

THE REPORT
FOR
THE MASTER PLAN STUDY
FOR
THE STRENGTHENING OF DATA PROCESSING AND INFORMATION
ON
TRADE AND COOPERATIVES
IN
THE DEPARTMENT OF TRADE AND COOPERATIVES
THE REPUBLIC OF INDONESIA

SEPTEMBER 1982

JAPAN INTERNATIONAL COOPERATION AGENCY

JICA
THE REPORT FOR THE MASTER PLAN STUDY
FOR THE STRENGTHENING OF DATA PROCESSING AND INFORMATION ON TRADE AND COOPERATIVES
IN THE DEPARTMENT OF TRADE AND COOPERATIVES, THE REPUBLIC OF INDONESIA

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Year	Number of people
2000	120
2001	150
2002	180
2003	210
2004	240
2005	270

2. The following table shows the number of people who attended a concert in each of the years 2000 to 2005. The number of people who attended the concert in each year is given in the table below.

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PREFACE

In response to the request of the Government of the Republic of Indonesia, the Government of Japan decided to conduct the Master Plan Study for the Strengthening of Data Processing and Information on Trade and Cooperatives and entrusted the study to the Japan International Cooperation Agency (JICA).

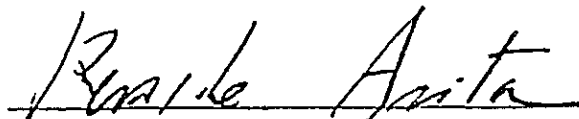
JICA dispatched a study team to Indonesia from February 14th to March 15, 1982 to collect data and information necessary for the Master Plan Study, and to have intensive consultations with the officials concerned of the Government of the Republic of Indonesia.

The study was conducted with close cooperation of the officials concerned of Indonesia. Upon its return to Japan, the team made further studies and has prepared the present report.

I hope this report will contribute to the development of the project and to the promotion of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Indonesia for their close cooperation extended to our survey team.

August, 1982

A handwritten signature in black ink, reading "Keisuke Arita", written over a horizontal line.

Keisuke ARITA
President
Japan International Cooperation Agency

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INTRODUCTION

This Report is the result of the Master Plan Study performed by the Master Plan Team dispatched by Japan International Cooperation Agency (JICA) to strengthen the capabilities of data processing and information on trade and cooperatives in the Department of Trade and Cooperatives of the Republic of Indonesia. Work in Indonesia was performed during the period February 15th through March 13th, 1982, after which the Master Plan Team returned to Japan.

The submission of the report is in accordance with the requirements stipulated in the Minutes of Meetings dated December 17th, 1981, and outlines the work to be performed as defined in the Scope of Work contained in the above mentioned minutes.

The report covers the results of a series of discussions held together with a preliminary analysis based on the information obtained from these meetings between the period February 15th, 1982 to March 13th, 1982 in conference with the Indonesian counterpart staff based on available data at the Agency for Research and Development of Trade and Cooperatives as the focal point. The information concerning the units were submitted by each unit representing all the first echelon which was coordinated by the Agency for Research and Development and approved for use by the officers in charge of the respective sections.

Through the investigations conducted at the site in Jakarta, the four study subjects have now been identified to consist of 7 areas

of 11 system modules, and it is considered that the situation can be better conceived in this manner.

TABLE: System Modules

(4 Subjects)	Field/System Modules
1. Statistical Data	1. Foreign Trade 2. Domestic Trade 3. Pricing Related Items - Consumer Price Index - Commodity Price - Check Price
2. Registration of Enterprises	4. Registration of Enterprises (General Trader's License)
3. Cooperatives	5. Cooperatives
4. Administration	6. Secretariat Related Items - Personnel Administration - Inventory Administration - Project Administration 7. Middle East Work Force

In addition to the Master Plan Study there will be two case studies selected for implementation. The purpose of selecting two case studies are understood to be able to perform in-depth analysis within the Scope of Work of the Master Plan and to confirm that the two case studies can be implemented within the meaning of the Master

Plan. It must not be lost sight of that the description of the case studies will be of preliminary nature, and will be in consonance with the handling of the Master Plan.

Two case studies were selected for implementation out of the 11 system modules after a discussion held between the Government of Indonesia and the Master Plan Team to decide the ones with the highest priorities by conferring with the Head of the Agency for Research and Development of Trade and Cooperatives, Ir. Ibnoe Soedjono, Head of Trade Research Centre Mr. R. Soedarno, Head of Statistics Division Mr. Lindung Pasaribu, and Head of Data Processing Division Mr. B. O. Tambunan.

The selection of two case studies developed in the following manner:

- a. After having performed the two week site survey, the Master Plan Team informed the Government of Indonesia that the four sub-systems agreed to in the Minutes of Meetings dated December 1u, 1981 was actually found to consist of 11 system modules in 7 fields, and suggested, therefore, that the two case study items should be selected from these 11 system modules. This suggestion was acknowledged by the Government of Indonesia.
- b. The Master Plan Team also stated in the Memorandum of February 26, 1982 that among the 11 system modules, four system modules are recommendable to be selected for the two case studies. They are "Foreign Trade," "Domestic Trade," "Registration of Enterprises," and "Cooperatives."
- c. The Government of Indonesia stated that they could understand the recommendations made by the Master Plan Team. However, from

the standpoint of their development needs and their policy to select items relating to the entire activity of the Department, the Government of Indonesia has decided to select "Personnel Administration" and "Registration of Enterprises" for the two case studies.

- d. The Government of Indonesia requested that not only the general trader's license, but also the foreign trade license should be included in the Registration of Enterprises. The opinion of the Master Plan Team was to separate these two system modules, although they are closely related with each other, which was acknowledged by the Government of Indonesia. However, it was agreed that the Master Plan would mention about the relevancy between these system modules.

CHAPTER 1

GENERAL

1-1. Background and Objectives of the Master Plan Study

The Preliminary Survey Team dispatched to Indonesia from December 7, 1981 to December 17, 1981 by the Japan International Cooperation Agency (JICA) held a series of meetings on "The Strengthening of Data Processing and Information on Trade and Cooperatives in the Department of Trade and Cooperatives of the Republic of Indonesia," and it was mutually agreed that a Master Plan Study should be conducted.

The objective is to design a Master Plan for four information systems subject to be systematized as agreed in the Minutes of the Meetings dated December 17, 1981. The four information systems are:

- i. Statistical Data on Trade and Cooperatives.
- ii. Registration of Enterprises.
- iii. Performance Analysis of Cooperatives.
- iv. Administration System (Personnel, Accounting, Salary, etc.)

There are seven tasks to be covered within the Master Plan Study, they are:

- a. Analysis and review of the present system.
- b. Role and scope of the information system.
- c. Conceptual design of the information system.
- d. Staff training plan.
- e. Implementation schedule.
- f. Cost estimation.

g. Conclusions and recommendations.

The Master Plan Study Team made investigations of the four study areas in Indonesia, and developed these study areas into actual management operations. The development of the studies have already been described in the Introduction. Emphasis was placed on obtaining data on the current methods of processing of the various administrative paperwork and in planning a course of action for the development of the information system management. Preliminary analysis was made of the seven items (a.) thru (g.) described hereinbefore, and the results were submitted to the Department in the form of an Interim Report.

In this study, tasks (a.) through (c.) were conducted by examining each individual system module. Tasks (d.) through (g.) were conducted by examining the entire system modules as a total system. Emphasis was placed on tasks (c.) through (f.) for the case studies of the selected two system modules.

Upon completion of the field survey in Indonesia, the information obtained in Indonesia was brought back to Japan, and analysis and studies made over the past three months, and the results have been prepared as a Draft Final Report. This draft report was presented to the Indonesian authorities, comments exchanged with the Counterpart Staff, and made into a Final Report by incorporating the review comments.

1-2. Positioning of the Report

This report has been prepared on the basis of the background and objectives, and the development of the investigations described hereinbefore.

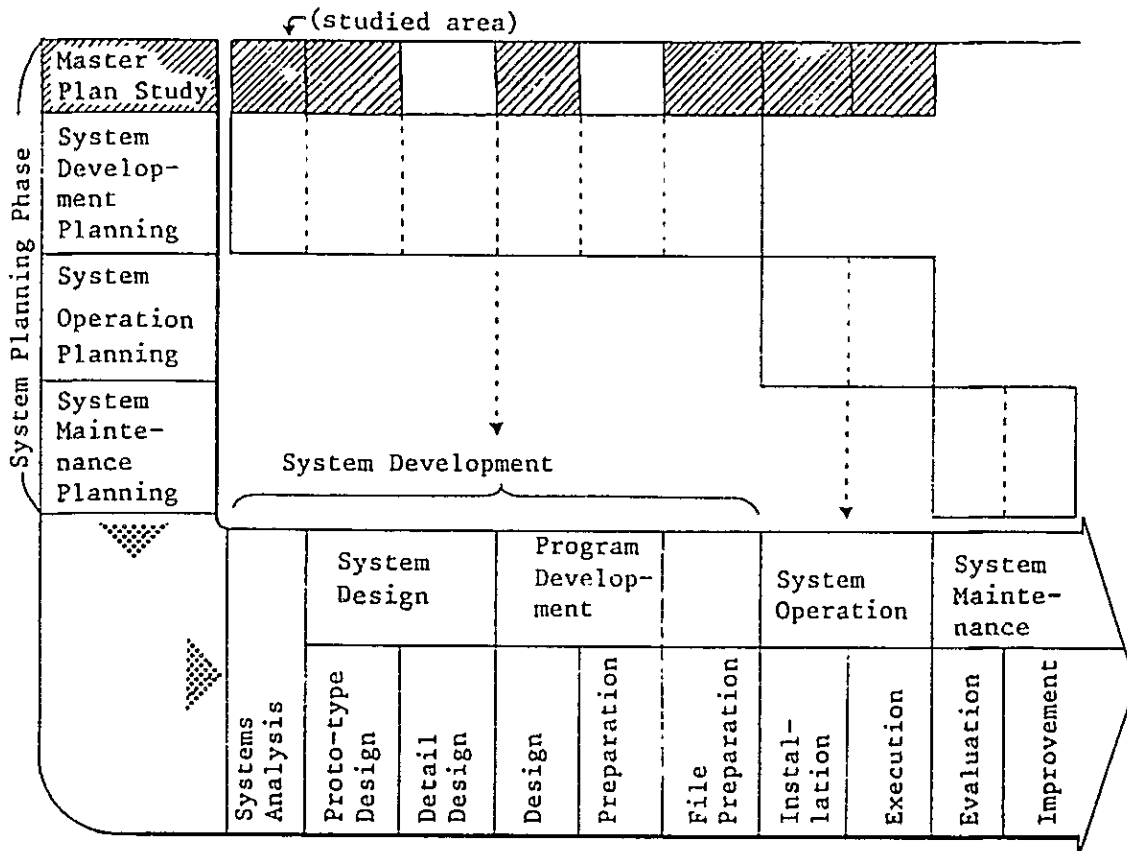
As a general rule, it will require a great amount of professional knowledge, time and effort to computerize and formulate an information system, to make it operational for the objectives stated, and to use the system in government administration. The Master Plan Study will be the first step to be made in this direction. In the process of formulating an information system and to make it into an effective management tool, it will require development, operational skills, and system maintenance in all phases of planning, systems analysis, system design, development of user programs, system operations, evaluation, modifications, and maintenance, all in a continuous train of activities. The Master Plan Study will be the starting point over the life cycle of the system planning.

The Master Plan Study Team collected all available information within the short time allowed in Indonesia, all factors pertaining to the current operational systems, checking the possibilities for the systematization of management information, all potential problems to be solved, and the necessity for creating such a management system. Based on the information collected, the data was organized and evaluated, and formulated into a concept for an information management system. This effort has culminated in presenting a direction and a perspective for the preparation of an information system. This concept is only the first step in establishing of a data processing system in the Department, and the adequacy of this system can be verified by allotting sufficient time for its development. The work that will follow will be the system planning, system analysis, and all subsequent work necessary for the implementation of the system.

In the system planning, analysis, and design phases there will still

be an enormous amount of professional know-how and effort to be concentrated in order to use and expand the information system so that the data for the information system to handle and the capacity of the processing unit to manage can be studied.

FIGURE: Master Plan Study in System Life Cycle



CHAPTER 2

ANALYSIS AND REVIEW OF THE PRESENT SYSTEM

2-1. Facts Obtained of Study Items

2-1-1. Operations to be Studied

Fact finding survey of 6 operation units amounting to 11 operation items were conducted under the coordination of the Agency for Research and Development of the Trade and Cooperatives. Following are the 11 studied operation items and operation units in charge:

<u>Name of Operation</u>	<u>Name of Operation Unit</u>
i. Foreign Trade	Directorate General for Foreign Trade
ii. Domestic Trade	Directorate General for Domestic Trade
iii. Consumer Price Index	Agency for Research and Development of Trade and Cooperatives
iv. Commodity Prices	Agency for Research and Development of Trade and Cooperatives
v. Check Prices	Directorate General for Foreign Trade
vi. Registration of Enterprises (General Trader's License)	Directorate General for Domestic Trade
vii. Concerning Cooperatives	Directorate General for Cooperatives
viii. Personnel Administration	Secretariat General
ix. Inventory Administration	Secretariat General
x. Project Administration	Secretariat General
xi. Concerning the Middle East	Coordinating Team on the Middle East

2-1-2. Fact Finding Survey

The flow concerning (i) (physical) operation for generating the information, (ii) generation of information, (iii) information processing, (iv) reporting, was surveyed for each operation. The review of current system was conducted according to the Chart shown below:

