represent the share of unselected industries. The weight at VSIC 4-digit level is determined by allocating the expanded weight at VSIC 2-digit level to the VSIC 4-digit level in order to harness the expanded weight at the VSIC 4-digit level.

The expansion from VSIC 2-digit level to the VSIC 1-digit level, and the allocation of expanded weight into the VSIC 4-digit level is performed by the following equation.   The conceptual view is shown in Figure 1.

$$\text{Expanded Weight of Selected Industry (VSIC 2)} = \frac{\text{Weight for the Industry (VSIC 1)}}{\text{Sum of Weight for the Selected Industry (VSIC 2)}} \times \text{Weight for the Selected Industry (VSIC 2)}$$

$$\text{Weight of Selected Industry (VSIC 4)} = \frac{\text{Expanded Weight for the Industry (VSIC 2)}}{\text{Sum of Weight for the Selected Industry (VSIC 4)}} \times \text{Weight for the Selected Industry (VSIC 4)}$$

Figure 1   Concept of Expansion
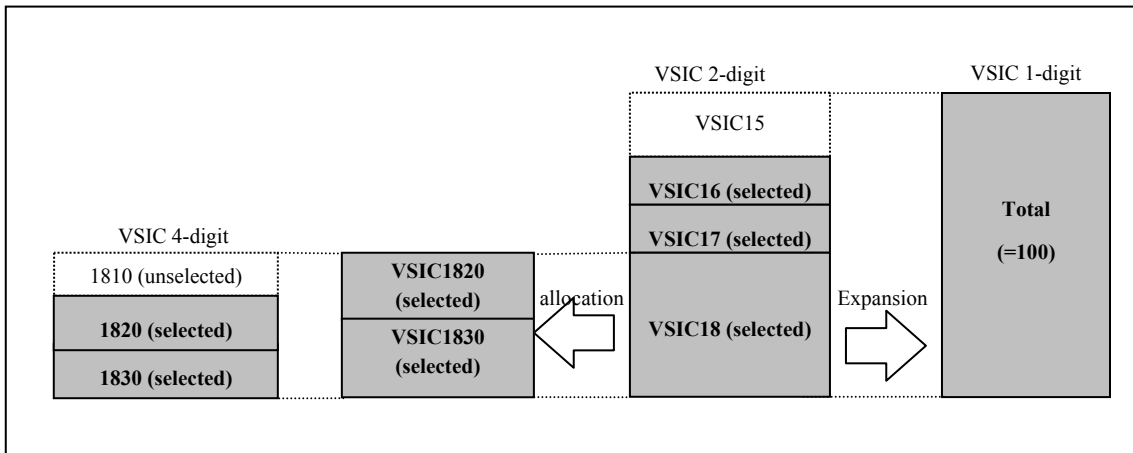
2)   Weight at Product Level

The process involves: (1) estimation of price by dividing the value of shipments by the quantity of shipments; (2) estimation of values of production and inventory by multiplying the price to the quantity of production and the quantity of inventory; and (3) application of the product share to the respective VSIC 4-digit data from the Enterprise Census.

Figure 2   Weight Calculation for Commodity
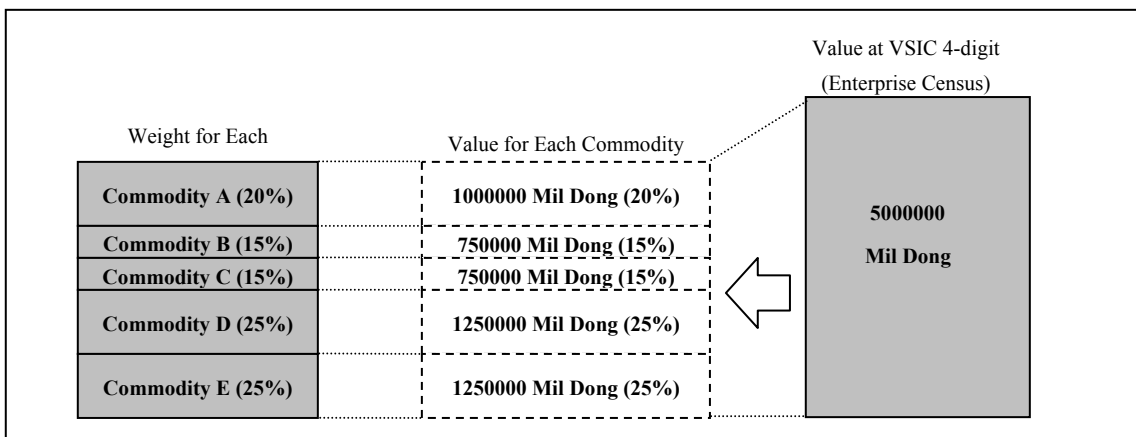
3. Outline of Action Plans

This report contains five action plans that are to be promptly put into action by the GSO's Industry and Construction Statistics Department for institutionalization of the MSMIP.   They are outlined as follows.

(1)   Appointment of the Team Organization Plan for the institutionalization of MSMIP

Within the GSO's Industry and Construction Statistics Department, a team in charge of startup of the MSMIP will be formally appointed and the preparatory work for the MSMIP will be incorporated into the GSO's ordinary business.   The Preparation Team for MSMIP Institutionalization, as tentatively named, will be organized by five members, namely a team leader and four members in charge of "procedure and budgeting," "survey planning and design," "data configuration and system development," and "local promotion and training." Then, specific time and budget will be formally allocated to the team for implementation of the preparatory work.   Upon institutionalization of the MSMIP (started from 2007), the team will be transformed to the secretariat of the MSMIP Supervisory board.

(2)   Statistical Reliance Improvement Support Plan

To ensure reliability of the new survey for current production statistics, the "Statistical Reliance Improvement Support Plan" will be formulated by the Preparation Team for MSMIP Institutionalization, followed by prompt implementation by the GSO.   The plan essentially sets forth an implementation guideline for the basic plan proposed in this report and contains the following support programs to supplement the basic plan: ① a program to develop survey plans and designs; ② a program to review and revise survey designs; and ③ an educational and promotional program.

(3)   Action Plan to develop the "Master Sample" and the MSMIP Establishment List

Types of establishments contained in the latest list of companies will be rechecked on the basis of the enterprise census survey conducted in March 2005 and will be established as the GSO master samples.   The MSMIP establishment list will be made on the basis of the master samples.   In this case, data on household enterprises will be treated separately, but they will be added to the MSMIP establishment list by using information in the population group list for the establishment census (to be compiled in the near future) as reference.

(4)   Organization Plan for the Household Enterprise Data Analysis Team

Within the GSO Industry and Construction Statistics Department, a team will be organized to thoroughly analyze household data obtained during the pre-survey.   In consideration of the department's manpower and resources, however, it is not realistic to organize an ad-hoc team for implementation of this plan.   Instead, the team will be led by members of the Preparation Team for MSMIP Institutionalization, with assistance of the Trade, Services, Prices Statistics Department as required.   The team will analyze the survey results and decide on standards and rules for treating household industries (e.g., the form of questionnaire compared to other enterprise types, presence of problems relating to data processing and tabulation), which will then be reflected in the official survey (in 2007 and afterwards).   According to circumstances, the team may have to consider the possibility of conducting a survey of small enterprises and micro-enterprises, including households, as separated from the MSMIP.

(5) Plan for Education and Training Planning for Enumerators and Statistical Analysts

This proposal consists of the formulation of an education and training plan for enumerators in areas that will be covered by the pre-survey and the official survey. The plan will be implemented under the leadership of the GSO's Industry and Construction Statistics Department. In the planning process, the development of the curriculum and selection of instructors will be made by utilizing expertise and experience of staff of the Industry and Construction Statistics Department and PSOs in Hanoi and Ho Chi Minh. Also, the training of statistical analysts will be carried out by using overseas training programs as far as possible.

1. Outline of the Survey and Composition of the Report

1. Outline of the Survey and Composition of the Report

This is the summary of the Final Report for "A Study on the Development of Industrial Statistics in the Socialist Republic of Vietnam." The Study has been conducted since May 2004, in cooperation of the General Statistics Office of Vietnam (hereinafter referred to as "GSO") as a counterpart over two years.

1.1 Background of the Study

Today, industrial statistics covering industrial production, shipment and inventory, and other related areas are increasingly recognized as essential economic data to understand the current state of business activities, not only for government agencies but also for private businesses, investors, scholars and many other parties. To allow the effective use of statistical data by these users, reliability and promptness are the most important requirements. At the same time, the statistical data must be internationally comparable for users. This is no exception in Vietnam; to achieve the country's healthy economic expansion, the development of industrial statistics that are based on modern techniques and comply with international standards is one of the national priorities for the statistical development in the country.

To meet these objectives, the Government of Vietnam (hereinafter referred to as "GOV") requested the Government of Japan (hereinafter referred to as "GOJ") to conduct the Study on the Development of Industrial Statistics in Vietnam in September 2003. In response, the GOJ commenced the Study since the end of May 2004 over two years. This study is the development study as well as the project to construct a new institutionalized statistical survey.

1.2 Objectives of the Study

The objectives of the Study are summarized as following four items;

(1) To develop monthly current production statistics with high levels of reliability and promptness, which contribute to economic and industrial policy making as well as corporate management in Vietnam, together with a set of statistical indices that are produced on the basis of such statistics, including a monthly indices of industrial production ;

(2) To make the current production statistics and indices produced and published on a continuous basis under a formal system;

(3) To transfer knowledge and expertise on the statistical survey to the Vietnam counterpart, through the implementation of the present study; and

(4) To encourage future users of statistics to understand the utility and method relating to current production statistics and indices.

Furthermore, formalization and continuous implementation of current production statistics and indices developed under the Study are considered to be its strategic goal. To develop "production statistics and indices" with high levels of reliability and promptness, the development of "the list of population" and "primary statistics" is the prerequisite. The major objective of the Study is to establish a system to develop primary statistics, while the development of production indices and the establishment of the publication system will take some time after the end of the Study as they need to be developed to sustainable systems on the basis of proposals made under the Study. For this purpose, this report proposes a preliminary plan for the construction of the statistical system from the development of primary statistics to the establishment of the publication system, together with action plans for the Vietnam side to implement for the purpose of achieving the goals.

1.3 Scope of the Study

To accomplish the above objectives, the study was conducted in five phases, each of which consisted of the following activities.

Outline of Activity Phases

1)	Basic Study:	To collect and analyze information required for development of current production statistics and indices.
2)	Basic Design:	To design the basic system of industrial statistics and indices that are suitable for local conditions of Vietnam, and to design the details of Trial Surveys (questionnaire , selection of sectors and commodities, method, etc.) to be conducted for verification and other purposes.
3)	Trial Survey 1:	To plan and support the 1st trial survey in Hanoi and Ho Chi Minh for evaluation of basic system design.
4)	Development of Statistical Indices:	To develop industrial production indicesand to provide support for development of a statistical system that will be required in the near future.
5)	Trial Survey 2 and formulation of a development plan:	To plan a national-scale current production statistics survey using the developed statistical system, to implement and evaluate it as a trial survey, and to formulate a development plan for the statistical system.

In addition, the present study includes technology transfer (transfer of expertise and experience), through on-the-job training and seminars/workshops, and activities to promote the understanding of statistical users.

1.4 Survey Schedule

1.4.1　Overall Schedule

The present study is conducted for twenty seven months from the end of May 2004 to the end of August 2006.　Each of the three study years consists of the following activities (those defined in the development process).

First year (May – December 2004):　　Basic Study (Phase 1);
Basic Design (Phase 2); and
Implementation of Trial Survey 1 (Phase 3)

Second year (January – December 2005):　Implementation of Trial Survey 1 (Phase 3);
Analysis of results of Trial Survey 1 (Phase 3);
Design of Trial Survey 2 (Phase 4)
Development of statistical indices (Phase 4); and
Implementation of Trial Survey 2 (Phase 5)

Third year (January – August 2006):　　Implementation of Trial Survey 2 (Phase 5);
analysis on results of Pre-Survey (Phase 6);
formulation of a formal development plan; and
preparation and presentation of a final report

1.4.2　Implementation Schedule of Trial Surveys

As part of the Study, two Trial Surveys were conducted in 2004 and 2005, for the three-month period between November through January each year (the survey period was between October and December).　The primary objective of Trial Surveys is to verify the proposed development plan in the following respects:① whether the survey method and materials such as questionnaires and enumerator manuals are suitable for local conditions in Vietnam; ② whether necessary data such as the questionnaire collection rate and the entry rate are available; and ③ whether work standards for examination, input and tabulation are appropriate.　Also, they served as a means to promote new current production statistics in the country.

The GSO currently implements the Pre-Survey based on the results of the Trial Surveys for one year even though the Pre-Survey was not included in the original plan (scope of work).

1.5 Composition of the Report

This Final Report consists of three parts, "Main Report" and "Executive Summary". "Main Report" is further divided into two parts.　Part 1 (from Introduction to Chapter 4) discusses main points of survey results including technology transfer activities.　Part 2 (from Chapter 5 through Chapter 7) presents "Preliminary Development Plan for Current Production

Statistics," "Preliminary Development Plan for Industrial Production Indexes," and "Action Plans for Implementation of the Official Survey," all of which are proposed on the basis of field surveys and two trial surveys (three months each) conducted as part of the study.

The preliminary plans contain some elements that have been jointly developed with the GSO in the course of the trial surveys and have been already launched. To formalize the proposed current production statistics survey in Vietnam, procedures to adopt it as the government's official statistics, which will be taken after the completion of the present development study, is very important. For this reason, this report is prepared with care to include information that is useful or required for such procedures. Finally, "Appendices" of "Main Report" contains the series of manuals - "Enumerator Manual," "Index Development and Dissemination Technique Manual" and "System Operation Manual," together with "Industry and Commodity Classification List" that has been made from data obtained up to the second stage of trial survey, and "Industry Sector-Based Questionnaires."

2. Analysis of Current State

2. Analysis of Current State

2.1 Organization of GSO

At present, the GSO is headquartered in Hanoi and is centrally organized under the three-tier structure consisting of Provincial Statistical Offices (PSOs) that cover provinces and District Statistical Offices (DSOs) that are established in municipalities and supervised by the PSO. In addition, five semi-independent organizations such as the Statistical Information Center are under supervision of the GSO Director General. Generally, the GSO means the entire organization consisting of the PSOs, the DSOs and the five organizations. As of the end of 2005, there are 64 PSOs and 659 DSOs throughout the country, and the GSO employs approximately 5,000 persons. The organization of the GSO headquarters and its duties are shown below (Figure 2-1).

(1) Organization of the GSO headquarters
  a. National Accounts Department
  b. Statistical Methodology Department
  c. Integral Statistics Department
  d. Industry and Constructional Statistics Department
  e. Agricultural, Forestry & Fishing Statistics Department
  f. Trade, Services & Prices Statistics Department
  g. Population & Labour Statistics Department
  h. Social and Environmental Statistics Department
  i. International Cooperation Department
  j. Personnel Department
  k. Planning and Financial Department
  l. Inspection Department
  m. Administrative and General Affairs Department

(2) Duties of the GSO headquarters
  a) To draw out draft laws and regulations relating to statistics and direct legislation procedures.
  b) To submit to the Government or the Prime Minister strategies, plans, long-term plan on statistics as well as important projects.
  c) To announce the regulations, standards classification on statistics.
  d) To conduct surveys, analysis and dissemination of socioeconomic statistics according to government guidelines.
  e) To lead cooperation and coordination with government organizations relating to statistics
  f) To promote improvement and international cooperation of statistical techniques.
  g) To audit ministries and government organizations engaged in statistical service

h) To management budgets relating to operation and maintenance of the statistical system.

   The Industry and Construction Statistics Department serves as the counterpart of the present study.

(3)   General profiles of the Industrial and Constructional Statistics Department

   The department is responsible for industrial statistics.   On January 1, 2004, when constructional statistics were transferred from the Construction, Transportation and Telecommunication Statistics Department to the Industrial Statistics Department, the latter was renamed as Industry and Constructional Statistics Department, which is responsible for statistics relating to the industrial sector [1] and the construction sector.   At present, the department consists of 17 staff members led by Director Vu Van Tuan and manages three statistics in the industrial sector (annual company statistics, and monthly and annual industrial sample surveys) and the construction trend survey.   Also, it provides assistance for the Commercial and Prices Statistics Department in the economic census covering the mining and manufacturing sectors (every five years) and quarterly business surveys.   It should be noted, however, that the GSO's departments including the Industry and Constructional Statistics Department are responsible for planning, technical guidance, analysis and dissemination of statistics in their responsible fields, while surveys are conducted by its local organizations, namely PSOs and DSOs.   Staff of the Industry and Constructional Statistics Department includes experts in statistical survey planning and analysis and personnel with system development capability.

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[1]   Vietnam's industry classification is based on VSIC that conforms to ISIC, and VSIC two-digit classification treats three areas of mining (C), manufacturing (D), and electricity/gas/water supply (E) as industrial statistics.

Figure 2-1   GSO Organization Chart
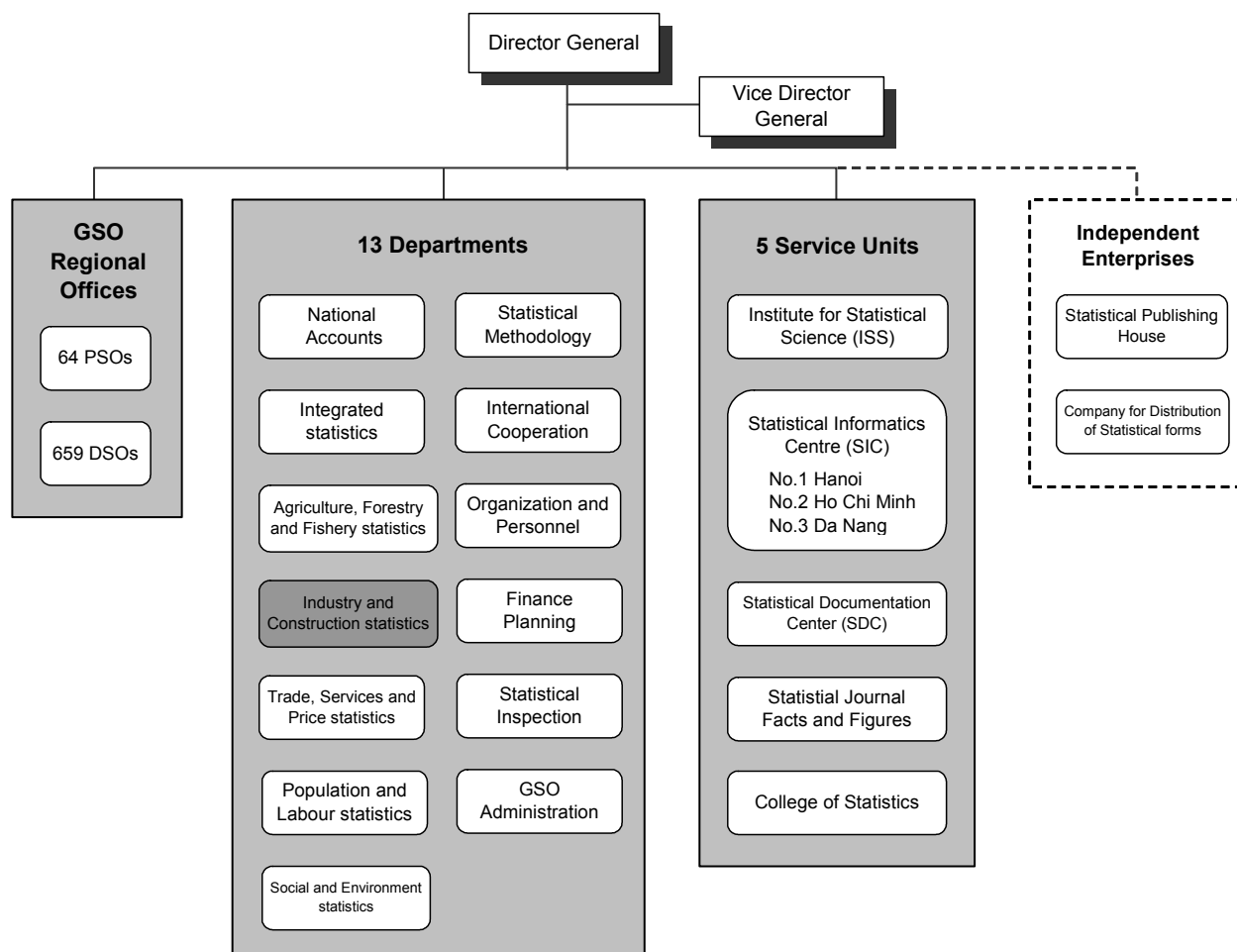
(4)   Regional Network of GSO

The PSOs are established in of 64 provinces and special cities and function as the GSO's provincial offices.   Under each PSO, there are 659 DSOs throughout the country[2].   They are responsible for all field activities for statistical surveys implemented by the GSO. Statistics conducted by the PSOs and the DSO, together with their activities, are planned by respective departments of the GSO headquarter in Hanoi and the operating budget of each office (including costs relating to field surveys and employees) is compiled and managed by the GSO headquarter.

The number of staff at each PSO is basically determined according to the number of DSOs in the respective districts (as well as the number of communes and wards under each district), rather than the size of the survey subject, such as local population, the number of enterprises (including households).   For instance, Thanh Hoa Province that was covered by Trial Survey

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[2]   Most of them have been established as a result of merger between statistical departments of local people's committees and the GSO.

2 under the present study has 27 districts, the largest number in the country, and thus there are 27 DSOs.   They are large in number than the PSOs in Hanoi and Ho Chi Minh City, so that Thanh Hoa PSO has the largest number of employees.   Staff members of the PSOs and DSOs effectively serve as enumerators.   Each PSO has local units of most departments at the headquarters, which conduct statistical surveys under the direction of the headquarters[*3].

2.2   GSO Annual Budget

GSO's annual budget on a disbursement basis was 120 billion dongs in 2003, 149 billion dongs in 2004, and 170 billion dongs in 2005.   The budget has been steadily increasing mainly due to the increase in labor and other indirect costs, rather than the increase in statistical survey-related cost.   The annual budget is roughly divided into fixed expenditures, such as labor costs[*4], and variable expenditures, such as survey and equipment costs.   In 2005, the budget for fixed expenditure was about 100 billion dongs (mostly labor cost) and that for variable expenditures, about 70 billion dongs.   Of the total variable expenditure, 36 billion dongs were allotted to survey costs and 34 billion dongs to equipment costs.   Also, 300 - 400 million dongs were earmarked as reserves.   Request for survey cost is made by each department that is in charge of statistical surveys - accompanying an implementation plan and a budget statement - to the financial department.   Then after the annual budget is approved, it is disbursed to each PSO subject to an internal approval at the GSO.

2.3   Legal Institution for Statistics

(1)   Government policy for statistics development
The government's basic policy for development of statistics in Vietnam is set forth in "Direction of Statistics Development in Vietnam Toward 2010" that was issued in the premiere's resolution (No.141/2001/QD-TTg) dated October 21, 2002.   In this resolution, strategic directions of development of the statistical project toward 2010 are stated as follows.

1)   Improvement and standardization of statistics in terms of promptness, content, form, and method for compilation
  (a)   Dissemination of the statistical project to meet the needs of the party, the state, and other statistical users; the establishment of a transparent and comprehensive mechanism, and the improvement of the GSO's capacity to ensure provision of statistical information to every user

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[*3] For instance, industrial statistics surveys are conducted by the PSOs and DSOs under the direction of the Industrial and Constructional Statistics Department.
[*4] GSO's labor cost is paid to staffs of GSO headquarter in Hanoi and regional PSOs and DSOs.   Other labor cost for enumerators belonging to communes and wards is paid by regional People's Committees.

(b) Reaffirmation the significance of periodical socioeconomic reports and monthly reports relating to socioeconomic development plans and treat as formal documents relating to government meetings

2) Improvement of statistical techniques by introducing modern techniques conforming to international standards
  (a) Development of internationally comparable statistical standards and indices
  (b) Expansion of application of the national accounting system (SNA) and reconstruction of statistical methods
  (c) Standardization of classifications according to international standards and local conditions peculiar to Vietnam

3) Improvement of the statistical data collection system
  (a) Establishment of the registration system for collection of basic information
  (b) Improvement of the company reporting system
  (c) Promotion of linkage between the national statistical system and departmental statistics

In June 2003, the Statistical Law was adopted by the National Assembly as the legal authority of statistical projects and was enacted on January 1, 2004[*5]. This law aims to clarify the economic situation, facilitate the drawing up of policies, increase data accuracy, and meet the statistical needs of organizations and individuals. The law is composed of the following eight chapters:

Chapter 1.　General Rule
Chapter 2.　Statistical Information Systems
Chapter 3.　Statistical Surveys and Statistical Reports
Chapter 4.　Dissemination and Using Statistical Information
Chapter 5.　State Statistics Organization Systems
Chapter 6.　State Management in Statistics
Chapter 7.　Rewards and Violation Settlements
Chapter 8.　Implementation Provisions

The characteristics of Statistics Law do not differ largely from those of other countries as it regulates rights and responsibilities of the statistical office. One intriguing characteristics is that there are two types of statistics named, "Statistical Surveys" and "Statistical Report". As stated in Chapter 3 stated above, "statistical survey" is "a survey decided by the state and is conducted using questionnaires and targeting organizations and individuals". "Statistical report" is "a report that is to be periodical made by organizations and individuals, using a

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[*5] Previously, statistical work has been conducted according to the Account-Statistical Law Ordinance of September 1988.

specific form and as required by the state." Thus, the survey subject is obliged to cooperate in the statistical survey, whereas the statistical report requires the survey subject to make a report directly. In any case, for government-designated statistics, the survey subject is required to submit questionnaires.

2.4 Type and Coverage of GSO Statistics

Table 2-1 lists statistics that are currently compiled and published by the GSO.

Table 2-1 Main Statistics Compiled by the GSO

Department		Title	Frequency	Outline	Remarks
Population and Labour Statistics Dept.	1	Population Census	Every 10 years	Complete enumeration on family budget	Covers the whole country
	2	Annual Survey of Population Change	Annual	Sampling survey on family budget	Covers the whole country
	3	Survey on Migration	Quintennial	Sampling survey on family budget	Covers the whole country
	4	Annual Labour and Employment Survey	Annual	Sampling survey on family budget	Covers the whole country; conducted jointly with MOLISA
Trade, Services & Prices Statistics Department	1	Establishment Census	Quintennial	All establishments excluding agriculture, forestry and fishing	Covers the whole country
	2	Survey on Wholesale, Retail Trade, Restaurant, Hotel, Tourism, Services in Non-State Enterprises	Annual	Wholesale, retail, hotels, restaurants, tourist business, small-scale Household industries such as household enterprises	Covers the whole country
	3	Survey on Circulation of Wholesale and Retail Trade	Monthly	Wholesale, hotels, restaurants, service industries	Complete enumeration for large enterprises; sampling survey on medium and small enterprises and households
	4	Business Tendency Survey	Quarterly	Large state enterprises, foreign enterprises and non-state enterprises in 15 cities and provinces	Sampling survey on 1,570 enterprises
	5	Sample Survey on Consumption Price	Monthly	Sampling survey on enterprises and small establishments	Covers all industries
	6	Sample Survey on Production Price	Monthly	Sampling survey on enterprises and small establishments	Covers all industries
	7	Sample Survey on Material Price	Quarterly	Sampling survey on enterprises	Covers all industries
	8	Sample Survey on Import-Export Price	Quarterly	Sampling survey on enterprises	Covers all industries
	9	Monthly Reporting System	Monthly	State enterprises and foreign enterprises engaged in wholesale and retail	Covers the whole country
	10	Household Census	Annual	Sampling survey on households	Covers all industries
SNA Dept.	1	Survey for Calculating Quarter GDP	Quarterly	Sampling survey on enterprises	Covers all industries and the whole country
	2	Survey for Calculating Regional GDP	Quarterly	Sampling survey on enterprises	Covers all industries and the whole country
	3	Survey for Input/Output Table	Quarterly	Sampling survey on enterprises	Covers all industries and the whole country

Department			Title	Frequency	Outline	Remarks
Industry and Constructional Statistics Dept.	1		Enterprise Census	Annual	Enterprises in all industries	Covers the whole country
	2		Monthly Industrial Survey	Monthly	Non-state enterprises and households in the industrial sector	Sampling ratio: 3-5%
	3		Monthly Reporting System	Monthly	State enterprises and foreign enterprises in the industrial sector	Complete survey
	4		Monthly Reporting System	Monthly	State enterprises and foreign enterprises in the construction industry	Complete survey
	5		Survey on Development Trend of Construction Field	Quarterly	Large state enterprises, foreign enterprises and non-state enterprises in 8 cities and provinces	Sampling survey
Agricultural, Forestry and Fisheries Statistics Dept.	1		Survey on Plated Area, Yield and Production of Farm Products	Annual	Sampling survey on small farmers	Covers the whole country
	2		Animal Husbandry Statistics Survey	Annual	Sampling survey on households	Survey month: April; covers main farming and livestock provinces
	3		Animal Husbandry Statistics Survey	Annual	Sampling survey on households	Survey month: August; covers the whole country
	4		Survey on Planted Area, Yield, Production of Rice	Annual	Sampling survey on small farmers	Covers the whole country
	5		Survey on Planted Area, Yield and Production of Perennial Crops	Annual	Sampling survey on small farmers	Covers the whole country
	6		Survey on Area of Water Surface for the Aquaculture, Material Facilities, Production of Aquatic Products	Annual	Sampling survey on small farmers	Covers the whole country
	7		Survey on Non-State Enterprise in Forestry	Biennial	Sampling survey on non-state enterprises	Covers the whole country
	8		Survey on Population Households, Labours and Main Material Capacity in Agriculture, Forestry and Fishery Industry	Annual	Sampling survey on households and enterprises	Covers the whole country
	9		Survey on Production Value, Intermediate Cost, Value Added of Agriculture, Forestry and Fishery Industry	Annual	Sampling survey on households and enterprises	Covers the whole country
	10		Reporting System	Annual	State enterprises and foreignn enterprises in agriculture, forestry and fishing	Covers the whole country
onmental and Social Statistics	1		Vietnam Living Standards Survey	Biennial	Sampling survey on family budgets	Covers the whole country

Source: The results of hearings from the GSO departments

2.5 Dissemination of GSO Statistics

The above statistics compiled by the GSO are disseminated through mass media and are reported to various government offices and organizations. The PSOs furnish statistical data to local people's committees, industrial bureaus (local agencies of the Ministry of Industry), planning & investment bureaus (local agencies of the Ministry of Planning and Investment), while the GSO provides data for central government offices, such as the Central People's

Committee, the MPI, the MOI, and the central bank.   The same reporting format is used for all statistical data, regardless of government offices.

On the other hand, the private sector is not in a position to use statistical data published by the GSO for business purposes because of data restraints, e.g., limited availability of data by industry or commodity in the case of industrial statistics.   However, this does not necessarily mean the lack of demand for statistics.   In fact, the interview surveys revealed that the majority of companies expected wider dissemination of statistical data.

In this conjunction, the GSO's online service started at the end of 2004 is expected to attract a wide range of users.   The GSO created a Web site dedicated to the service in October 2004 and steadily adds new contents.   Thus, the prospect that the private sector can access to current production statistics and other statistical information that is closely associated with business management will pave the way to wider availability of government statistics as public goods.

2.6   Industrial Statistics in Vietnam

The definition of industrial statistics varies among countries.   In Vietnam, it covers "mining", "manufacturing" and "electricity/gas/ water supply".   The Industrial and Constructional Statistics Department of the GSO is responsible for the statistics of these fields. "Enterprise Census" and "Monthly Industrial Survey" are representative in the industrial statistics.

The "Enterprise Census" is conducted every year since 2001, and covers all enterprises with five or more employees, such as mining and manufacturing, commercial and service industries.   The items are those on the financial statements, such as the number of employees, capital, fixed assets, earnings, profits and investment in construction.   The list of enterprises used for distribution of the questionnaire is the one prepared using administrative data, tax office data and past censuses.   The census results are published as the "Results of the Enterprise Census," while the results of the Enterprise Censuses for the past three years were reported in the "Real Situation of Enterprises through the Results of Surveys Conducted in the Said Period."

The "Monthly Industrial Survey" is, as its name suggests, conducted every month and covers enterprises engaged in mining, manufacturing, and electricity/gas/water supply, as well as household industries.   A complete enumeration is carried out on state enterprises and foreign enterprises, while a sampling is conducted on non-state enterprises and household industries.   The main survey items are main business (VSIC four-digit), output at constant

price, turnover, consumption tax paid and products (actual results in the survey month and estimation for the next month).

2.7 Monthly Industrial Sample Survey

(1) Organization

Industrial and Constructional Statistics Department, GSO

(2) Purpose

Submission of reports to various ministries, including the Ministry of Industry and Ministry of Planning and Investment (MPI), to the Provincial and Central People's Committees, etc.

(3) Frequency
Monthly

(4) Scope

C: Mining, D: Manufacturing, E: Electricity/Gas/Water Supply in VSIC

(5) Coverage
Nationwide

(6) Statistical unit

Enterprises and households.   Notes that the unit is "enterprise" but not "establishment".

(7) Classification of enterprises by industry

The industry whose product accounts for the largest turnover amongst the enterprise's products defines the enterprise's industry type.

(8) Enterprise directory

For the Monthly Industrial Survey, the same directory is generally used as the Enterprise Census.   However, if data concerning closure or relocation of enterprises is received by the PSO beforehand, the directory is adjusted accordingly.

(9) Compilation method

For the Monthly Industrial Survey, data is acquired from the monthly reports sent from state and foreign enterprises, and from a sample survey of non-state enterprises and households.

Periodic reporting is obligatory for state and foreign enterprises, and the formats to be used for reporting are distributed by each PSO.   All state and foreign enterprises fill in this form,

and submit it to each PSO by 12th of every month directly or by post. Accordingly, a complete enumeration of state and foreign enterprises is conducted without the involvement of enumerators.

For non-state enterprises and households, targeted enterprises are sampled, and questionnaires are distributed and collected by DSO staff or People's Committee staff. In terms of sampling, the enterprises are selected per PSO based on the sampling rate allocated to each province, with an average of 15% of non-state enterprises and 1.5% of households being surveyed (Table 2-2).

**Table 2-2 Number of Enterprises for Monthly Industrial Survey
by Enterprise Type**

Type	All Businesses	Industry	Output Value Share	Sample Ratio	Enterprises for Monthly Survey
TOTAL *1	**72,012**	**18,198**	**100%**		**5,718**
Central State	1,898	661	29.4%	x 100%	661
Local State	2,947	848		x 100%	848
FDI	2,641	2,007	43.1%	x 100%	2,007
Non-State	64,526	14,682	18.8%	x 15%	2,202
Household	2,712,177	755,421	8.7%	x 1.5%	11,331

Source: "The real situation of enterprises through the results of surveys conducted in 2001, 2002, 2003" GSO, 2004

*1: Household is not included.

(10) Survey items

  1) Survey items for state enterprises

    ■ Name of Enterprise

    ■ Main Activities

    ■ Type of Enterprise

    ■ Amount for This Month, Cumulative to This Month, Estimation for Next Month

      * Gross output (by constant price 1994)

      * Turnover

      i) Of which: Turnover from selling materials and selling and buying goods without processing at enterprise

      ii) Of which: value of selling goods

    ■ Value of Renting Fixed Asset including Operator

    ■ Subsidies of the Government

    ■ Tax have to paid

    ■ Products

    ■ Business Situation of Enterprise in Reported Month

2) Survey items for foreign enterprises
- Name of Project
- License Number
- Address
- Telephone Number
- Investment Capital
  * Legal capital
   i) Domestic capital
      Proportion of land usage rights
      Proportion of resource usage rights, etc.
   ii) Overseas capital
      Proportion of cash
      Proportion of facilities, such as machinery
  * Borrowed capital
    Proportion of overseas capital
- Labour Available as of the End of Report Month
  * Proportion of Vietnamese employees
  * Proportion of foreign employees
- Value of Imported Goods
  * Proportion of imports for construction
  * Proportion of imports for sales and production
- Turnover
  * Proportion of turnover derived from exports
  * Proportion of domestic turnover in US dollars
  * Proportion of domestic turnover converted from Vietnamese dong to US dollars
  * Proportion of the export value out of the turnover
- Tax and Other Obligations to State Budget
- Foreign Currency Transferred Abroad
- Main Products

3) Survey items for non-state enterprises
- Name of Enterprise
- Name of Main Activity
- Type of Enterprise
- Amount for This Month, Cumulative to This Month, Estimation for Next Month
  * Gross output (by constant price)
  * Turnover
   i) Of which: Industrial Turnover
- Consumption tax have to paid
- Products
- Business Situation of Enterprise in Reported Month

4) Survey items for Households
   - Name of Household
   - Address
   - Hamlet (Housing Number)
   - Commune Name
   - District Code
   - Province Code
   - Main Activities
   - Amount for Previous Month, Estimation for This Month
     * Number of employees
     * Turnover (without tax)
     * Added consumption tax
   - Products
   - Business Situation of the Household

(11) Dissemination method

The survey results are published as monthly industrial statistics (He Thong Bieu Mau, Dieu Tra Va Tong Hop Thong Ke Cong Nghip, Thang). Dissemination is not limited to related organizations, but available for everyone. Although the dissemination is open for any individuals/organization, the survey results cannot be purchased at bookstores or viewed on the Internet, and need to be acquired from the General Statistics Office (GSO) or Provincial Statistics Office (PSO) directly.

(12) Dissemination items

The survey results are announced in two formats, namely, "Gross output by constant price (1994 basis)" and "Production Quantity of Main Products". "Gross output by constant price" is categorized as; (1) Cumulative value from January to the previous month, (2) Estimated value for this month, (3) Cumulative value from January to this month, (4) Year-on-year comparison (index), (5) Year-on-year comparison of the cumulative value from January to this month. The results are announced by enterprise type and by main province. On the other hand, "Production Quantity of Main Products" are categorized as; (1) Cumulative value from January to the previous month, (2) Estimated value for the reported month, (3) Cumulative value from January to the reported month, (4) Year-on-year comparison, (5) Year-on-year comparison of the cumulative value from January to the reported month. The results are announced by main product type. Items disseminated in the monthly industrial statistics are listed as follows.

Table 2-3   Dissemination Items in the Monthly Industrial Survey

Item	Coverage	Dissemination Style	Note (Each number is referred to the left column)
Gross output by constant price (1994 basis)	All enterprises	(1) Cumulative value from January to the previous month (2) Estimated value for this month (3) Cumulative value from January to this month (4) Year-on-year comparison (index) (5) Year-on-year comparison of the cumulative value from January to this month.	(1), (2), (3), (4), (5) By enterprise type (state, foreign-own, non-state) (1), (2), (3), (4), (5) By main province (15 province/city)
Main Products	All enterprises	(1) Cumulative value from January to the previous month, (2) Estimated value for the reported month, (3) Cumulative value from January to the reported month, (4) Year-on-year comparison, (5) Year-on-year comparison of the cumulative value from January to the reported month	(1), (2), (3), (4), (5) By product type (34 product types), by enterprise type

Source: Monthly Industrial Survey (He Thong Bieu Mau, Dieu Tra Va Tong Hop Tong Ke Cong Nghip)

2.8   Current State of the GSO's Monthly Industrial Sample Survey and Major Issues

2.8.1   Major Characteristics of Survey Design and Issues

(1)   Survey Design Focusing on Enterprise and Region

The ongoing monthly sample survey compiles statistics emphasizing enterprises, rather than establishments.   For instance, the turnover in the survey represents the gross turnover of an enterprise, which includes the revenue from wholesales activities, i.e., the purchase and resale of goods.   As a result, while it represents business activities of each enterprise (industrial sector), it fails to reflect the current state of production activities accurately.

At the same time, the ongoing survey aims to monitor the current status of regional economy by administrative division.   This can be seen from a strong relationship with local people's committees that are a main user of government statistics, as well as from the selection of surveyed enterprises, i.e., while the survey covers all state enterprises and foreign companies (FDI), non-state enterprises and household industries, which form the majority in number, are surveyed on a sampled basis.   In fact, household enterprises account for approximately 70% of enterprises covered by the monthly survey, suggesting that the government intends to obtain a

broad picture of business activities in a survey area (province or city). Figure 2-2 shows a breakdown of enterprises by form of ownership as percentage share of GDP in 2004.

Figure 2-2   Breakdown of Vietnamese Enterprises by Form of Ownership in Industry Sector (Output Value Share) in 2004
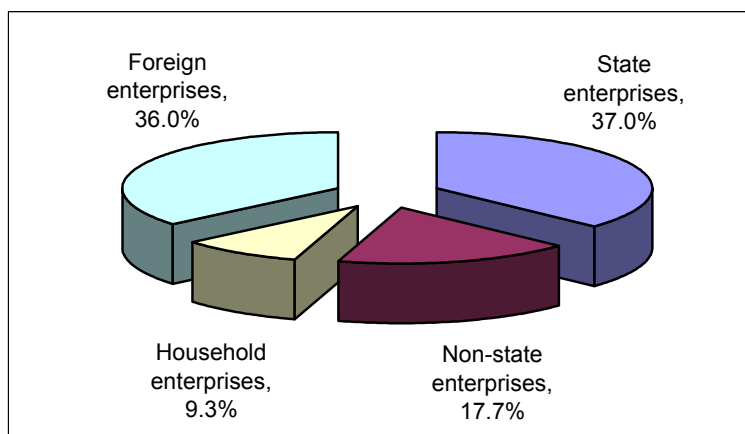
Source: Statistical Yearbook 2004, GSO

As seen in the figure, households represent approximately 9.3% of GDP, which is expected to decline as foreign companies and non-state enterprises (in the form of stock company) grow in number in recent years. This indicates that if one wishes to know industry trends focusing on production activities, the survey of state enterprises, foreign companies, and some of non-state enterprises is considered to be sufficient.

(2)   Complexity of Data Processing

For the ongoing monthly survey, there are four forms of questionnaire (or four sets of survey items) developed and used according to the enterprise capital type, and respondents are expected to specify their products and their classifications. As for collection, state enterprises and foreign companies are required to submit them under the reporting system, so that no enumerator is required and the rate of collection is nearly 100%. On the other hand, non-state enterprises are surveyed by the DSO staff, while household industries report to the DSO staff or staff of local people's committees (serving as enumerators). Because of the difference in questionnaire design (survey items) as well as the difference in the collection system, the present survey system is not suitable for accurate tabulation and compilation of enterprise data at a national level, adversely affecting reliability of data as official statistics, while data are processed accurately for each geographical area or type of enterprise.

At present, the PSO produces four types of statistical data from questionnaires collected for the monthly survey: (1) IIP (in 1994 price); (2) production (net); (3) major products (and production); and (4) sectoral analysis. The IIP is calculated in 1994 price and the GSO admits that it does not meet the present needs due to obsoleteness and inconsistency of data.

Production data are not included in the survey results if a respective product does not accompany an appropriate code classification. Also, data reported by households are not included. Thus, the present questionnaire design (survey items) requires additional data processing if data are to be used as reliable statistics.

2.8.2 Major Characteristics and Issues Relating to Survey Implementation

(1) Additional Cost Burdens Relating to the Survey of Household Industries Survey Design Focusing on Enterprise and Region

The ongoing monthly survey sets a deadline for collection from state enterprise and foreign companies on the 12th day of each month. The DSO that is responsible for non-state enterprises is required to submit collected questionnaires to the PSO on the 12th – 14th day of each month (closed on the 8th day). Each PSO then submits provincial (municipal) data to the GSO on the 17th day of each month. As discussed earlier, state enterprise and foreign companies are required to submit the questionnaire in time under the Reporting System, and completed questionnaires are generally submitted by facsimile. On the other hand, non-state enterprises send them by mail or delivery directly to the DSO, while the DSO staff (enumerators) visits some enterprises for collection. And enumerators collect questionnaires from household industries. While the Reporting System is proven to be cost effective as it assures a fairly high rate of collection, collection from households requires substantial time and cost as enumerators have to visit all of them (depending upon the number of enumerators hired). This makes the latter less cost effective than the former. In fact, the survey of household industries takes up the largest part of the monthly survey cost, but the scope of data collection and use is fairly limited. Thus, it is the least cost effective from the standpoint of the survey's objective, i.e., to obtain data representing current production by industry as a whole.

(2) Limited Dissemination and Need for Expansion of the User Base

The results of the monthly industrial sample survey are compiled into monthly reports by the DSO, the PSO, and the GSO, which are then distributed to central and local people's committees and other organizations. In addition to the monthly reports, production trends on 34 industrial commodities are made available to the public. Notably, the monthly reports are printed in limited quantities and are not made public. For instance, the Ho Chi Minh PSO prints 300 copies monthly, while other PSOs publish around 50 copies. Clearly, statistical data are accessible by a limited number of organizations and people.

In fact, it is reported that collection of the questionnaire from foreign companies is on the decline in recent years, despite of the requirement under the Reporting System. This is probably because an increasing number of foreign companies become reluctant to cooperate in the statistical survey as they are unable to obtain any data or feedback. Foreign companies, as well as non-state enterprises, both of which increase in number in Vietnam, are strongly interested in industrial statistics as they find them very useful. As statistical needs in the

private sector are expected increase further with the transformation to a market economy, broader dissemination of survey results will become a major issue from the viewpoint of ensuring wide participation in the statistical survey.

2.9   Current Status of Computer Systems at GSO and PSOs and Major Issues

2.9.1   Overview of GSO Systems Division

The Systems Division of the GSO belongs to the Center of Statistics Informatics. (For its organizational structure, refer to Figure 2-1.)   Major functions of the Systems Division are as follows;

1) Integration of computer systems within the GSO
2) Selection, procurement and setting up of the systems
3) Software development
4) Development and implementation of network systems
5) Maintenance and support of hardware and software

At present, five full-time staff members work in the Systems Division, and among them, one is responsible for the maintenance of hardware, and the remaining four persons including the director is engaged in software development.

2.9.2   System Configuration of Hardware

Figure 2-3 shows the entire network system configuration at the GSO.

Computer systems at the GSO are configured as a local area network system consisting of 6 servers and 250 client terminals.   The six servers supplied by IBM, HP, and Compaq are organized as Web, Proxy, DNS, Mail, DB, File, FTP, and Printer Server respectively.   For FY2005, the GSO plans to install 10 additional servers in February 2005.   These servers will be used as replacement and upgrading of Web, FTP, File-Network, and DB Server.   In addition, one of newly installed servers will be directly connected to the prime minister's office.

Approximately 250 client terminals under the GSO Net are connected via HUB and installed in each division of the GSO.   Most client terminals are so called "brand products", which are totally different from the ones assembled using different modules and components produced by different manufactures which is so-called as "Non-brand" products.

As for   security measures, the GSO's systems are also well equipped, including firewalls and UPSs being connected to servers and client terminals to minimize a risk of system breakdown due to power failure.

Figure 2-3 Network Configuration of GSO

Internet

Router

FireWall

Switching Hub

Web, Proxy Server

DNS, MailServer
IntenetScan

DataBase Server

DataBase, File,
PrinterServer

Application
Server

(ServerRoom)

WindowsNT
SQL Server 2000
CSPro
FoxPro
MS-Office

Router

LAN

Dial-up

Server Room of Hanoi
and HCM PSO)

Server Room of Hanoi,
HCM C, and DanagIT Center)

20Deptartments.(GSO)

Dept.

Dept.

Dept.

Windows
XPs & 95

Windows
XPs & 95

Windows
XPs & 95

Laser
Printer

Laser
Printer

Laser
Printer

WorkStations

WorkStations

Work
Stations

Source : GSO

2.9.3   Configuration of Software

(1)   Operating System

Windows 2000 advanced server is used as operating system for LAN servers. For operating systems of client PCs, both Windows XP and Windows 95 are used.

(2)   Application Software

  1)   Development Tool

Visual Basic has been used as a major development tool and all development personnel are using this tool. This is because it is used as a key tool for development of the database storing data, which are incorporated as Enterprise Census or Household Census by Visual FoxPro and are converted to a form supported by SQL Server 2000.

  2)   Office Tool

The most popular Microsoft's office tool such as Word, Excel, Access, and Memo pad are used as office tool.

  3)   Relational Database Software

Major relational database software being used at the GSO is Visual FoxPro.   First used by the Industrial and Construction Department, the software is now used in almost all departments of the GSO.   Data created from each census compiled by the GSO are encoded by an input screen created by FoxPro and installed as database.

At the same time, both SQL Server 2000 and CSPro are used as relational database software for server side.   The former has been donated by the SIDA and the latter is supplied as free software.   These software programs have been used for various applications that fit their features.   For example, SQL Server is used for data input and database establishment of each census and used as data transfer tool with IT Center which will be described in the latter part of this section.   CSPro is not used very frequently.

2.9.4   Communication Network Architecture

The GSO's server systems have an external connection via the Internet.   Since connectivity to external networks is established through the firewall systems, the security level of the GSO might be considered as high, however individual's rights to access internet or e-mail is partly restricted.   Thus not all of the GSO staff has access to external connection.   Server systems of the GSO are also connected with the PSO systems of Hanoi and HCMC PSOs via 144 Kbps leased lines.   Also the GSO systems have LAN connection with three IT centers located in Hanoi, HCMC, and Da Nang.   The transmission speed to both Hanoi IT Center is 1 Mbps and to HCMC and Da Nang 144Kbps respectively.   These network connections systems are called the Cute FTP private circuit line.   Also GSO's File server is connected with the tax

office using a leased circuit line for transmission and establishment of company statistical database which will be described in the latter portion of this section.

The GSO systems have also direct connection access via Cute FTP not only to Hanoi and HCMC but to all PSOs that are located in 64 locations in the country for transmission of statistical data.   Volume of data transmitted varies between locations, however, seven files on the average are transferred between of the GSO and the Hanoi PSI per month and data volume per file per transmission averages 100 Kb.

PSOs and their affiliated DSOs equipped with personal computers have only dial up connections, and not hosted within the LAN system.   Computer systems of DSOs are not well integrated and vary in size and number of staff at each DSO.   Incidentally, the number of personal computers installed at each DSO averages 2 units per DSO.

The government of Vietnam is planning the installation of fiber optics cables across the country by the year 2007.   And if it is realized, the GSO-Net covering the entire PSOs/DSOs will be established along with the government implementation plan.

2.9.5   IT Centers

At present, three IT Centers are established in major cities, namely Hanoi, HCMC, and Da Nang.   The major objective of IT Centers is to process various statistical data by dividing into three portions of the country, the north, the central, and the south.   However, in January 2004, all the centers were consolidated as an affiliated institution of the GSO, these institutions were operated under each PSO as an affiliate to process statistical data of each region.   The major purpose of consolidation of the centers was, among other things, to develop application software for statistical analysis tools, R & D of Information Technology, IT education and training targeted to the GSO and PSO staff, and maintenance and support work of GSO's computer systems.   However, an actual order for application development has not issued by the GSO, and the centers are still working on the previous projects including the processing of annual census data, the enumeration of household surveys, and the encoding of such data to the database software of each IT Center.   Staffs have been sent to the GSO's and the PSO's systems department for maintenance and support of their systems and software. Hanoi IT Center is affiliated with Centre of Statistics Informatics, HCMC IT Center with Centre of Statistics Informatics II, and Da Nang with Centre of Statistics Informatics III Department of GSO.

2.9.6   Overview of the System in the Industrial and Constructional Statistics Department

17 personal computers are connected to the GSO servers as the client terminals in the Industrial and Constructional Statistics Department.   Operating systems of each client terminal

consist of 16 Widows XP, and one Windows 98. Major application software running on these PCs is the Microsoft Office suit. Both FoxPro and Visual FoxPro are used for processing and analysis of current monthly survey. Other application packages specified as an analytic tool for statistics such as SPS is also used.

Three staff members, one engineer and two programmers, are assigned as system personnel. Their major responsibility is to process current monthly survey, and at the same time they are involved in system development. Also they are involved in analysis and publication of the results of the monthly survey which are sent from the PSOs and downloaded to their FTP server computers. At present, one full-time staff member is appointed as personnel in charge of handling the existing monthly survey. His major tasks are to develop programs using FoxPro and analyze the monthly survey data sent by each PSO.