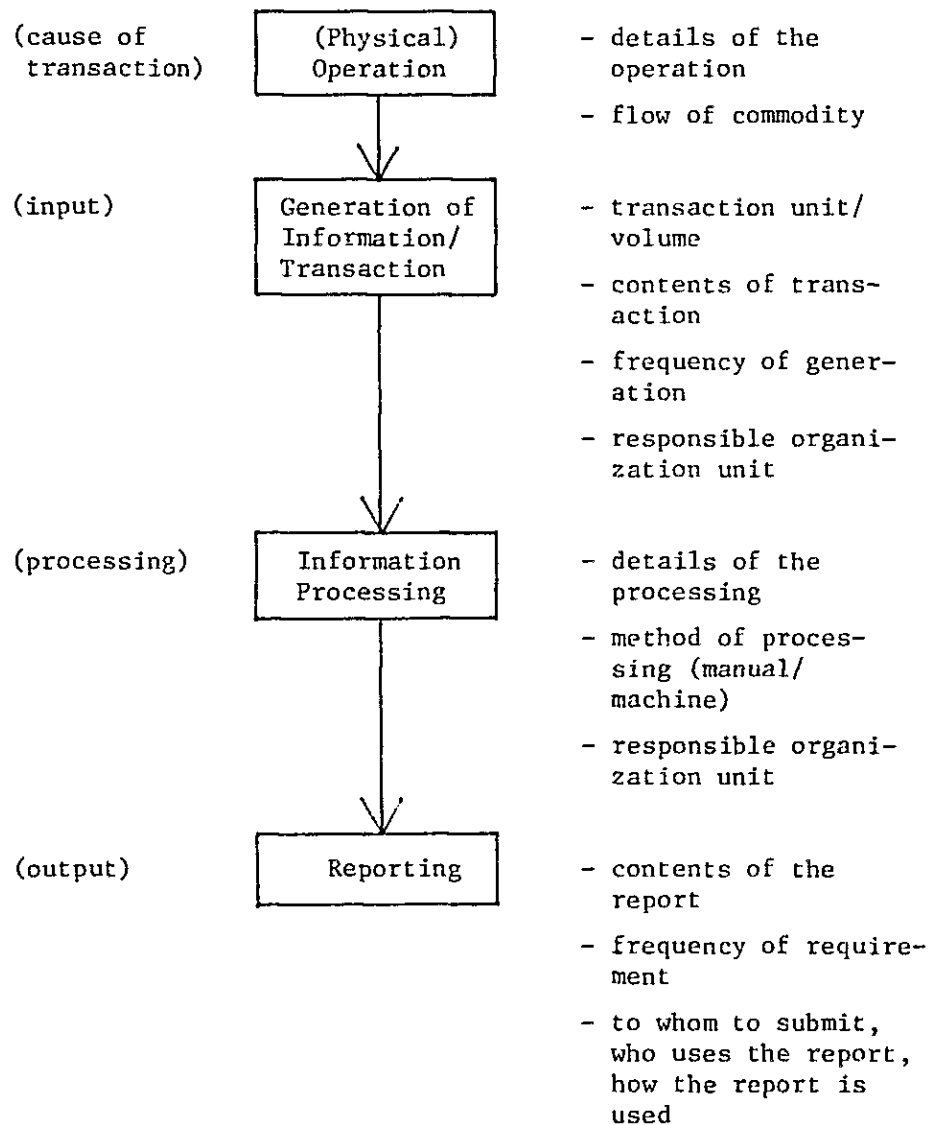


CHART: Review of the Current System

TABLE: Results of the Fact Finding Survey

Name of Operation	Characteristics of Current Operation	Problems of the Current Operation	Requirements for the Systematization
1. Foreign Trade	<ul style="list-style-type: none"> - Export control by utilizing the information which can be obtained from export declaration (PEB) and foreign trader's license (APE). - To check the performances of exporters engaged in coffee, pepper, and timber/logs, and their record of exportation. - To check the performance of lubricating oil importers and the record of importation. 	<ul style="list-style-type: none"> - The information obtained from PEB is not utilized thoroughly. - Not all of the PEB information is obtained at the Head Office. - The current manual processing of the information requires too much time. 	<ul style="list-style-type: none"> - The requirements for the systematization is quick preparation of reports, more coverage of information/reports, realization of complex processing of export/import information, accurate information processing for the operation.
2. Domestic Trade	<ul style="list-style-type: none"> - Information of market prices of 5 major commodities (clove, copra, cooking oil, fertilizer, cement) are collected by provinces to check the weekly price trends. - Information of inter-island shipment of cloves and copra obtained from special trade license are recorded and analyzed. - Distribution of fertilizer and cement, and performance of the distributors are checked. - Performance record of cement manufacturers are also being checked. 	<ul style="list-style-type: none"> - Current information obtained at the Head Office is not sufficient to understand the market situation in detail. More information on these commodities such as production volume should be obtained. - The preparation of reports by manual operation takes too much time for adequate policy making. 	<ul style="list-style-type: none"> - The requirements for the systematization are more coverage of information/reports accurate information processing, quick preparation of reports, and realization of sophisticated or complicated processing for the operation.
3. Concerning Price Information	<ul style="list-style-type: none"> - Consumer price index is calculated based on the information on consumption expenditures of important commodities in major 17 cities. - Trends of commodity prices are checked from the information obtained on important commodities in each province and the world market price trends. - Check prices are determined based on the world market commodity prices. 	<ul style="list-style-type: none"> - Information concerning consumer price index are obtained from C.B.S. which has the delay of 2 to 3 month. - The time required for the processing is relatively long since the data volume is large. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, realization of mass processing, and realization of sophisticated processing for the operation.
4. Registration of Enterprises (General Trader's License)	<ul style="list-style-type: none"> - Three types of registration forms are obtained for tabulating three types of tables for checking the overall situation of the enterprises, which is currently being processed by an external organization monthly and annually. The reports are used for policy making. 	<ul style="list-style-type: none"> - The data volume for the registration of enterprises is very large which makes the processing of the information difficult. - Since the processing is now being sub-contracted, the processing of the mass data and information retrieval cannot be performed on demand. 	<ul style="list-style-type: none"> - Requirements for the systematization are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.
5. Concerning Cooperatives	<ul style="list-style-type: none"> - Performance of all of the cooperatives are being checked from the annual reports. - Performance of KUD is checked from the monthly and annual reports on KUD. 	<ul style="list-style-type: none"> - Since the data volume on cooperatives are so large, it requires too much time for the processing of these data. - The method for data check is not established. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.
6. Personnel Administration	<ul style="list-style-type: none"> - Personnel record documents which contains various items concerning past records/history and present status of each staff is obtained for the administration of personnel and staffing. - The personnel record is updated each year. - The totalization is performed by computer of an external organization. 	<ul style="list-style-type: none"> - The data volume concerning personnel administration is relatively large, which makes it difficult to retrieve the necessary information quickly. - The personnel history items are not processed currently. - Since the computer processing is performed by an external organization, the processing cannot be performed on demand. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.
7. Inventory Administration	<ul style="list-style-type: none"> - Evaluation of the asset condition possessed by the Department is being performed manually. - The reports being prepared are on equipment, four wheel vehicle, two wheel vehicle, office buildings, and resident/buildings. 	<ul style="list-style-type: none"> - The time required for the processing is too long since there are many items to be managed. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.
8. Project Administration	<ul style="list-style-type: none"> - A project evaluation report is being prepared based on the project plan and the quarterly project progress report. 	<ul style="list-style-type: none"> - Evaluation of the progress of a project requires complicated calculation and judgement which makes the manual processing difficult regardless of the number of projects. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.
9. Middle East Work Force	<ul style="list-style-type: none"> - The current status of the work force dispatched to the Middle East countries are being checked based on the information obtained from labor suppliers or the domestic contractors. 	<ul style="list-style-type: none"> - The time required for the processing is too long since the data volume is so large. - The method for checking the input data is not established. 	<ul style="list-style-type: none"> - The requirements are more coverage of information/reports, accurate information processing, quick preparation of reports, and realization of mass processing for the operation.

(1) Operation

There will be a transfer of documents for every source data (transaction) being generated. Each activity for the generation of transaction will be called "operation." Details of the operation must be studied thoroughly since it will have great effect on the information system. For instance, the volume of transactions being generated will have much influence on volume of input data, size of master file, and frequency of updating. Changes in operation (such as increase/decrease in number of transactions generated) throughout the system life must be reflected for the system design. When considering the current operation in a wide sense, propriety of the mechanism concerning generation and transmission of the information must also be examined for the analysis.

However, only the sphere after generation of the information will be studied in this Master Plan so that the examination of propriety of the operation itself will be excluded. But, in the phase of system analysis and design for the system development to be conducted after the Master Plan Study, it must be remembered that the propriety of the operation must be examined.

(2) Generation of Information - Transaction

Information is generated in the form of transactions. Needless to say since transactions are the inputs for the information system, contents of the transaction are key elements for the system design.

Usually, transactions take form of documents. It is desired that the documents are not redundant. For this reason, standardization of data and its coding will be an important factor. These must be carefully studied at the phase of basic design and detail design. This Master Plan is limited to study only the current situations of transactions in detail.

(3) Information Processing

This is the main body of the information system, and the processing to be performed depends on the output requirements. The manual processing performed before the computerization applies to this.

(4) Reporting

Reports are the cause and the results of the operation. Usually, there exists an output from the system which justifies the existence of the operation. It is a very important factor of the master plan study of an information system to understand the contents and characteristics of the report since reports are prepared to be used by a certain person for a certain purpose.

In this Master Plan Study, current frequency for the requirement for the report, the persons who will use the report, and purpose of the report were studied as much as possible in detail. New requirements for the report were also studied.

At the phase of system design to be followed after the

master plan study, justification of the existence of the report and the designing, standardization of the detailed items of the report must be examined from the point of view of how the report is usually being used for the routine work operation.

2-2. Foreign Trade

Coffee, pepper, timber/logs and lubricating oil are the four commodities investigated for the Master Plan in the area of foreign trade.

2-2-1. Coffee

(1) Commodity Flow

Producers of coffee are the plantations called the "estate" or small scale holders (farmers). Sometimes the coffee is directly forwarded to the exporter, but usually it is distributed through the traders at villages or KUD's to the traders at districts, and to the traders for exporting. Some of the coffee is naturally being consumed domestically, which is distributed through the traders at villages to the roasters. After roasting, it is then distributed through the wholesaler, retailer, and on to the consumer. The domestic portion of coffee is not a part of this Master Plan.

(2) Generation of Transaction

Generation of source data (or transactions) concerning this information system are the export certificates (i.e., SPEC and certificate of origin) being issued by the provincial

trade office to the exporters. There are 14 provinces engaged in issuing the trade certificates, and the total number of export certificates issued monthly is approximately 1,400. Export certificates for exporting to I.C.O. (International Coffee Organization) member countries and non-I.C.O. member countries are issued separately. The contents of the two certificates are nearly the same and include the following items:

- i. Country of destination.
- ii. Name of vessel.
- iii. Port of origin.
- iv. Date of shipment.
- v. Port of destination.
- vi. I.C.O. ID mark.
- vii. Volume (number of cargo).
- viii. Description of coffee (green, roasted, etc.).
- ix. Net weight (kg or lb).

(Refer to I-13, I-13-2)

There are 12 different kinds of coffee and about 360 coffee exporters in Indonesia.

Information on quantities of export, check prices, etc., are obtained from E-3 Form (PEB) (refer to B-17, B-35).

(3) Information Flow

A report is required to be submitted to I.C.O. when exporting coffee to I.C.O. member countries. Other procedures are the same as for exporting to I.C.O. or non-I.C.O. countries.

The original export certificate is being sent to the country the coffee is being exported to, who then reports to I.C.O. A copy of the export certificate is sent to the Head Office and checked. The results are reported to I.C.O. so that the export of coffee can be verified from both the exporting and importing countries. The flow of commodity and information is shown below:

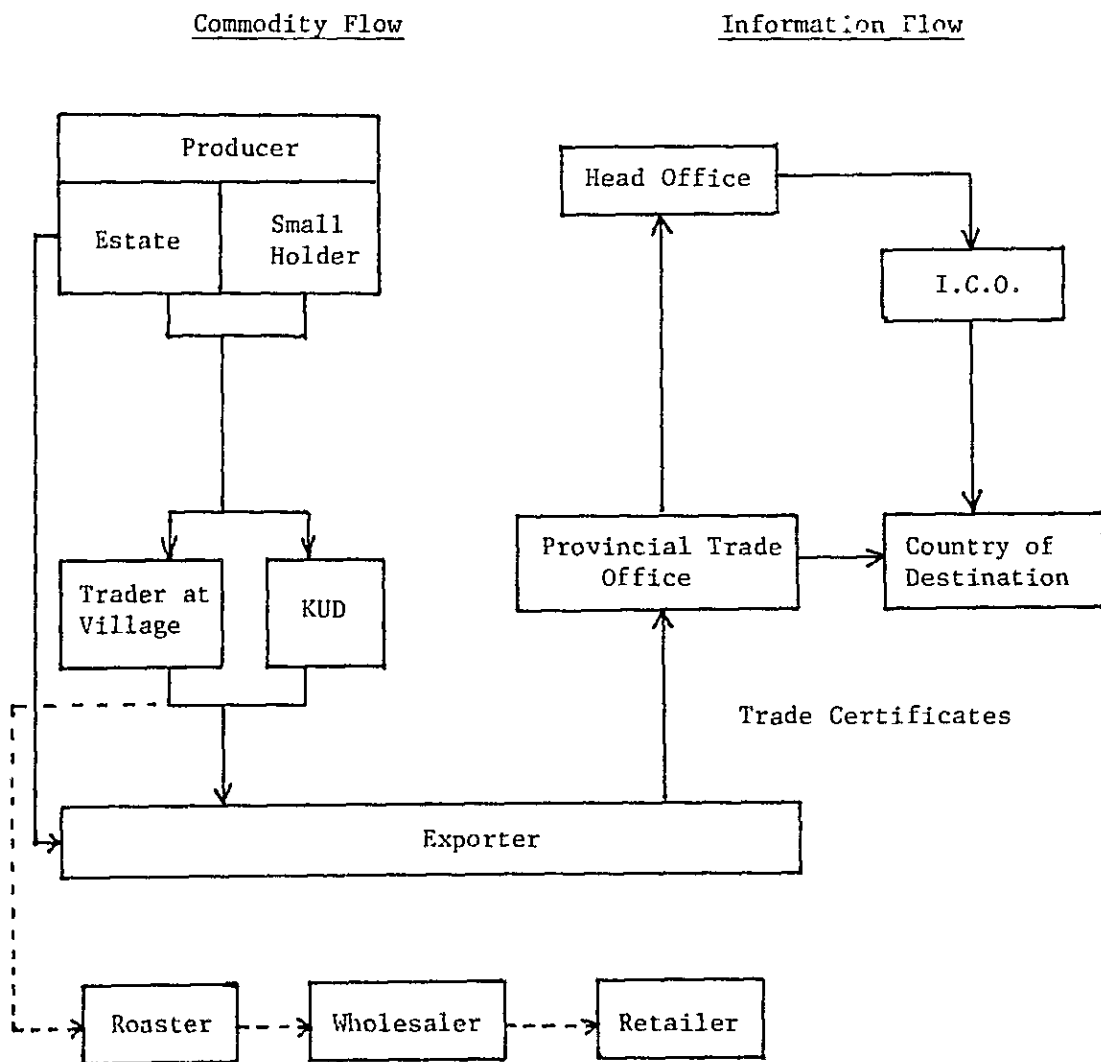


CHART: Flow of Commodity and Information (Coffee)

(4) Reporting

Monthly reports are being prepared at the Head Office. Contents of the export certificate for each cargo is indicated and totalized, and monthly reports are prepared for reporting export quantities and CIF values by countries (refer to B-3, B-4).

Two staff members of the Head Office are preparing the reports at the present time. The work load is too heavy for two persons, and since it has been requested that a more substantial report will be submitted, the total number of staff preparing this report is expected to be increased to seven or eight persons.

(5) Scope of the Information System

Export of key commodities are considered to be of great importance, and therefore, adequate control of coffee export by the Department of Trade and Cooperatives is anticipated. Transactions on the order of 1,400 per month cannot be considered to be so frequent, but to report information to I.C.O. and to make various tabulations by type, exporter, etc., the work load is beyond the capacity of the current manual tabulation. The systematization should be aimed at quick processing and manpower savings.

The system is to be designed to obtain the following outputs:

- i. Overseas market price.
- ii. Retail price.
- iii. Producer price.

- iv. List of trade certificates.
- v. List of exporters.
- vi. Area and production volume (by province).
- vii. Record of export (by exporter).

In order to make full use of the system, additional information such as the ledger of exporters and production records must be obtained from C.B.S. as input information. When considering the processing speed and the accuracy, it is recommended that a machine readable media such as magnetic tapes (MT's) or floppy disks would be used.

2-2-2. Pepper

(1) Commodity Flow

There are two kinds of pepper being produced in Indonesia; white pepper and black pepper.

White pepper is produced in the three provinces of East Kalimantan, West Kalimantan and South Sumatera, while black pepper is produced in only one province, namely Lampung. Each has two exporting grades, one is for exportation to the United States, and the other is for exportation to the European countries.

The peppers produced in East Kalimantan and South Sumatera are distributed to the exporters through the traders at villages or directly to the exporters, while in Lampung through traders at villages and then through traders at districts, and finally to the exporters. Peppers produced in West Kalimantan is sold for domestic consumption. There

are almost 200 exporters for pepper in Indonesia.

(2) Generation of Transaction

When exporting pepper, the exporter must obtain a trade certificate called SPEL from their provincial trade office (refer to B-11). The major articles mentioned in SPEL are:

- i. Name of exporter.
- ii. Address.
- iii. Quantity of shipment.
- iv. Kind of pepper.
- v. Quality.
- vi. Check price.
- vii. Country of destination.

Each provincial trade office submits a copy of the trade certificate to the Head Office.

Information concerning quantities of export, check price, etc. are obtained from E-3 Form (PEB).

(3) Information Flow

There are two sections in charge of pepper at the Head Office. One is in charge of white pepper and the other is in charge of black pepper.

The necessary transactions which consist of SPEL, obtained from the provincial trade offices are processed, and the necessary reporting is being done by these two sections. The following paragraphs describe the processing for the two kinds of pepper.

(3)-1. Black Pepper

The provincial trade office sends 50 SPEL forms monthly, which requires about two weeks to be received at the Head Office. Therefore, the total number of transactions received at the Head Office is 50 per month. It takes about one week to prepare a monthly report from this information. This procedure is now being performed by two persons. But, to prepare a more informative report, it has been requested that the staff for this work be increased to about five persons.

(3)-2. White Pepper

Each of the three provincial trade office sends 50 copies of the SPEL form monthly, which requires about one month to be received at the Head Office. Therefore, the total number of transactions received at the Head Office is 150 per month. It takes about half month to prepare the monthly report from this information. This procedure is presently being performed by two persons, but similar to the case of black pepper, it is planned to increase the staff working on this to the desirable number of five persons. Following shows the flow of information.

Commodity Flow

Information Flow

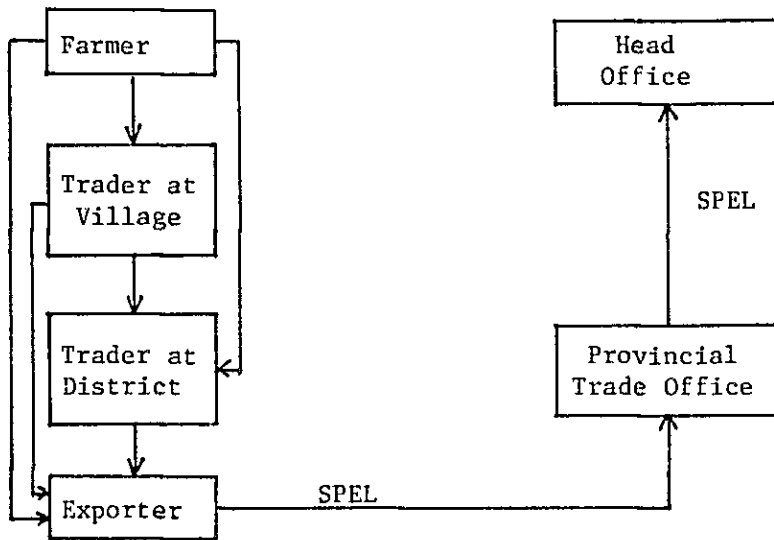


CHART: Flow of Commodity and Information (Pepper)

(4) Reporting

Following reports are being made based on the SPEL information received from provincial trade offices.

- i. Record of Trade Certificates by Exporters (refer to B-9):
company name, representative name, status (pribumi or non-pribumi), certificate number, quantity, etc.
- ii. Monthly Record of Export (refer to B-9-2):
past record of export by province, and by month.

The monthly Record of Export is then used for preparing an annual report on exports (refer to B-10).

(5) Scope of the Information System

There is a program for processing the information on pepper experimentally at the Agricultural School in Bogor. The

program is designed to obtain the following outputs:

- i. Overseas market price.
- ii. Retail price.
- iii. Producer price.
- iv. List of trade certificates.
- v. List of exporters.
- vi. Area and production volume (by province).
- vii. Record of export (by exporter).

(Refer to B-8)

In order to make full use of this program, additional information such as the ledger of exporter and production records must be obtained from C.B.S. as input information. The information obtained by output forms from C.B.S. are intended to be input by punched cards. But when considering the processing speed and the accuracy, a machine readable media such as MT's or floppy disks are recommended.

2-2-3. Timber/Logs

(1) Commodity Flow

There are two types of timber being exported. They are logs and processed timber.

(1)-1. Logs

Logs are supplied by the concession holders and the plywood industry manufacturers.

Selling of timber in Indonesia is under the control of four Directorate Generals. They are the Directorate General for

Forestry (Department of Agriculture), Directorate General for Foreign Trade (Department of Trade and Cooperatives), Directorate General for Domestic Trade (Department of Trade and Cooperatives), and Directorate General for Industry (Department of Industry). They check the supply-demand situation for deciding the domestic supply and export volume. The Government of Indonesia is promoting the export of processed timber but intends to keep the export of logs at a low rate. There are no limits for the export of processed timber but the following limitations are imposed for the export of logs in conformance with this policy.

- (a) For exporters whose mills are under construction, the ratio of domestic supply and export must be kept at 1 : 2.
- (b) For exporters whose mills are already in production, the ratio of domestic supply and export must be kept at 4 : 1.

The export quantity is allocated according to the above rules, and the trade certificates are issued by provincial trade offices to the exporters.

(1)-2. Processed Timber

Exporting of processed timber can be made without any restrictions, and the commodity flow is basically the same as in the case of logs.

Exporters of timber must be registered by applying for a license every five years to the respective provincial trade office. When registration procedures have been completed, each exporter will be given a certain identification number called APE (refer to B-15).

(2) Generation of Transaction

Transactions concerning export of timber/logs consists of trade certificates, and the transaction for the declaration of export is called "E-3 Form." A copy of the trade certificate issued by the provincial trade office for each shipment of logs is submitted to the Head Office (refer to B-15-2). The major articles mentioned in the trade certificate are:

- i. Name of exporter.
- ii. Address.
- iii. APE number.
- iv. Quantity of shipment.
- v. Kind of log.
- vi. Country of destination.

The only transaction for processed timber is the E-3 Form which is approved by the provincial trade office on request by exporters, and there are no certificates required for each shipment. One copy is forwarded to the provincial trade office of the Department of Trade and Cooperatives, which is then submitted to the Head Office.

(3) Information Flow

60 to 70 trade certificates are sent from the provincial trade office for logs which requires from one to two weeks to be received at the Head Office. A monthly report is made based on this information. Presently, three staff members are engaged in this operation, but in order to reduce the time required for preparing the report and also to reduce the overtime hours, it is intended

to increase the staff to about six or seven persons.

Telex is also used to confirm the total number of trade certificates sent to the Head Office from the provincial trade offices. The following shows the flow of information:

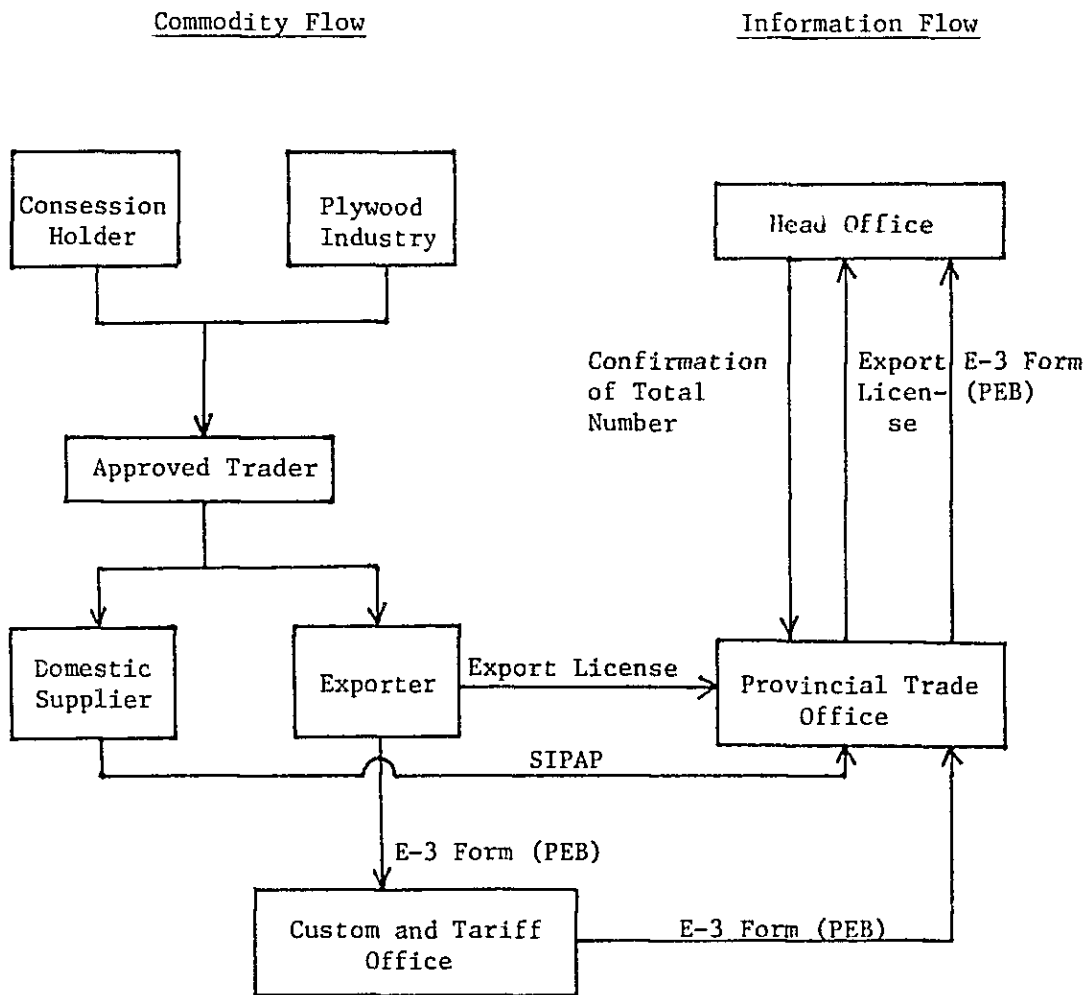


CHART: Flow of Commodity and Information (Timber/Logs)

(4) Reporting

Following reports are being made based on information obtained from the provincial trade office.

- i. Monthly and yearly export records by each province
(refer to B-16).
- ii. Number of trade certificates issued by each province.

Also, a ledger of exporters is prepared in addition to the two reports mentioned above.

(5) Scope of the Information System

There is no special concept established for the computerization so far. The current problem is that the information on quantities of export and check prices are not mentioned in the trade certificates so that these items must be referred from the E-3 Form (PEB). Copies of the trade certificates and E-3 Form are being submitted to the Head Office, but not all of the E-3 Form are obtained at the Head Office at the time.

The system is to be designed to obtain the following outputs:

- i. Overseas market prices.
- ii. Retail price.
- iii. Producer price.
- iv. List of trade certificates.
- v. List of exporters.
- vi. Area and production volume (by province).
- vii. Record of exporter (by exporter).

In order to make full use of the system, additional information such as the ledger of exporters and production records must be obtained from C.B.S. as input information. When considering the processing speed and the accuracy, it is recommended that a machine readable media such as MT's or floppy disks would be used.

2-2-4. Lubricating Oil

(1) Commodity Flow

There are 62 companies currently importing lubricating oil. From the importers, lubricating oil is distributed through the distributors, sub-distributors and to the end retailers.

(2) Generation of Transaction

(2)-1. Import License (TAPPI/PITP)

Every importer must obtain licenses for importing lubricating oil. There are two types of licenses for importers. One is called "TAPPI" which is the general license for importers. The other one is called "PITP" which is a license for lubricating oil importers.

(a) TAPPI (Signification for Recognition and Identification for Importer) (refer to B-29):

TAPPI is a general license for all importers regardless of the commodities they import. The Head Office will give approval to the importers when application is made through the provincial trade office. The validity of this license is three years, so that its renewal is required every three years. This will be the generation of the source

transaction for the ledger on importers. There are about 1,000 importers in Indonesia including those for lubricating oil.

- (b) PITP (Registered Recognition Importer for Lubricating Oil)
(refer to B-30):

PITP is a special license issued to the lubricating oil importers. The Head Office will give approval to the importers when request for application is made through the provincial trade office. The validity of this license is two years, so renewal of the license is required every two years. This will be the generation of the source transaction for the ledger on lubricating oil importers.

(2)-2. Import Declaration (PPUD)

PPUD (import declaration) is required for each importation of lubricating oil (refer to B-31). This PPUD is a common form for all commodities being imported. Importers must obtain approval from the Department of Finance by use of this form.

Major items mentioned in PPUD is shown as follows:

- i. Name and address of importer.
- ii. Name of vessel.
- iii. Landing port.
- iv. Name of exporting country.
- v. Weight.
- vi. Commodity.
- vii. Price.

One copy is being submitted to C.B.S.

There are 62 lubricating oil importers in Indonesia, and the average number of PPUD for one importer is about six per year, amounting to a total of 400 PPUD every year. Total number of PPUD being issued each year, including those for lubricating oil, is approximately 10,000. This would be an average of 10 declaration per year for the 1,000 importers in Indonesia.

(3) Information Flow

TAPPI and PIMP are both submitted to the Head Office from the importers through the provincial trade office. The time required for these documents to reach the Head Office from the provincial trade office is about two weeks.

PPUD is first submitted to the provincial custom and tariff office of Department of Finance by the importers. From each provincial custom and tariff office of Department of Finance, PPUD is then submitted to C.B.S. The chart below shows the flow of information.

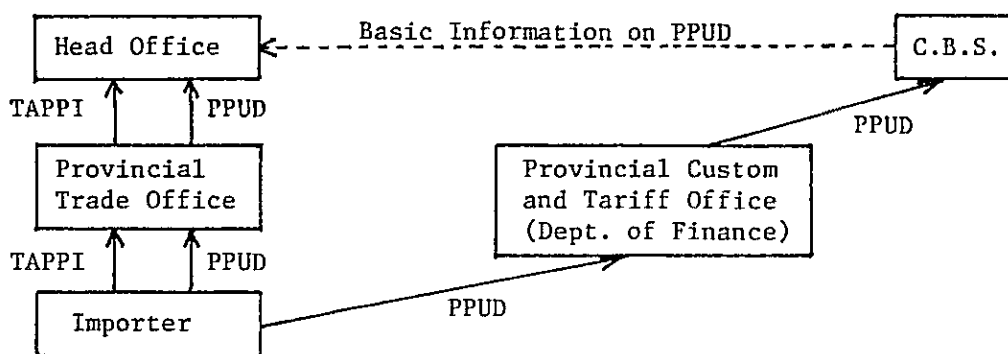


CHART: Information Flow (Lubricating Oil)

(4) Reporting

Reports are made at the Head Office based on information obtained by TAPPI, PITP and also summarized information concerning PPUD through C.B.S.

This procedure is presently being performed manually. There are only two staff members engaged in this work now, but at least five persons are required. Following are the lists being prepared:

- i. List of lubricating oil importers.
- ii. Import record of lubricating oil (PPUD number, class, quantity, price, exporting country, landing port).

(Refer to B-32)

C.B.S. is processing the information obtained from PPUD by computer, and the output is being sent to the Department of Trade and Cooperatives. But there is a long delay for the output to be received at the Department of Trade and Cooperatives for the information to be useful.

(5) Scope of the Information System

The Head Office has a concept to computerize the processing of the information presently being received from the provincial trade office and C.B.S.

2-3. Domestic Trade

Five major commodities, clove, copra, cooking oil, fertilizer and cement have been investigated as described in the following paragraphs.

2-3-1. Cloves

(1) Commodity Flow

KUD or PUSKUD collects cloves from the farmers. Then they are auctioned to the inter-island traders, including state trade companies for distribution to other provinces. A special trade license for each shipment is being issued to the inter-island traders by the provincial trade office. And finally, from the inter-island traders, cloves are distributed to the end users (cigarette manufacturers) through the sub-distributors. When the supply of domestic clove is in short supply, it will be imported from other countries to keep the balance of supply and demand.

(2) Generation of Transaction

There are two types of information received at the Head Office. One is the quantitative information concerning inter-island shipment of cloves, and the other is the price information.

The quantitative information on the shipment of cloves are obtained from the special trade license for cloves being issued by each provincial trade office to the inter-island trader for every shipment of clove (refer to IA-6).

The special trade license includes such items as:

- i. Name and address of inter-island trader.
- ii. License number.
- iii. Destination of the cargo.
- iv. Quantity.

v. Quality.

vi. Etc.

The market price information is obtained at each district trade office and provincial trade office by their own market reporter.

Some other related information are being obtained regularly at the Head Office from C.B.S. and the Department of Agriculture. But, since these information are secondary data, they will not be considered at this moment.

(3) Information Flow

When the inter-island trader applies for the shipment of clove to their provincial trade office through the district trade office, the special trade license for the shipment will be issued by the provincial trade office, of which one copy of every license will be submitted to the Head Office on a half-monthly basis. The average number of special trade license received at the Head Office is about 200 per month.

The price information being collected at each district trade office level is reported through the provincial trade office to the Head Office weekly by telex (refer to IA-9). There will be a maximum of 27 telexes on clove price being received at the Head Office every week.

Information on auction, such as the selling price, quantity, quality are also telexed to the Head Office from the provincial trade offices.

The flow of information and distribution of commodity for clove

is shown in the chart below.

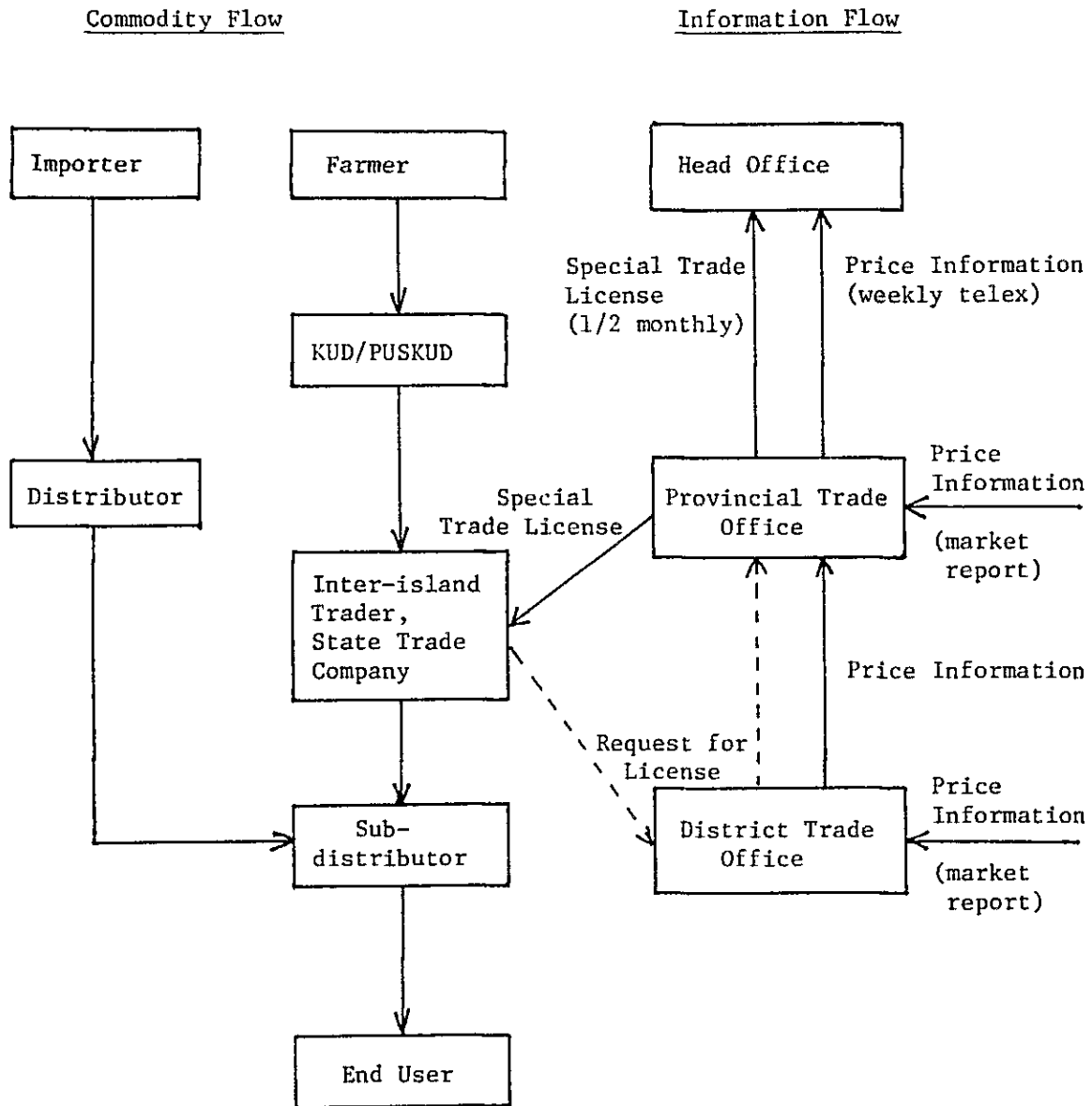


CHART: Flow of Commodity and Information (Clove)

(4) Reporting

The information obtained by telex and special trade license are

being posted to a ledger at the Head Office which is presently being performed manually.

The trends in clove prices and quantity of shipment by province are analyzed at the Head Office and being reported to the Head of Domestic Trade on half-monthly, monthly and yearly bases. The reports are used as the information sources for checking the price fluctuation and the tendency in shipment of cloves. From this information, the Department will take appropriate action for securing stabilized clove prices and its supply-demand.

(5) Scope of the Information System

The requirement at this moment is to input the contents of the telex and special trade license to a computer to make a master file for cloves so that the retrieval of the necessary information can be computerized for quicker preparation of the report. This would enable the Department to take more adequate action composed with the manual operation. Lists with following items by province or by certain time periods can be easily obtained for the analyses and the reporting when computerized.

- i. Name of company.
- ii. Clove price.
- iii. Quantity of shipment.
- iv. Etc.

In the future, production volume, supply, demand, and other items concerning cloves can also be computerized, if the proper information can be obtained regularly at the Head Office.