2.9.7   Computer System of PSO/DSO

Status of computer installations at the PSOs and the DSOs varies greatly depending on each PSO and DSO. Likewise the installation status of the DSO also differs its affiliation with which PSO. Three locations of PSO, namely Hanoi and HCMC which are connected through LAN with the GSO, have less system size and grade but have a systems environment similar to that of the GSO systems. Also very similar are operations systems and application software packages. Among 64 PSOs, it is said that only one PSO in the country does not have connectivity with the GSO. Although, PSOs have the rest of connecting with the GSO, PSOs located in the rural region do not have sufficient system environment to connect with the GSO.

The system environment at the DSO also varies depending on to which PSO does this DSO belongs to. For example, HCMC PSO has 24 DSOs under its management, most of them facilitate multiple unit of personal computers. And the Hanoi PSO has 14 DSOs under its management, all DSOs have installed personal computers and connected with Hanoi PSO systems via dial up connections.

At present, the penetration rate of the personal computers at the DSO is only 40% at the national level. It is considered that this will be major obstacles for preparation statistics systems along with the preparation of the computer and communication network infrastructure in the country.

2.10 Problems and Issues Relating to System Development and Operation

2.10.1 Problems Relating to System Development

(1)   Unbalanced Situation of Hardware and Software Installation

At the GSO, hardware systems are well equipped to meet with the current requirement among system users. In other words, hardware has well prepared rather than preparation of software to satisfy the capacity of hardware systems. That is hardware that is not efficiently used at this moment. For example, the relational database software, FoxPro, has loss its

popularity that was established earlier.   FoxPro is not the mainstream of RDB software at this moment.   In addition, FoxPro is actually known more as a development tool rather than relational database software.   Therefore, this software might be replacing from the major tool for processing of statistical data. A software development language should also be used properly depending on the objectives of the development, so that it is necessary to consider the use of Web-based languages such as HTML, XML, and network based language such as Java. These should be considered as prerequisites for development of online encoding method of survey results, data transfer to GSO, and use the systems as online analytic tools.

(2)   Unification of the Use of Software

Unification and share of server-client type of software is highly desirable, particularly a different relational database software program has been installed in each organization, even within the same department.   These cases include the use of SQL Server 2000 and Visual FoxPro in GSO and IT Center, and independent use of Visual FoxPro in the Industrial and Constructional Division at GSO for data processing of the existing monthly industrial survey. The use of Oracle at the Tax Office for creation of enterprise database will be the basis of preparation for population census.   However, it entails additional work for IT Centers for conversion and transmission of data to GSO.

(3)   Sharing of Database

It is highly desirable to share databases which are developed for the use of enterprise databases as well as for census purposes.   These databases should form the population for various kinds of surveys implemented by the GSO.   Various databases transferred from the IT Centers to the GSO and the PSOs are updated and used by their own terms, however these data are not feed backed to the IT Centers.   And some cases nobody knows where original data exists.

(4)   Sharing of Human Resources

Also sharing human resources allocation within the GSO is required as well as the sharing between the GSOs and the IT Centers.   It seems that deploying and putting the right person in the right position has not been practiced in terms of the application development as well as software development.   For example, only two staff members are engaged in programming of Visual FoxPro in the Industrial and Constructional Statistics Division at GSO.   Among them only one staff is engaged in the development process of the monthly survey, creating a relatively heavy workload for him.   Other case is that in Hanoi IT Center there are several engineers dealing with SQL Server, however there is no Oracle engineer.

2.10.2 Problems Relating to System Operation

(1) Hardware Operation

As discussed earlier, system hardware at the GSO and the PSOs is well developed and does not present a major problem relating to system operation.   In particular, this is because the GSO's Systems Department and system personnel at the PSOs (mainly sent by IT Centers) handles hardware operation under technical support of manufacturers and sales distributors in the areas of operation and maintenance.

The major issue to be addressed in the future is the need for training of engineers engaged in operation and maintenance of system hardware that is expected to become increasingly complex with system and network expansion.

(2) Software Operation

Software that is used in the standalone operating environment, such as Microsoft Office, is operated smoothly without much problems.   On the other hand, engineers and other technical staff need to be trained for operation of relational database software (client/server software), such as SQL server and Oracle, which will be increasingly used in the future.   Also, the need for development of relational database software, especially MySQL, will emerge, together with development of application software in the open source environment led by Linux that is becoming the global platform.   As it is difficult for the present resources of the GSO and the PSOs to handle these development requirements, and training should be considered in the context of HR training at IT Centers.

3. Summary, Result and Evaluation of Trial Surveys

3. Summary, Result and Evaluation of Trial Surveys

3.1 Implementation Summary of Trial Survey

3.1.1 Outline and Purpose of Trial Survey

The purpose of implementation of the trial survey is to verify a proposed "Preliminary Plan for Current Survey of Industrial Production" - formulated by the JICA study team - for its viability for the full-scale operation by General Statistics Office (GSO). Trial Survey 1 was conducted for tree months during the first year of the study, and so as for Trial Survey 2 based on the result of the basic Survey, for full-scale operation of "Monthly Survey of Major Industrial Products (MSMIP).

Major differences between Trial Surveys 1 and 2 are as follows.

Table 3-1 Comparison of Trial Surveys 1 and 2

	Trial Survey 1	Trial Survey 2
No. of Target Sector	40	48
No. of Target Commodity	213	524
Target Business Type	Enterprise	Establishment
Planned No. of Target (Final No. of Target)	500（499）	2000 (1927)
Survey Area	3 areas (Ha Noi City, Bac Ninh Province, and Ho Chi Minh City)	9 areas (Ha Noi City, Bac Ninh Province, Vinh Phuc Province, Hai Phong City, Thanh Hoa Province, Da Nang City, Ho Chi Minh City, Dong Nai Province, and Binh Duong Province)
Survey Item	・ Quantity of production ・ Quantity of shipments ・ Quantity of ending inventory ・ Net turnover ・ Total net turnover	・ Quantity of production ・ Quantity of shipments ・ Quantity of internal consumption ・ Quantity of ending inventory ・ Value of shipments ・ Quantity of projected production for the ensuing month

3.1.2 Survey Target Selection

The trial survey is the base survey of implementation of a master plan for current production statistics in Vietnam. A full-scale survey covering nationwide could not be implemented because of constraints of time and budget, the trial survey was designed to cover a limited number of survey subjects and a limited survey period in order to obtain information useful for implementation of the master plan. Therefore, the survey populations were set at 500 enterprises for Trial Survey 1 and 2,000 establishments for Trial Survey 2 for three consecutive months (it made narrowing down the number of target sectors and areas).

Selection procedures for surveyed (areas, sectors, and commodities are as follows.

3.1.2.1 Selection of Surveyed Areas

First, the selection of the survey area was considered to achieve maximum results by narrowing down the survey area. Three cities/provinces were selected as areas covered by Trial Survey 1, namely Ha Noi City, Bac Ninh Province, and Ho Chi Minh City.

For Trial Survey 2, a total of nine areas (four cities and five provinces) were selected as survey areas, i.e., adding six new areas that became industrialized to the three areas of Trial Survey 1 as the core area.

Table 3-2 Cities and Provinces Covered by Trial Surveys

No.	Area	Trial Survey 1	Trial Survey 2
①		Ha Noi City	Ha Noi City
②		Bac Ninh Province	Bac Ninh Province
③	North	—	Vinh Phuc Province
④		—	Hai Phong City
⑤		—	Thanh Hoa Province
⑥	Central	—	Da Nang City
⑦		Ho Chi Minh City	Ho Chi Minh City
⑧	South	—	Dong Nai Province
⑨		—	Binh Duong Province

3.1.2.2 Surveyed Sectors

(1) Basic Concept of Survey Sector Selection

In Vietnam, "Vietnam Standard Industrial Classification (VSIC)" is currently used for industrial classification. This was developed on the basis of "International Standard Industrial Classification (ISIC) version 3.0" established by the United Nations Statistics Division.

Industry in Vietnam is mainly classified to three sectors as "C: Mining and quarrying", "E: Electricity, gas, and water supply", and "D: Manufacturing". Industrial surveys are conducted based on these classifications. The industrial classifications will be applied as integrated industrial statistics for development of the master plan for current production statistics. However, the integrated industrial statistics is the final goal, so that the surveyed sectors are basically narrowed down during the process of development and construction of the production statistics scheme. In particular, discussion with the GSO concluded that the surveyed sectors will be selected from "D: Manufacturing" at a 4-digit level. The surveyed sectors were selected by the following three steps.

<u>The First Step:</u>

Prior to the sector selection for the trial surveys, major industries at national level were analyzed and defined as major and important sectors of Vietnam. These sectors can be

considered as key sectors required to understand the industrial trend of Vietnam and for further analyses.

<u>The Second Step:</u>

After defining the major sectors at national level, major industries in each surveyed city/province were analyzed and selected.   The identifying of industrial trend is also important at regional level for the transition process to the current production statistics because it is currently identified on the monthly industrial sample survey as well.

<u>The Third Step:</u>

Finally, the sectors for the trial surveys were selected by the method to select main industries at regional level with major industries at national level as a key element.

The six procedures and indicators for the trial surveys as shown below are also applied to the master plan, and the details are described in the main report. The outline is described in this summary report.

(2)   Selection of Major Industrial Sectors (National Level)

Major industrial sectors were selected by using various economic data and final selection was made in overall consideration of the country's industrial and related policies as well as the level of importance (Figure 3-1).   The selection criteria used are summarized as follows.

(a) Value-Added
(b) Net turnover and the number of employees by industry sector
(c) Top ten items in export statistics
(d) Government's long-term industrial development plan

Figure 3-1 Scoring Structure for Target Manufacturing Sector Selection
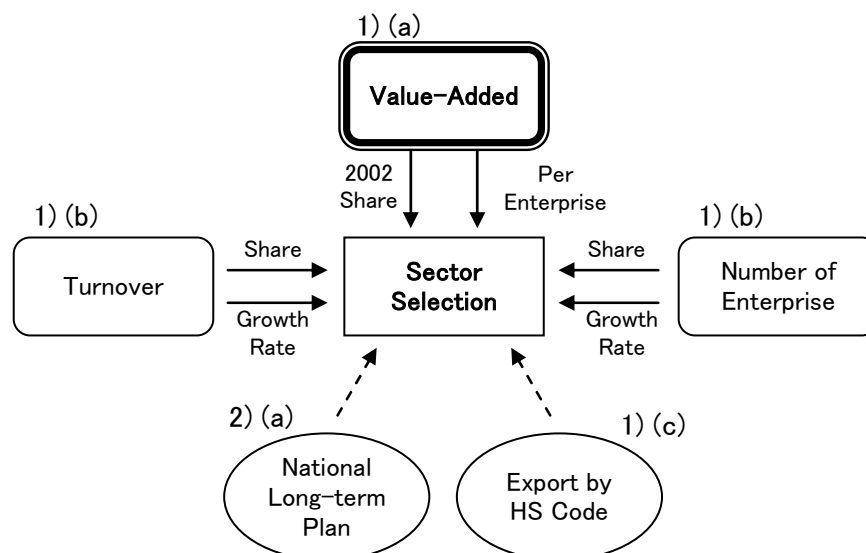
Through the above indicators, the JICA study team selected candidate industries in the entire country (15 sectors).   Then, the candidate list was reviewed with the counterpart in the Department of Industry and Construction of the GSO and eight industries were selected as major industries representing the country's industry.   Their share in the manufacturing industry, in terms of value added, is 33.3% as of 2002.

- ・ 1810   Manufacture of wearing apparel, except fur apparel
- ・ 2694   Manufacture of cement, lime and plaster
- ・ 1553   Manufacture of malt liquors and malt
- ・ 1600   Manufacture of tobacco products
- ・ 1512   Processing and preserving of fish and fish products
- ・ 3410   Manufacture of motor vehicles
- ・ 3591   Manufacture of motorcycles
- ・ 2101   Manufacture of pulp, paper and paperboard

(3)   Sectors Covered by Trial Surveys

The final sector selection for the trial surveys was made by combination of national and regional levels of selection procedures.

A general outline of sector selection is as follows (refer to Figure 3-2).

● To select surveyed sectors at VSIC 4-digit level with the representative ratio of 80% in output value at national level, on the basis of the output value data by industrial sector (obtained from Enterprise Census of 2003 and 2004) including the major 8 sectors selected

by the JICA study team (Top 37 sectors account for 80.33% of total output value of Vietnam according to the data in 2004.).

● As in the case of sector selection at national level, VSIC 4-digit sectors with the representative ratio of 75% in output value in each surveyed city/province (representative ratio differs depending on the situation of each city/province)

● Selected sectors at both city/province and national levels were compared and extracted by following adjustments:

  ➢ Core industrial sectors at city/province level but not important at national level (→ selected)

  ➢ Industrial sectors not in the top 75% at city/province level but important at national level (→ selected)

As a result, 40 industry sectors were selected for Trial Survey 1. For Trial Survey 2, 48 industry sectors were selected including 39 sectors that were covered by Trial Survey 1 (Table 3-3). One sector that was not selected was "VSIC2211 Publishing of books, brochures, musical books and other publications" because of its importance at national level declined.

Figure 3-2 Selection Flow of Target Sectors for Trial Surveys
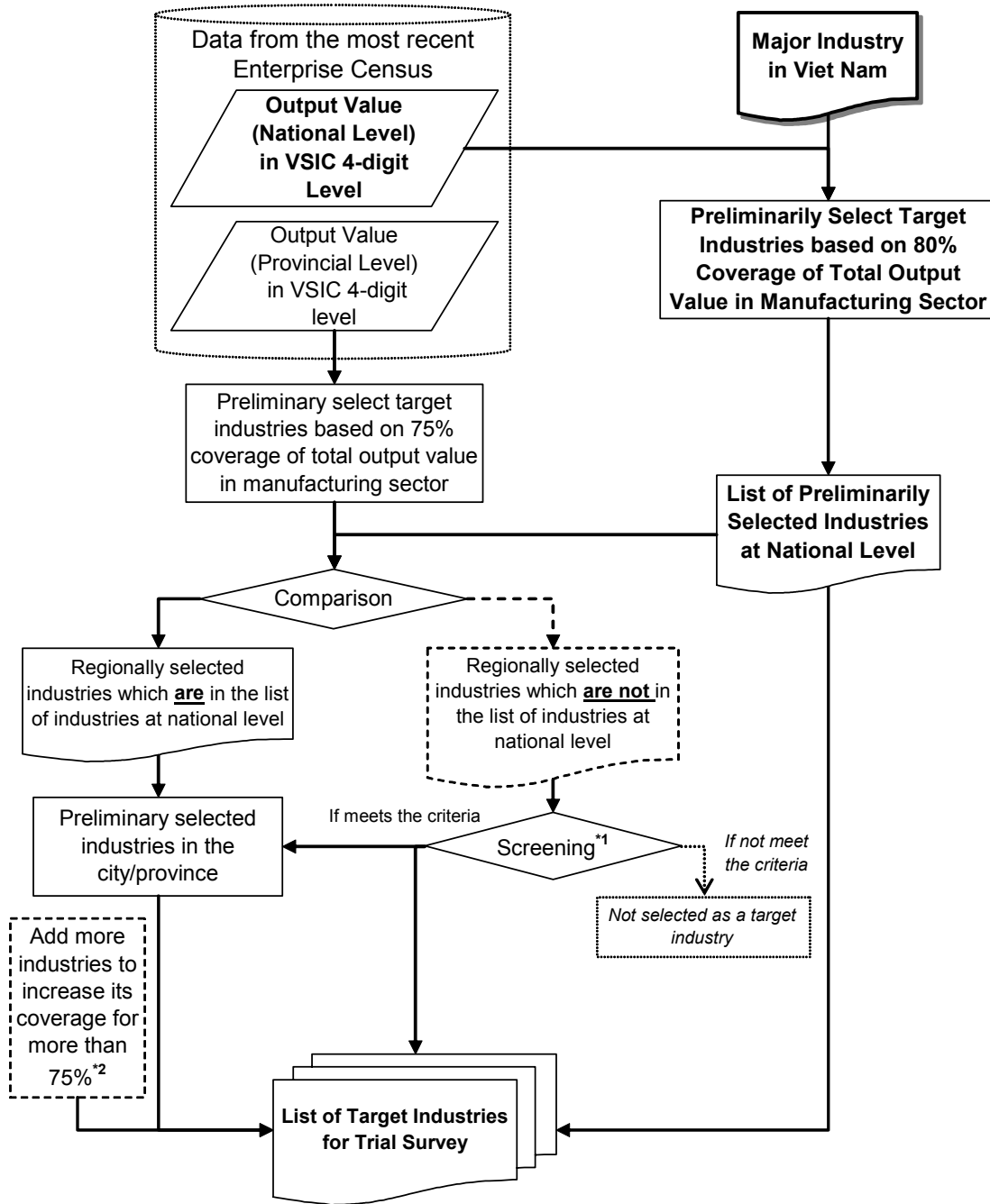
*1: The screening criteria are as follows:
    1-1 Whether the industry is important industry in the target area or not.
    1-2 Whether the industry is categorized as "Others" of the particular sector (ex. 1729 or 3699) or not.

*2: If the selected industries are not covering more than 75% of the target area, then additional industries are selected from the list of major industries at national level.

Table 3-3 Selected Sectors and Representative Ratio in Country by Output Value

(As of 2003)

	Trial Survey 1	Trial Survey 2	VSIC	Sector	Output Value Share in Nation	Cumulative
1	O	O	1512	Processing and preserving of fish and fish products	7.45%	7.45%
2	O	O	1920	Manufacture of footwear	5.04%	12.49%
3	O	O	1810	Manufacture of wearing apparel, except fur apparel	4.55%	17.03%
4	O	O	2694	Manufacture of cement, lime and plaster	4.11%	21.15%
5	O	O	3410	Manufacture of motor vehicles	4.06%	25.21%
6	O	O	2710	Manufacture of basic iron and steel	3.93%	29.14%
7	O	O	3591	Manufacture of motorcycles	3.79%	32.93%
8	O	O	1711	Preparation and spinning of textile fibres; weaving of textiles	3.43%	36.36%
9	O	O	2520	Manufacture of plastics products	3.30%	39.65%
10	O	O	1533	Manufacture of prepared animal feeds	2.92%	42.58%
11	O	O	1600	Manufacture of tobacco products	2.75%	45.33%
12	O	O	1553	Manufacture of malt liquors and malt	2.43%	47.75%
13	O	O	3610	Manufacture of furniture	2.36%	50.11%
14	—	O	1549	Manufacture of other food products n.e.c.	2.28%	52.39%
15	O	O	1531	Manufacture of grain mill products	2.02%	54.42%
16	O	O	2424	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	1.84%	56.26%
17	O	O	2693	Manufacture of structural non-refractory clay and ceramic products	1.76%	58.02%
18	O	O	2899	Manufacture of other fabricated metal products n.e.c.	1.69%	59.70%
19	O	O	1520	Manufacture of dairy products	1.54%	61.24%
20	O	O	3010	Manufacture of office, accounting and computing machinery	1.48%	62.72%
21	O	O	3130	Manufacture of insulated wire and cable	1.34%	64.06%
22	O	O	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods	1.24%	65.30%
23	O	O	2423	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	1.23%	66.53%
24	O	O	3511	Building and repairing of ships	1.18%	67.71%
25	O	O	2412	Manufacture of fertilizers and nitrogen compounds	1.13%	68.84%
26	—	O	1542	Manufacture of sugar	1.12%	69.96%
27	O	O	2221	Printing	1.11%	71.08%
28	O	O	1514	Manufacture of vegetable and animal oils and fats	1.08%	72.15%
29	O	O	2811	Manufacture of structural metal products	1.05%	73.20%
30	O	O	3190	Manufacture of other electrical equipment n.e.c.	1.04%	74.24%
31	O	O	3220	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	0.95%	75.19%
32	O	O	2102	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	0.94%	76.14%
33	O	O	3210	Manufacture of electronic valves and tubes and other electronic components	0.92%	77.06%
34	—	O	2029	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials	0.87%	77.93%
35	O	O	1554	Manufacture of soft drinks; production of mineral waters	0.85%	78.77%
36	O	O	2101	Manufacture of pulp, paper and paperboard	0.80%	79.58%
37	—	O	2422	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	0.75%	80.33%
38	O	O	2695	Manufacture of articles of concrete, cement and plaster	0.73%	81.06%
39	—	—	2421	Manufacture of pesticides and other agro-chemical products	0.65%	81.71%
40	—	O	2930	Manufacture of domestic appliances n.e.c.	0.65%	82.36%
41	O	O	2519	Manufacture of other rubber products	0.63%	82.99%
42	—	—	3699	Other manufacturing n.e.c.	0.63%	83.62%
43	O	O	2429	Manufacture of other chemical products n.e.c.	0.63%	84.25%
44	—	O	3430	Manufacture of parts and accessories for motor vehicles and their engines	0.62%	84.86%
45	—	—	2891	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	0.62%	85.48%
46	—	O	1544	Manufacture of macaroni, noodles, couscous and similar farinaceous products	0.61%	86.09%
47	O	O	3110	Manufacture of electric motors, generators and transformers	0.60%	86.70%
48	—	O	2511	Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres	0.60%	87.30%
49	O	O	2109	Manufacture of other articles of paper and paperboard	0.59%	87.89%
50	—	—	2692	Manufacture of refractory ceramic products	0.57%	88.46%
51	—	O	2691	Manufacture of non-structural non-refractory ceramic ware	0.42%	88.88%
52	—	—	1912	Manufacture of luggage, handbags and the like, saddlery and harness	0.40%	89.28%
53	—	—	1729	Manufacture of other textiles n.e.c.	0.39%	89.67%
54	O	O	2610	Manufacture of glass and glass products	0.38%	90.05%
55	—	—	1513	Processing and preserving of fruit and vegetables	0.37%	90.42%
56	—	—	1532	Manufacture of starches and starch products	0.37%	90.79%
57	—	—	1541	Manufacture of bakery products	0.36%	91.15%
58	—	—	3592	Manufacture of bicycles and invalid carriages	0.36%	91.52%
59	—	—	2010	Sawmilling and planing of wood	0.35%	91.86%
60	O	—	2211	Publishing of books, brochures, musical books and other publications	0.32%	92.18%
61	—	—	1543	Manufacture of cocoa, chocolate and sugar confectionery	0.31%	92.49%
62	—	—	3120	Manufacture of electricity distribution and control apparatus	0.31%	92.80%
63	—	—	1511	Production, processing and preserving of meat and meat products	0.31%	93.10%

Source: GSO

3.1.2.3 Surveyed Commodities

(1) Commodity Selection for Trial Survey 1

Through discussion with the Department of Industry and Construction of GSO concerning the method for commodity selection for Trial Survey 1, it was decided to include commodities that are comparable on the basis of international standards.   For this reason, Trial Survey 1 evaluated and adopted commodities based on the Vietnamese Central Product Classification (VCPC: 5-digit).   The following issues were noted for this process.

- Aggregate VCPC commodities were further segmented to reflect the existing list.
- Commodities not produced in Vietnam were erased.
- Commodities which local production was at the minimum level were erased.
- Commodities with a long name were recompiled to those with a shorter name.
- After selection of commodities, its appropriateness was verified by interview surveys of related organizations and enterprises surveyed.

As a result, the number of commodities for Trial Survey 1 was set at 213 in 40 industry sectors.

(2) Commodity Selection for Trial Survey 2

Although nine new sectors were added for Trial Survey 2, the remaining 39 sectors' commodity composition was same as that for Trial Survey 1.   Based on the analytical results of "Other Products" in questionnaires of Trial Survey 1, some important commodities were added to the commodity list of questionnaires for Trial Survey 2 (Figure 3-3 for the selection procedures).   As a result, the number of commodities for Trial Survey 2 was increased to 524 in 48 industry sectors (Please refer to "Appendix").   It should be noted that one of the purposes of the trial surveys was to grasp as many commodities produced in Vietnam as possible.   In the stage of questionnaire preparation for the basic plan implementation, commodities for which no production was reported for the two trial surveys will be withdrawn from the questionnaires after an analysis of production data of 524 commodities.

(3) Adoption of Units

Unit of measurement for each commodity is adopted on the basis of general production conditions such as weight, capacity, volume, and quantity.   Since commodity-based statistical survey was not conducted in Vietnam, the units will be adjusted through the trial surveys and the pre-survey.