2-3-2. Copra

(1) Commodity Flow

The commodity flow of copra is very much like that of cloves. Trader at village, KUD or PUSKUD sells the copra collected from the farmers to the inter-island traders by auction. By the inter-island traders, it is distributed to the end users, namely the coconut oil millers.

(2) Generation of Transaction

There are also two types of information on copra received at the Head Office, similar to those for cloves. One is the quantitative information concerning inter-island shipment obtained from the special trade license for copra (refer to IA-5). This license is also issued by the provincial trade office to the inter-island trader for each shipment of copra. The major items of information included in the special trade license are:

- i. Name and address of the inter-island trader.
- ii. License number.
- iii. Destination.
- iv. Quantity.
- v. Quality.

The other is the price information collected by the market reporters of each district trade office and provincial trade office.

There is also a market report on copra by the Copra Agency, an external organization for collecting market information, which is obtained at the Head Office (refer to IA-13). Reports from

C.B.S. and Department of Agriculture are available regularly, but these two reports will not be considered in this Master Plan, as in the case of cloves, since these are considered secondary data.

(3) Information Flow

One copy of the special trade license for the shipment of copra by the inter-island trader is submitted to the Head Office from each provincial trade office on a half-monthly basis, the same as in the case of special trade license for cloves. The average number of special trade license received at the Head Office is about 75 to 100 per month.

Market price information on copra collected by each district trade office and provincial trade office is telexed to the Head Office from every provincial trade office every week, amounting to a maximum of total 27 telexes per week (refer to IA-9).

The market information report from the Copra Agency is also received every month at the Head Office.

The next chart shows the flow of information and distribution of commodity for copra.

Commodity Flow

Information Flow

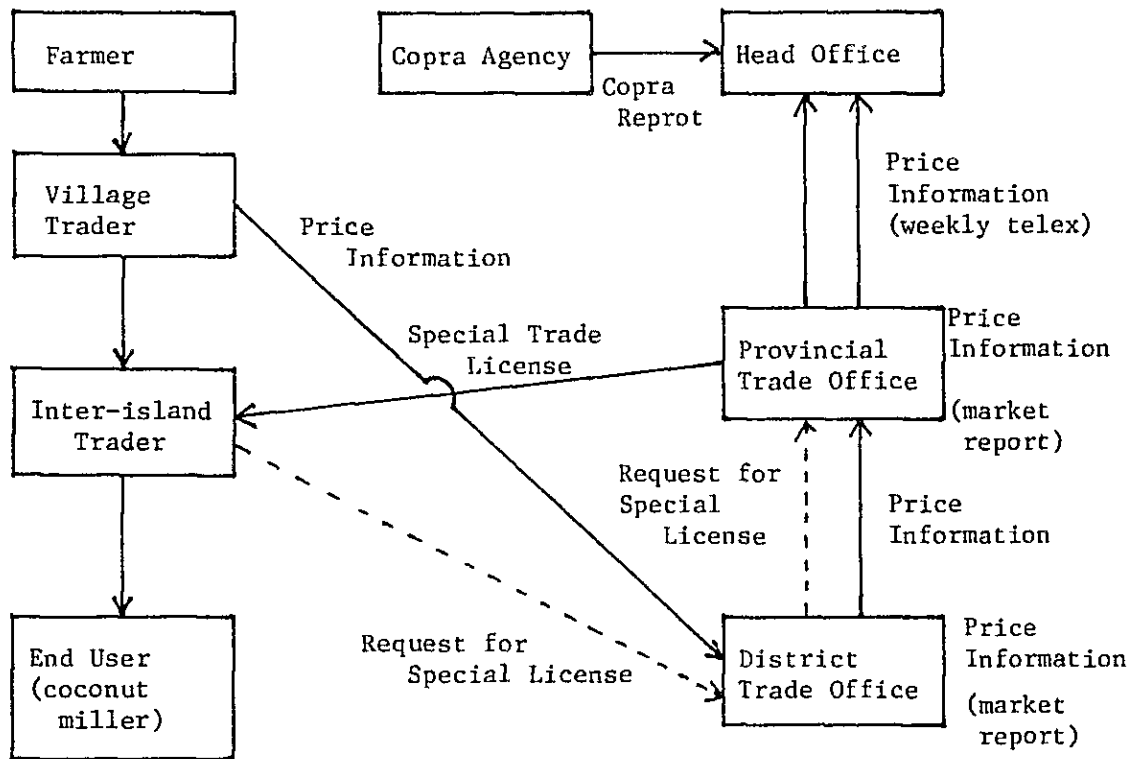


CHART: Flow of Commodity and Information (Copra)

(4) Reporting

The telexed price and special trade license information on copra are presently being posted to a ledger at the Head Office manually. The trends in price fluctuation and the variations in quantity of shipment of copra are analyzed at the Head Office from the information obtained by telexes and special trade licenses, together with the market information from the Copra Agency. The results of the analyses are reported to the Head of Domestic Trade on half-monthly, monthly, and yearly bases for their policy making in stabilizing the price of copra and controlling its shipment, etc.

(5) Scope of the Information System

The present needs for the computerization is to input the price information obtained from the telex, and quantitative information, name of traders and their performance obtained from the special trade licenses, so that this information can be retrieved automatically, together with the market information from the Copra Agency. This would result in making timely policies for stabilizing the copra market. Also, in the future, more necessary information such as the supply-demand and production volume can be added to the system if these information can be obtained for computer input.

2-3-3. Cooking Oil

(1) Commodity Flow

The commodity flow of cooking oil is different from the case of cloves and copra. From the manufacturers, cooking oil is being sold directly to the distributors. From the distributors, it is then sold to the sub-distributors, and hence to retailers.

(2) Generation of Transaction

Unlike the clove and copra, there is no special trade license for the shipment of cooking oil. There is only the general trader's license for the registration of the enterprises. The only information obtained on cooking oil at the Head Office is on price, which comes from the market reporter assigned to the provincial trade office and the district trade office.

(3) Information Flow

The price information collected by the market reporter of each district trade office and provincial trade office is reported to the Head Office weekly by telex through the provincial trade offices (refer to IA-9). The maximum number of price information received at the Head Office would be 27 telexes per week.

Following is the information and commodity flow of cooking oil.

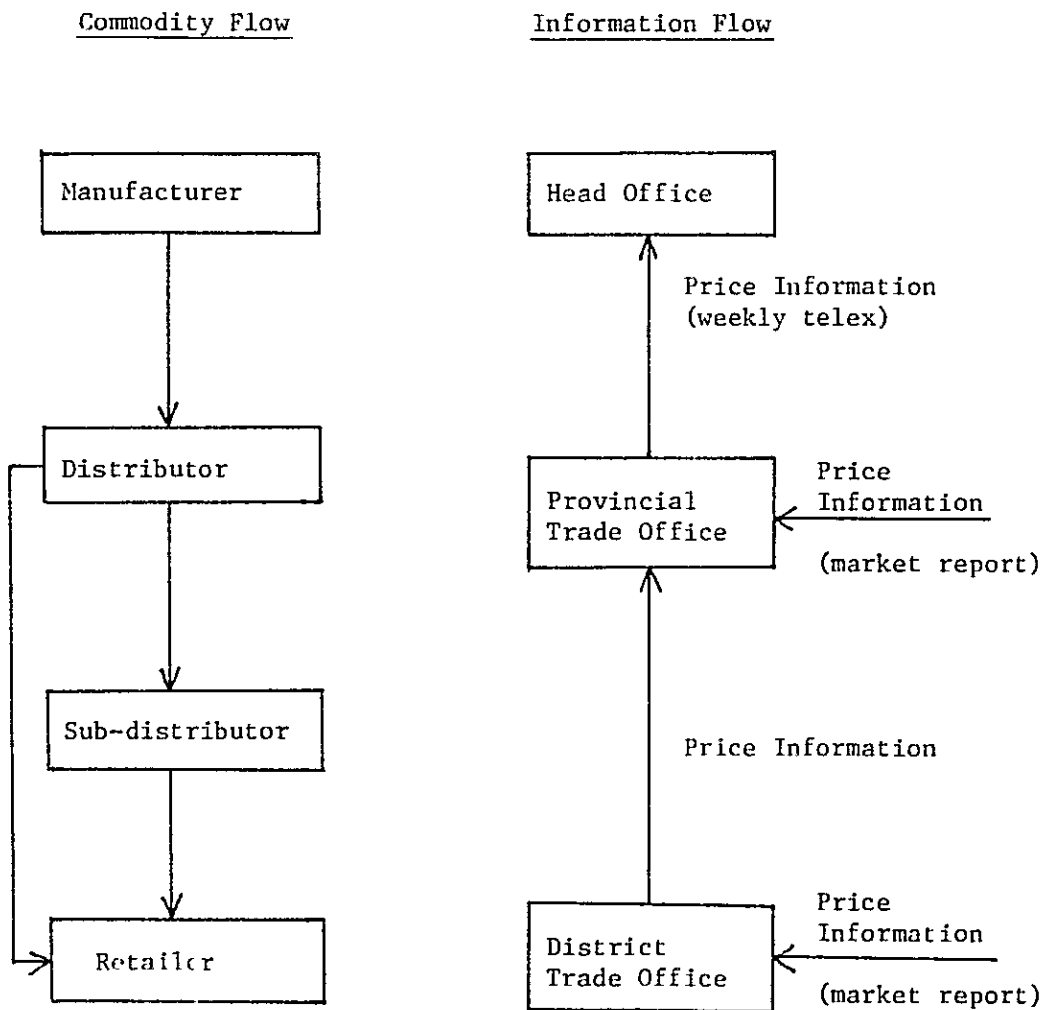


CHART: Flow of Commodity and Information (Cooking Oil)

(4) Reporting

The price information telexed weekly by the provincial trade offices are being recorded to a ledger at the Head Office. Analysis of the price trends in each province is performed and reported to the Head of Domestic Trade on half-monthly, monthly, and yearly bases for policy making.

(5) Scope of the Information System

Considering the information on cooking oil obtained at the Head Office, the scope of computerization at this moment would be to check the price fluctuation in each province by a certain time period. This would make it possible to prepare the report to the Head of Domestic Trade for policy making more quickly and more efficiently. If information such as the supply-demand, production volume, and company names of both traders and manufacturers could be obtained regularly at the Head Office in the future, these items could also be added to this system.

2-3-4. Fertilizer

(1) Commodity Flow

There are five types of domestic manufactured fertilizers. Urea, TSP, DSP, ZA, and KCL. The distributor buys these fertilizers from the domestic manufacturers and then sells them to the sub-distributors, and then from the sub-distributors to the retailers. When the domestic supply of fertilizer is not sufficient, the deficient amounts will be imported. Fertilizer is distributed by the manufacturer through the distributor, sub-distributor, to the retailers comprising of KUD as well as traders at village.

(2) Generation of Transaction

There is no special trade license for the shipment of fertilizer by which the quantities and company names could be checked from. Instead, there are telexes being sent from the provincial trade offices to the Head Office informing the actual supply, demand, and stock of five types of fertilizers in each province (refer to IA-10). Also, information on the market price of fertilizers being surveyed by the market reporters of the district trade office and the provincial trade office is telexed.

(3) Information Flow

The supply-demand and stock information on fertilizers in each province is telexed to the Head Office on a half monthly basis. The maximum number of telexes for this would be 54 telexes per month. The market price information collected by market reporters are telexed weekly to the Head Office from each provincial trade office.

The maximum number of in-coming telexes at the Head Office on the price of fertilizers would be 27 telexes per week. The information and commodity flow of fertilizers is shown next.

Commodity Flow

Information Flow

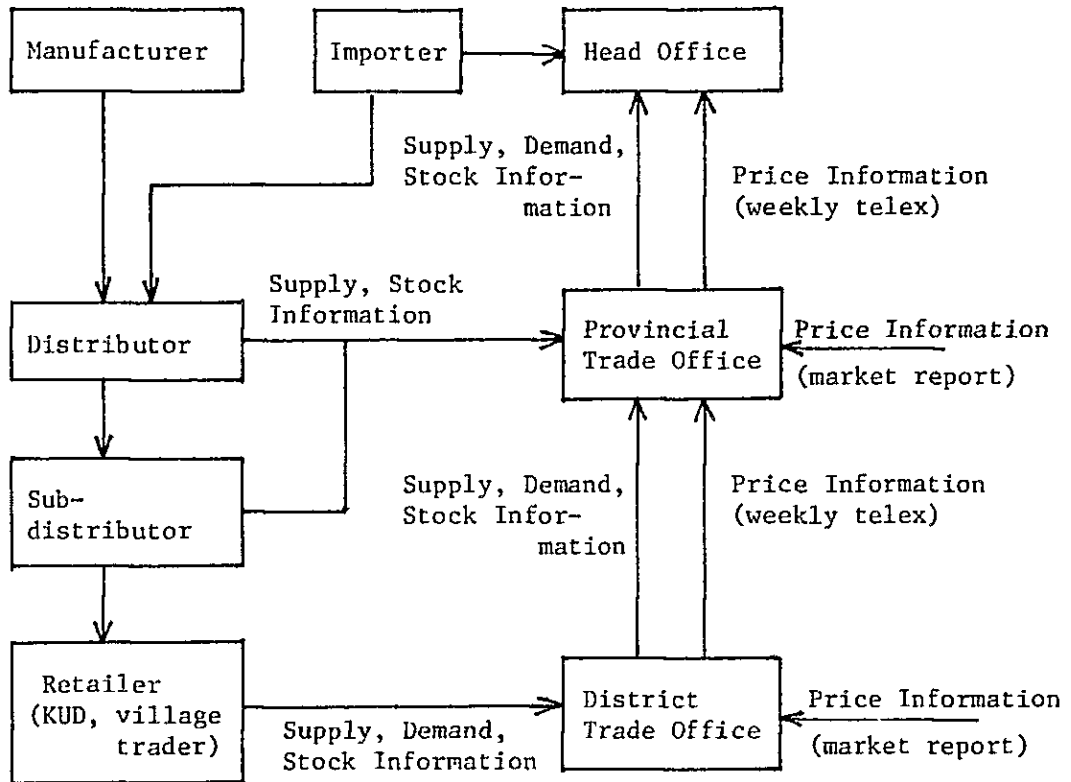


CHART: Flow of Commodity and Information (Fertilizer)

(4) Reporting

From the weekly and half-monthly telexes, price fluctuation, and supply-demand and stock conditions of fertilizers are being posted to the ledger at the Head Office manually, and are also being analyzed. The results are reported to the Head of Domestic Trade on half-monthly, monthly, and yearly bases. These reports are used for policy making such as to stabilize the price of fertilizers, to compare the actual supply and the projected demand, and to make decisions whether to import fertilizers when the domestic supply is not sufficient. Overseas market

report on fertilizers are obtained by telex from the respective embassies when necessary.

(5) Scope of the Information System

The present requirement is to have a computerized information system on the price, supply, demand, and stock information of fertilizers. This would enable the Head Office to check the market situation of fertilizers more efficiently than by the manual operation as it is being performed now.

2-3-5. Cement

(1) Commodity Flow

The distribution of domestic cement is very much like that of fertilizers; from the manufacturer to the distributor, then to the sub-distributor, and finally to the retailer.

Cement is imported in some areas where distribution cost is relatively high. Contractor may obtain cement directly from the distributor, and also, cement is being exported from the manufacturers. No special trade license for the shipment of cement is required.

(2) Generation of Transaction

There are four types of documents concerning cement (refer to I-7). One is for the distributor to report to their provincial trade office the quantity of supply and shipment. Another report is for the district trade office to report to their provincial trade office on the stock, shipment, selling price information of their district. The third one is for the provincial trade office

to report to the Head Office the information they have obtained from their district trade offices and distributors. There is also another document for the manufacturer to report to the Head Office of their supply-demand conditions. As for the price information on cement, they are being collected by the market reporters of the district trade offices and the provincial trade offices.

(3) Information Flow

The three documents, from the distributor to the provincial trade office, from the district trade office to the provincial trade office, and from the provincial trade office to the Head Office, are all submitted on a weekly basis. The Head Office will be receiving up to 27 of the documents from the provincial trade offices every week. The documents from the manufacturers to the Head Office are submitted every half month. Price information from the provincial trade offices are telexed weekly to the Head Office, amounting up to 27 telexes per week at the maximum.

The next chart shows the flow of information and commodity of cement.

Commodity Flow

Information Flow

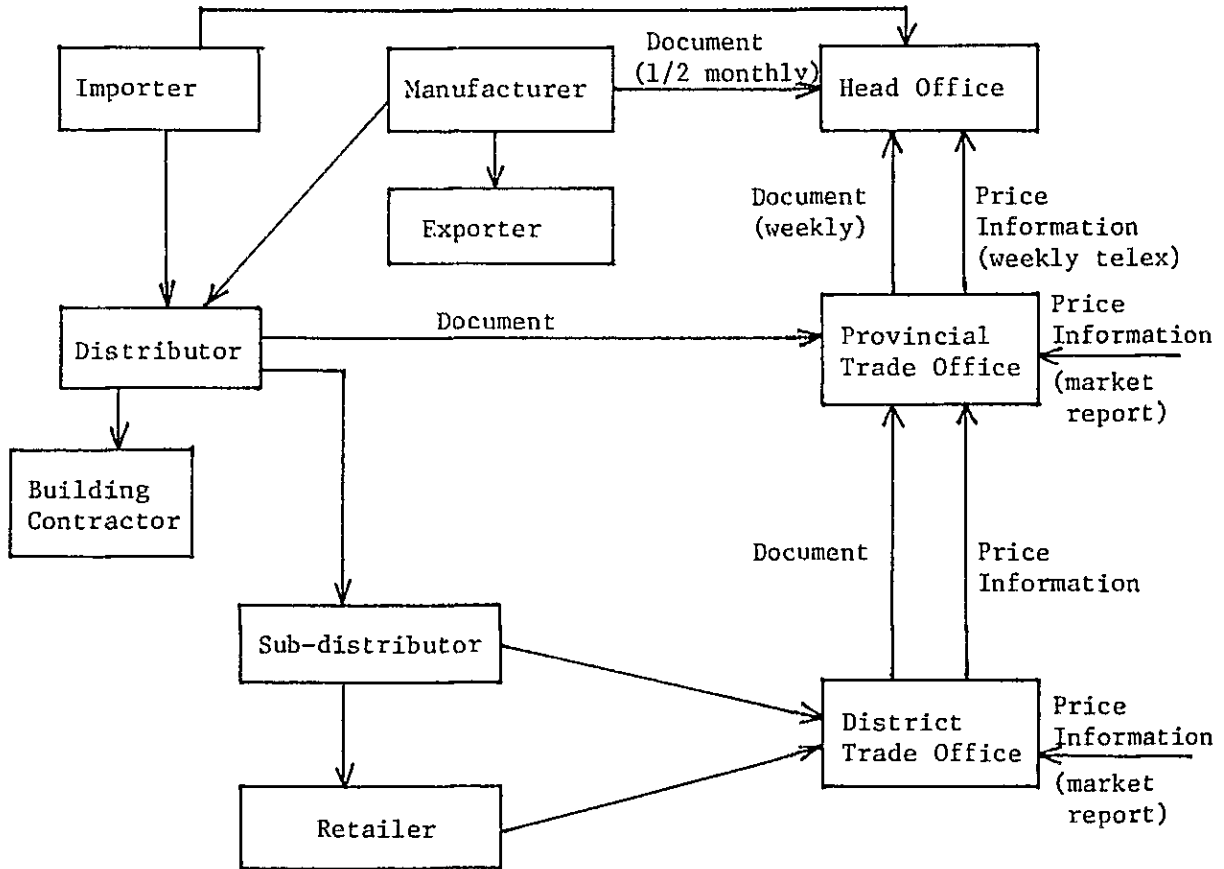


CHART: Flow of Commodity and Information (Cement)

(4) Reporting

The contents of the documents received from the provincial trade offices and the manufacturers are recorded at the Head Office together with the price information. These information are analyzed and reported to the Head of Domestic Trade on weekly, monthly, and yearly bases. Based on these reports, the Head Office will control the market for stable supply and price of cement by comparing the actual supply and the projected demand.

(5) Scope of Information System

To have a computerized master file concerning the information on cement will make policy making much easier. The market conditions of cement can be retrieved and checked much quicker for efficient policy making. In the future, this system can be expanded depending on the information which can be received at the Head Office regularly.

2-4. Concerning Price Information

2-4-1. Consumer Price Index

(1) Generation of Transaction

C.B.S. is checking the consumer price in 17 provinces, out of 27 provinces, to survey the trends of commodity prices. The Department of Trade and Cooperatives is receiving the monthly report from C.B.S. for analyzing them. The report by C.B.S. is the transaction to the Department of Trade and Cooperatives.

(2) Information Flow

Provincial offices of C.B.S. are checking the consumer price of 115 to 150 commodities in 17 provinces out of the total 27 provinces every month. (150 commodities in 5 provinces, 140 commodities in 8 provinces, 125 commodities in 3 provinces, and 115 commodities in 1 province). The results are telexed to the Head Office of C.B.S. and are totalized at the end of each month.

Computer output forms, totalized by each province, are sent to the Department of Trade and Cooperatives (refer to B-18-4).

Following is the information flow.

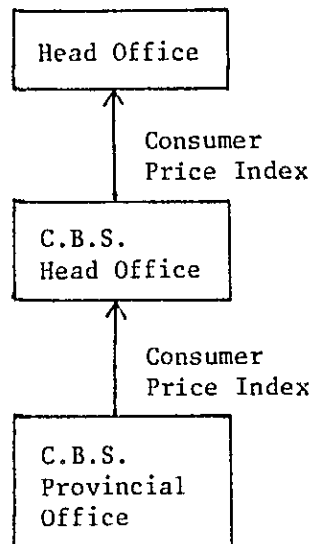


CHART: Information Flow (Consumer Price Index)

(3) Reporting

Based on the information obtained from C.B.S., the Department of Trade and Cooperatives is compiling a table of consumer price trend and table of ranking of consumer price fluctuation, by commodities and by provinces into monthly reports (refer to I-5, I-5-2, I-5-3).

Presently, nine staff members of the Head Office are working on this. Also, from these monthly reports, a yearly report on consumer price is being prepared.

(4) Scope of the Information System

The work load for posting the data obtained from C.B.S. seems to be very heavy so that the first thing to be considered is to

change the media of transaction to MT or floppy disk. Also, many commodities for surveying consumer price overlap with commodities being surveyed for commodity prices. Therefore, a linkage between these information must be considered.

2-4-2. Commodity Prices

(1) Collecting Commodity Price Information

The Head Office is collecting commodity price information in the next two fields.

- i. Daily price trends in the world market.
- ii. Weekly, half-monthly, and monthly price trends of important commodities in 27 major cities.

(2) Price Trends in the World Market

Daily tabulation of each commodity is being performed manually from the information obtained from ANTARA (refer to I-4).

There are 29 commodity markets for 16 items. The items are:

- | | |
|----------------------|-------------|
| i. Rubber RSS I. | ix. Beans. |
| ii. Rubber RSS III. | x. Corn. |
| iii. Copra. | xi. Sugar. |
| iv. Coffee. | xii. Hemp. |
| v. Pepper. | xiii. Jute. |
| vi. Palm Seed. | xiv. Tin. |
| vii. Palm Oil. | xv. Lead. |
| viii. Vegetable Oil. | xvi. Gold. |

The daily number of transaction is one, and this information is now being processed manually.

Following is the chart showing the information flow.

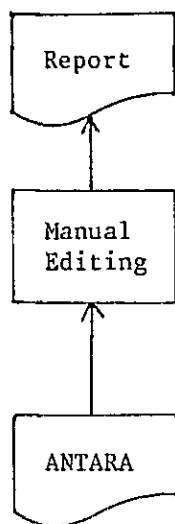


CHART: Information Flow (Daily Price Trends in the World Market)

(3) Price Trends in the Domestic Market

(3)-1. Generation of Transaction

There are three types of transactions being submitted from 27 provincial trade offices to the Head Office for reporting commodity Prices. The next table shows the three types of transactions.

TABLE: Type of Transaction

Transaction	Major Commodities	Approximate Number of Commodities	Reference Number
1. Weekly Transaction	groceries, export commodities, timber/log, rubber, livestock, etc.	160	B-18-1
2. Half-monthly Transaction	construction materials, coffee, fruits, drugs, tire, chemicals, etc.	80	B-18-2
3. Monthly Transaction	automobile parts, electric appliances, dwelling materials, rent for warehouse, transportation cost (land/sea), etc.	60	B-18-3

(Note: Commodities mentioned for each type of transaction do not overlap)

(3)-2. Information Flow

All three types of transactions for each commodity are being sent from the provincial trade offices to the Head Office, which takes about two weeks. Following shows the flow of information.

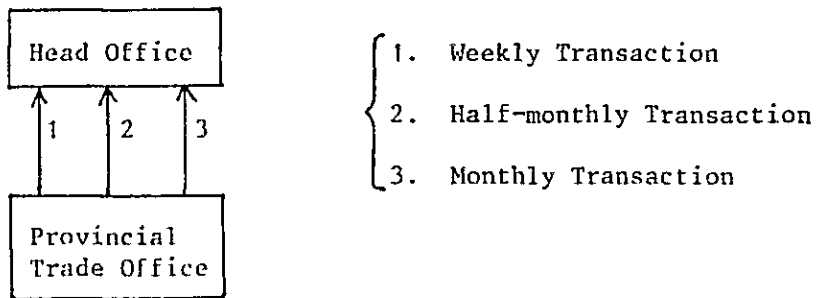


CHART: Information Flow (Commodity Price)

(3)-3. Reporting

Presently, time series commodity price table for every commodity by each city is being made monthly from the three types of transactions, manually.

(4) Scope of the Information System

The Head Office has the intention to computerize the tabulation procedure now being performed manually. If the information contained in each transaction could be managed as a data file, trend of each commodity price could easily be retrieved for the reporting.

2-4-3. Check Prices

(1) Commodities with Check Prices

The Head Office has established a list of check prices for certain items among export commodities. The purpose for determining check prices is to give a base to levy export custom duties against the prices so established. As an example, the export customs duty on pepper is as follows:

$$(\text{Check Price}) \times 2\%$$

Another purpose is to stimulate or discourage the export performance. There is no direct relationship between the check price and the actual exported price, and in some cases, the actual exporting price could be less than the check price.

The commodities for which check prices have been established have 19 general classifications as indicated in the next table and when further classified into types and grades, there will be

approximately 350 items (refer to B-14-2).

Table: Commodities with Check Price

i. Rubber	xi. Fresh Shrimp
ii. Coffee	xii. Cinnamon
iii. Pepper	xiii. Nutmeg
iv. Palm Oil	xiv. Tobacco
v. Coconut Seed Oil	xv. Hides
vi. Copra Cake	xvi. Lumber
vii. Corn	xvii. Logs
viii. Dried Cassava/Tapioca	xviii. Milled Lumber
ix. Rice Bran	xix. Rattan
x. Cattle (Bali)	

(2) Determination of Check Prices

Check prices are discussed by a committee consisting of members (a total of 15) from the four Departments of Industry, Agriculture, Finance, Trade and Cooperatives, and promulgated under the authority of the Minister of Trade and Cooperatives. The meetings are convened every three months, at which time the check prices for the next three months are decided.

Check prices are decided by taking into consideration the demand and the prevailing market conditions, and although there is no fixed formula for making this determination, it can be described as follows:

Check Price = f (production cost, consumer price, insurance freight, price on the world market, etc.)

The final objective of establishing a data system for check prices would be to make a logical formula, however, for the present time, the work required for the computerization is understood to be to organize the related data into a workable system.

(3) Scope of the Information System

The responsible officials at the Head Office have indicated the necessity to compile the data of world market price, in order to calculate the check prices as an application for the time being.

This implies that, at this moment, it will be necessary to add to the data file at least the monthly world market prices for the 17 items listed below (available data source; ANTARA), in addition to the manual operation currently performed for collecting these data (refer to B-13).

TABLE: World Market Commodities

i. Rubber, RSS I.	x. Dried Cassava/Tapioca.
ii. Rubber, RSS II.	xi. Corn.
iii. Coffee.	xii. Rice Bran.
iv. Black Pepper.	xiii. Cinnamon.
v. Copra.	xiv. Nutmeg.
vi. Coconut Oil.	xv. Mace.
vii. Palm Oil.	xvi. Cattle (Bali).
viii. Coconut Seed Oil.	xvii. Lumber.
ix. Copra Cake.	

2-5. Registration of Enterprises (General Trader's License)

(1) General

By the enactment of the new registration law, all business firms are from now on required to apply for the registration. There are three types of registration forms, first for the large size enterprises, second for the medium size enterprises, and third for the small size enterprises (refer to I-11-2). The validity of the general trader's license is five years. The major items mentioned in the 6 to 9 page registration form includes such items as:

- i. Name of enterprise.
- ii. Address.
- iii. Type of enterprise.
- iv. Name of representative.
- v. Capitalization.
- vi. Assets.
- vii. Business activity.
- viii. Establishment.

All business enterprises are required to apply for this general trader's license. On the other hand, special trade licenses are issued as transactions for special trade commodities by obtaining approval by filing applications thereof.

(2) Generation of Transaction

The application form for the registration of enterprise is to be submitted to the district trade office or provincial trade office by each registering enterprise as the occasion

arises. The total number of enterprises previously registered under the old regulation is not clear but it is estimated to be about 400,000. The total number of enterprises to be registered under the new regulation is estimated to be approximately 2,000,000.

(3) Information Flow

The application form received at the district trade office is submitted to the provincial trade office where the general trader's license will be issued to the enterprise. A copy of the general trader's license issued will be submitted to both the Head Office of Domestic Trade and the Agency for Research and Development, together with a copy of the registration form.

Following is the information flow.

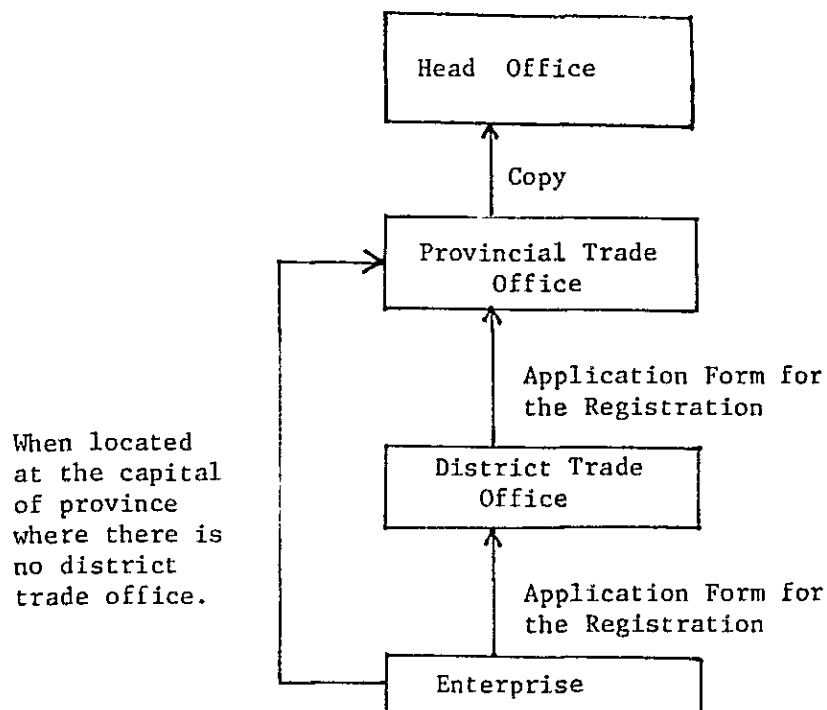


CHART: Information Flow (General Trader's License)

(4) Reporting

The processing of the general trader's license information is consigned to an external organization to tabulate three types of tables for managing of the general trader's license. The Head Office will prepare a summary report based on these tables when the necessity arises.

The number of enterprises registered, name of enterprise, and other key items by each province are reported on monthly and yearly bases to check the overall situation of enterprises.

The checking of enterprises whose license must be renewed in the next month is being performed by manual operation at the present time.

(5) Scope of the Information System

The Head Office has the intention to carry out the processing related to registration of enterprises by themselves to prepare 6 types of new monthly reports (refer to I-11). Some examples are to pick out the enterprises whose license will expire in the next month and to inform each provincial trade office, or to make various statistics on the registered enterprises. If registration of enterprises is computerized, overall situation of enterprises will be quickly known, as well as other detail information for management.

2-6. Concerning Cooperatives

(1) General

According to the statistics of 1977, there were 11,640 co-

operatives in Indonesia, but it is expected that by now the number of cooperatives have reached 20,000. There are 18 categories for cooperatives representing primary cooperatives such as village unit, small scale plantation, fishery, live stock and poultry, functional group, consumers, etc.

Each member of the cooperative must deposit two to three types of savings.

- i. Basic savings.
- ii. Obligatory savings.
- iii. Voluntary savings.

These moneys all together represent the capital of the cooperative. Cooperatives can also obtain credit from banks.

The lowest level of cooperatives categorized as primary cooperatives are at the village level, then PUSAT cooperatives being secondary cooperatives at district level, coordinating cooperatives at province level, and central cooperatives (INDUK) at the national level.

Attention is paid to promote the village unit cooperatives called KUD up to the national level. KUD is established in every village and functions for the collection and marketing of goods produced by the members. There are about 4,000 KUD's in Indonesia.

The members of KUD's have a special favour of purchasing important commodities and raw materials such as rice, salt, grain, sugar, coconut oil, etc., from INDUK at special prices.

(2) Generation of Transaction

There is an annual report for all of the cooperatives and another monthly and annual report for KUD's being submitted to the Head Office.

These reports are the generation of original transactions.

The former reports for all of the cooperatives contains about 30 items which includes:

- i. Name and address of the cooperatives.
- ii. Number of members (new or not, sex).
- iii. Funds collected.
- iv. Amount loaned.

This information amounts to 560 characters. The annual number of transactions are about 20,000, equal to the number of cooperatives (refer to B-21).

The quantity of the latter report which is only for KUD, is about 52,000 annually containing 2,000 characters each (refer to B-36, B-36-2).

(3) Information Flow

The source data generated at the cooperatives are submitted to the Head Office through district cooperative offices and provincial cooperative office.

The information received at the Head Office are now being computer processed externally.

(4) Reporting

The report consists of the number of cooperatives, number of members, savings and other important items by province, level, type, and fields of business. The summaries are reported in the "Statistics of Cooperative Societies in Indonesia" (refer to B-19).

(5) Scope of the Information System

The processing is already computerized, so the first objective would be to perform the computer processing within the Department.

The next objective would be to add such items as the fixed assets information so that the report would become more informative. The purpose of the analysis is to know the share and role of cooperatives in the national economy as it is mentioned in the Constitution of the Republic of Indonesia.

Although it has no direct relation with the informatization of the current activities, there is a plan to introduce mini-computers at three PPK's, which is now being suspended due to various reasons. But in the future, interface between these mini-computers and the computer at the Head Office should be considered.

2-7. Concerning the Office of the Secretariat General

There are three study items concerning the Office of the Secretariat General. One is on personnel administration, next is inventory administration, and the last is project administration.