Figure 3-3 Selection Flow of Target Commodities on Trial Survey 2
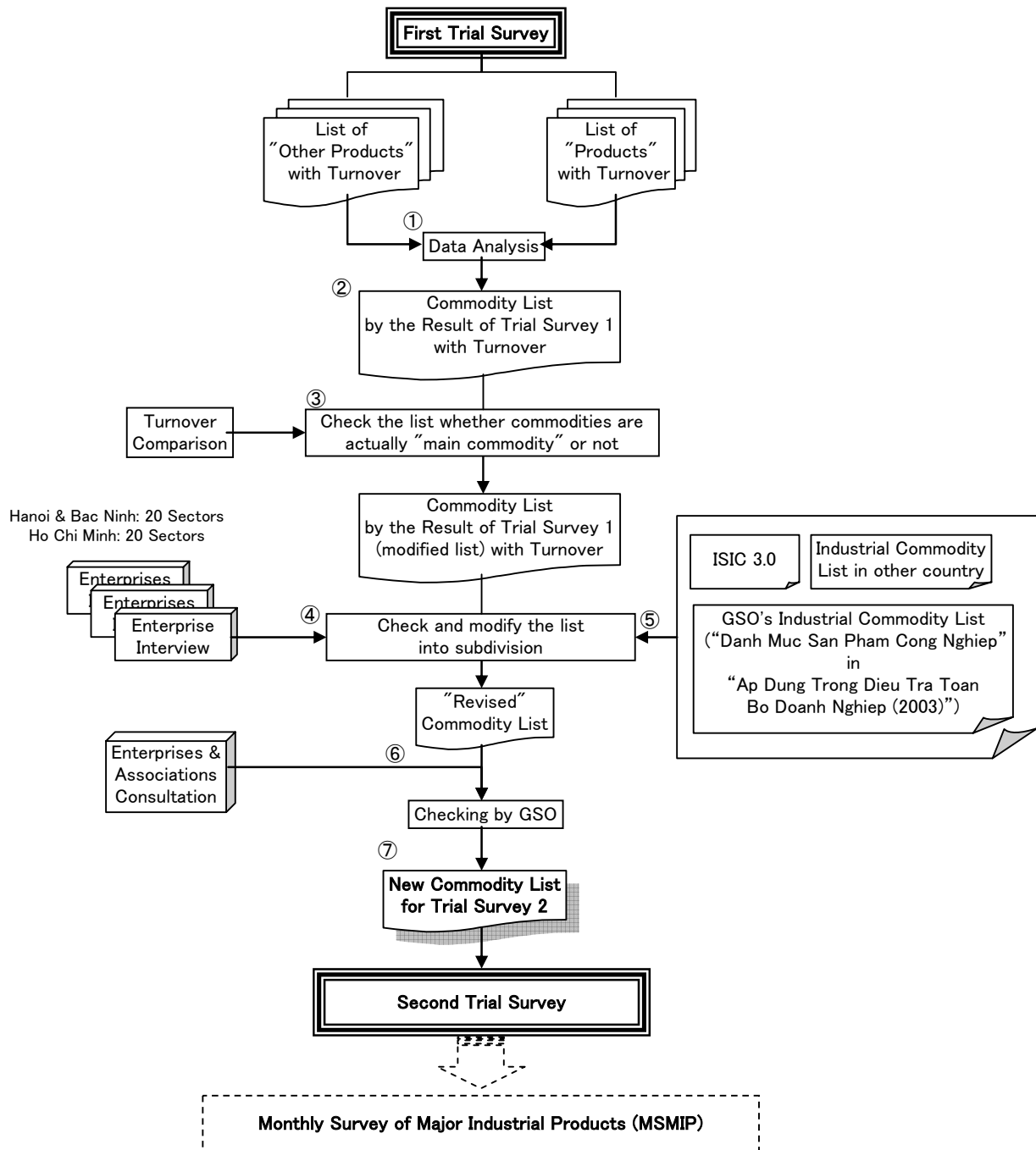
3.1.2.4 Surveyed Enterprises (Establishments)

(1) Survey Unit

The current production survey should preferably be conducted for establishments, but the GSO's surveys use enterprises as a survey unit and data on establishments are limited.   Thus, it was agreed with the GSO to use enterprises as a survey unit for Trial Survey 1 since the limited time to create an establishment list.   On contrary, Trial Survey 2 was conducted based on a new establishment list made by extracting candidate enterprises from a database and checking whether it owns an establishment by PSO.

(2) Surveyed Enterprise (Establishment) Selection

The following data were obtained from the GSO database that reflected the 2003 and 2004 Enterprise Census for the purpose of selecting surveyed enterprises and developing an enterprise list.

- Enterprise's Name
- Address
- Telephone Number
- Regional Code (Province, District, Commune)

- VSIC Code (4-digit)
- Tax Code
- Business Type Code
- Output Value

Based on these data, enterprises covered by Trial Survey 1 were selected by following the steps from ① to ⑥, and establishments covered by Trial Survey 2 were selected by following the steps of ① to ⑨.   The conceptual diagram is as shown in Figure 3-4.

Figure 3-4 Conceptual Diagram of Target Enterprise/Establishment Selection for Trial Surveys

Select enterprises according to the type of ownership, i.e., state, FDI, and non-state enterprises excepting households

① Sort output values of enterprises according to the industry sector by surveyed area

② Calculate the output value share in each sector from the largest share enterprise

③ Set cut-off line as 75% of cumulative total of output value in each sector and select major enterprises (adjustment applied in each area)

④ Confirmation and adjustment of VSIC rating, business description, and regional weight on the selected enterprise list

⑤ Final screening by PSO's most current data (out of business, relocation, etc.)

⑥ Make the establishment list by adding necessary items (such as main product name) to the screened enterprise list and ascertain actual presence of establishments within each enterprise

⑦ Finalize the establishment list and send it to GSO

⑧ All the lists from 9 PSO are combined and adjust the number of target establishment up to 2000 for Trial Survey 2 by GSO if necessary

Trial Survey 1 (brackets ① through ⑥)
Trials Survey 2 (brackets ① through ⑧)

The presence of establishments should be confirmed after selecting target enterprises from the GSO database for Trial Survey 2.   Thus the selection criteria were discussed for the process.   Basically, an establishment that met the following requirements was selected as a n establishment to be surveyed.   Otherwise, the enterprise to which the establishment belonged was selected.

・ Operate in the manufacturing sector (factory) with fixed location, have production and repairing activities with engagement of people and equipment at least three months per year

・ Have its own self-accounting system (in general, one enterprise owns one establishment (factory).   In case that there are more than two establishments and have a self-accounting system, then all such establishments would be targeted)

As a result, 500 enterprises were selected for Trial Survey 1 and 1,927 establishments for Trial Survey 2.   The breakdown of surveyed enterprises/establishments by industry sector and by province is as shown in Table 3-4.

Table 3-4 Number of Enterprises (Establishments) Covered by Trial Surveys

VSIC	Trial Survey 1				Trial Survey 2									
	Tổng 3 tỉnh	Hà Nội	Bình Dương	TP Hồ Chí Minh	Tổng 9 tỉnh	Hà Nội	Hải Phòng	Vĩnh Phúc	Bắc Ninh	Thanh Hoá	Đà Nẵng	Đồng Nai	Bình Dương	TP Hồ Chí Minh
TOTAL	500	175	65	260	1927	350	200	66	135	120	176	187	292	401
1512	22	4	—	18	56	3	12	—	—	6	11	2	5	17
1514	1			1	5	—	—	3	—	—	—	1	—	1
1520	1	—	—	1	4	1	—	—	—	—	—	—	2	1
1531	3			3	12	0	—	—	2	—	—	—	7	3
1533	9	8	1	—	34	11	3	2	1	3	4	6	4	0
1542	0				7	—	—	—	—	3	—	2	1	1
1544	0	—	—	—	5	—	—	—	—	—	—	1	—	4
1549	0				47	9	4	2	1	1	1	4	13	12
1553	7	3	2	2	19	4	6	2	2	1	2	1	—	1
1554	3			3	28	11	—	2	—	2	3	2	5	3
1600	5	2	1	2	9	1	2	—	1	1	1	1	—	2
1711	14	4		10	50	8	1	4	4	1	8	6	8	10
1810	68	18	2	48	142	26	20	5	4	8	10	11	12	46
1920	13	5		8	65	7	22	2	—	2	3	6	15	8
2029	0	—	—	—	93	11	—	1	—	13	7	9	33	19
2101	9		9		84	6	4	—	40	6	9	—	5	14
2102	20	—	—	20	60	—	10	1	2	2	12	3	12	18
2109	26	13	13		34	14	3	—	3	2	6	2	3	1
2211	2	2	—	—	—	—	—	—	—	—	—	—	—	—
2221	28	14		14	50	16	4	1	—	8	5	1	—	15
2412	2	—	—	2	15	1	—	—	—	7	2	1	3	1
2422	0				32	5	2	—	1	—	—	5	14	5
2423	18	6	—	12	35	6	1	2	1	—	2	6	6	11
2424	2			2	17	2	4	1	—	—	—	4	4	2
2429	4	4	—	—	22	4	2	1	1	—	1	4	9	0
2511	0				6	—	—	1	—	—	1	1	—	3
2519	10	—	—	10	49	8	5	—	—	—	—	7	—	29
2520	78	27		51	154	40	14	3	2	5	11	10	20	49
2610	2	—	2	—	16	4	3	1	2	1	1	—	—	4
2691	0				33	1	—	—	1	1	—	2	28	0
2693	6	6	—	—	79	9	4	14	3	14	7	15	11	2
2694	3	1		2	15	—	5	—	—	3	2	1	2	2
2695	7	7	—	—	40	13	3	3	1	3	4	3	—	10
2710	14	6	5	3	63	10	15	1	8	2	17	2	4	4
2811	9	9	—	—	86	13	4	—	6	7	16	8	1	31
2899	32		12	20	100	31	9	2	13	3	9	5	10	18
2930	0	—	—	—	22	7	2	—	1	2	—	1	2	7
*3000	1	1			12	1	3	—	—	—	—	3	1	4
3110	3	3	—	—	9	4	—	—	1	—	—	3	—	1
3130	6	4		2	16	7	4	—	—	—	—	3	—	2
3190	7	5	—	2	18	6	1	—	2	1	2	2	2	2
3210	4	4			15	3	1	1	—	—	—	1	4	5
3220	2	—	—	2	6	3	—	—	—	—	—	2	—	1
3230	9	4		5	11	4	1	—	—	—	—	1	—	5
3410	7	4	—	3	16	7	2	1	—	1	—	1	1	3
3430	0				24	3	—	1	1	—	—	12	—	7
3511	5	—	—	5	25	—	16	—	1	3	1	—	—	4
3591	11	11			29	14	5	1	—	—	3	2	—	4
3610	27	—	18	9	158	16	3	8	30	8	15	24	45	9

Note: "3000" is equivalent to "3010" in Tiral Survey 1

3.1.3   Survey System and Methodology

3.1.3.1   Survey Implementation System

The trial surveys were conducted by a local organization under the commissioning of the JICA study team.   Several candidate organizations including a private research establishment were compared and evaluated.   In the process, it was confirmed that, as the current production statistics survey would be conducted under the leadership of the GSO's Industrial and Constructional Statistics Department, the GSO's present survey system should be analyzed and evaluate as part of the development study.   In consideration of this factor, it was decided to commission the trial surveys to the Institute of Statistical Science (SSI), an independent but affiliated research organization, which would use the GSO's statistical survey organization including the PSOs and DSOs (Figure 3-5).

Figure 3-5   Implementation Structure for Trial Survey
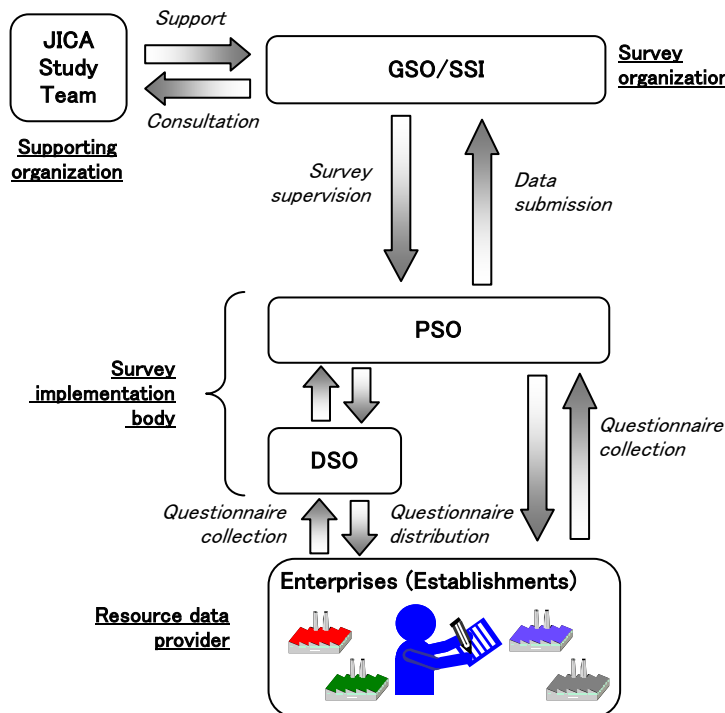
3.1.3.2   Implementation Schedule

For Trial Surveys 1 and 2, a reference month was set for a period of three months from October to December 2004 and 2005, respectively.   Therefore, a collection period was also three months between November 2004 and January 2005 and between November 2005 and January 2006, respectively.

Because both government offices and enterprises are closed for Tet Holiday (Vietnam's New Year holiday) from the end of January to the beginning of February for a week, it may be

difficult to conduct survey activities and to obtain the sequence data.　For this reason, the survey schedule to complete questionnaire collection was set at the end of January (Table 3-5).

The reference month refers to a calendar month, from the first day of the month until the last day of the month.

Table 3-5　Implementation Period of Trial Surveys

Trial Survey 1			Trial Survey 2		
Reference Month		Collection Month	Reference Month		Collection Month
October 2004	⇨	November 2004	October 2005	⇨	November 2005
November 2004	⇨	December 2004	November 2005	⇨	December 2005
December 2004	⇨	January 2005	December 2005	⇨	January 2006

The flow is described in the following sections (Figure 3-6).

Figure 3-6　Flow of Trial Survey
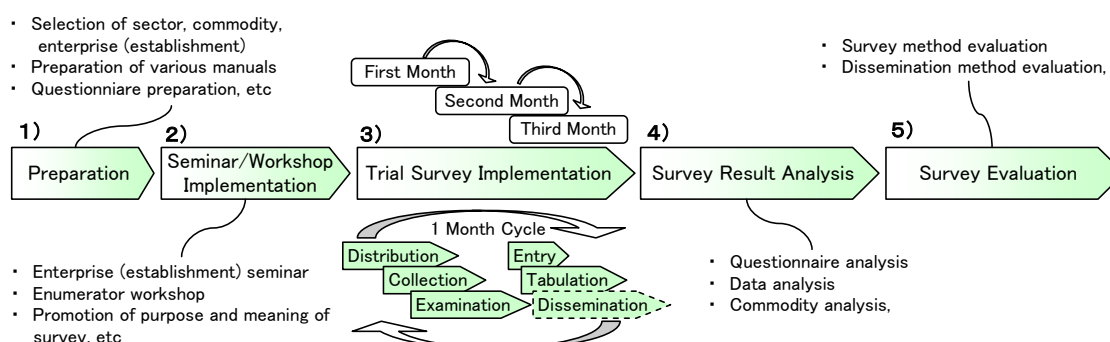
3.1.3.3　Implementation of Trial Surveys

(1)　Distribution of Questionnaire

The PSO and DSO enumerators started distribution of questionnaires on 21st of the surveyed month (October 21 in the first month) by visiting enterprises (establishments) in the formal list (Note that questionnaires were distributed each month during the survey period in order to prevent loss, but three sets were delivered at once when so requested by an enterprise.).　Upon visit, the enumerator explained the trial survey and its objective, solicited cooperation, and explained entry procedures.　Also, the scheduled date to collect the questionnaire was notified.

(2)　Collection of Questionnaires

Questionnaires were collected by the PSO or DSO enumerators who visited the surveyed enterprises, while submission by facsimile or e-mail was accepted in exceptional cases.　The following rules were set for questionnaire collection.

1) The enumerator checks the completed questionnaire upon receipt to see whether it has been filled out properly and legibly.

2) If a surveyed enterprise (establishment) fails to submit the questionnaire by the specified date, the PSO or DSO enumerator contacts the representative of the enterprise and requests prompt submission, while notifying his or her supervisor of the delay.

3) The reminder is made around two days before the deadline, although each PSO or DSO may set its own date.

4) The third page of the questionnaire (yellow sheet) is retained by the respondent and the first and second pages are collected by the enumerator.   The first page is retained by the PSO and the second page by the GSO (See Figure3-7).

Figure 3-7 Questionnaire Collection Cycle (Example)
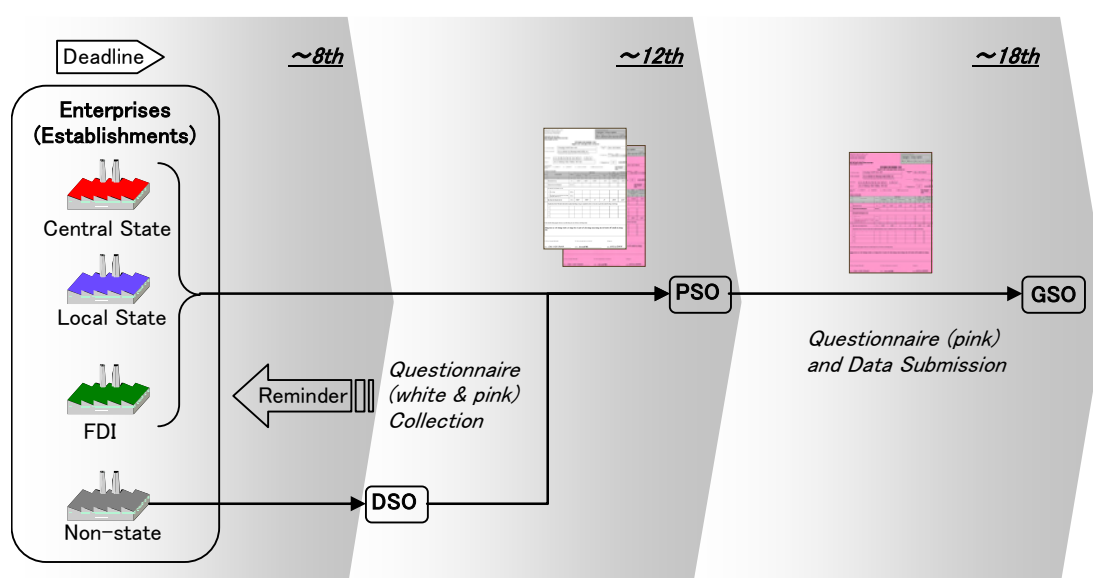
(3)   Examination of Collected Questionnaires

As mentioned in the previous section, the enumerator checked the completed questionnaire according to the examination manual and made necessary correction as required by confirming the enterprise.   Then, the collected questionnaire was checked at the PSO or DSO by other enumerator or personnel in charge of data input.   The following items were examined.

1)   Basic information

Information on the surveyed enterprise (establishment), including the name of the establishment (establishment), address, tax code, form of ownership, telephone number, the name of the contact person, and the surveyed month, which are essential in keeping the enterprise (establishment) list updated and need to be checked for any change.

2) Balance between entries

Entries to survey questions on commodity information were checked for any omission and balance (logic) between key items (production, shipment, internal consumption, inventory, etc.).

3) Unit

Incorrect entries relating to unit of measurement, such as use of an incorrect unit (e.g., "ton" instead of "kg" or omission of "million dong" to indicate the value of shipments)

4) Numeration system

Some items asked the indication of fraction numbers by rounding to the second decimal place and actual entries were checked to see if they comply with the rule. Also, incorrect entries relating to the position or indication of the decimal point (difference between "," and "." between local and foreign enterprises) were checked.

5) Other Products

Entry errors relating to other product, e.g., whether a product that is printed in a question section were entered as other product, and an entered other product was matched with industry of a questionnaire, were checked.

The above examination rules will be applied to the official survey.

(4) Data Input (conducted between 14th and 17th of the month following the surveyed month)

All questionnaires were collected at each PSO where data input was made, and the DSO enumerators were not involved in data input. Entries in collected questionnaires (after examination) were input by the PSO staff (data input personnel or enumerator) in the same manner as the ongoing Monthly Industrial Sample Survey. Input data were transmitted to the GSO on a specific date of the surveyed month (17th or 18th in every month). Major features and functions of the data input software and system are summarized as follows (see Chapter 6 for more discussion).

1) Data Processing Software

As a result of discussion between the GSO and the JICA study team, it was decided to adopt Visual FoxPro to develop a data processing system for the trial surveys. Visual FoxPro is a database management software program widely used by the GSO and the PSOs and their staff is familiar with its operation. In particular, the software program is pre-installed with the enterprise list for Trial Survey 1 (including data from the existing corporate census, such as address and telephone number), a commodity list, and province codes, facilitating the data input operator to make a quick search on enterprises. In addition, Visual FoxPro has print and help (showing the data input manual) functions.

2) Automatic Examination on Data Input

The data input software is capable of performing automatic error checks.   This function finds errors relating to figures written in the questionnaire at the surveyed enterprise and data input at the PSO.   In particular, the software can detect and alert the following anomalies.

1. Inventory balance: When the quantity of production exceeds twice or falls below one half a sum of shipments and inventories

2. Comparison with the previous term: When the quantity of production or shipments in a reference month exceeds three times that in the previous month

3. Price check: When the total shipment price of a product (value of shipments/quantity of shipments) of an establishment exceeds twice that of the same product made by other establishment

4. Blank check: When any item indicating the quantity of production, shipments, inventories, internal consumption or projected production is left blank.

(5)   Data Tabulation and Publication (on or before 25th of the month following the surveyed month)

Data sent from each PSO to the GSO were promptly tabulated and analyzed at the Industrial and Constructional Statistics Department.   While Trial Survey 1 did not make publication, Trial Survey 2 made a limited publication to identify problems relating to the publication method if it was used for the official survey.   Publication was made on the GSO's Web site only and the following items were published.

- Statistical stables and indexes by industry, commodity and form of ownership on a national level

- Statistical stables and indexes by industry, commodity and form of ownership on a regional level

- Statements explaining the general outline and the trend

One of the important objectives of the trial surveys was to check if the above work cycle is smoothly executed (Figure3-8).

Figure 3-8 Implementation Flow of Trial Survey
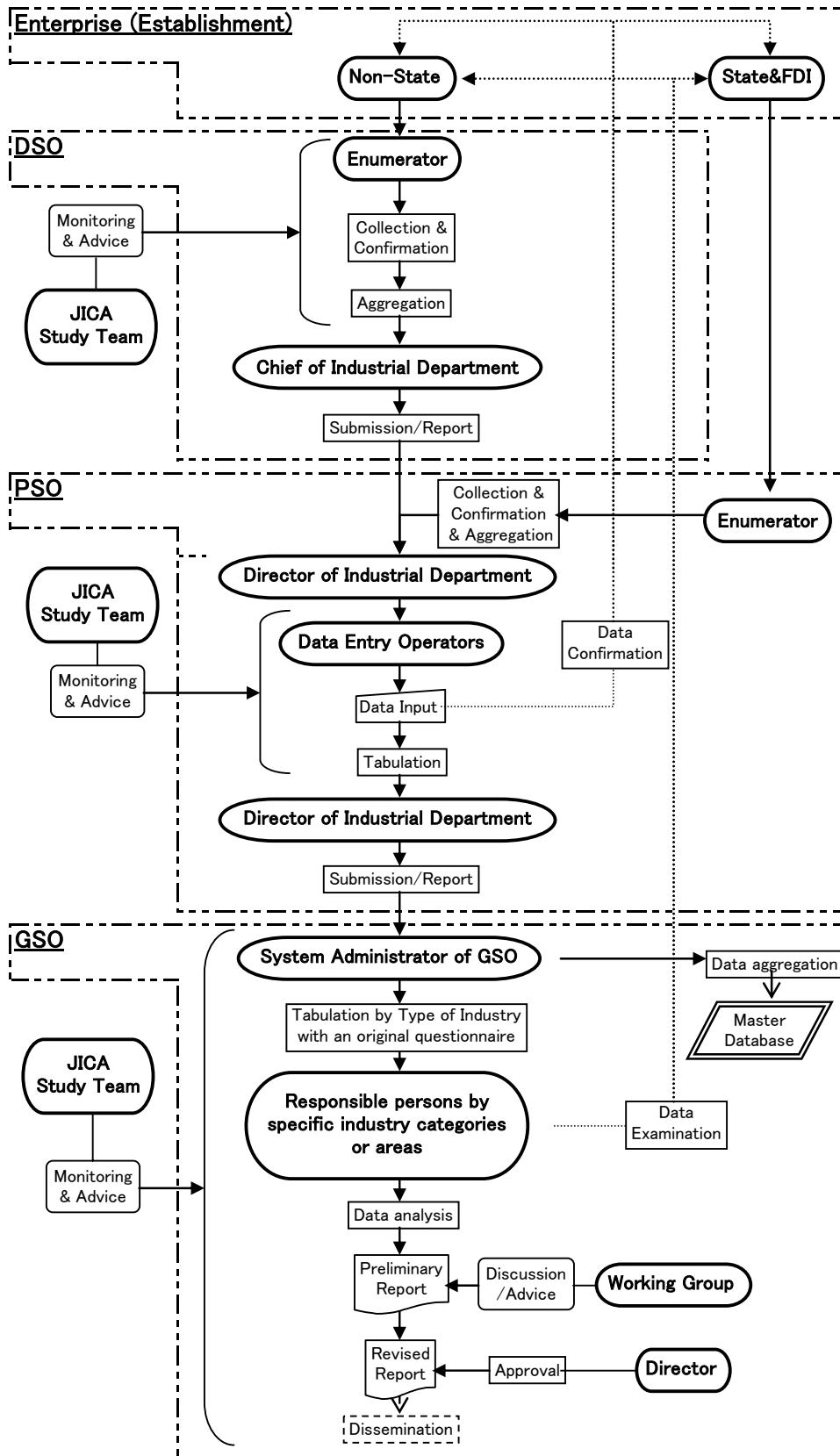
3.1.4   Survey Items and Questionnaires

3.1.4.1   Survey Items and Definition of Terms

(1)   Survey Items for Trial Survey

While the ongoing survey is designed to monitor business activities, the current production survey including Trial Surveys have the primary purpose of grasping the volume of production by commodity.   As a result, Trial Surveys focused on the following information.

1)   Product-related items

For each commodity, the following information was collected.

(a)   Quantity of Production

This covers products that have been actually manufactured or processed at a factory and has passed inspection (excluding repaired, modified or regenerated ones, as well as work-in-progress), including products directly produced by an enterprise using its own materials and products manufactured for other enterprise using other enterprise's materials

(b)   Quantity of Shipments

This item refers to the quantity of products that have been made and shipped actually (including those accepted), not including those made by other enterprise using the surveyed enterprise's materials or those internally consumed.

(c)   Quantity of Internal Consumption

This means the quantity of products that are used, in the subsequent production process at the same factory, as a material or an intermediate product for the manufacture of a new product.

※ *This is not asked in Trial Survey 1.*

(d)   Quantity of Ending Inventory

This means the quantity of a commodity (listed in the questionnaire) manufactured by the surveyed enterprise as of the end of the survey month, excluding products made by other enterprise using the surveyed enterprise's work-in-process or materials.   In particular, the item refers to inventory of the surveyed enterprise's products kept by the enterprise or stored in a warehouse or other storage place that is rented under the name of the enterprise.

(e)   Value of Shipments by Million Dong

The value of shipments is calculated by multiplying the quantity of shipments by the unit price, as indicated in the invoice (not including VAT) and should be indicated in million dong.

※ *Trial Survey 1 asked product sales.*

(f)　Total Net Turnover

This is the total turnover (excluding tax) made by business activities of the surveyed company during the survey period, including product sales, service, fees interest income, royalties (copyright, etc.) and dividends.　It is analyzed together with the net turnover to confirm that monetary Figures reported in the questionnaire are correct.

※　*This was not the survey item for Trial Survey 2.*

(g)　Projected Production Quantity for the Ensuing Month

This means the production quantity projected for the month following the surveyed month, as calculated on the basis of quantity of production for the surveyed month.