2-7-1. Personnel Administration

(1) General

As of the end 1981, there were 15,216 staff employees at the Department of Trade and Cooperatives. 3,636 of them were working at the Head Office, 5,178 at the provincial trade/cooperatives offices, and 6,378 at the district trade/cooperatives offices. There are also 24 attaches working abroad (refer to IA-18).

For the administration of personnel, the Head Office is collecting personnel information from each staff every year. There is a 22 page book-type personnel record document for each staff to fill in and report to the Head Office annually to update their personnel records. This document includes such basic information as date of birth, education and family (refer to IA-16). It is classified into 11 categories to fill in the present status, function, position, career, training and other necessary items (refer to IA-15).

(2) Generation of Transaction

Every staff of the Department of Trade and Cooperatives must renew their personnel record document every year. Therefore, the total number of transactions would be little over 15,210 per year.

(3) Information Flow

The personnel record documents are submitted to the Head Office from each operation unit.

Following is the information flow:

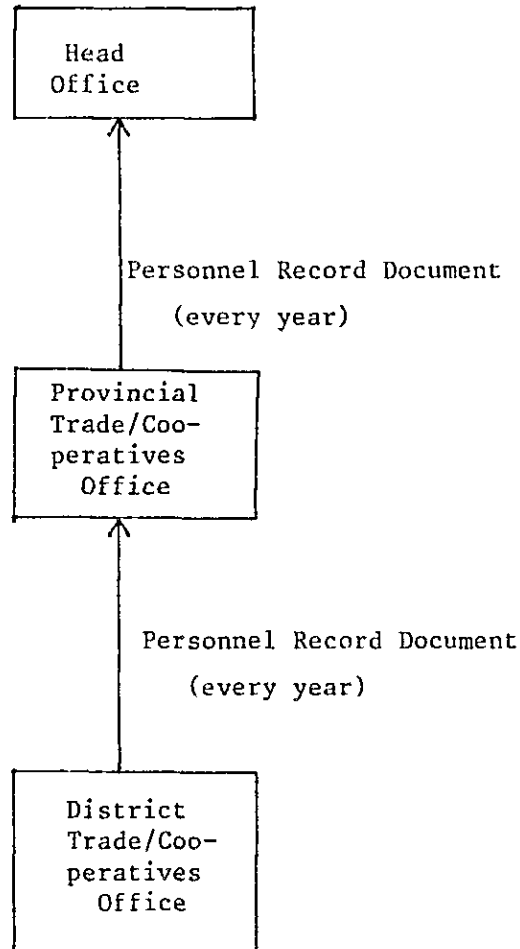


CHART: Information Flow (Personnel Record)

(4) Reporting

22 items of the personnel record are already being processed using the computer at C.B.S. There are several types of output, itemizing name list and number of staff by each

operation unit, sex, date of birth, religion, rank and date of promotion, etc., of each staff (refer to IA-19).

(5) Scope of the Information System

The Head Office considers that the personnel records are one of the most important items to be computerized, so that the right person can be placed in the right post. Therefore, they have the intention to perform the processing which is now being performed at C.B.S. within their Department. This would enable the Head Office to retrieve the necessary personnel information whenever necessary. One example of this is, computerizing the personnel history (such as present status, position, rank, date of appointment, etc.) so that the list of candidates for promotion can be retrieved at all times. Also, since the lists being prepared by C.B.S. have many overlapping items, these lists could be re-arranged to a new lists (refer to IA-20).

If the current manual processing for preparation of lists for personnel planning could be computerized, timely action could be taken. But the format of the personnel record document must be changed so that the renewed items could be identified easily. And also, to operate the new system efficiently, the present card input items and files must be reviewed.

2-7-2. Inventory Administration

(1) General

For the administration of assets (especially fixed assets) of every operation unit of the Department of Trade and Cooperatives, information on such items as equipment, automobiles, motor cycles, residents and buildings, are tabulated every year by manual operation at the present time. The Head Office intends to have a computer of their own to process these information for more prompt and efficient use of the output.

(2) Generation of Transaction

Information on these assets include such items as serial number, registered number, year of manufacture, year of purchase, and yearly maintenance fee, etc. These information are reported to the Head Office. For example, the Department of Trade and Cooperatives owns, automobiles, motor cycles, speed boats, office buildings and residents for personnel.

(3) Information Flow

The records on assets of the Department are submitted to the Head Office from each operation unit (refer to IA-24).

Following shows the information flow:

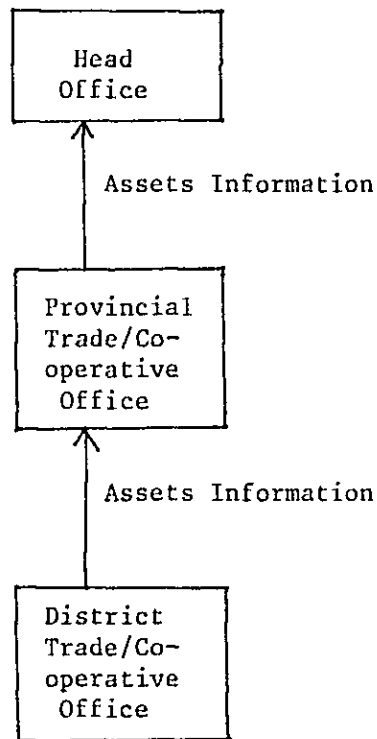


CHART: Information Flow (Assets)

(4) Reporting

The results of information being processed at the Head Office is put into a form of a report stating the current situation of their assets, which is then being submitted to the Department of Finance.

Name and number of each asset item possessed by the Department of Trade and Cooperatives is processed by manual operation currently for making clear the present conditions. Five more reports will be added when the processing is completed (refer to IA-23).

(5) Scope of the Information System

Effective method of data filing must be considered when

computerizing the processing since new reports will be added to the current ones.

2-7-3. Project Administration

(1) General

Every budgeted development project of the Department is subject to administrative control. There are approximately 400 new and continuous development projects every year located in Jakarta as well as spreading over many provinces and districts, such as the construction of a new office building for the Department, training seminars, and many other projects.

(2) Generation of Transaction

Each operation unit in charge of the project submits a project plan for newly started projects, and follows this up with quarterly progress reports thereafter to the Head Office (refer to IA-25). The progress report consists of quantitative information (material purchases, manpower requirements) and cost information.

(3) Information Flow

The project plan is submitted to the Head Office whenever a new project will be started, and after having been approved, the project plan is sent back to the operation unit for implementation. Progress reports are submitted in the same manner as the project plan but on quarterly basis.

Following is the information flow:

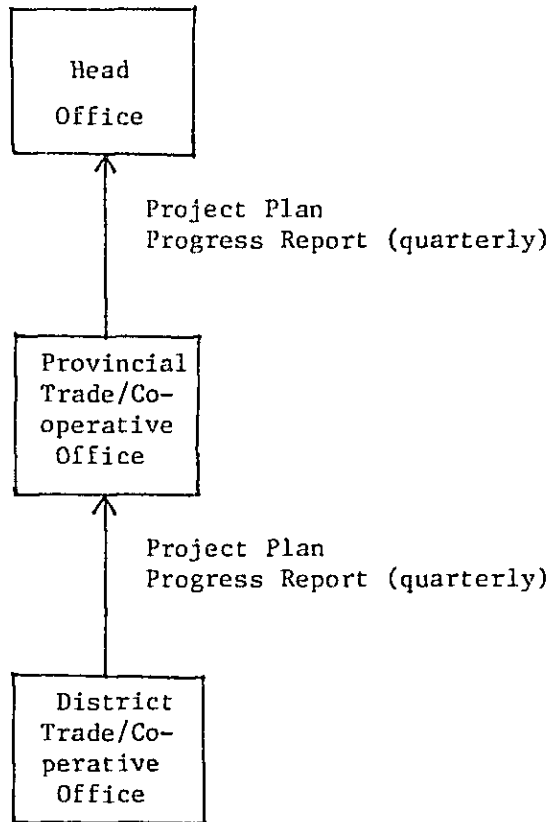


CHART: Information Flow (Project Plan/Progress Report)

(4) Reporting

The Head Office is evaluating the progress of projects using the information contained therein, and making it into a consolidated report to show budget allocation for the year and every month, work completed, progress rate, etc., all of which are being performed manually at the present time (refer to IA-26, IA-27). This report is used mainly for comparing the budget allocation against the actual expenditures to evaluate the progress of the projects and to take appropriate countermeasures.

(5) Scope of the Information System

The Head Office intends to computerize the process of project evaluation for faster processing of the information. Improvement in accuracy can be expected when project evaluation is computerized since this processing requires complex calculations and decisions to some extent. Also, by utilizing the data file for progress of projects, effective management control of projects can be expected.

2-8. The Coordinating Team on the Middle East

(1) General

Economic relations with the Middle East countries, such as in the dispatching of personnel, export/import, contracting for construction projects, are some of the problems that are becoming weighty problems, and therefore, the Coordinating Team has presented the following items for incorporating into a management information system:

- i. Work force.
- ii. Export/import statistics (value, volume, traders, etc.).
- iii. Construction service (statistics of projects, project management, etc.).
- iv. Financing of contractors.
- v. Investment opportunities.

After a series of meetings held between the Indonesian officials and the Master Plan Team, it was concluded that although all of the items are important, the four items

with the exception of "work force" will not be included in the Master Plan since they cannot be conceptualized for the time being, and that they should be considered in the next study step. Only the "work force" will be investigated.

(2) Generation of Transaction

There are two cases for dispatching Indonesian work force to the Middle East. One case is to work under Indonesian contractors, and the other is to be employed by foreign firms working in the Middle East countries.

A standard form will be submitted by the Indonesian contractor or the labor supplying company giving the name, age, type of occupation, salary, company to be dispatched to, terms of agreement, etc. There will be one transaction for every person to be dispatched. At the present time there are some 38,000 people working in the Middle East countries, and the initial processing will be to input the information on these people.

(3) Information Flow

A report will be submitted directly from the labor supplying company or the Indonesian contractor to the Department of Manpower and the Head Office.

(4) Reporting

The items specified in the report such as the number of personnel dispatched is categorized by contractor, labor supplier, month, birth place, dispatched country, age group,

salary rank, educational background and skill. Since the number of personnel dispatched is so large, only simple items for reporting can be made manually.

(5) Scope of the Information System

When systematizing this task, more complex reports categorized by more items can be made available. And if the information retrieval function could be added to the system, it will be very useful for the manpower planning.

CHAPTER 3

ROLE AND SCOPE OF THE INFORMATION SYSTEM

Situations of current operations were studied in CHAPTER 2 from the point of "Information Flow Analysis" regardless of whether the operation is partially computerized or not. It also mentioned to some extent on the possibilities of the systematization.

In this chapter, the basic principles of the systematization is mentioned giving the premise for the conceptual design of information system to be worked out in CHAPTER 4 which follows. It is natural that the purpose and means of systematizing the operation is aimed at the following effects:

- i. More coverage of information and/or reports for the operation (MC).
- ii. Accurate information processing for the operation (AI).
- iii. Quick preparation of report for the operation (QP).
- iv. Realization of mass processing for the operation (RM).
- v. Realization of sophisticated (or complicated) processing for the operation (RS).

For the systematization of partial operation and also for the whole operation, the role and scope of the systematization will differ to some degree depending on which effect(s) mentioned above the systematization is aimed at. Based on the interview surveys conducted, the Master Plan Team's understanding of the major purposes of systematization of each operation is as shown next:

TABLE: Purpose of Systematization

<u>Operation Name</u>	<u>Purpose of Systematization</u>				
	MC	AI	QP	RM	RS
i. Foreign Trade	0	0	0	-	0
ii. Domestic Trade	0	0	0	-	0
iii. Concerning Price Information	0	0	0	0	0
iv. Registration of Enterprises	0	0	0	0	-
v. Concerning Cooperatives	0	0	0	0	-
vi. Personnel Administration	0	0	0	0	-
vii. Inventory Administration	0	0	0	0	-
viii. Project Administration	-	0	0	-	0
ix. Middle East Work Force	0	0	0	-	0

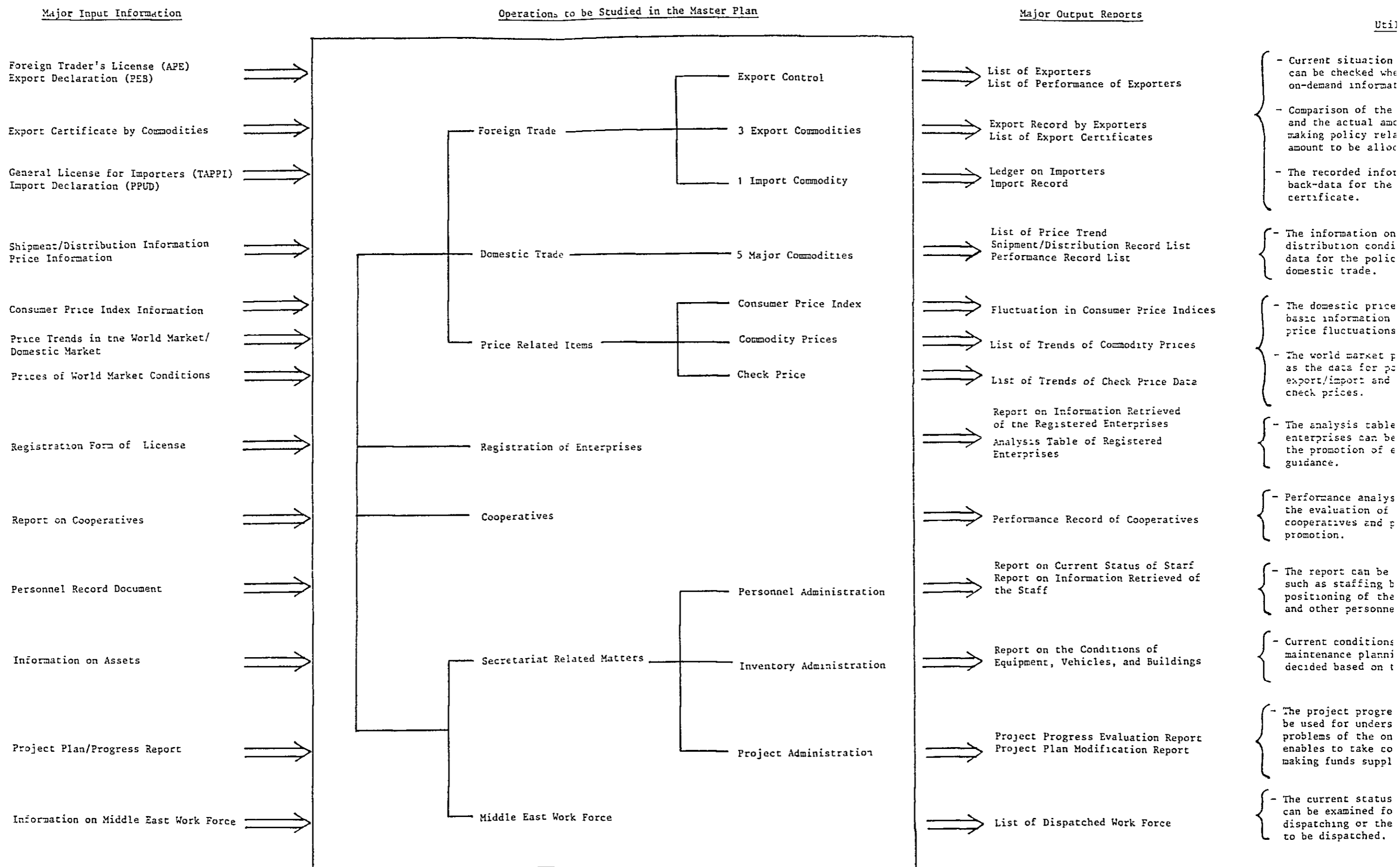
Legend: 0 = Very important

According to the results as shown in the above table, the effect expected for the systematization in most of the operations is to enable reporting that could not be covered manually, so that it would be helpful for the policy making. Five operations require processing of mass data for accurate tabulations which could not be performed manually. Therefore, the formulation of concepts must be based on the following conditions:

- i. To reflect the report requirement of each operation unit of the Department of Trade and Cooperatives.
- ii. Only the transaction obtained at the Agency for Research and Development will be considered for preparation of the report.

The most frequent requirement for the output report among all of the

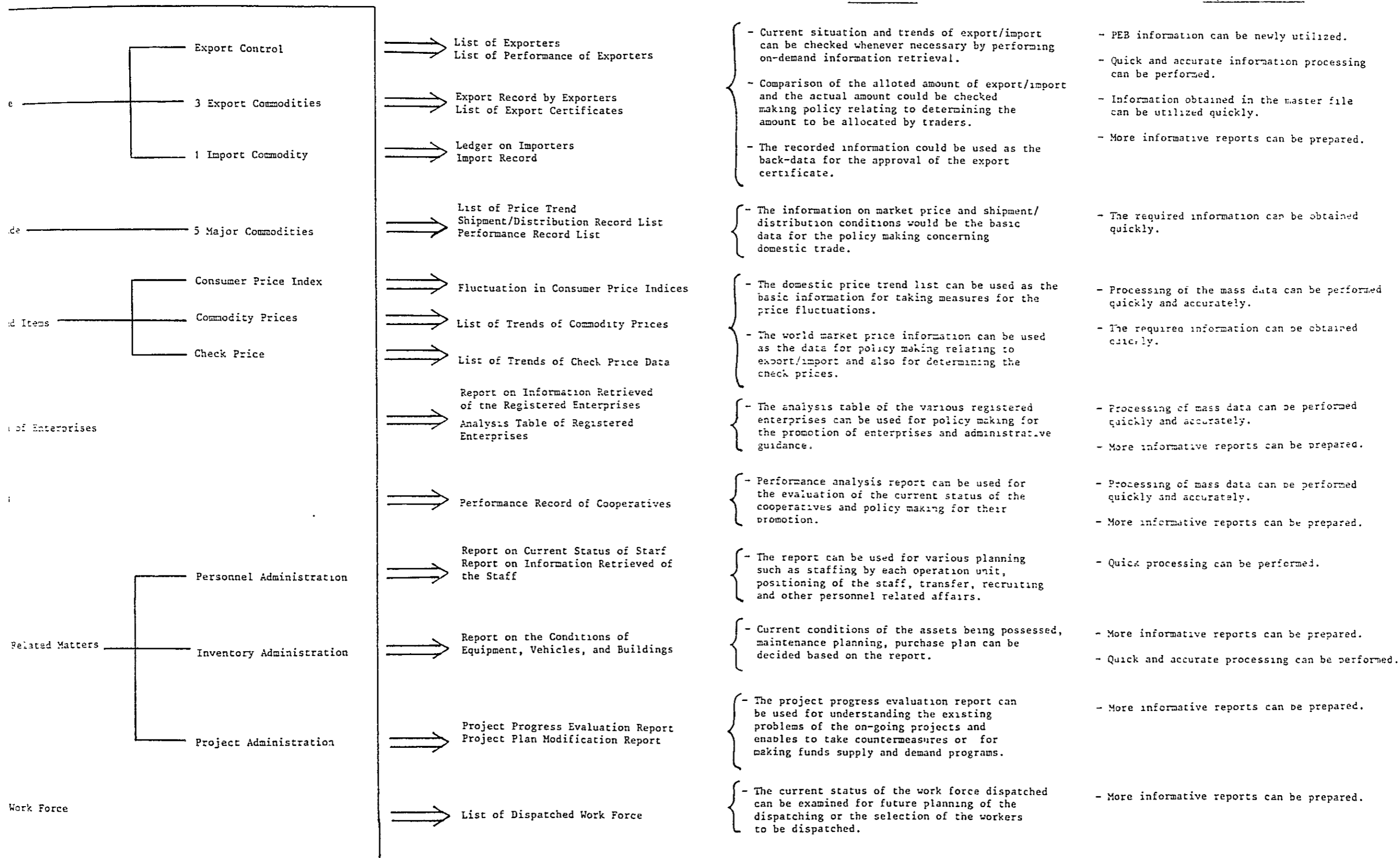
FIGURE: Scope of the Information System



Major Output Reports

Utilization

Expected Effects



operations is in weekly terms. Therefore, the information system must be able to perform at least weekly batch processing. But the data entry of transactions need not be daily or on-line and/or real-time processing. It would be adequate if the data obtained at the Head Office after careful checking, could be input for the weekly processing. Also, since all of the transaction data for current operations can be obtained at the Agency for Research and Development, data entry and the processing of transactions need not be performed by each operation unit generating the transaction.

For the above reasons, basic environments for operation of the computer system would be:

- i. Centralized processing at the Agency for Research and Development.
- ii. Data entry of all the transactions at the Agency for Research and Development.
- iii. Batch processing.
- iv. Possible for weekly processing.

Based on the above recognition of the problems, concepts and functions for each operation will be studied in the Master Plan.

CHAPTER 4

CONCEPTUAL DESIGN OF THE INFORMATION SYSTEM

4-1. Basic Concepts of the Information System

4-1-1. Foreign Trade

(1) Characteristics of Current Operation

Export/import certificates are generated as the transactions for exporting coffee, pepper, timber/logs or importing lubricating oil. They are submitted to the Head Office through the provincial trade office or other organizations. Various reports are being made manually from these transactions at the Head Office.

(2) Purpose and Role of Systematization

To process the information by computer on export/import certificates (APE, TAPPI) and the E-3 Form (PEB) at the Head Office and formulate some data files for making reports.

(3) Expected Effects of Systematization

- i. Easier retrieval of export/import certificate information from the data file.
- ii. Quick and timely preparation of the report.
- iii. Collation with other export/import information from other organization.
- iv. Possibility to manage all the export/import related information.

- v. Improvement in accuracy for policy/decision making on export and import.

4-1-2. Domestic Trade

(1) Characteristics of Current Operation

Information on market prices of 5 major commodities (clove, copra, cooking oil, fertilizer, cement) are being collected by provincial and distric trade offices, and are telexed weekly to the Head Office from provincial trade offices. Special trade licenses are also submitted to the Head Office from provincial trade offices on half-monthly basis for shipment of cloves and copra. These special trade licenses include information on quantity of shipment, trader, quality, destination, etc. Above two mentioned information are recorded and analyzed at the Head Office manually for reporting to the Head of Domestic Trade on half-monthly, monthly and yearly bases for policy making.

Supply, demand, stock information on fertilizers are obtained from provincial trade offices on a half monthly basis by telex. Stock, quantity of shipment, selling price information on cement is obtained weekly from provincial trade offices by document. Also, supply-demand situation of cement manufacturers are obtained every half month.

(2) Purpose and Role of Systematization

To have a computer master file of the five commodities concerning price, and another master file for clove and copra

concerning quantity of shipment, name of trader, quality and destination, so that these items could be retrieved by province or by certain time period, etc., for the reporting. And also to have another master file concerning supply, demand, stock information on fertilizer, and supply, demand, stock, quantity of shipment, selling price information on cement.

(3) Expected Effects of Systematization

Since the necessary information can be retrieved much faster than by manual operation for the reporting, timely and effective policies can be made.

(4) Evaluation and Future Prospects

Current information being obtained at the Head Office is not sufficient enough to understand the market situation in detail. More information such as production volumes of each commodity by province, etc., should be obtained and be added to the system in the future.

4-1-3. Concerning Price Information

(1) Characteristics of Current Operation

The Head Office is collecting price information from the following sources in order to comprehend the price trend of each commodity:

- i. Price of important commodities in major cities from all of the 27 provinces on weekly, half-monthly and monthly bases.

These information are for "commodity price."

- ii. Prices of important commodities of major 17 cities from C.B.S. on a monthly basis. These information are for "consumer price."
- iii. World market price from ANTARA on daily and monthly bases. These information are for "commodity price" and "check price" respectively.

Lists are being made manually from these information.

(2) Purpose and Role of Systematization

To process the information obtained at the Head Office and formulate some data files for preparing the reports for price control.

(3) Expected Effects of Systematization

- i. Quick and timely preparation of the report for price control.
- ii. Possibility for computerized information retrieval.

(4) Evaluation and Future Prospects

There are price related information other than commodity prices, consumer price index, and check prices, such as price information concerning foreign trade, domestic trade, cooperatives, etc.

All of these information must be linked together in order to understand the price situation as a whole. A synthesized price control system is desired in the future by the linkage of all of these price information.

4-1-4. Registration of Enterprises (General Trader's License)

(1) Characteristics of Current Operation

The number of enterprises now registered is approximately 400,000. The characteristic of registration of enterprises is that the volume of data being stored is enormous. The processing is now being sub-contracted, which makes it difficult to perform the required processing of the mass data on demand.

This is the main problem for checking the registration conditions of enterprises.

(2) Purpose and Role of Systematization

To add the newly registered information to the stored data smoothly and formulate a data file for checking the conditions of registration of enterprises from various points of view. The role of the information system is to add newly registered enterprises to the data file monthly and utilize the information stored for analyzing the features of the registered enterprises in each province.

(3) Expected Effects of Systematization

List of newly registered enterprises will be prepared monthly by each province. This list could be used immediately at the Head Office or province offices. List of registered enterprises whose license will expire in the next month could also be prepared to be used at the Head Office or provincial trade offices.

(4) Evaluation and Future Prospects

The data stored would be 400 M Bytes in case the number of registered enterprises is 400,000. If these data are to be formulated into a random access file, it would require a large hardware, which would not be required by other operations. The functions to retrieve the information on enterprises on demand or to input the data directly from local offices are not mentioned in this Master Plan, although it is worth considering in the future.

For computerizing this task, efficiency of the system such as method of data entry, and method of making or renewing the file must seriously be considered since the volume of data will be enormous. The volume of data is likely to become about five times as much as the initial data volume.

4-1-5. Concerning Cooperatives

(1) Characteristics of Current Operation

The yearly reports from all cooperatives and monthly/yearly reports from KUD are being processed by the computer of an external organization, and various outputs are being obtained from them.

(2) Purpose and Role of Systematization

To perform the data processing within the Department so that more informative reports for following purposes could be prepared.

- i. For evaluation and analysis of development of cooperatives.
- ii. For the preparation of Presidential speech at the annual parliament meeting held every August 16th, introducing National Budget every January, and Cooperatives Day every July 12th.
- iii. For providing necessary information for policy making by the executives.

(3) Expected Effects of Systematization

By performing the data processing within the Department, turn-around time could be reduced.

(4) Evaluation and Future Prospects

The data being submitted from the cooperatives are so large that improvement in interface for coding is anticipated.

$(20,000 \text{ cooperatives} \times 560 \text{ characters}) + (4,000 \text{ KUD's} \times 2,000 \text{ characters} \times 13) = 115,200 \text{ K characters}$

4-1-6. Personnel Administration

(1) Characteristics of Current Operation

Personnel record document, which is the information source on personnel, contains various items concerning past records/history and present status. Some of these items are already computer processed for tabulation.

Since administration of personnel information is an im-

portant factor for the management of the Department, more items are to be specified to make full use of the information obtained from the personnel record documents.

(2) Purpose and Role of Systematization

To include personnel history items to the items currently being checked and formulate a ledger on personnel affairs. And also, to develop a system that could retrieve immediately the necessary information from the ledger.

(3) Expected Effects of Systematization

The limited contents on personnel affairs could be improved so that various items could be checked from the computer output list. Records falling under certain conditions could be picked up in a timely and quick manner by the computer.

(4) Evaluation and Future Prospects

Random access file will increase the efficiency of the system. But for updating the file on personnel affairs efficiently, the renewed items of the personnel record document must be identified easily and be input regularly. Also the handling of the output list on personnel affairs must be paid attention to from the point of view of privacy.

4-1-7. Inventory Administration

(1) Characteristics of Current Operation

The assets of the Department of Trade and Cooperatives are administered manually.

(2) Purpose and Role of Systematization

To store the attributive information, such as price and date of purchase, etc., for managing these information by each asset item.

(3) Expected Effects of Systematization

Evaluation of the present asset conditions and calculation of present value, by each item would become easier. Especially, processing of information on equipment will be shortened as there are many items concerning equipment.

(4) Evaluation and Future Prospects

Conditions and annual maintenance cost are also considered to be specified for each item. Each item must be physically well identified and administered for this purpose.

4-1-8. Project Administration

(1) Characteristics of Current Operation

A project plan for each project of the operation unit, and a progress report for the on-going project are being made. The progress report is made quarterly. The Head Office is making a project evaluation report to make clear the progress of each project based on these documents.

(2) Purpose and Role of Systematization

Evaluation of the progress of a project generally requires complicated calculation and judgement, which makes manual processing difficult, regardless of the number of projects.

This sub-system will formulate a file of key items included in the project evaluation report for computerizing the processing of progress index and evaluation index.

(3) Expected Effects of Systematization

This system will support the Head Office for preparing the project evaluation report. The complicated processing can be substituted by computer for quick and accurate processing.

4-1-9. Middle East Work Force

(1) Characteristics of Current Operation

When dispatching personnel to a Middle East country, a document for the dispatching is submitted to the Head Office from the labor suppliers or the Indonesian contractor for each personnel for record at the Head Office.

(2) Purpose and Role of Systematization

To enable complex processing of the collected data, since only simple calculations can be performed manually due to the large volume of data.

(3) Expected Effects of Systematization

More informative reports could be prepared by performing statistical computation of the collected data. Expansion to a information retrieval system for manpower planning, etc., could also be expected.

4-2. The Basic Norm of the Design

4-2-1. Foreign Trade

4-2-1-1. Outline of the System

(1) General

Following are the three major processing requirements concerning foreign trade which will be investigated in this Master Plan Study.

i. Processing of information concerning export control:

This processing is aimed at establishing a data file in connection with the information obtained from APE which is the foreign traders license, and E-3 Form (PEB) which is the export declaration.

ii. Processing of information concerning three export commodities:

This processing is intended to establish a data file based on the information obtained from export certificates of three export commodities which are considered to be the most important ones, namely, coffee, pepper, and timber/logs.

iii. Processing of information concerning one import commodity:

This processing is intended to establish a data file for lubricating oil, which is considered to be one of the most important commodities being imported, based on information obtained from the import license (TAPPI/PITP) and import declaration (PPUD).

The nature of the above mentioned three processing requirements is very similar. The information being submitted to the Head

Office in the form of reports are totalized, and based on these information various reports will be prepared on a regular basis. Also, information will be retrieved from the established data file on demand.

The number of commodities to be covered by the system can be increased in the future, if favorable results could be obtained after the evaluation of the system developed based on this Master Plan.

(2) How the Information Concerning Export Items are Interrelated

The current operations being performed in connection with export commodities are independent to each other, depending on the commodities being managed, and even though the required procedures of each operation is somewhat similar, it can be said that there exists no organic relation between each operation. The only existing interface between these operations is the information concerning export control. For example, even if the check prices were not available when conducting the processing of some commodity, the information could be retrieved from the data file for export control. Also, checking of the mentioned items of each document for exporting commodity could be performed by comparing them with the export control information. Export control information, as described above, is very important since it can be linked with other information on each exporting commodity being processed independently.

4-2-1-2. Information Concerning Export Control

(1) General

Information related with export control is obtained from APE and E-3 Form (PEB).

APE is a foreign trader's license issued to all exporters, regardless of the commodity. The validity of APE is five years. On the other hand, E-3 Form (this has been replaced by a new style PEB form since April, 1982) is required for the export declaration which must be submitted by the exporters before processing for customs clearance.

The main procedure currently being performed at the Head Office concerning APE being submitted is to prepare a ledger of exporters so that it can be compared with other documents required for exportation. A data file from which the information can be retrieved by necessary items must be developed in order to prepare the ledger and compare the information quickly and accurately. As for the E-3 Form, only 70% of the total number of E-3 Forms being submitted to provincial trade offices are forwarded to the Head Office. And therefore, there is very little processing being performed at the Head Office now concerning the processing of information on the E-3 Form. When considering the systematization of this operation, all of the transaction being generated must be obtained at the Head Office. Furthermore, inspection of the mentioned items of the transaction, whenever it is generated, will be an important factor for the systematization. Items which are limited in their number, such as the name of province, description of the commodity, country of destination, are likely to be coded before the data entry. Checking of errors arising from code conversion is also required.

APE and E-3 Form are transactions being generated for all export commodities. However, in the Master Plan Study, the commodities to be covered will be limited to only coffee, pepper, and timber/logs, which are considered to be the most important export commodities at this time.

(2) Input Data

(2)-1. APE: I(1,1)

i. Contents:

APE is the foreign trader's license required for all exporters and is issued by the Head Office. There are also two other related licenses called APES which is a tentative license being issued for the initial six months before obtaining the APE, and APET which is a limited license for those traders exporting only their own manufactured goods.

As of 1980, there were approximately 730 traders engaged in the exporting of coffee, pepper, and timber/logs. This would be the total number of transaction for the data entry required at the initial stage. The number of licenses to be renewed each year can be expected to be approximately 150 since the validity of the license is for five years.

Basic information of the exporters such as their name, address, and representatives can be obtained from the APE. Additionally, the contents of APE can be checked by using the master file for Registration of Enterprises described in 4-2-4.

ii. Generation Frequency:

Approximately, 150 transactions are generated every year for

the three commodities of coffee, pepper, and timber/logs. Since these transactions are submitted to the Head Office every month, data entry must also be performed on a monthly basis.

iii. Information Flow:

Exporter → Provincial Trade Office → Head Office

iv. Information Media:

Application form for APE is forwarded to the Head Office from the provincial trade offices after procedures for issuance of APE is completed at provincial trade office level.

v. Consideration for Data Check:

Since the APE is a very important document related with export policies, the items contained in the APE can be considered to have been checked thoroughly at the provincial trade offices. Therefore, a system for checking the errors arising from coding and data entry must be established.

vi. Input Items:

Following are the principal items to be input to the information system.

- a. Name and address of exporter.
- b. Past experience records.
- c. Name of representative.
- d. Term of validity.
- e. Business activity and commodity.
- f. Capitalization and assets.

- g. Bank.
- h. Business association/affiliation.
- i. Performance (tax payment, export record).
- j. Branch offices.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of APE information.

viii. Volume/Frequency of Input:

The number of transactions generated per year is 150, each containing information equal to 500 characters. Data entry is to be performed every month, and the approximate volume of input data per month is as follows:

12 transactions x 500 characters / month

(2)-2. E-3 Form (PEB): 1(1,2)

i. Contents:

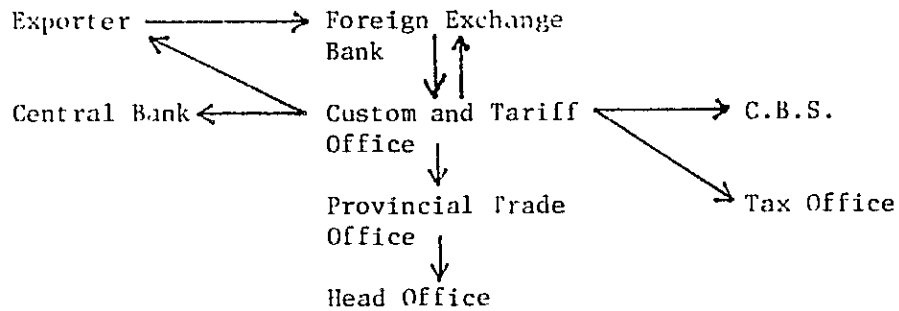
E-3 Form is the declaration form submitted by the exporters to the foreign exchange bank before applying for customs clearance. A renewed PEB form is being used since April, 1982. APE is required for securing the payment and customs clearance, which gives the name of exporter, description of the commodity and other important information concerning the exportation.

ii. Generation Frequency:

Generation frequency of the transaction is equal to the

exportation frequency of coffee, pepper, and timber/logs, which is approximately 970 transactions per month.

iii. Information Flow:



iv. Information Media:

A copy of E-3 Form submitted to the foreign exchange bank is sent to the Head Office through the provincial trade offices after completion of processing by the custom and tariff office.

v. Consideration for Data Check:

Similar to APE, the contents of the E-3 Form is considered to have been checked thoroughly before being submitted to the Head Office. Therefore, a system for checking the errors arising from coding and data entry must be established.

vi. Input Items:

Following are the major items of information to be input.