※　*This is not asked in Trial Survey 1.*

(h)　Remarks

This column is reserved to state a reason for any substantial change in quantity or value of production or other items between the surveyed previous month and the reference month.

2)　Enterprise (establishment)-related Items

The questionnaire included questions to ask specific information on each enterprise (establishment), which was partly used to update the corporate database as the address or other information of enterprise (establishment) changes.

- Enterprise's name
- Tax code
- Address
- Form of ownership (state (central and local), foreign, non-state)
- Name of respondent (usually accountant)
- Telephone
- Month surveyed

3)　Items relating to Trial Survey 1

The surveys also checked what responding enterprises thought about the survey, n particular, the following information:

- Time required for completion (calculation and entry to the questionnaire)
- Level of difficulty in responding to each question (in particular, inventory information was asked for the first time)
- Expectation for monthly statistics of current production by commodity (as potential user)

4)   Other Items

Finally, the questionnaire asked signatures of the respondent and the representative of the enterprise and the date of entry in order to ensure that they are responsible for their response.

3.1.4.2   Questionnaires for Trial Surveys

(1)   Outline of Questionnaire

The questionnaire was a single page with double side printing and designed for each industrial sector, with the front side printing questions and providing a space for response, and the backside showing instructions to the respondent.   A total of forty forms for Trial Survey 1 and forty-eight forms were printed and used.

Each questionnaire used three carbon papers to produce copies for the PSO (white), the GSO (pink color), and the responding enterprise (yellow), compared to the previous form that did not use a carbon paper (Figure 3-9).

Front Side

On the front side, "questions on the enterprise," "questions on products," "questions on Trial Survey" and "other questions" are printed.   The enterprise responds to these questions only ("questions on Trial Survey" was only used for Trial Survey 1).

It also has a commodity column where the commodity name is printed with a space where the respondent can enter products that do not belong to the specified product category.   This provides information useful for reviewing the commodity list after completion of Trial Survey.

Back side

"Instruction to the respondent" and "detailed description of the commodity" are printed on the backside of the questionnaire (third page) in order to prevent an error in entry by providing supplemental information on the commodity for which the respondent is expected to report.

Figure 3-9   Questionnaire for Trial Survey (Sample of Trial Survey 2)

Front   Back Side
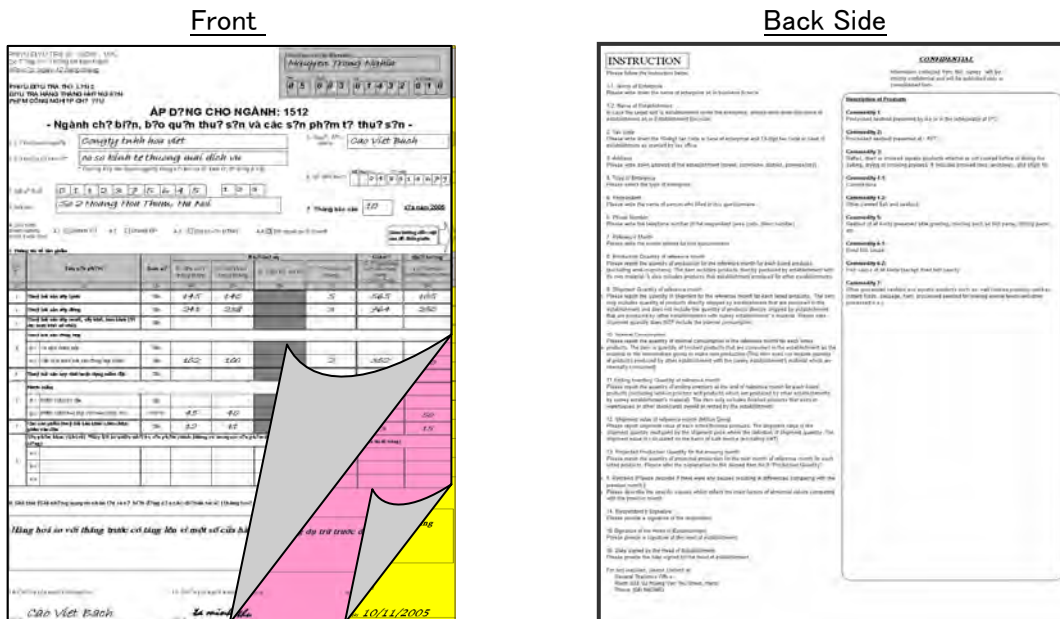
3.2 Analysis of Results of Trial Surveys

3.2.1 Collection, Examination and Input

3.2.1.1 Analysis of Questionnaire Collection Results

Both Trial Surveys 1 and 2 recorded very high final response rates, ranging between 90% and 100% in all the cities and provinces, probably because of the reporting system that is currently applied in Vietnam. However, response rates up to the collection deadline were generally low, with geographical variations.

The low response rates up to the collection deadline seem to come from the following reasons.
- As the trial surveys were conducted in parallel to the Monthly Industrial Sample Survey, the PSO gave priority to the latter and opted to collect questionnaires for the trial surveys after the ongoing survey, as enumerators were burdened with heavy workloads.
- Foreign enterprises were generally late for submission because their internal approval procedures were delayed or foreign managers did not understand the need for the statistical survey.
- Some PSOs confused the data collection deadline (12th) with the submission deadline (18th).
- There was a difference in response rate between PSOs due to the difference in level of preparation, e.g., a PSO checked carefully the possible submission date before the deadline and recorded a high response rate.

3.2.1.2 Analysis of Questionnaire Examination Results

While examination of collected questionnaires for the trial surveys was conducted by PSO and DSO enumerators, the JICA study team examined and analyzed questionnaire entries. As a result, the following problems were found.

(1) Basic Information
- Tax code was omitted by several respondents.
- Also, some questionnaires did not have address or telephone number.
- The name of the respondent was also missing.

Omission seems to occur because respondents are requested to write the same information each month, and some enumerators may accept omission of basic information, as they know respondents well.

(2) Survey Items

Many respondents felt that it would be relatively easy to fill out the questionnaire because survey items were mainly concerned with business accounting. However, the following problems were observed.

- A relatively large number of questionnaires did not have inventory data, probably because it was not consuetude for them to check inventories the end of month, as many enterprises took inventory one or twice per year (Some enterprises seem to have written inaccurate figures, which have led to negative inventories.).

- Similarly, the quantity of projected production was omitted in many questionnaires.

This is because they have not reported the inventory quantity to the statistical office.

(3) Balance between Entries

- While "0" was entered for shipment figures, sales were reported.
- Many numbers were illegible because of rough handwriting.
- Some figures seemed to be incorrect due to confusion about decimal point or notation to separate the thousands (e.g., the quantity of production was indicated in extremely large figures).
- Omissions in data entry were observed in many questionnaires (e.g., only production data were written).
- Zero was indicated in various ways, including "-" and "zero."

In addition, many respondents failed to enter quantities of internal consumption and inventory or indicated "-", while indicating quantities of production and shipments. Although the instruction emphasized the use of "0" to avoid disturbance with error check work on the seminars, it was not communicated well to a sizable number of respondents.

(4) Unit

There were many questions from surveyed enterprises concerning the unit of indication, because they often used different units for product management or commercial transaction from those specified in the questionnaire.

- There were some cases of confusion between "ton" and "kg" and between "1,000 pieces" and "pieces" (They were found from obviously too high or low unit prices.).
- Small enterprises had to use decimal figures under the unit of "ton" or "million VND." This was true for commodities that were produced in small quantities.
- The value of shipments, which was supposed to be indicated in "Million Dong," was sometimes indicated in "Dong" or "Thousand Dong."
- Some respondents used their internal unit by rewriting the unit printed in the questionnaire.

In some cases, the GSO staff converted figures indicated in different units by checking the conversion method with surveyed enterprises. Also, some enterprises that exported products

indicated sales in U.S. dollar, which were then converted to the dong by the PSO staff.　In fact, the PSO is responsible for making such conversion under the ongoing Monthly Industrial Sample Survey.

(5)　Numeral System
- Position or indication of decimal point, i.e., use of comma and period, was not unified.
- The two-digit rule for indication after the decimal point was not followed and three- or one-digit was used frequently (Some questionnaires used different decimal points in the same questionnaire.).

(6)　Other Products
　　The share of "Other Products" was 14~18 % in total by value basis even considered the variation by month. The following points are noted regarding the contents of "Other Products."

1)　Commodities that were printed in the questionnaire were included in "Other Products."
　　Table 3-5 shows industries that reported more products, which were printed in the questionnaire, as "Other Products."　In particular, there were many cases where respondents did not read the explanation on commodities and their names on the rear side and included products in "Other Products" without thinking much.

Table 3-6 Main Sectors with Large Amount of Other Products

VSIC	Products	VSIC	Products
1544	Noodles	2520	Plastics
1549	Other food	3110	Electric motors/generators
1810	Wearing apparel	3130	Insulated wire & cable
1920	Footwear	3410	Motor vehicles
2029	Other woods	3430	Motor vehicle parts & accessories
2221	Printing	3610	Furniture
2519	Other rubber		

2)　Many establishments received incorrect questionnaires and inevitably classified their products in "Other Products."
　　In many questionnaires, entries were made in the "Other Products" category only, while no entry was found in the preprinted commodity columns.　Analysis of these questionnaires revealed that products included in "Other Products" were often not specified in the respective questionnaires.　Clearly, this is the result of distribution of wrong questionnaires.　To prevent this, the proper updating of the enterprise (establishment) list and the correct matching between questionnaires and enterprises are required.

3)   Other industries
    As for industries classified as "other industries (designated as "***9" in VSIC 4-digit classification)", enterprises (establishments) did not always made commodities printed in the questionnaire because the industry sector covers a vast range of products.   As it is very difficult to identify major products for this sector, selection of surveyed industries should be reconsidered.

    Thus, a small percentage of establishments make correct entry in compliance with instructions given at the presentation meeting for surveyed enterprises, although it may partly due to the difference in the entry rules between the ongoing Monthly Industrial Sample Survey and the trial surveys.   Thus, careful examination and guidance by the PSO and DSO enumerators is important, although there are other factors involved, such as concurrent implementation with the ongoing Monthly Industrial Sample Survey and entry error due to the lack of experience caused by a short survey period.

(7)   Incorrect classification of enterprises
    In principle, enterprises are classified according to their main products (commodity showing the highest share in total sales).   Analysis of collected questionnaires revealed, however, many cases of mismatching between classification and actual products.   Table 3-6 shows industries for which such mismatching were more frequently seen.

Table 3-7   Major Incorrect Classification of Enterprises

Case		Improper Classification			Proper Classification
A	2693	Structural non-refractory clay & ceramics	→	2691	Non-structural & non-refractory ceramics
A	2519	Other rubber	→	2520	Plastics
B	3430	Motor vehicle parts & accessories	→	3591	Motorcycles
B	1810	Wearing apparel	→	3610	Furniture
A	2101	Pulp, paper, paperboard	→	2102	Corrugated paper
A	2109	Other paper	→	2101	Pulp, paper, paperboard
A	2695	Articles of concrete & cement	→	2694	Cement, lime & plaster
A	2811	Structural metal	→	2899	Other fabricated metal
B	2811	Structural metal	→	2710	Basic iron

    The mismatching cases can roughly be classified into the following two types.

1)   Matching at the VSIC two-digit level but mismatching at the four-digit level (Case A)
    This is the case of an enterprise that already made a product classified in other industry sector, and production of the product has recently grown and become the enterprise's major product, resulting in the mismatch.   Other case is similar to the above, but the product

classified in other industry did not grow much but was very similar to the original main product, resulting in mix-up and mismatch.

2) Mismatching at the VSIC two-digit level (Case B)

This is the case of a product that uses more or less the same material and quality but which final product is classified in a different way, causing the enterprise to be classified in an incorrect industry sector.

As shown above, there were cases where the present classification has deviated from the original classification for various reasons. In Vietnam where the industrial landscape changes rapidly and dynamically, many enterprises, especially SMEs, change major products according to the changes in economic conditions, resulting in the mismatch between their industry classification and present product lines. In consideration of these factors, the GSO and the PSOs take a lead in checking and revising classifications of surveyed enterprises on a periodical basis to conduct the monthly survey accordingly.

(8) Distribution of plural forms of questionnaires

Commodities made by some enterprises other than their major products recorded the value of production next to the major products. This was frequently seen among enterprises that produced final products in similar categories, such as food and beverage, textile and apparel, paper products and printing, and transportation equipment and parts, as shown in Table 3-7.

As these cases can lead to a change in major product due to the changes in economic conditions and other factors, use of two or more forms of questionnaires needs to be considered to maintain and improve data reliability.

Table 3-8   Considered Industries for Plural Questionnaire Distribution

Classification of Main Product			Classification for Plural Questionnaires	
1533	Animal feeds	→	1544	Noodle
1542	Sugar	→	2412	Fertilizer
1542	Sugar	→	2029	Plank
1553	Malt liquors	→	1554	Bottled water
1711	Spinning & textile fabrics	→	1810	Wearing apparel
2102	Corrugated paper	→	2221	Printing
2221	Printing	→	2520	Plastics
3410	Motor vehicles	→	3430	Motor vehicle parts & accessories

(9) No-entry item

For a certain industry, there were some survey items in the respective questionnaire that do not require entry (such as inventory and internal consumption). Such items were marked by

diagonal lines to indicate that no entry is necessary. However, analysis of collected questionnaires indicated that enterprises in some industries made entry in the no-entry column or otherwise. This information should be used as the basis of reviewing and modifying questionnaires in the preparation stage for the official survey.

1) Industries for which "internal consumption" should be added to no-entry items because no entry is made in the collected questionnaires
   - 2422: Manufacture of paints, varnishes and similar coatings, printing ink and mastics

2) Industries for which "internal consumption" is marked as a no-entry item in the original questionnaire design but some establishments have entered the quantity of internal consumption, necessitating reconsideration of the no-entry treatment
   - 1512: Processing and preserving of fish and fish products
   - 3410: Manufacture of motor vehicles

3.2.1.3 Analysis of Computer Input Results

Data reported in questionnaires collected by each PSO were entered into the PSO's computer. This section mainly describes and evaluates the results relating to data input, software, and data error

(1) Data Input
   - As products included in the "Other Products" column were often accepted for data input without being questioned as to whether they belonged to the commodity list for the survey, the products in this category accounted for sizable portions of the total value for the industry in question.
   - Many input errors were related to indication of digit places.

   In fact, input errors were often attributable to the country's traditional way relating to notations to indicate the decimal point and separate the thousands. For instance, "1,234.00" in the widely accepted system of numeration is usually indicated by comma as "1.234,00" in Vietnam and it was often inputted as "1.234" instead of "1234 (numerical representation on the computer)." This type of input error should be carefully checked in the input process, such as comparison with previous month's data.

(2) Software for Data Input
   The software program used for data input generally worked well for the trial surveys, whereas a number of comments were made by PSO staff engaged in data input, with regard to the improvement of user friendliness and ease of use. In particular, after Trial Survey 2 that increased surveyed areas to 9, a variety of opinions were heard from the PSOs that adopted varying input systems.

- Input screen design is similar to the one used for the ongoing survey and thus is easy to use.
- It is desirable to have the capability to sort surveyed establishments according to district and VSIC classification.
- As it was difficult to merge multiple data files into a single file, the task was commissioned to the GSO by sending the files.
- When an error occurred, the program was reset to the initial input screen.
- For an industry sector, the program refused data input in the "Other Products" column.
- As some PSOs use LAN to interconnect PCs, the program should be upgraded to support data sharing, which will improve usability further.

(3)   Data Error

By using the automatic error check function of the data input program, the following two problems were identified.

- Error check conducted for the trial surveys revealed two cases of data errors, "quantity of shipments was indicated as zero while the value of shipments was indicated" and vice versa.
- The shipment prices varied between provinces in some cases.

For the trail surveys, the program was set to indicate an error alert when the shipment price exceeded three times the average price in each province or fell below one third.   However, comparison of shipment prices in provinces revealed a significant difference for some commodities.   This seems to come from entry or input errors relating to monetary value or unit, and careful examination of questionnaires is required.

3.2.1.4 Analysis of Other Results

For Trial Survey 1, surveys of enterprises were conducted to find the time required for entry, the level of difficulty, and interest in survey results.   The results and their analysis are presented below.

(1)   Time Required for Entry

As for data collected in October, the average time required for filling out the questionnaire was 9.9 hours for all the establishments.   By form of ownership, the average time was 12.6 hours for central state enterprises, 10.3 hours for local state enterprises, 7.9 hours for foreign enterprises, and 10.4 hours for non-state enterprises.

As for the November data, the overall average time for entry was shortened to 9.0 hours. By form of ownership, the average time was 11.7 hours for central state enterprises, 7.2 hours for local state enterprises, 5.7 hours for foreign enterprises, and 11.2 hours for non-state enterprises.

In the December survey, the overall average time was further reduced to 9.2 hours, 10.1 hours for central state enterprises, 7.1 hours for local state enterprises, 4.7 hours for foreign enterprises, and 10.5 hours for non-state enterprises.

Thus, it was confirmed that the time required for entry shortened steadily over the survey period as respondents get accustomed to the entry work.   Also, the reason that the state enterprises took a lot of time for entry was considered that they had problems in organization such as procedural matter.

(2)   Level of difficulty for entry

Most responding enterprises considered the entry work to be "easy" throughout the survey period, i.e., 388 out of 490 enterprises responded in October (79.2%), 395 out of 487 in November (81.1%), and 400 out of 488 in December (82.0%).

Thus, the entry work was recognized as "easy" by an increasing number of enterprises over the survey period.

(3)   Interest in Survey Results

Throughout the survey period, most enterprises showed interest in survey results, namely 391 out of 490 enterprises that responded in the October survey (79.8%), followed by a slight decrease in November - 365 out of 487 (75.0%) - and an increase in December, 385 out of 488 (78.9%).

Thus it was confirmed that there was strong interest in survey results and many enterprises expected to use statistical data in the future.

3.2.2   Publication

3.2.2.1   Publication Method

Trial Survey 2 was designed to build the infrastructure for publication of the official survey and to exercise publication in the index development process.   In the official survey stage, it is planned to make publication in the following manner.

1) Current production statistics are published as preliminary and final reports.   The former is published at the end of the survey month and the latter in a specified month each year (not decided yet).
2) For both preliminary and final reports, national level current production statistics and indices are published on the GSO's Web site and in printed reports.
3) Official publication of current production statistics is stated in the month following the month in which the premier's decree is issued (scheduled to be around February 2007).

4) The GSO's Industrial Statistics Department makes monthly releases to the mass media and sends reports to specific organizations (people's committees and ministries engaged in economic policy making).

5) Both preliminary and final reports are published in Vietnamese and English.

In Trial Survey 2, unofficial publication was made to establish the GSO's publication techniques and to publish survey results on the Web site and in printed matters on an experimental basis by taking into account the actual progress.

3.2.2.2 Content of Publication

Based on data obtained from survey results, the IIP is developed and published. The content of publication in the official survey is planned as follows.

1) Preliminary and final reports cover approximately 50 key products that are important to understand the country's industry trend, which are selected from commodities made by surveyed industries.

2) Publication of the IIP contains production, shipment and inventory indices that are calculated from data on all commodities made by surveyed industries, together with production and project production indices using the weight of the value of production, which are published as reference.

3) The published content includes description and analysis of the industry and other trends, in addition to data and indices.

4) Statistical data, which publication violates confidentiality, are not published.

The indices were developed for commodities (industries) covered by Trial Survey 2 with October 2005 as the base period.

3.2.2.3 Publication Procedures

Publication of the official statistics will follow the following steps. In Trial Survey 2, publication was made as an exercise for the official survey.

1) The GSO's Industrial and Constructional Statistics Department processes national-scale statistical data and develops the IIP.

2) Both preliminary and final reports are published after the GSO's approval.

3) Publication on the GSO's Web site is made by the department in charge of Web site maintenance.

4) Reviewing and reshuffling of surveyed industries and commodities to reflect the changes in industrial activity are made at least every five years.

The above publication procedures will be executed in the official survey. In fact, they were tested during Trial Survey 2 by attaching a special note that survey results are provisional.

3.2.2.4 Web Publication

The content of publication of survey results on the GSO's Web site under Trial Survey 2 is as follows. The published content is organized as follows (to be upgraded monthly).

1)General outline of the survey
2)Purpose
3)Content
4)Results

The survey results are published in PDF (or Word/Excel) format to allow downloading by users. The indices published are production index by industry, shipment index, month end inventory index, and production index for commodities that show a significant increase or decrease.

3.3 Lessons Learned from the Trial Survey Results

Based on the results of the trial surveys, major issues to be addressed in designing and implementing the official survey were identified and tabulated in Table 3-8.

Table 3-9 Lessons Learned from Trial Survey Results and Recommendations for Improvement

< Survey method >

Item		Issue	Lesson learned	Recommendation
Survey system		In the trial surveys, the deadline for collection of questionnaires was set on the 12th day of each month. The final response rate (when data were sent from PSO to GSO) exceeded for every PSO, but the response rate up to the deadline fell below 50% at some PSOs.	In consideration of the need for monthly publication and the securing of data reliability, it is imperative to achieve the high response rate for the deadline. As the trial surveys covered enterprises (establishments) in highly industrialized areas, including Ha Noi, Ho Chi Minh, and Binh Duong Province, heavy workloads on enumerators (the number of surveyed enterprises per enumerator) was created. The workload further increased due to concurrent implementation of the ongoing statistical survey. It is expected to decrease when the MSMIP replaces the ongoing survey, but effective measures should be taken to equalize the workload between enumerators and to establish a system to ensure early collection of questionnaires.	At present, PSO staff is responsible for collection from state and foreign enterprises. To equalize the workload, however, reallocation to DSO staff (in charge of collection from private enterprises) should be considered when necessary. Also, enumerators should not rely on the voluntary reporting system but should communicate with respondents to agree on the collection date in advance.
Collection		As the questionnaire requires signature of the establishment's principal (director), it sometimes takes time to obtain his signature even if the questionnaire is filled out relatively early, causing a delay in submission.	Submission should be speeded up by accepting the signature of the respondent (usually accountant) or his supervisor (chief accountant).	Verification by the supervisor is important for data reliability. It is therefore recommended to require the approval by the supervisor of the respondent, while omitting the approval by the principal. This should then be notified to the respondent.

Item	Issue	Lesson learned	Recommendation
Examination	Enumerators often failed to make close examination at the time of collection accompanied by confirmation and correction on possible entry errors, such as omission, inconsistency between data entries in related items, errors relating to unit and numerical system, and inclusion of main products in "Other Products" due to misunderstanding of the commodity list and classification. This happened despite the pre-survey instruction and workshop.	Many enumerators were busy in handling two surveys that were implemented concurrently (the trial survey and the ongoing industrial sample survey) and did not have enough time to perform close examination. Also contributed was the use of an examination manual that was different from the one used for the ongoing survey. Thus, the survey system and organization should be reviewed and revised to improve the situation.	The PSO's director should instruct enumerators to examine questionnaires according to the manual and check questionnaires collected and examined by enumerators on a periodical basis and provide advice and guidance as required.
Data input	Analysis of input data reveals some input errors, which were mostly caused by misunderstanding of notation to separate the thousands (interpreted as three digits higher or lower).	Figures entered in questionnaires often used the local system of numeration to separate the thousands (use of comma for decimal point and period for unit of thousands), which was misread during input. Effective measures are required to prevent this type of input error.	As the different indication marks are used by different enterprises, it is difficult to promote adoption of the same method to all enterprises. Instead, enumerators should check decimal points and the notation to separate the thousands carefully with respondents and correct entries, if necessary, to avoid misunderstanding. The PSO should take a lead in giving necessary instruction and guidance to enumerators.
	In many questionnaires, numbers were entered for the quantity of production but other items were omitted or marked by "-." In this case, data input software interpreted the entries as zero (nil)" which is difficult to distinguish from zero value.	It should be clarified as to whether each zero entry represents an omission or no value, in order to improve data accuracy.	Enumerators request entry to every applicable item including zero and check compliance at the time of examination, and no value should be entered as "0" in the database.
Publication	Some commodities were produced by one establishment, such as VSIC3000 (office equipment).	Commodities that are made by one or several enterprises should be checked.	Commodities to be added in the MSMP should be checked for presence of commodities with a limited number of manufacturers. For the future publication, the method for publishing data on such commodities should be considered.

< Questionnaire Design >

Item	Issue	Lesson learned	Recommendation
Basic information	In many questionnaires, basic information such as tax code, address, telephone number, and name of contact person was omitted.	As these information is essential for maintenance of the enterprise master list and guidance should be made to prevent omission or entry error (including entry of name or address other than those registered in the database).	Efforts should be made to ensure instruction/guidance by enumerators to surveyed enterprises and careful examination on questionnaires upon collection.
	Many respondents seemed to be confused because previous surveys did not ask entry of ending inventory, for which "0" or "-" was entered.	It was assumed that many enterprises took inventory of products each month.	Enumerators should explain importance of inventory management to respondents at the time of the presentation meeting for surveyed enterprises or distribution of questionnaires.
Survey items	For certain industries, some survey items were marked by diagonal lines to indicate that no entry was necessary, such as inventory and internal consumption, but entry was made by some enterprises. Also, there were items for which all enterprises in the respective industry did not enter data.	Crossing out some items was decided on the basis of production activities of specific industries, it was not applied to some enterprises or industries because of diversity in production activity that went beyond expectation. Clearly, the method and criteria for selecting the crossed-out item should be reviewed and revised.	Based on the results of the trial surveys, the review should be made and surveys of individual establishments and trade associations should be conducted before making revision. Also, new industries added to the list should be selected prior to the start of the survey after hearing opinions from establishments and trade associations, subject to reconfirmation being conducted around six months after the start of the survey. Also, any change should be reflected in the questionnaire for the new survey that starts in January each year.

Item	Issue	Lesson learned	Recommendation
Commodities	Many commodities were included in the "Other Products" column.	Inclusion in "Other Products" seems to occur due to the following reasons. - In previous surveys, enterprises were asked to write down their products and were not accustomed to select and mark applicable commodities in the printed list. - Description of some commodities was not specific or comprehensive. - A product made by the enterprise was identical to the one in the printed list but their names were different, resulting in misunderstanding.	Enumerators should be properly trained to explain the commodity list in the questionnaire accurately to surveyed enterprises. This helps enumerators to find and prevent entry error in the examination stage. For this purpose, instructors of the GSO and the PSOs should provide periodical guidance. In the future, the commodity list should be revised for convenience of respondents concurrently with the time for selection and reshuffling of commodities by analyzing responses in the past one year and excluding no-response items or dividing a commodity to which an excessively large number of responses have been made.
Unit	In some questionnaires, entry was made using a unit other than the one specified and printed in the questionnaire.	The following errors were found. - Confusion between "ton" and "kg" or between "1,000 pieces" and "pieces" (misunderstanding of numeration rules). - Small enterprises had to use decimal figures under the unit of "ton" or "million VND." This was true for commodities that were produced in small quantities. - Some respondents used their internal unit by rewriting the unit printed in the questionnaire. Thus, units that can be accepted by all respondents should be agreed on.	Reconsideration should be made according to characteristics of production activities by industries by analyzing collected questionnaires and data and project minimum units for surveyed enterprises. Also, close examination by enumerators upon collection will be conducted.
	The value of shipments for each commodity should be indicated in VND. But some enterprises used US$, which was converted by the establishment or the PSO enumerators by using the exchange rate on its own choice.	The rule for conversion (to be made by the PSO, etc.) was not notified to all enterprises (establishments) and enumerators.	The questionnaire should be redesigned to allow entry by currency of respondent's choice, VND or US$, according to the enterprise's accounting rule, while the PSO is required to make conversion at the uniform exchange rate.

Item	Issue	Lesson learned	Recommendation
Numeration system	There were no unified rule for numeration, i.e., use of comma and period, and the rule for numeration to separate the thousands or indicate the decimal point, resulting in entry or input error.	For figures including a fraction, the rule was set to make rounding to the second decimal place and was not widely complied with.	Unit of indication may be changed to allow use of whole numbers by analyzing questionnaires and data, while paying careful attention to the quantity of production for each commodity. Also, enumerators will be instructed to give proper guidance for surveyed enterprises.
Other Products	5% - 25% of products sales were classified in "Other Products," depending upon provinces. A major reason is that enumerators or respondents tended to quickly classified products that were not found in the list (e.g., the same product but the name differs) in "Other Products" without checking the printed commodity list carefully. Also, there were a relatively large number of cases that an incorrect industry classification led to the absence of the enterprise's product in the printed list.	Enumerators and respondents were not accustomed to the commodity-based statistical survey. Also, updating of industry classification should be made periodically.	Based on the results of questionnaire analysis, guidance for product description and entry procedures should be repeatedly made at each PSO. A system to ensure the updating of the enterprise list should be established in response to any change in industry classification.
Design	The three-page questionnaire often produced an illegible copy on the third page when the brushstroke was not strong enough. Also, it took considerable time for proper management at the time of distribution and collection.	As the three-page questionnaire was not used in previous surveys, some enumerators and respondents could not handle it properly.	After the trial surveys, the previous single-page questionnaire will be used and its collection will be managed at the PSO.

< Enterprise (establishment) list >

Item	Issue	Lesson learned	Recommendation
Industry classification	There were many mismatches between the form of questionnaire and industry classification. Some enterprises were classified in wrong industries in the GSO's enterprise list.	In the ongoing survey, the same questionnaire is used for all industries, and incorrect classification does not affect entry or collection. Under the MSMIP, however, different forms will be distributed according to industry classification, so that industry classification should be accurately made and reflected in each questionnaire.	When the list of surveyed enterprises for the MSMIP is made from the enterprise (establishment) list in the GSO's database, industry classification for each enterprise should be confirmed through the PSO. At the same time, production data on each enterprise (particularly those classified in "Other Products") will be check periodically to update industry classification. Also, possibility to distribute plural forms to enterprises having major products classified in different industries should be considered for future implementation, in order to ensure accurate survey of each industry.
Plural forms of questionnaire	Commodities made by some enterprises other than their major products recorded the value of production next to the major products. These cases led to a change in major product to replace commodities in the original industry classification recorded in the DSO's database.	If one form is used for each establishment, data on products classified in different industries with sizable production cannot be obtained. Also, a system to effectuate a prompt change to a proper form should be established in the case when a product of other industry becomes the major product.	If the MSMIP uses one form for each questionnaire, a system to confirm the major commodity periodically and accurately should be established. Also, possibility to distribute plural forms should be examined, and if distributed, a system to set and execute selection criteria (for instance, an industry to which a commodity made by the enterprise with a certain percentage of its total value of production belongs) should be established. In the commodity-based survey, surveyed commodities should be identified as far as possible.

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< Other >

Item	Issue	Lesson learned	Recommendation
Public education and promotion	Low level of recognition on current production statistics among enterprises	As the results of the ongoing Monthly Industrial Sample Survey are not widely published, many enterprises do not know about the publication.	The questionnaire survey conducted in Trial Survey 1 shows that approximately 79% of surveyed enterprises showed interest in survey results. The level of recognition should be improved by advertising the ongoing Monthly Industrial Sample Survey and its results on the newspapers and other media.

4. Development Plan for Current Production Statistics

4. Development Plan for Current Production Statistics

4.1 General Outline of the Development Plan for Current Production Statistics

4.1.1 Design Principle

At present, the GSO is conducting the "Monthly Industrial Sample Survey"[1] for the purpose of monitoring economic trends. This is a national-scale statistical survey covering mining, manufacturing, and electricity/gas/water supply sectors, but its primary purpose is to show macroeconomic trends and it does not allow the user to understand production activities in detail, especially at industry and commodity levels. On the other hand, current production statistics that are proposed under the Study have the primary purpose of showing micro-level industry trends and integrated macro-level industry trends with its at micro-level. Therefore, the design principle for "current production statistics" is to establish a new statistical base that allows the understanding of commodity-based production activities and that provides data and information on production activities of Vietnamese industries in an accurate and prompt manner for not only policymakers but individual companies and investors as well, with a ultimate goal to promote industrial development on a national scale.

Meanwhile, there are strong needs for current production statistics for the purpose of industrial and regional development at regional levels, for they are viewed as a basic source of information that can be used for regional economic analysis and thus becomes a powerful tool for public administration and policymaking to meet the local needs effectively. Generally, the primary purpose of current production statistics is to make data that depict characteristics relating to industry and commodity available to the public. In consideration of the strong needs for regional statistics, however, the development plan for current production statistics in Vietnam envisages system design that takes into account the need for region- or province-level data processing. In particular, the following goals are set as the basic design principles:

(1) To conduct quantitative surveys on a commodity basis;
(2) To report monthly production activities and trends of the "Vietnamese industry"[2] with reliability and promptness; and
(3) To compile current production statistics in internationally comparable terms;
(4) To tabulate and disseminate statistical data at national and local (administrative unit) levels;

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[1] The GSO's Monthly Industrial Sample Survey covers all of state enterprises and foreign-affiliated companies (FDIs) and sampled non-state enterprises and "households (household industries).

[2] The definition of "industry" in Vietnam covers the following three sectors under VSIC two-digit classification (equivalent to ISIC's sub-division), namely "mining and quarrying," "manufacturing" and "electricity, gas and water supply." The definition applies to "industry" referred to in this plan.

(5) To develop indices according to applicable international standards and by applying modern calculation techniques; and

(6) To design a statistical system that takes into account the needs for minimization of statistical survey costs and reduction of burdens on survey subjects (establishments).

4.1.2   Official Name of the Current Production Statistics Survey

The current production statistics survey to be implemented under the plan is formally entitled "Monthly Survey of Major Industrial Products (MSMIP)."

4.1.3   Survey System and Organization

4.1.3.1 Implementation Bodies

The current production statistics survey will be conducted by GSO's Industrial and Construction Statistics Department, with actual field work to be performed GSO's network of organizations (GSO, PSOs and DSOs), and under supervision of the MSMIP Supervisory Board (tentatively named).

(1)   Organization of the MSMIP Supervisory Board

The MSMIP Supervisory Board will consist of six members who are representatives of the following organizations.   Each member may designate a person to attend at the board meeting on his or her behalf.

1)   Chairman: Director General of General Statistics Office
     Vice chairman: Director of Department of Industrial Economy, MPI
     Vice chairman: Director of Industrial and Construction Statistics Department, GSO
     Member: Director of Research Department, PMO
     Member: Director of Planning Department, MOI
     Member/secretary general: Deputy Director of Industrial and Construction Statistics Department

2)   Role of MSMIP Supervisory Board

The supervisor board will assume the following duties.   It will be convened by the secretariat under the direction of the chairman for the purpose of fulfilling any of the following duties.

i)   Planning of statistical surveys, modification of questionnaires, and approval of amendment to rules and regulations

ii) Approval of reviewing and updating of surveyed industry sector, commodities and establishments

iii) Guidance and recommendation for administration and management relating to statistical surveys

(2) Role of GSO Industrial and Construction Statistics Department, PSOs and DSOs

As explained earlier, the Industrial and Construction Statistics Department will be the lead organization within the GSO and will be responsible for building a statistical system to utilize organizations, staff and resources of the PSOs and the DSOs. The Industrial and Constructional Statistics Department, the PSOs, and the DSOs will assume the following duties.

GSO Industrial and Construction Statistics Department
1) Planning and design of the "current production statistics" survey
2) Development of questionnaires and manuals, and distribution to the PSOs
3) Guidance for PSO and DSO enumerators
4) Supervision of field survey activities
5) Final tabulation and analysis of statistical data
6) Dissemination of statistical data
7) Budget control relating to the current production statistics survey

PSOs
1) Presentation and guidance to survey subjects (establishments) in each province
2) Distribution and collection of questionnaires
3) Examination of collected questionnaires
4) Data input to the computer and tabulation
5) Analysis and compilation of province-level data to be published
6) Management of data dissemination at provincial level
7) Work management relating to enumerators

DSOs
The DSOs will be responsible for, under the direction of the PSO, distribution of questionnaires to survey subjects (mainly non-state enterprises and households), collection, examination of collected questionnaires, and work management relating to enumerators at municipality and district level. They will submit collected questionnaires to the PSOs by the specified day but will not be engaged in computer input work.

4.1.3.2 Survey Objects

The survey objects of the current production statistics survey will essentially consist of establishments and companies that manufacture commodities specified in questionnaires.

"Establishments" for the purpose of the current production statistics survey mean business establishments that are managed by a specific person (owner) and operate for more than three months and at the same location in Vietnam. They are usually factories (including processing shops).

(1) Cases when a surveyed establishment is unable to report

If a surveyed establishment is unable to make a report by submitting a questionnaire, a company owning or operating the establishment will be requested to do it on behalf of the establishment. This will happen largely in the following cases:

1) When it is very difficult for a surveyed establishment to make such report on survey items in relation to the management system for the company to which it belongs; or

2) When a specific establishment other than the surveyed one (such as the company's head office) is responsible for reporting production data and related survey items relating to all establishments.

The form of ownership is not questioned when surveyed companies are selected.

4.1.3.3 Method for Selecting Survey Objects

Survey design will be made by GSO Industry and Construction Statistics Department according to the following principles.

(1) Selection of industry to be surveyed

The MSMIP will cover the Industry Sector defined in Vietnam. Also, surveyed industries will be selected from VSIC four-digit classification. The selection process will start in the pre-survey stage in 2006, on the basis of the following selection criteria, and a final listing of industries for the current production statistics survey will be made by January 2008. The composition of the listing will be properly reviewed by GSO. While the primary selection factor is the out-put value of industry as a whole, it may not be used as criteria for specific industries that are considered by the MSMIP Supervisory Board to require special consideration.

1) Selection criteria for industries to be surveyed

Selection criteria for industries are the out-put value of 20 trillion VND per industry (VSIC four-digit level) with an ultimate coverage rate of over 90% of national production. The standard value will be reviewed every three years, starting in 2008. (Note that the review interval will be formally decided by the MSMIP Supervisory Board.)

Reason for the selection criteria (20 trillion VND per industry (VSIC four-digit level) with an ultimate coverage rate of over 90%)

To grasp production activities accurately at microeconomic levels and develop indices representing macroeconomic trends, the statistical survey does not need to cover every industry sector and commodity. Rather sample surveys are desirable from the viewpoint of efficiency, while reviewing industries and commodities to reflect the change of the times. In the case of the Vietnamese industrial sector, 90% of national industrial production in 2003 are accounted for by 55 out of 128 industries (VSIC four-digit)[*3], and the remaining 10% by 73 industries, each of which is fairly small and represents minimal share of total industrial production. Thus they are not representative industries in the country's manufacturing sector and their data are not statistically significant in terms of influence on the overall data. Besides, it takes extra cost and manpower to survey all companies in these small industries every month, having negative impacts in terms of cost and benefit. In 2003 data, the industry that ranked 57th from the top accounts for slightly over 90% (90.47%) of total industrial production, while annual sales per industry amount to around 20 trillion VND. For this reason, the selection criteria in the first year of the MSMIP are set at 20 trillion VND in the out-put value and the 90% coverage rate.

2) Reviewing of surveyed industries

The selection criteria and composition of surveyed industries will be reviewed once a year periodically. As the Vietnamese industry, especially the manufacturing sector, changes very rapidly in recent years, efforts should be made to establish statistics that can reflect the changes as close as possible. Foreign-affiliated companies (FDIs) have a profound impact on production trends in Vietnam. With such a perspective, each PSO shall keep close contact with people's committee to grasp the investment trends. Furthermore, annual production of surveyed industries used as selection criteria is determined on the basis of MSMIP data up to the previous year and the enterprise census data in the previous year.

3) Reviewing of surveyed industries according to ISIC revision

The United Nations Statistics Division reviews and revises Intentional Standard Industrial Classification (ISIC) as needs arise. At present, the reviewing of ISIC Rev.3.1 has been completed and draft ISIC REv.4 is publicized. As VSIC is based on ISIC Rev.3, GSO Department of Standards and Methodology is revising VSIC to reflect changes enacted in ISIC Rev.4. Thus, MSMIP that will be launched in January 2007 will be considered to use VSIC Rev.4.

Based on the above criteria, the number of industries covered by the survey is expected to be 70 sectors in total including 7 mining sectors, 60 industry sectors,

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[*3] Under ISIC, there are 127 four-digit industries, and 130 under VSIC, of which 128 industries are reportedly conducting production activities, one way or another, in Vietnam.

and 3 electricity/gas/water sectors in January 2007 and approximately 75sectors in January 2008.

(2) Selection of commodities to be surveyed

Based on the industrial commodity classification made by GSO Industrial and Constructional Statistics Department, commodities covered by the survey will be selected with reference to the latest version of Vietnamese Central Product Classification (VCPC) (five-digit) to facilitate international comparison.   Commodities so selected will include finished products – finished consumer goods – and intermediate goods that are distributed in the market.   For some industries, it is impossible to cover all commodities produced locally.   To compensate for this, composition of commodities for each industry should be designed to account for over 80% of the total value of production by the industry.   To be ready for the case when diverse commodities are made by a specific industry, two or more questionnaires will be used for each industry instead of one questionnaire for one industry.

 1) Selection criteria for commodities

Selection will be made from VCPC's five-digit commodities and no quantitative criteria such as production will not be used, because there is a large variation between commodities. Selection will be made according to the following procedures.

(a) A list of commodities for each industry is prepared on the basis of JICA's trial surveys up to 2005 and the list of commodities prepared for the pre-survey in 2006 (basically covering 48 industries selected for the pre-survey and those to be added in 2007).

(b) For industries to be newly added, classification (also unit) of commodities that are deemed to be major commodities for each of the industries will be made on the basis of VCPC five-digit classification and information obtained from related industries.

VCPC is based on international classification standards and does not necessarily accord with Vietnam's actual commodity structure.   Also, some commodity names may be too long to be accommodated in the questionnaire.   For these reasons, commodity classifications so selected may not agree with VCPC five-digit classifications.   Here, care should be taken to reflect the country's commodity structure effectively and to group commodities in such way to allow surveyed establishments to respond with ease.

(c) In addition to selection of commodities, the unit of production for each commodity is determined.

(d) For industries and commodities to be newly added, final adoption will be made after trial surveys for the period of one year to check a detailed production status and trend.

(e) For commodities that are formally selected for the statistical survey, their definition and scope of coverage is made into a separate document, which is distributed to enumerators upon approval of the MSMIP Supervisory Board.

(f) For selection of commodities and their units, obtaining relevant information from large establishments and trade associations is very important and the pre-survey is conducted as required.

2) Reviewing of commodities

Based on the above commodity classification, questionnaires will be designed and trial surveys will be conducted for a specific period (one year) to collect statistical data. Upon the end of the trial period, the commodity classification will be reviewed and finalized for formal questionnaire design. As there is the absence of commodity-based data in Vietnam, the MSMIP is expected to be the first step to collect such data on a full scale. In the future, it is expected to build up a system to allow periodical reshuffling of commodities by establishing quantitative selection criteria on the basis of statistical data obtained by the MSMIP, industry information, and market analysis.

The reviewing of surveyed commodities will be carried out in a similar manner to that of industries. In particular, drastic changes in economic conditions in recent years are expected to cause emergence of new commodities and a sharp increase in production. To keep abreast of such changes, new commodities will be identified through analysis of enterprise census data in the previous year, MSMIP data, and interviewing of industrial sources, and possibility of adding them to the list will be examined.

3) Adaptation to new VSIC classification

While the periodical reviewing of commodities will be carried out as discussed above, the reshuffling of commodities will also be required due to the reorganization of surveyed industries, which will be necessitated by the MSMIP based on the new VSIC, which will start in 2007. As a result, the commodity list will be revised on the basis of the comparison table for old and new VSIC classifications (or the one for ISIC Rev.3.1 and Rev.4 published by the U.S. Statistics Division). This should be done as promptly as possible after final selection of industries, while the results will be reflected in questionnaires.

Based on the above principle for selection of commodities, the number of commodities covered by the survey is expected to be 550 at maximum in January 2007 and 630 in January 2008.

(3) Selection of establishments (companies) to be surveyed

Basically, companies to be surveyed must be establishments that manufacture commodities specified in questionnaires. In Vietnam, however, there is no comprehensive list of

establishments that specifies commodities that they produce. Thus, prior to selection of establishments, companies that have establishments need to be selected. The list of establishments is scheduled to be compiled on the basis of the 2007 census of business establishments, but it can be made ready for the MSMIP before the pre-survey is started in 2006. For this reason, the plan assumes that selection of companies is made on the basis of the previous company lists and selection/recommendation by PSOs and DSOs.

At the same time, however, the industry sector in Vietnam (mining, manufacturing, electricity/gas/water supply) has 18,198 companies (according to the 2004 enterprise census). If households[*4] are added to this, the population size will be too large for monthly surveys. Thus, while maintaining the purpose of developing current production statistics, it has been decided to select establishments that hold significant share of the respective industry (commodity) as until a certain level of representation is reached. More precisely, companies in each of VSIC four-digit industries will be selected in order of the value of production until the accumulated total production reaches 75% (representation rate), and all companies in the selected industries will be included in the formal survey, i.e., culling by the overall representation rate.

It should be noted, however, that state enterprises (both central and local) and foreign-affiliated companies will be 100% surveyed in order to maintain statistical continuity from the ongoing monthly industry sample surveys that also cover all of these companies. (Note that, for the representation rate of 75%, all of state enterprises and foreign-affiliated companies would be included.) On the other hand, non-state enterprises and households will be covered so far as they are included in the industries represent 75% of the total.

Then, names, addresses, main products and others of selected companies will be compiled and tabulated in the MSMIP establishment list stored in the computer and the final list of surveyed establishments will be made.

Based on the above selection criteria, the number of establishments covered by the survey and that achieves the representation rate of 75% is 4,000 − 4,500 in January 2008 (Whole country base).

Yet, if local needs are to be taken into account, more non-state enterprises and households should be added. In this case, the final number of surveyed establishments will depend much on how many non-state households and will be included. It is important to decide on the

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[*4] Households in the mining and manufacturing sectors are said to total around 780,000. For instance, if the sampling rate for the monthly industry sample survey is applied to this case, the sample size will be approximately 12,000 establishments.

overall size by taking into account processing capacity and cost burden of the GSO (including PSOs and DSOs) as well as other relevant factors.

4.1.4 Survey Items

For the purpose of studying production activities on a commodity basis, the following six survey items are selected as they constitute basis elements of current production statistics.

(1) Quantity of production
(2) Quantity of shipments
(3) Quantity of internal consumption
(4) Inventories at the end of month
(5) Value of shipments (invoice basis)
(6) Quantity of production expected for the following month

The necessity of "Total Net Turnover of Enterprise" for every month as a question item will be discussed and determined with major statistics users based on the result of the Pre-Survey.

(1) Quantity of production

This represents quantity of products made by surveyed companies in Vietnam and during the survey period, including those made under contract manufacturing and processing, and products input or consumed within the same establishment for the purpose of manufacturing other products (not including work-in-process).

(2) Quantity of shipments

This represents quantity of products that are covered by the survey and are actually shipped, during the survey period, by the surveyed subject or from a warehouse or a place of storage rented under the name of the surveyed subject.   Note that the following cases should be included in calculation of this survey item.

1) Shipments to other factory of the same company, which makes products that belong to the same category of commodity
2) Shipments as raw materials to other factory of the same company
3) Shipments as raw materials for contract manufacturing
4) Shipments of contract manufactured products to customers
5) Internal use for sample, gift, exhibition or testing purposes

(3)   Quantity of internal consumption

Of products made by the survey subject during the survey period (as commodity specified in the questionnaire), those consumed as raw materials and processing within the establishment are indicated in quantity, except for quantity of international use in (2) 5) above.

(4)   Inventories at the end of month

This shows quantity of products (as commodity specified in the questionnaire) made by the survey subject and kept by the survey subject or at a warehouse or a place of storage rented under the name of the surveyed subject, as of the end of the survey month.

(5)   Value of shipments

This represents the total value of products shipped by the surveyed establishment (factory) (on an inventory basis) during the survey period.   Note that the value of shipments for products that are machined or otherwise processed by the surveyed establishment using raw materials furnished by the customer (thus only the processing charge is paid by the customer) is calculated as if said raw materials were purchased at the market price when they were furnished by the customer.

(6)   Quantity of production expected for the following month

This should indicate the quantity of products that are expected to be made in the month following the survey month.

4.1.5   Form of Questionnaire

A questionnaire containing the above survey items will be prepared in a single sheet (A4 size).   As shown in the next page, the front side has been revised in comparison to the form used for Trial Survey 2.

Figure 4-1   Questionnaire (Sample)

QUESTIONNAIRE NO: OD07 - 1512
Issued by General Statistics Office
Deadline: 12th of the Month

QUESTIONNAIRE FOR TRIAL SURVEY II
MONTHLY SURVEY OF MAJOR
INDUSTRIAL PRODUCTS

For Use of PSO

| Province | District | Commune | Enterprise |

APPLIED TO INDUSTRY: 1512
- Manufacture of Processing & Preserving of Fish & Fish Products -

1-1. Enterprise Name

5. Respondent

1-2. Name of Establishment*

* Case name of the establishment is same as the enterprise name, leave this space blak.

6. Phone number   Area Code   Direct Number

2. Tax Code

3. Address

7. Reference month   of Year 2007

4. Type of enterprise
(Check one)   4-1 ☐ Central State   4-2 ☐ Local State   4-3 ☐ Foreign Investment   4-4 ☐ Non - State

See backside for instruction

I. Information on Products

Order	Name of Products	Unit	Quantity			Value	Quantity
			8. Production of reference month	9. Shipment of reference month	11. Ending Inventory of reference month	12. Shipment Value of reference month **(Million Dong)**	13. Projected Production of this Month
(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)
1	**Chilled Seafood and Aquatic Products**	Ton					
2	**Frozen Seafood and Aquatic Products**	Ton					
3	**Salted or Dried/Smoked Aquatic Products (e.g. Torn Dried Squid)**	Ton					
4	**Canned Aquatic Products**						
	4-1 Canned tuna	Ton					
	4-2 Other canned fish and seafood	Ton					
5	**Minced or Pasted Aquatic Products**	Ton					
6	**Fish Sauce**						
	6-1 Dried fish sauce	Kg					
	6-2 Fish sauce of all kinds (except dried fish sauce)	1000 litres					
7	**Other Seafood and Aquatic Products n.e.c**	Ton					

II. Total Net Turnover of the Establishment (Million VND):   of which Industrial Net Turnover (Million VND):

III. Remarks (Please describe if there were any causes resulting in difference comparing with the previous month)

14. Respondent's Signature   15. Head of Establishment   16. Date signed by the Head of Establishment

Signature   *Signature*   *Date*

Back Sheet

INSTRUCTION

Please follow the instruction below.

1-1. Name of Enterprise
Please write down the name of enterprise as in business license.

1-2. Name of Establishment
In case the target unit is establishment under the enterprise, please write down the name of establishment as in Establishment Decision.

2. Tax code
Please write down the 10-digit tax code in case of enterprise and 13-digit tax code in case of establishment as granted by tax office.

3. Address
Please write down address of the establishment (street, commune, district, province/city)

4. Type of Enterprise
Please select the type of enterprise.

5. Respondent
Please write the name of person who filled in this questionnaire.

6. Phone Number
Please write the telephone number of the respondent (area code, direct number).

7. Reference Month
Please write the month refered for this questionnaire.

8. Production Quantity of reference month
Please report the quantity of production for the reference month for each listed products (excluding work-in-process). The item includes products directly produced by establishment with its own material. It also includes products that establishment produced for other establishments.

9. Shipment Quantity of reference month
Please report the quantity of shipment for the reference month for each listed products. The item only includes quantity of products directly shipped by establishment that are produced in the establishment and does not include the quantity of products directly shipped by establishment that are produced by other establishments with survey establishment's material. Please note shipment quantity does NOT include the internal consumption.

11.Ending Inventory Quantity of reference month
Please report the quantity of ending inventory at the end of reference month for each listed products (excluding work-in-process and products which are produced by other establishments by survey establishment's material). The item only includes finished products that exits in warehouses or other stockyards owned or rented by the establishment.

12. Shipment value of reference month (Million Dong)
Please report shipment value of each listed finished products. The shipment value is the shipment quantity multiplied by the shipment price where the definition of shipment quantity. The shipment value is calculated on the basis of sale invoice (excluding VAT).

13. Projected Production Quantity for the ensuing month
Please report the quantity of projected production for the next month of reference month for each listed products. Please refer the explanation for the aboved Item No 8 "Production Quantity".

II. Total Net Turnover of the Establishment (Million VND)
Please report the total net turnover of the establishment. It is total economic value that the industrial establishments achieved from thier production and business activities (excluding tax). It includes (1) receipts from selling goods done by the establishment, (2) Rceipts for goods sold as purchased, (3) receipts for services, (4) Receipts from interest, copyright, dividend.
Please report the total net turnover, of which the value from only industrial activities.

III. Remarks (Please describe if there were any causes resulting in differences comparing with the previous month.)
Please describe the specific causes which reflect the main factors of abnormal values comparing with the previous month.

14. Respondent's Signature
Please provide a signature of the respondent.

15.Signature of the Head of Establishment
Please provide a signature of the head of establishment.

16. Date signed by the Head of Establishment
Please provide the date signed by the head of establishment.

For any inquiries, please contact at:
General Statistics Office
Room 333, 02 Hoang Van Thu Street, Hanoi
Phone: (04) 8463483

CONFIDENTIAL

Information collected from this survey will be strictly confidential and will be published only in consolidated form.

Description of Products

Commodity 1:
Processed seafood preserved by ice or in the refrigerator at 0°C.

Commodity 2:
Processed seafood preserved at - 45°C.

Commodity 3:
Salted, dried or smoked aquatic products whether or not cooked before or during the salting, drying or smoking process. It includes smoked roes, anchovies, and shark fin.

Commodity 4-1:
Canned tuna.

Commodity 4-2:
Other canned fish and seafood.

Commodity 5:
Seafood of all kinds preserved after grinding, mincing such as fish paste, shrimp paste, etc.

Commodity 6-1:
Dried fish sauce.

Commodity 6-2:
Fish sauce of all kinds (except dried fish sauce).

Commodity 7:
Other processed seafood and aquatic products such as: well cooked products used as instant foods, sausage, ham, processed seafood for making animal feeds and other processed n.e.c.

Remark:

4.1.6 Methodology for the Current Production Statistics Survey

4.1.6.1 Questionnaire Distribution Channels

The MSMIP will be conducted using survey networks of PSOs and DSOs, which are GSO's local offices.   In principle, the PSOs will take care of state enterprises, foreign-affiliated companies, and some non-state enterprises, while the DSOs will be responsible for non-state enterprises and households.   The DSOs will conduct field work under direct supervision of each PSO.

The questionnaire distribution channels are shown below.
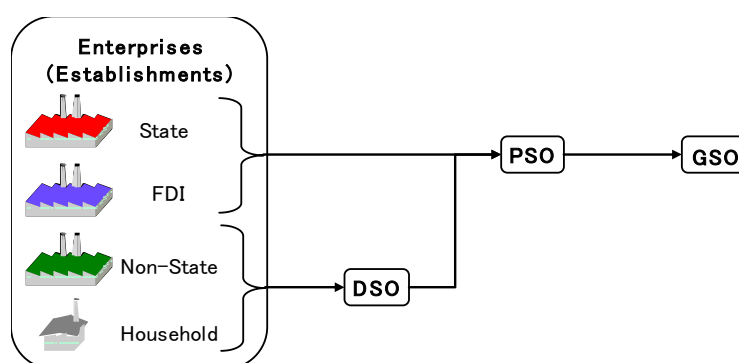
4.1.6.2 Distribution and Collection of Questionnaires

(1)   Distribution and collection methods

Questionnaires will be distributed by PSO and DSO enumerators twice per year (December and June), each covering six months from the next month.   In the pre-survey stage or in the initial stage of the permanent survey, detailed presentation needs to be made to survey subjects (establishments).   In addition, efforts should be made to establish close communication with them, depending on each PSO's judgment.

Collection of questionnaires will be made in the same manner as done for GSO's ongoing monthly industry sample survey.   In other words, state enterprises and foreign-affiliated companies bring questionnaires to the PSOs by applying the reporting system.   On the other hand, enumerators will visit non-state enterprises and households to collect questionnaires. They can be submitted by facsimile or online, while mail is not acceptable if the present postal situation is considered.

(2)   Deadline for submission of questionnaires

The submission deadline will be set on the 11th of each month from the DSO to the PSO and on the 12th from surveyed companies to the PSO.   If either date falls on Saturday or

Sunday, Monday in the following week will become the deadline. Thus, the submission deadline at the PSO will be the 14th at the latest.

4.1.6.3 Handling and Management of Questionnaires

(1) Examination

The examination on collected questionnaires will be performed by PSO or DSO enumerators who have collected them. Key checkpoints include omissions, accuracy of numbers, and the balance between related items. Any error found or doubt raised by an enumerator will be referred to the company for confirmation.

(2) Confirmation and reminding

A company that fails to submit the questionnaire before the deadline will be contacted by the PSO or DSO enumerator for reminding. Reminding should be started at least two days before the deadline, although the exact date may be set by each PSO/DSO.

(3) Data input

Data input from questionnaires that have received the examination will be conducted at each PSO, which collects questionnaires collected and examined by DSOs. Data so inputted at each PSO will be sent to the GSO where data from all over the country are compiled and tabulated. (See Chapter 6 for details of data input activity.)

(4) Management of collected questionnaires

Questionnaires from which data input has been completed will be kept by each PSO for three years.

4.2   Dissemination

4.2.1   Dissemination Policy

Essentially, statistics compiled by government's statistics bureau are public goods and their dissemination method and content are considered to be very important. In particular, current production statistics that are based on monthly data lose their significance and value if dissemination is delayed, and thus promptness as well as accuracy is highly critical. In other words, they have to be compiled and published in such way to satisfy their users in terms of timeliness, in addition to the dissemination method and content. The plan therefore sets forth the following policy for dissemination of current production statistics.

(1) Dissemination is made promptly unless it adversely affects statistical reliability.
(2) Dissemination is made in a fair manner to all users.
(3) Dissemination is made on the day fixed and announced in advance.

(4) Dissemination is made separately and independent of opinions of related ministries.

(5) Dissemination contains analysis and explanation that is appropriate or required for convenience of users.

(6) Dissemination contains explanation on statistical techniques employed, including the survey and data processing methods.

(7) Dissemination is accompanied by organized user service, such as responding to questions.

Naturally, almost all of the above policies are already practiced or aimed at by statistical bureaus in most countries, including the GSO.   In Vietnam, the Statistics Law enacted in 2003 and the "Guideline for Statistical Development toward 2010" announced in 2002 set forth similar policies.   Thus, the dissemination system for current production statistics including indices will be established by putting the above policies into practice as far as possible in the processing of building up the statistical system by 2008.

4.2.2 Dissemination Rules and Procedures

Dissemination will be made according to the following rules and procedures.   Specific dates relating to dissemination, as mentioned below, will be determined by the MSMIP Supervisory Board.

(1) Results of the current production statistics survey are published at the end of the month following the survey month and final results in a specified month each year.

(2) Dissemination dates for quick report and definite report are fixed in advance and dissemination is made on the dates as far as possible.

(3) Current production statistics on a national level and indices, both quick and definite reports, are published on the GSO's Web site and by printed reports.   Also, the gist of final results is published on the GSO's Web site and detailed data by province form of ownership, company size, and other attributes are published in printing matters.

(4) National-level data, both quick and definite reports, are published in Vietnamese and English.

(5) The GSO is responsible for dissemination of national and regional statistics (eight economic divisions) and the PSO publishes provincial and municipal statistics.   Note that the method and content of provincial and municipal statistics is determined through the detailed assessment of the local needs and prior consultation with the GSO.

While dissemination is expected to start formally in February 2007 upon an official announcement of the premiere's decree on the MSMIP, the GSO is expected to establish the ability to publish the new statistics timely and accurately by gaining experience in informal dissemination during the pre-survey period, provided that such dissemination should be made by specifying that current production statistics so published are in the development stage and do not meet all the requirements for official statistics.

4.2.3 Items to be Disseminated

In light of the fact that statistics are public goods, dissemination covers all survey items, provided that an item - which dissemination violates confidentiality under the Statistics Law - is excluded from the dissemination list. Specific items to be published and related rules are summarized as follows.

(1) Total data on production, shipment, inventory, and production forecast for each commodity subject to the statistical survey, both quick and definite, constitute basic survey items, provided that data on any commodity that lacks appropriate representative are excluded from the dissemination item.

(2) Based on the survey results, indices relating to production (including forecast), shipment and inventory are published in both quick and definite reports.   The base period is January 2006 for the pre-survey and the annual average for 2006 in 2007 and afterwards when the official survey is scheduled to be conducted.   It should be noted, however, that the base period will be determined by the GSO by the end of 2006 after the difference in surveyed industries and commodities between the pre-survey and the official survey, and industries and commodities covered by the official survey will be proposed by the GSO and will be evaluated and approved by the MSMIP Supervisory Board.

(3) For official dissemination, descriptive analysis of major trends as well as numerical data is presented.

(4) From the viewpoint that statistics are public goods, dissemination covers all survey items. However, any item which is confidentiality may be violated, including the request for non-disclosure by a survey subject, is excluded from dissemination.   A final decision is made by the MSMIP Supervisory Board, in due consideration to previous practice and ruling in Vietnam.

(5) In the future, dissemination of detailed data by each of the eight regional blocks, form of ownership, and size of employment will be considered.

(6) Dissemination of results of household enterprise survey to be conducted during the pre-survey will be decided by the GSO after evaluation of the survey results (statistical data) in terms of accuracy and reliability.

4.2.4 Dissemination Procedures

Just like any other statistics, dissemination of current production statistics should be done after a close examination on their accuracy in order to ensure reliability of government statistics.

For current production statistics, reliability assured by a close examination is as important as promptness. To meet these requirements, the following general rules are set as to dissemination procedures.

(1) Dissemination of both quick and definite reports is made upon approval by the MSMIP Supervisory Board. Web site dissemination is made by the division in charge of Web site maintenance, also subject to the board's approval.

(2) Dissemination at provincial and municipal levels is made upon examination by each PSO and under the supervision of the GSO. Dissemination may be adjusted to meet the local needs under responsibility of the PSO.

(3) In addition of periodical dissemination of quick report (monthly) and definite report (annually) results, the reviewing and reshuffling of surveyed industries and commodities is carried out as required to reflect dynamic changes in the country's production activities. Likewise, the calculation basis for indices is reviewed and revised from time to time in order to ensure use of adequate weights.

4.3   Development Schedule

To establish a formal system for current production statistics in the next two years (May 2006 ~ June 2008), its development schedule (work items and time schedule) is presented as follows (see Fig.4-2). The development process is divided into the following three stages, and activities required for each stage will be carried out under the leadership of the GSO's Industry and Construction Statistics Division.

(1) Preparation period for formalization (May 2006 - January 2007)
(2) First year of the official survey (February 2007 - January 2008)
(3) Second year of the official survey (February 2008 and after)

4.3.1   Preparation Period for Formalization (May 2006 - January 2007)

This period allows for the formal procedures relating to the MSMIP, including legislation, and preparation for implementation of the official survey, following the completion of the JICA development study. At the same time, the GSO will implement a pre-survey covering selected areas and industries. As the pre-survey will be conducted concurrently with the ongoing Monthly Industrial Sample Survey, the preparation work will create significant workloads for the GSO, especially the Industry and Construction Statistics Division. Thus, it needs to be carefully planned and implemented according to an elaborate schedule.

Major work items

(1) Establishment of the secretariat for MSMIP preparation to coordinate activities within the GSO and at related ministries

(2) Procedures for issuance of Prime Minister's decree (development of a basic development plan, etc.)

(3) Coordination with related ministries for the launching of MSMIP (including the budget request procedure)

(4) Reviewing and selection of surveyed industries and commodities for the official survey

(5) Correction and updating of the establishment list for the official survey

(6) Redesign of questionnaires for the official survey and revision of manuals

(7) Guidance for enumerators and establishment in newly selected areas

(8) Construction of the dissemination system

(9) Improvement of data analysis capability (through workshops based on the pre-survey results)

To launch the MSMIP in February 2007, the premiere's decree designating it as official statistics must be issued by the end of 2006, not to mention the establishment of the system and organization within the GSO and the securing of the necessary budget. Furthermore, the guidance to enumerators and establishments are significantly important in above major work items, and the assurance of sufficient budget and time shall be obtained to accomplish it.

4.3.2 Implementation of the Official Survey - First Year (February 2007 - January 2008)

The formalization procedure will be completed by the end of 2006 and the MSMIP as official statistics designated by law will be launched in February 2007 (the survey month will start in January 2007).   While the MSMIP will replace the ongoing Monthly Industrial Sample Survey, whether the survey will be able to cover all 64 provinces from the beginning depends on the ability to complete the preparation work by the end of 2006.   To ensure smooth implementation of the statistical system, the basic development plan as proposed here envisages a staged increase in coverage and an entire coverage of 64 provinces in the second year.   As a result, the first year of implementation will require activities relating to formalization, as continued from the preparation period, which are summarized as follows.

Major work items

(1) Establishment of the MSMIP Supervisory Board

(2) Educational and promotion activities for potential users (including private enterprises)

(3) Reviewing and selection of surveyed industries and commodities for completion of the MSMIP

(4) Correction and updating of the establishment list for completion of the MSMIP

(5) Redesign of questionnaires and revision of manuals for completion of the MSMIP

(6) Guidance for enumerators and establishment in newly selected areas

(7) Improvement and construction of the dissemination system

(8) Improvement of data analysis capability

4.3.3 Implementation of the Official Survey - Second Year (February 2008 and later)

The second year will constitute the final completion stage for the MSMIP.   If it is not feasible to cover all 64 provinces in the first year (2007) of the official survey, the second year will aim at perfection of the current production statistics survey.   Thus, the most important task in the second year is the establishment of the entire survey process up to dissemination.

Major work items

(1) Educational and promotion activities for potential users (including private enterprises)

(2) Reviewing of industries and commodities covered by the MSMIP and completion of the commodity list for GSO industrial statistics

(3) Correction and updating of the establishment list for the MSMIP and preparation of a master sample list

(4) Guidance for enumerators and establishment in newly selected areas

(5) Improvement and construction of the dissemination system

(6) Improvement of data analysis capability

(7) Awareness survey of potential users of current production statistics

Figure 4-2 Development Schedule in the Next Two Years

Main Tasks	2006									2007													2008					
	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6		

Preparatory Period for Institutionalize (May 2006 - Jan. 2007)

(1) Establishment of a preparatory committee for MSMIP, and preparation

(2) Proclamation procedure for decision of the Prime Minister (incl. formulation of a basic plan)

(3) Coordination work to the government agencies concerned (incl. budget preparation)

(4) Selection of surveyed industries, commodity items for full-scale survey

(5) Selection of the target establishment and revision of an establishment list

(6) Re-design of questionnaires and manuals

(7) Guidance for enumerators in the new target area

(8) System development for tabulation and publication

(9) Development of data analysis

1st Year of Full-Scale Survey (Feb. 2007 - Jan. 2008)

(1) Establishment of the MSMIP Executive Committee

(2) PR and enlightenment activity for statistics users (incl. FDI, enterprises)

(3) Selection of surveyed industries, commodity items for completion of full-scale survey

(4) Selection of the target establishment and revision of an establishment list (additional)

(5) Revision of questionnaires and manuals

(6) Guidance for enumerators in the new target area

(7) System improvement for tabulation and publication

(8) Development of data analysis (holding of workshops at some PSOs)

2nd Year of Full-Scale Survey (Feb. 2008 -)

(1) PR and enlightenment activity for statistics users

(2) Finalization of GSO Commodity List

(3) Finalization of GSO Master Sample List for industrial survey

(4) Guidance for enumerators in the new target area

(5) System improvement for tabulation and publication

(6) Improvement of data analysis

(7) Implementation of attitude survey for MSMIP users

4.4 Operating Budget

The operating budget for the MSMIP will mainly consist of survey costs covering non-state enterprises and households that are required for management of the survey system, while the existing reporting system will be fully utilized. Also, the budget should allow for costs relating to preparation for formalization up to 2008, startup and full-fledged operation in the first two years, including promotional activities. Based on the above principles, the annual operating budget is established as follows.

(1)	Training program for enumerators	$15,400
	(Including training costs for a total of 400 persons, including facility, accommodation, transportation and documentation costs)	
(2)	Questionnaire and manuals (printing)	$36,500
	(Questionnaires: $0.6/sheet x 5,000 sheets x 12 months = $36,000)	
	(Printing of enumerator manual: $1.0 x 500 = $500)	
(3)	Survey management	$216,000
	($4.0/questionnaire sheet x 4,500 sheets x 12 months = $216,000)	
(4)	Commissioning to IT Center	$9,600
	($800 x 12 months = $9,600)	
(5)	General administration (including educational/promotion activities)	$2,000
	Total	$279,500

The above estimates are based on the assumption that the survey covers 4,500 establishments (questionnaires) per month. As pointed out earlier, the current production survey is designed to collect statistical data on a provincial and municipal basis, in addition to commodity-based data, necessitating an increase in coverage of non-state enterprises and households and thus creating an additional cost accordingly. Secondly, the operating budget includes costs relating to the enumerator training program and educational and promotional activities for current production statistics. Furthermore, the survey management cost includes costs relating to the use of the ongoing reporting system for collection of questionnaires from state enterprises and foreign companies. Thus, it may be reduced in certain cases.

The GSO's 2006 budget allocates 320 million VND ($201,000) for the Monthly Industrial Sample Survey that will be replaced with the MSMIP. At present, the survey covers approximately 18,000 establishments (of which 64% are households) each month, which constitutes an estimation basis different from the above. However, if the special factors mentioned earlier are added, the budget allocated to the Monthly Industrial Sample Survey seems to take care of full-scale implementation of the MSMIP effectively. While it takes the form of budget appropriation, the budgeting procedure requires a formal approval as a new program budget. Thus, it is important to review the basic development plan in the first half of 2006 and ensure a prompt coordination on the operating budget with related ministries and organizations.

5. Fundamental Designing for the Development of the Index of Industrial Production (IIP)

5. Fundamental Designing for the Development
of the Index of Industrial Production (IIP)

5.1 Index Calculation for Statistics in Vietnam and Major Issues

5.1.1 Index Calculation for Statistics in Vietnam

The index calculation in Vietnam is made using the "constant price method".   This method has been implemented since 1961, and modified four times in 1970, 1982, 1989 and 1994.   As shown below, the production index currently used in Vietnam is a growth rate of production values expressed in constant price.

➤ Production Index of Vietnam at time t:

$$I_t = \frac{\sum P_0 Q_t}{\sum P_0 Q_{t-1}} \times 100 \quad \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \quad (1)$$

where

I_t = Production Index at time t

P_0 = Constant price

Q_t = Production quantity at time t

Q_{t-1} = Production quantity at time t-1

It should be noted that the production value expressed in constant price is reported by enterprises surveyed.   Thus, the statistics offices at the central and regional levels do not obtain production quantity (Q), but only production value in constant price ($\sum P_0 Q_t$).

The production index of Vietnam, as stated above, is a growth rate of production value at constant price.   In principle, it is theoretically identical to the Laspeyres formula shown below because it applies a weight of the base period.

$$\text{Laspeyres Production Index} = \frac{\sum P_0 Q_t}{\sum P_0 Q_0} \times 100$$

The difference between the standard Laspeyres index and the Vietnamese index is the time of comparison.   That is, the standard Laspeyres index sets the production quantity of the base period at the denominator.   On the other hand, the Vietnamese index uses the production quantity of the previous time period as the denominator.   This implies that the deduction of 100 from the standard Laspeyres index provides a growth rate between the current and base time periods, while the one of Vietnamese indexes provides a growth rate between the current

and previous time periods. If one calculates a factorial of Vietnamese index from the base time to the current time, it is identical to the standard Laspeyres index as shown below.

Factorial of Vietnamese index from the base time to the current time period

$$= \frac{\sum P_0 Q_t}{\sum P_0 Q_{t-1}} \times \frac{\sum P_0 Q_{t-1}}{\sum P_0 Q_{t-2}} \times \ldots\ldots \times \frac{\sum P_0 Q_1}{\sum P_0 Q_0}$$

$$= \frac{\sum P_0 Q_t}{\sum P_0 Q_0} \quad \text{(Standard Laspeyres Index)}$$

5.1.2 Major Issues to be Addressed

The weakness of the Vietnamese index lies in several issues listed below.

(1) Application of Constant Price in 1994

In the questionnaire, each enterprise is requested to consult with the 1994 Constant Price Table in order to calculate the production value in constant price. The problem arises because this table has not been updated since 1995. Especially, there are cases that enterprise cannot find new commodities such as IT products to fill out the questionnaire. Thus, there is a possibility that the index cannot accurately reflect the changes in overall production as it may not clearly reflect the production of new commodities.

(2) Lack of Integrity in Constant Price

This entails an extremely complicated process in selection of similar commodities, calculation of weighted average, and reflection of the price in new commodities. This may create a risk of miscalculation of the constant price. Also the constant price for new commodities may deviate among enterprises due to the fact that the selection of similar commodities is separately made by each enterprise even if they calculate the price for the same commodity.

(3) International Comparability

Most countries use 100 as an index in the base year. On the other hand, the Vietnamese index uses 100 for the last month. As the representation style of the Vietnamese index is not very common in other countries, there is a risk of resulting in the misuse of the index, which may sacrifice international comparability.

5.2   Index Calculation by New Methodology

5.2.1   New Methodology

In order to address the issues above, it is important to: (1) collect information on production quantity in the survey questionnaire to avoid the issues of constant price; and (2) apply a methodology widely employed among other countries to ensure international comparability.   It is also important to keep in mind that the purpose of current Vietnamese index is to get information on industrial activity without considering an effect of price fluctuation.   Thus, the new methodology is also expected to fulfill the same role as the current index.

There is a variety of methods in index calculation.   The Laspeyres formula, which would provide international comparability for statistics users, will be applied to the calculation of the Vietnamese index.

$$\text{Laspeyres Formula:} \quad \frac{\sum P_0 Q_t}{\sum P_0 Q_0} \times 100$$

5.2.2   Index Items

Four basic indicators are selected as indexed items, namely production, shipment, inventory, and project production indexes.

Table 5-1   Items to Calculate Indexes

Index Items	Purpose	Representation	Weight
Production Index (Value-added Weight)	Representation of production or supply trend	VSIC 1 and 2 digit	Value added
Production Index (Value of production Weight)	Representation of production trends with comparison to shipment and inventory index	VSIC 1 and 2 digit	Value of production
Shipment Index	Representation of demand for products	VSIC 1 and 2 digit	Turnover
Inventory Index	Representation of inventory level	VSIC 1 and 2 digit	Inventory Value
Projected Production Index	Representation of production in the next reference month	VSIC 1 and 2 digit	Value added

5.2.3   Weight Calculation

(1)   Weight at Industry Level

The "expansion" method is used to calculate a weighted share of selected industries so that they can represent the share of unselected industries. The weight at VSIC 4-digit level is determined by allocating the expanded weight at VSIC 2-digit level to the VSIC 4-digit level in order to harness the expanded weight at the VSIC 4-digit level.

The expansion from VSIC 2-digit level to the VSIC 1-digit level, and the allocation of expanded weight into the VSIC 4-digit level is performed by the following equation.   The conceptual view is shown in Figure 5-1.

$$\text{Expanded Weight of Selected Industry (VSIC 2)} = \frac{\text{Weight for the Industry (VSIC 1)}}{\text{Sum of Weight for the Selected Industry (VSIC 2)}} \times \text{Weight for the Selected Industry (VSIC 2)}$$

$$\text{Weight of Selected Industry (VSIC 4)} = \frac{\text{Expanded Weight for the Industry (VSIC 2)}}{\text{Sum of Weight for the Selected Industry (VSIC 4)}} \times \text{Weight for the Selected Industry (VSIC 4)}$$

Figure 5-1   Concept of Expansion
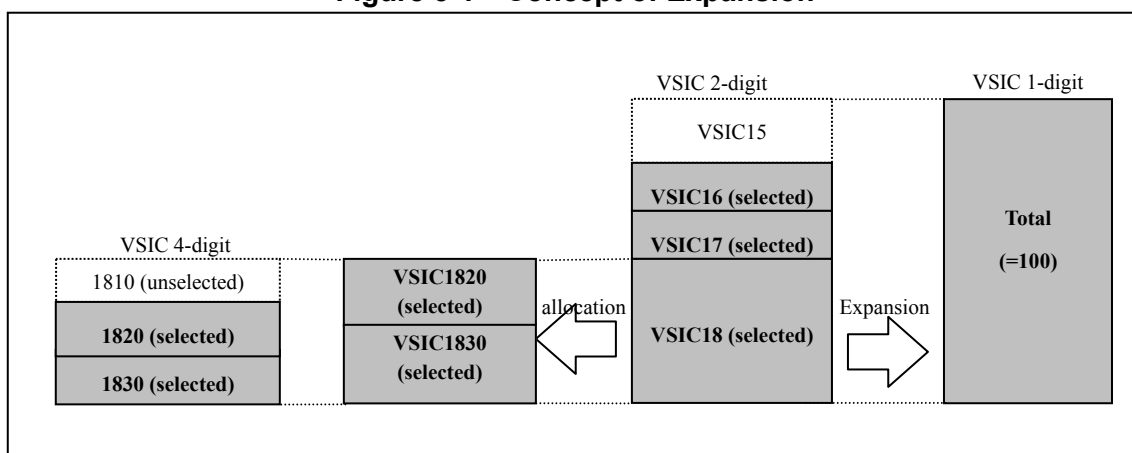
(2)   Weight at Product Level

The process involves: (1) estimation of price by dividing the value of shipments by the quantity of shipments; (2) estimation of values of production and inventory by multiplying the price to the quantity of production and the quantity of inventory; and (3) application of the product share to the respective VSIC 4-digit data from the Enterprise Census.

Figure 5-2   Weight Calculation for Commodity
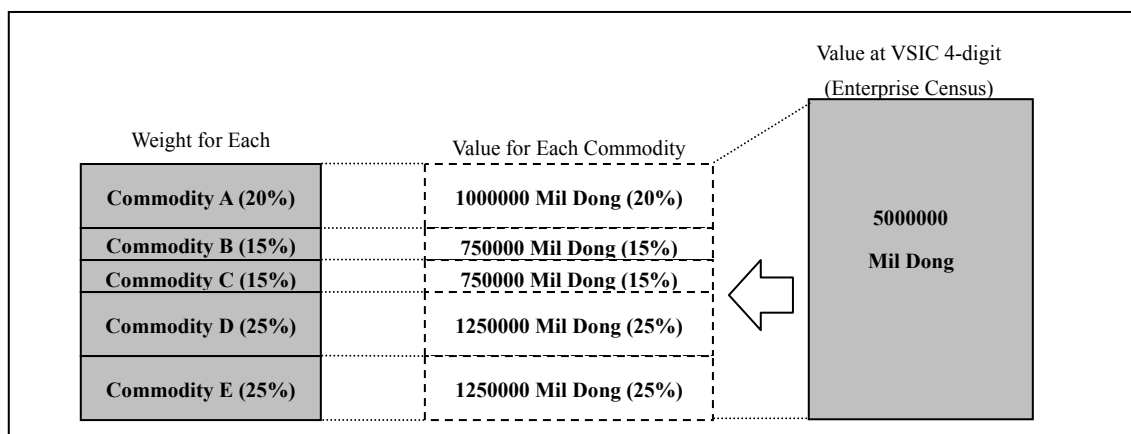
5.2.4 Data Compilation Flow for Index Calculation

Index calculation follows six steps listed below such as weight calculation, index calculation at commodity level, and index calculation at industry level. Among them, the weight calculation is conducted only once at the time of base revision, while index calculation at commodity and industry levels is conducted every month.

The calculation may apply any computer software such as spreadsheet, database or statistics package. The calculation steps, in any case, should follow the steps mentioned below whatever the type of software applied. The chart below explains the compilation flow of index calculation.

Figure 5-3   Compilation Flow of Index Calculation

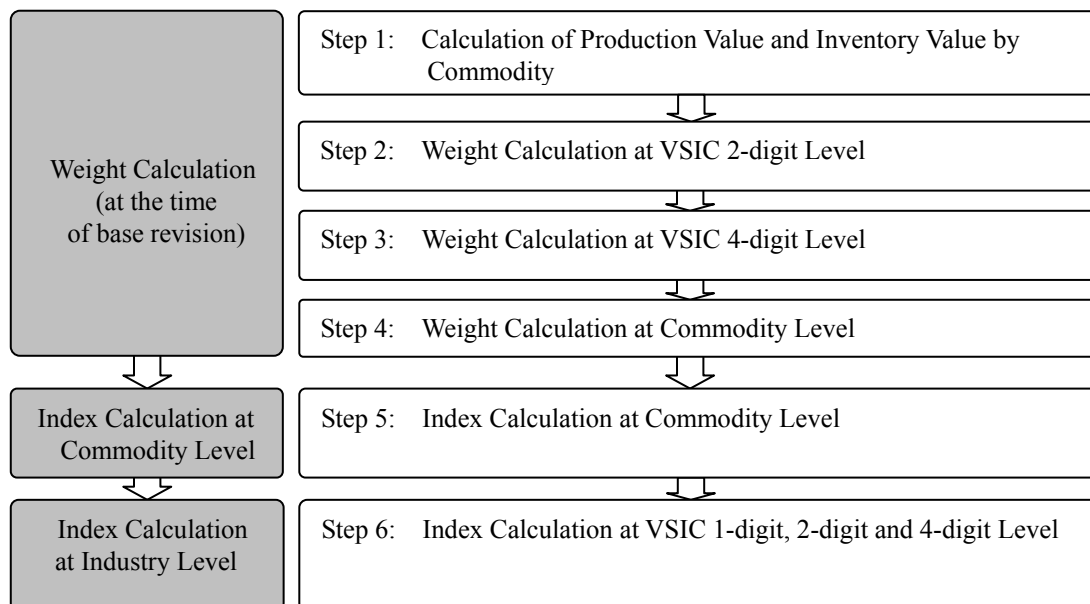| Weight Calculation (at the time of base revision) | Step 1: Calculation of Production Value and Inventory Value by Commodity |
	Step 2: Weight Calculation at VSIC 2-digit Level
	Step 3: Weight Calculation at VSIC 4-digit Level
	Step 4: Weight Calculation at Commodity Level
Index Calculation at Commodity Level	Step 5: Index Calculation at Commodity Level
Index Calculation at Industry Level	Step 6: Index Calculation at VSIC 1-digit, 2-digit and 4-digit Level

5.2.5 Revision for the Base Period and Commodity Selection

(1) Base Period Revision

The Laspeyres quantity index applies: 1) weight that represents the industrial structure, 2) major commodities of industries and 3) price evaluated at the base period. Thus, it is imperative to revise the base period when there is a change in commodity, e.g. emergence of new commodities and new industries, change in commodity prices and etc.

It should be noted that the Laspeyres index would be "biased" if the weight of the base period differs significantly from the one of the current period. Especially, the Laspeyres index in the phase of economic growth is known to be higher than the one using the weight at the current period. The most typical case is the index with commodities made by mass production.

In this case, the price is relatively high in the beginning, but it becomes gradually lower due to the volume effect. As a result, the Laspeyres index would have upper bias because the commodity growth is evaluated at a relatively high price. Thus, the revision of weight is essential in the calculation of Laspeyres index.

At the time of revision, it is also quite frequent to reconsider the commodity classification so as to cover the new commodities in the calculation.

(2) Commodity Selection and Representation Ratio

Since monthly statistics requires reliability and timeliness, the index calculation should be made in efficient and accurate manner. Although it is feasible to cover all commodities in calculation, it would be burdensome to include all commodities as it requires analyzing and compiling numerous commodities under limited number of staff and computer capacity. Thus, covering all commodities in the calculation is not deemed to be very valuable as it does not necessarily increase the accuracy. Instead, covering major commodities would be more valuable as it increases the efficiency with sufficient accuracy.

The commodities would be selected by the order of production value in each industry. More specifically, at the first step, the "representation ratio" shown below is calculated. The representation ratio indicates the ratio of production value of selected commodities to all commodities in the corresponding industry.

$$\text{Representation Ratio} = \frac{\displaystyle\sum_{i=1}^{m} p_i q_i}{\displaystyle\sum_{i=1}^{N} p_i q_i}$$

where

p_i Price of commodity i

q_i Production quantity of commodity i

m   Number of selected commodities

N   Number of all commodities

One may wish to choose a representation ratio in consideration of manpower availability or computer capacity. The ratio, however, should be chosen by comparing to the index with using all commodities. That is, it is valuable to calculate the index with the 100% representation ratio and compare to the index with 95%, 90%, and/or 85% representation ratios. Although one may apply statistical tests such as t test or Wilcoxon test, it is important to plot the data and check them visually.

One should note it is essential to update the commodity selection so that the selection always matches the industrial structure and covers new commodities in an appropriate manner. As in the case of base period revision, however, too frequent revision of selection would be inefficient due to the limits of statistical office and the availability of data in analyzing the representation ratio. Thus, the revision of selection may be conducted at the time of base period revision. Nonetheless, it should take into account that the index calculation should always consider the relevance of commodity selection in order to calculate accurate index.

5.2.6 Notes on Application of New Index

As explained earlier, the new index has several capabilities such as: (1) the new index solves problems relating to constant price that occurs in the current index, (2) the new index conforms to an international standard that ensures international comparability, and (3) the new index provides a powerful analytical tool to understand industrial activities. On the other hand, there are several conditions required for compiling the new index.

(1)   Reliability of Source Data for the Weight
    The Laspeyres index is calculated by taking the commodity ratio between the current and base periods multiplied by the weight. In other words, each commodity trend is represented by the index with respect to the size of weight, i.e. the weight represents the impact of each commodity in the entire industry. Thus, it should be noted that reliability of source data for determining the weight is indispensable in calculating the index.

    The source data for the weight is obtained from the Enterprise Census. However, this census has some issues to concern. First, identification of an industry to which each establishment or enterprise belongs may not be accurate especially in case of new industries. Second, the weight by area or by province requires to be "estimated" as the Enterprise Census is composed of enterprise-oriented data (which provide only the consolidated data by enterprise that is not separable by area or by province). Third, the source data for the weight may lack accuracy in some provinces or industries.

    Although these issues are not unique in Vietnam, they need to be resolved by enhancing the quality of compilation procedure. It should be noted that the new index requires reliable source data in order to attain the accuracy.

(2)   Application of Annual Average in Quantity
    The Trial Surveys conducted in this Study used a single month as a base period, i.e. October 2004 for the First Trial Survey and October 2005 for the Second Trial Survey. A major reason for applying these single months is a relatively short period of a few months, thus not presenting a serious problem when the index is developed on an experimental basis. It should be noted, however, that the application of single month may contain problems

especially when the quantity data has seasonal disturbances. As mentioned earlier, the purpose of index calculation is to provide information on the industry trend in accurate and timely manner. Thus, the index should be calculated by using a stable base period, not based on a single month but on an annual average. The Pre-Survey, currently implementing, covers 60 sectors for 12 months. If the reliability of the data will be confirmed, it is recommended to adopt the average of 2006 as a base period.

(3) Application of Seasonal Adjustment

Any time series data contains seasonalities caused by the changes in natural factors such as a climate and social factors such as holidays. Vietnam also has seasonality typically in the climate of wet and dry seasons and the social customs of Tet holidays and etc.. The seasonal adjustment is a statistical methodology that removes seasonality from the time series data. In industrial statistics, there are many commodities contain seasonalities especially in food and electronics products. Thus, the application of seasonal adjustment is very valuable in order to grasp the industrial activity. This seasonal adjustment shall be reflected to the Official Survey based on the specific direction from the results of the Pre-Survey (yearly).

5.3   Basic Thoughts of System Development

(1) Number of Transactions

Figure 6-12 shows contents and schedules for system development. First, all data from Trial Surveys 1 and 2 data will be processed using FoxPro as a database engine. For data processing, it is assumed that the system has an interface function between data input and database establishment/analytic software. Stored data will be handed to any external application software using an export function of FoxPro and used as data for analytical purposes or making an index.

The number of transaction occurred during the Trial Surveys 1 and 2 are shown in Table 5-2.

Table 5-2   Number of Transaction Occurred During the Trial Surveys

Trial surveys／Transactions	Trial survey 1	Trial survey 2
Number of survey provinces	3	9
Number of surveyed sectors	40	48
Number of surveyed commodities	213	524
Number of samples	500	1900+

FoxPro has a full function to process all the transactions shown in the above table.

Microsoft Access will be used for data input and SQL Server for database storage during the pre-survey that will be initiated in February 2006. These stored data will be handed to an

external application package such as Microsoft Excel using an export function of SQL Server and used for index creation.

An expected number of transactions that will occur during the pre-survey and the full-scale official survey are shown in the following table.

Table 5-3   Number of Expected Transactions

Survey／Number of transactions	Pre-survey	Institutionalized survey (Tentative)
Number of survey provinces	25	64
Number of surveyed sectors	60	65
Number of surveyed commodities	590	530
Number of samples	8500	$4,500 + \alpha < 20,000$

Not only FoxPro but SQL Server 2000 have enough capacity to handle the above indicated number of transactions.

(2)   Basic Concepts of System Development

Basic concepts of system development for processing of monthly statistics can be listed as the followings; [1]

1)   To adopt currently used software at the GSO as core system for data processing

As previously described, relational database software has been used as the database engine to process the data in the core system. It is therefore suggested that the same software should be used in the future.   Since functions of software which acts as the database engine do not vary among product names, it is not really necessary to specify a specific product name.   It is because users should not pay so much attention to which software are they really using.   However, when the user switches to a new relational database software program, more attention should be paid to data transfer and creation of interface program with the new application software.

2)   To use a widely accepted software program and confirm its operability at the PSO/DSO levels which use old versions

The GSO has installed relatively new hardware and software.   Particularly personal computers have been frequently upgraded to the latest model.   Then old models are

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[1]   As already described in section 2.4 of Chapter 2, there will be no need to enhance hardware systems for development of monthly statistics processing software since the systems itself are well developed at GSO. Therefore, basic thought of software development are described in this section and establishment of hardware system is omitted.   It, however, is necessary to improve number of computers and its function at DSO level in regional areas.

transferred to both PSOs and DSOs. Therefore, it becomes necessary to get acquainted with old and new models. Also software should be of off-shelf and popular products. Thus personnel who are responsible for system development need to understand the conditions of the environment for PC installation.

3) Systems should be transferred from the pre-survey that will start in February 2006 to the full-scale survey that will start in January 2007.
    The data that are stored during Trial Survey 2 and the pre-survey will be used as targeted data even after the launching of the full-scale official survey. In this case, transfer of data should be smoothly implemented. On the contrary, when these data have not been used, they should be deleted from the database and the establishment of new data should be considered.

4) The system should have enough capacity to process all transactions that occurs during the pre-survey and official surveys.
    The umber of transactions to be processed is not discussed here as it was it already discussed in the previous section.

5) Ease of maintenance and support, and full security function.
    Since the data obtained throughout the survey include highly confidential information, unintended disclosure from the GSO or the PSO/DSO should be prevented. It is imperative to set up the security system to prevent an accidental or intentional leakage of data not only from the GSO's server system but from a personal computer installed at each PSO for data input purposes. Also it is necessary to establish the secure system for periodical maintenance of not only input software and database engine for data storage, but also the interface program software.

    Upon creation of the database, most important is maintenance and support of the database itself. Maintenance includes periodical update, the establishment of the network system, and the management of the security system. To implement these maintenance and support systems, the deployment of permanent staff is required.

6) Continuous use of the same software
    Continuous use of the same software during the certain period of time is highly desirable. Particularly, there is less needs of changing software used as database engine unless the number of transactions changes dramatically. Therefore, it is required to consider continuous use of the same software for the time being.

    The above policy also applies to software for data input. Basically the input software should not be changed regardless the changes of number and volume of transactions, and it

is sufficient to add minor functions such as the improvement of data input operation and procedure, error checking functions, and the adjustment of color arrangement, etc.

7) To consider the use of open source software in the future

Both FoxPro and QL Server are off-shelf, packaged software programs, but they are relatively costly.   Continuous use of these software programs should be taken for granted, while it is necessary to consider use of open source software that has recently been used by a wide range of universities and other research institutions.   Use of Linux as operating system and MySQL as relational database software are one of the examples.

8) To consider Web based software development

The most important thing to be considered relating to future system expansion is to promote the development in the web based system environment.   This is important to aim at the automation of statistical processing including online distribution and collection of the questionnaire and file transfer of data to the database engine.

Figure 5-4 Contents and Schedule of System Development

Tasks																			

2005 — Oct, Nov, Dec | **2006** — Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec | **2007** — Jan, Feb, Mar, Apr, May

Trial Survey 2	Pre-Survey	Institutionalized Survey

Number of Targetted Provinces	9	25	64

Number of Targetted Samples	1900+	8,500 including households

Number of Targetted Commodities	1900+

System Development

MS-FoxPro based input software + MS-Excel Analytic Tool

Software Development

Data Transfer

MS-Access based input software + MS-SQL Server based Database Engine + MS-Excel Analytic Tool

Maintenance of Software + Hardware

Data Updates

Trial Survey 1 is omitted due to expiration.

6. Action Plans for Institutionalization of the Current Production Statistics Survey

6. Action Plans for Institutionalization of the Current Production Statistics Survey

6.1   Positioning of Action Plans

This chapter presents supplementary proposals relating to the GSO's policies and actions (including infrastructure development) that should be taken to pursue primary objectives of the Study - the "Basic Development Plan for Current Production Statistics" and "Development of Production Indices in Vietnam" as proposed in the report.   In other words, action plans are proposed for institutionalization of the MSMIP, which is to be officially implemented in 2007. Note that the action plans are expected to be started promptly after the completion of the Study and to be implemented in the next two years, thus not necessarily addressing various issues that are revealed through the Study and need to be dealt with by the GSO from long-term perspectives.

After the end of this study, JICA plans to support the effort of the GSO by changing their support formation to the Technical Cooperation Project.   Even though, the implementation body of the action is the GSO's Industrial and Constructional Statistics Department, which will be responsible for implementation of the MSMIP.   Thus, the action plans are expected to require actions with the division itself, focusing on institutionalization, implementation, and sustainable management of the MSMIP.

6.2   Action Plans

6.2.1   Appointment and Team Organization Plan for the Institutionalization of MSMIP

Rationale for proposal:

To start the MSMIP as official statistics in February 2007, a variety of preparatory activities need to be conducted in 2006, under the leadership of the GSO's Industrial and Constructional Statistics Department.   The division has been actively involved in the trial surveys, but it has to carry out the preparatory work, together with the ongoing Monthly Industrial Sample Survey and other survey activities, until the MSMIP is institutionalized. Furthermore, the pre-survey for the MSMIP will start this year, creating much more workloads than the two trial surveys.   Under these circumstances, the division needs to clearly define the role of staff who is engaged in the preparatory work, while securing sufficient time and budget to facilitate activities.

Proposal outline:

Within the GSO's Industrial and Constructional Statistics Department, a team in charge of startup of the MSMIP will be formally appointed and the preparatory work for the MSMIP will

be incorporated into the GSO's ordinary business. The Preparation Team for MSMIP Institutionalization, as tentatively named, will be organized by five members, namely a team leader and four members in charge of "procedure and budgeting," "survey planning and design," "data configuration and system development," and "local promotion and training." Then, specific time and budget will be formally allocated to the team for implementation of the preparatory work. Upon institutionalization of the MSMIP (since 2007), the team will be transformed to the secretariat of the MSMIP Supervisory Board. Unwilling influence may be caused if the Industry and Construction Department supplies personnel in order to set up the full-time MSMIP team. Therefore, essentially, the number of staff of the department shall be increased.

6.2.2 Statistical Reliance Improvement Support Plan

Rationale for proposal:

One of problems that have been identified in the course of the Study is a low level of confidence in present statistics among local users; doubts about statistical data published by the GSO are raised by not only private companies but also government offices and organizations that are main users. Also, it is pointed out that statistics in Vietnam lack international compatibility with other countries due to the differences in classification, standard, and methodology. There are many reasons for the lack of confidence. It is partly due to the misunderstanding or the lack of understanding on the user side. Or it may come from the lack of information disclosure by the GSO concerning the statistical method or deficiency in the publication system itself, not to mention the lack of data reliability. As the current production statistics survey is designed to grasp monthly trends in production activities by industries, especially mining and manufacturing, it must achieve higher levels of accuracy, promptness, and international compatibility than previous statistics. Meeting these requirements will lead to the improvement of public confidence in statistics as a whole.

Proposal outline:

To ensure reliability of the new survey for current production statistics, the "Statistical Reliance Improvement Support Plan" will be formulated by the Preparation Team for MSMIP Institutionalization, followed by prompt implementation by the GSO. The plan essentially sets forth an implementation guideline for the basic plan proposed in this report and contains the following support programs to supplement the basic plan: ① a program to develop survey plans and designs; ② a program to review and revise survey designs; and ③ an educational and promotional program. The plan will set forth basic policy and specific activities for these programs, including specific instructions to the GSO's Industrial and Constructional Statistics Department and PSO/DSO enumerators. Basic design principles for the three programs are summarized as follows.

(1) Program to develop survey plans and designs

This program gives an opportunity for the GSO to review the basic development plan proposed in this report and to revise it in such manner to reflect the actual working environment surrounding the survey. For instance, questionnaire design should take into account convenience of survey subjects (establishments), i.e., survey items should be minimized as far as the survey objective is achieved, and the questionnaire should give due consideration to the ease of understanding about questions and explanations, as well as layout and other considerations to allow the respondent to fill out easily and quickly. To ensure accuracy and promptness, system rules supporting efficient implementation of key activities up to data tabulation should be established and enforced. The GSO should prepare its own survey plan after carefully reviewing the proposal in this report and by taking into account the above requirements. The program output is the "Preliminary Plan for MSMIP Implementation" that will be prepared as the basis of securing the premiere's decree. If possible, the program will be implemented under technical support of outside experts.

(2) Program to review and revise survey designs

Vietnam's industry recently undergoes substantial changes due to privatization of local companies and the impacts of foreign investment. In particular, increased foreign investment seems to accelerate production of new products within the country. Meanwhile, international industrial classifications have been revised to reflect the changes in the worldwide industry trend. To keep up with these dynamic changes, the MSMIP design should be accompanied by general rules for systematic and periodical reviewing and replacement of industries and commodities after the official launching of the system (after 2008), together with revision of industry and commodity classifications. Thus the program should contain clear rules for reviewing the current production statistics survey - e.g., who does what and when - with reference to similar cases in other countries.

(3) Educational and promotional program

This program will target surveyed establishments. It is critical to promote a general understanding of surveyed establishments concerning the objective of the MSMP survey and questionnaire design, partly because the MSMIP is newly introduced in the country and partly because high levels of accuracy and promptness must be assured as the official statistics published by the government. The educational and promotional program will be therefore planned to promote a good understanding of surveyed establishments about current production statistics and will be implemented on a regional (block) basis. As useful information has been obtained from implementation of the two trial surveys, the program will be designed to contain more specific details by taking into account lessons learned from the previous experience.

For the development and implementation of these programs, it is required to make positive use of the long-term expert by the Technical Cooperation Project from July 2006 and other supports from other donors.

6.2.3 Action Plan to develop the "Master Sample" and the MSMIP Establishment List

Rationale for proposal:

The current production statistics survey treats manufacturing establishments as basic unit of survey.   This will be inherited to the MSMIP.   However, the MSMIP will be primarily based on the sample survey to select survey subjects from a population group list, while state enterprises and foreign companies will be subject to the 100% survey.   The GSO's Industrial and Constructional Statistics Department has not made the list of establishments, and the list of companies is maintained as population used for taking annual enterprise census.   Between the MSMIP and the enterprise census, while at least state enterprises and foreign companies are more or less the same, but the two lists are never identical because some companies have two or more establishments.   For this reason, it is desirable to maintain the Industrial and Constructional Statistics Department's population group list as master samples.   The master samples contain basic information and allows results of the two different statistical surveys (the enterprise census and the MSMIP) to improve accuracy and minimize bias due to non-responses. It is therefore desirable to develop a list of surveyed establishments for the MSMIP on the basis of the master samples.

Proposal outline:

Types of establishments contained in the latest list of companies will be rechecked on the basis of the enterprise census survey conducted in March 2005 and will be established as the master samples.   The MSMIP establishment list will be made on the basis of the master samples.   In this case, data on household enterprises will be treated separately, but they will be added to the MSMIP establishment list by using information in the population group list for the establishment census (to be compiled in the near future) as reference.   If it is difficult to develop the master samples and the establishment list by data processing personnel of the Industrial and Constructional Statistics Department, use of IT Center will be considered.   In this case, as confirmation with individual companies and establishments will be partly required in the process of development the master samples or the establishment list, appropriate rules and procedures need to be made in advance.

6.2.4 Organization Plan for the Household Enterprise Data Analysis Team

Rationale for proposal:

In the MSMIP pre-survey that is conducted since this February, households (household industries) have been added as a new survey subject.   As discussed earlier, however, inclusion of small business operators (household industries) those are not suitable for the sampling survey.

Their share in the total GDP is so small, so that the most of small business operators are excluded from the survey objects of the current production statistics survey. Rather, the statistical survey of household industries is useful for learning the trends in rural economy where they dominate. At the same time, the number of households to be covered by the official survey is expected to exceed 10,000 and thus to surpass a combined total of state enterprises and foreign enterprises, creating significant workloads on data processing. To deal with the situation, the policy for handling household data should be decided prior to the start of the official survey by analyzing responses by households (including the unit of measurement) and their patterns during the pre-survey. Note that no such verification has been made during the trial surveys.

Proposal outline:

Within the GSO Industrial and Constructional Statistics Department, a team will be organized to thoroughly analyze household data obtained during the pre-survey. In consideration of the department's manpower and resources, however, it is not realistic to organize an ad-hoc team for implementation of this plan. Instead, the team will be led by members of the Preparation Team for MSMIP Institutionalization, with assistance of the Trade, Services, Prices Statistics Department as required. The team will analyze the survey results and decide on standards and rules for treating household industries (e.g., the form of questionnaire compared to other enterprise types, presence of problems relating to data processing and tabulation), which will then be reflected in the official survey (in 2007 and afterwards). According to circumstances, the team may have to consider the possibility of conducing a survey of small enterprises and micro-enterprises, including households, as separated from the MSMIP. (Also, this may be postponed for additional year to analyze data in 2007 and reflect the results in the survey in 2008 and later).

6.2.5 Plan for Education and Training Planning for Enumerators and Statistical Analysts

Rationale for proposal:

To launch a new statistical survey, it is imperative to provide proper education and training for enumerators. For the current production statistics survey, necessary education and training has been carried out in the form of technology transfer from the study team to the GSO's Industrial and Constructional Statistics Department and key PSOs in Hanoi and Ho Chi Minh, with expectation that statistical knowledge and techniques will then be disseminated to rural regions. However, it has become apparent in the course of the Study that statistical staffs at the GSO and related organizations need to learn more than statistical techniques, i.e., they need to understand the meaning of the current production statistics survey in the context of market principle, in light of the fact that the Vietnamese economy is in the middle of a major transition period. This entails a major change in mindset of statistical staff. For enumerators who form the front line of statistical survey, it is imperative to understand the difference between the new

and old surveys (especially the ongoing Monthly Industrial Sample Survey). Without it, it is impossible to give an accurate explanation on the new survey or examine collected questionnaires. Likewise, data analysts and other statistical technicians who are responsible for development of indices and statistical analysis will face similar problems. Thus, it is difficult to support the MSMIP under old ideas and methods.

Proposal outline:

This proposal consists of the formulation of an education and training plan for enumerators in areas that will be covered by the pre-survey and the official survey. The plan will be implemented under the leadership of the GSO's Industrial and Constructional Statistics Department. In the planning process, the development of the curriculum and selection of instructors will be made by utilizing expertise and experience of staff of the Industrial and Constructional Statistics Department and preceding PSOs as Hanoi and Ho Chi Minh PSOs. Prompt response and action on the enumerator training is needed to the areas where the pre-survey of the MSMIP has not been implemented up to now. It is appropriate to hold routine workshops by areas in the second half of 2006. The Industrial and Constructional Department will be the main implementation body and carries out adjustments on schedule and budget in the GSO. Also, the training of statistical analysts will be carried out by using overseas training programs as far as possible.