- a. Name, address, and APE number of exporter.
- b. Exporting commodity and its code number.
- c. Number of packages.
- d. Description of the cargo.
- e. Quality of the cargo.

- f. Net/gross weight.
- g. FOB value and check price.
- h. Port of origin.
- i. Port/country of destination.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of E-3 Form information.

viii. Volume/Frequency of Input:

The number of transactions generated per month is 970, each containing information equal to 300 characters. Therefore, the approximate volume of data to be entered monthly would be as follows:

970 transactions x 300 characters / month

(3) Computer Processing

(3)-1. Data Entry of APE Information

i. Contents:

The required processing is to develop and update the ledger of exporters based on information obtained from the APE.

ii. Frequency:

The updating of the data file will be performed every month.

iii. Input Data:

1(1,1)

iv. Output Reports:

None.

v. Others:

The computer load at the term end will become high since various data processing must be conducted. Therefore, the updating of the data file should be performed on a monthly basis.

(3)-2. Processing of APE Information

i. Contents:

This processing is to retrieve the APE information by the term of validity, province, exporter, commodity, field of business activity, from the data file for APE information. Also, to prepare output lists of exporters by province and by business activity by totalizing the master file.

ii. Frequency:

Retrieval of the master file must be made available on demand. Totalization of the master file and preparation of exporters list will be performed semiannually or annually.

iii. Input Data:

None.

iv. Output Reports:

R(1,1), R(1,2)

(3)-3. Data Entry of F-4 Form Information

i. Contents:

This processing is to develop and update the ledger for performance of exporters based on information obtained from the E-3 Form.

ii. Frequency:

The updating of the data file will be performed every month.

iii. Input Data:

I(1,2)

iv. Output Reports:

None.

v. Others:

For the same reason as that for the data entry of APE information, the updating of the data file must be performed on a monthly basis.

(3)-4. Processing of E-3 Form Information

i. Contents:

This processing is to tabulate the performance of exporters by province and by business activity by totalizing the master file for performance of exporters. Also, to conduct information retrieval from the master file for performance of exporters by province, exporter, commodity, and type of business activity.

ii. Frequency:

Information retrieval from the master file must be made available on demand. Tabulation of export performance list

must be conducted semiannually or at least annually.

iii. Input Data:

None.

iv. Output Reports:

R(1,3), R(1,4)

(4) Output Reports

(4)-1. List of Exporters by Province (by Type of Business Activity, by Commodity): R(1,1)

i. Contents:

This is a list of exporters classified by province, business activity, and commodity.

ii. Frequency:

The list will be prepared semiannually or annually.

iii. Output Items:

Following items by provinces will be the output.

- a. Name and address of exporter.
- b. Term of validity and APE number.
- c. Type of business activity.

iv. Utilization:

It will be used as the ledger of exporter for the control of exporters and to compare with other export information.

(4)-2. List of Exporters by Term of Validity of APE: R(1,2)

i. Contents:

This is a list of exporters retrieved whose term of validity will expire by a given date.

ii. Frequency:

This listing must be made available on demand.

iii. Output Items:

- a. Name and address of exporter.
- b. APE number and its term of validity.
- c. Business activity and commodity.

iv. Utilization:

By informing the retrieved list of exporters by the desired term of validity (for example, one month) to the provincial trade offices, the licensing activity at the provincial trade office will become more efficient.

(4)-3. List of Export Record by Province (by Business Activity, by Commodity): R(1,3)

i. Contents:

This is a list for record of exportation classified by province (business activity, commodity).

ii. Frequency:

The list is to be prepared semiannually, or at least annually.

iii. Output Items:

- a. Name and address of exporter.

- b. Business activity and commodity.
- c. Exported amount and value/price.

iv. Utilization:

Performance analysis and monitoring of the exporters will be performed based on this list.

(4)-4. List of Performance of Exporters: R(1,4)

i. Contents:

This is the list of information retrieved from the data file for performance of exporters by province, exporter, commodity, business activity, month, and to tabulate them by exporters.

ii. Frequency:

This listing must be made available on demand.

iii. Output Items:

- a. Name of exporter and APE number.
- b. Business activity and description of the commodity.
- c. Exported amount and value/price.
- d. Country of destination, etc.

iv. Utilization:

It can be used to compare with other export information, and performance analysis of the exporter by the specified time period.

4-2-1-3. Coffee, Pepper, and Timber/Logs

(1) General

The processing currently being performed at the Head Office concerning the three commodities of coffee, pepper, and timber/logs is to arrange, totalize, and tabulate the information being obtained from the export certificates, and there are no major differences between each commodity. Therefore, the systematization of this operation should be aimed at designing a system for all three commodities, rather than to design them separately for each commodity. However, the number of data file required for the system would be three, since the information on each commodity must be maintained in a separate data file.

Items mentioned in the export certificates such as commodity, type, province are likely to be coded before the data entry. A system for checking the errors systematically before the code conversion must be established, since it will be very difficult to find out the errors after the code conversion.

Some of the information required for the output cannot be obtained from the export certificates. This information must be obtained from other information source internally or from other organizations such as C.B.S.

(2) Input Data

(2)-1. Export Certificate and I.C.O. Certificate of Origin for
Coffee: 1(1,3)

i. Contents:

Coffee export certificate called SPEK, issued by the provincial trade offices to the exporters, is required for customs clearance. I.C.O. certificate of origin is a document being

submitted to I.C.O. from the exporting country. It is being submitted by the exporters to the provincial trade offices. There are two types of certificate of origin. COO is for exportation to the I.C.O. member countries, and COX is for exportation to the non-I.C.O. member countries. The contents of the two certificates are nearly the same and give information about the exporter, exporting quantity, port of destination of the lot.

ii. Generation Frequency:

700 SPEK and 700 COO/COX are generated every month. The total number of transactions each month is 1,400.

iii. Information Flow:

Exporter → Provincial Trade Office → Head Office

iv. Information Media:

COO/COX form and copy of SPEK are being submitted to the Head Office. A copy of COO/COX is being kept at the Head Office since the original copy will be submitted to the I.C.O.

v. Consideration for Data Check:

It can be assumed that the items mentioned in SPEK are being checked at the provincial trade office when issuing since this is a very important document as well as the E-3 Form for customs clearance. Therefore, a system to check the errors arising from coding and data entry must be established.

vi. Input Items:

Following are the key items obtained from SPEK and COO/COX.

- a. Name and address of exporter.
- b. Certificate number and APE number.
- c. Quantity.
- d. Kind of coffee.
- e. Country of destination.

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

The volume of information obtained from one set of SPEK and COO/COX is approximately 200 characters. Data volume per month is as follows:

700 transactions x 200 characters / month

(2)-2. Export Certificate for Pepper: I(1,4)

i. Contents:

Export certificates called SPEL is being issued by the provincial trade office to the exporters, which is also necessary for the customs clearance. The contents are items such as name of exporter, quality, quantity, etc.

ii. Generation Frequency:

200 SPEL forms are submitted to the Head Office every month for both black and white pepper.

iii. Information Flow:

Exporter → Provincial Trade Office → Head Office

iv. Information Media:

Copy of SPEL is submitted to the Head Office.

v. Consideration for Data Check:

It can be assumed that the contents of SPEL is being carefully checked at the provincial trade offices since this is a very important document for customs clearance. Therefore, a system to check the errors arising from coding and data entry must be established.

vi. Input Items:

Following are the important items obtained from SPEL.

- a. Name and address of exporter.
- b. Certificate number and APE number.
- c. Quantity.
- d. Quality.
- e. Check price.
- f. Country of destination.

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

The volume of information obtained from SPEL is equal to approximately 200 characters. Data volume per month is as follows:

200 transactions x 200 characters / month

(2)-3. Export Certificate for Timber/Logs: J(1,5)

i. Contents:

Export certificate called SPREK(b) is being issued by the provincial trade offices to the exporters, which is also required for customs clearance. Its contents are such items as name of exporter, quantity, country of destination, etc.

ii. Generation Frequency:

80 SPREK(b) forms are generated as transactions every month.

iii. Information Flow:

Exporter → Provincial Trade Office → Head Office

iv. Information Media:

Copy of SPREK(b) is being submitted to the Head Office.

v. Consideration for Data Check:

SPREK(b) can also be assumed that its contents are thoroughly being checked at the provincial trade offices. Therefore, a system to check the errors arising from coding and data entry must be established at the Head Office.

vi. Input Items:

Following are the important items obtained from SPREK(b).

- a. Name and address of exporter.
- b. Certificate number and APE number.
- c. Quantity.
- d. Kind of timber.

e. Country of destination.

vii. Input Device:

Data entry of information obtained from SPREK(b) will be performed by floppy disk reader unit.

viii. Volume/Frequency of Input:

The volume of information obtained from SPREK(b) is equal to approximately 200 characters. The data volume per month is as follows:

80 transactions x 200 characters / month

(3) Computer Processing

(3)-1. Processing of Export Certificate Information

i. Contents:

Updating of the data file for each commodity by the information obtained from export certificates and preparation of monthly lists are the required processing. Also, if necessary, totalized semiannual/annual outputs will be prepared.

ii. Frequency:

Updating of the data file and processing of monthly tables are to be performed on a monthly basis. Processing of semi-annual/annual tables will be performed on an annual basis.

iii. Input Data:

I(1,3), I(1,4), I(1,5)

iv. Output Reports:

R(1,5), R(1,6), R(1,7), R(1,8), R(1,9), R(1,10), R(1,11)

v. Others:

Processing of some output lists cannot be prepared from the information obtained from export certificates. For example, information from the E-3 Form such as check price must be obtained from C.B.S. until the system described in 4-2-1-2 is in operation. When this system can be operated, required input data can be obtained from this data file.

(4) Output Reports

(4)-1. Overseas Market Price: R(1,5)

i. Contents:

This is a report on monthly overseas market price trends and its average.

ii. Frequency:

This is an annual report, but it will be designed to make it possible to perform processing on demand.

iii. Output Items:

- a. Commodity and type.
- b. Name of city and date of survey.
- c. Monthly price trends and yearly average.

iv. Utilization:

Based on the price trend information obtained, various policy/

decision making for exportation will be performed.

v. Others:

This output cannot be prepared by the information obtained from export certificates so that this information must be obtained from the price information system mentioned in 4-2-3, or from C.B.S.

(4)-2. Retail Price: R(1,6)

i. Contents:

This is a report on retail price and yearly average of each commodity in each province.

ii. Frequency:

This would be an annual report, but it will be designed to make possible the processing to be performed on demand.

iii. Output Items:

- a. Commodity and type.
- b. Date of survey.
- c. Monthly retail price and annual average by province.

iv. Utilization:

By comparing the results with R(1,5), it can be used for policy making concerning the domestic supply-demand and export.

v. Others:

This output cannot be prepared by the information obtained

from export certificates so that this information must be obtained from the price information system or from C.B.S.

(4)-3. Producer Price: R(1,7)

i. Contents:

This is a report on monthly producer price in each province and its annual average.

ii. Frequency:

This would be an annual report, but it will also be designed to enable the processing to be performed on demand.

iii. Output Items:

- a. Commodity and type.
- b. Date of survey.
- c. Monthly producer price and annual average by province.

iv. Utilization:

By comparing this output with R(1,5) and R(1,6), it can be used for policy making in connection with the domestic supply-demand and export conditions.

v. Others:

Since this output cannot be prepared by the information obtained from export certificates, this information must be obtained from C.B.S. or the Department of Agriculture.

(4)-4. List of Export Certificate: R(1,8)

i. Contents:

This is a table of export certificates issued each month classified by commodity.

ii. Frequency:

This will be a monthly report.

iii. Output Items:

- a. Commodity and date.
- b. Certificate number, date issued, and province.
- c. Name of exporter and APE number.
- d. Quantity, type, selling price.
- e. Port of origin.
- f. Port of destination, name of importer.
- g. Time required for transport and name of vessel.

iv. Utilization:

It will require much time to totalize the monthly and annual export record, but the projected amount can be obtained from this output table. Also, performance of exporters can be checked.

v. Others:

Contents of the export certificate differ to some extent depending on the commodity. Therefore, some information must be obtained from export control information data file mentioned in 4-2-1-2.

(4)-5. List of Exporters: R(1,9)

i. Contents:

This is a list of exporters which were issued the export certificate during the year.

ii. Frequency:

This would be an annual report, but it will also be designed to enable the processing to be performed on demand.

iii. Output Items:

- a. Commodity and type.
- b. Date issued.
- c. Name of exporter and APE number.
- d. Address.

iv. Utilization:

Estimates of export quantity and value could be obtained.

(4)-6. Area of Planting and Production Volume by Province: R(1,10)

i. Contents:

This is a table of area of planting and the production volume in each province.

ii. Frequency:

This will be an annual report.

iii. Output Items:

- a. Commodity and year.
- b. Province.
- c. Area of planting and production volume.

iv. Utilization:

By comparing this output with R(1,6) and R(1,7), it can be used for policy making in connection with the domestic supply-demand and export conditions.

v. Others:

Since this output cannot be prepared by the information obtained from export certificates, this information must be obtained from C.B.S. or the Department of Agriculture.

(4)-7. Export Record by Exporters: I(1,11)

i. Contents:

This is a report on allocation and actual export record of each exporter by commodity.

ii. Frequency:

This will be an annual report.

iii. Output Items:

- a. Commodity, type, and year.
- b. Names of exporter and APE number.
- c. Allocation and additional quantity for export.
- d. Monthly export record.
- e. Yearly export record and differences with the allocated amount.
- f. Total of above items c. through e.

iv. Utilization:

This report can be used to check the monthly performance of

exporters, especially for policy making by comparing the allocated amount and the actual exported amount.

v. Others:

Information on export allocation cannot be obtained from the export certificate so that this information must be obtained from other source within the Department of Trade and Cooperatives.

4-2-1-4. Lubricating Oil

(1) General

This system will be designed to maintain the records concerning importation of lubricating oil and to prepare reports for controlling the importation of lubricating oil.

Input data will be the information from provincial trade offices (TAPPI, PITP) and from C.B.S. (PPUD). Data file for each information source will be designed for preparation of the reports. TAPPI and PPUD are documents required for every commodity being imported, however, only those generated for the importation of lubricating oil will be subject to be studied in this Master Plan.

Major information on PPUD is presently being obtained at the Head Office by the reports from C.B.S. There will be no problem concerning the volume of input data or data file for each type of transaction since the commodity subject for the systematization is only the lubricating oil, and the number of transaction being generated is limited. It will be assumed that the data check will be performed at the respective organizations forwarding the documents.

(2) Input Data

(2)-1. TAPPI: I(1,6)

i. Contents:

TAPPI is the general license being issued to all of the importers.

ii. Generation Frequency:

The validity of TAPPI is three years, and there are 62 importers dealing with lubricating oil. Therefore, the average number of TAPPI being issued can roughly be estimated to be 20 per year.

iii. Information Flow:

Importer → Provincial Trade Office → Head Office

iv. Information Media:

Copy of TAPPI is being submitted.

v. Consideration for Data Check:

It is assumed that the items mentioned in TAPPI are carefully checked at the provincial trade office level.

vi. Input Items:

Following are the major input data items.

- a. TAPPI number.
- b. Effective region.
- c. Term of validity.
- d. Kind of commodity.

- e. Name and address of importer.
- f. Name and address of representative.
- g. Position.

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

The total number of transactions being generated is approximately 20 transactions per year, which contains information equal to approximately 300 characters each. Therefore, the total volume of data per year would be:

20 transactions x 300 characters / year

(2)-2. PITP: I(1,7)

i. Contents:

PITP is the special license being issued to the lubricating oil importers.

ii. Generation Frequency:

The validity of PITP is two years, and there are 62 lubricating oil importers. Therefore, the average number of PITP being issued can be roughly estimated to be 30 per year.

iii. Information Flow:

Importer → Provincial Trade Office → Head Office

iv. Information Media:

Copy of PITP is being submitted.

v. Consideration for Data Check:

It is assumed that the items mentioned in PITP is thoroughly checked at the provincial trade office level.

vi. Input Items:

Following are the major input data items.

- a. Name of importer.
- b. Address of importer.
- c. Telephone/telex number of importer.
- d. Trade mark.
- e. Kind of commodity.
- f. Name and address of exporting company.
- g. Term of validity.

vii. Input Device:

Data entry will be performed using the floppy disk reader unit.

viii. Volume/Frequency of Input:

The total number of transactions being generated is approximately 30 transactions per year, each containing information equal to 400 characters. Therefore, the total volume of data per year would be as follows:

$$30 \text{ transactions} \times 400 \text{ characters} / \text{year}$$

(2)-3. PPUD: I(1,8)

i. Contents:

PPUD is required for the declaration of each importation of

lubricating oil.

ii. Generation Frequency:

There are 62 lubricating oil importers, and the average number of importation by each importer is approximately six cases per year, amounting to a total of 400 importations per year.

iii. Information Flow:

Importer → Dept. of Finance → C.B.S. → Head Office

iv. Information Media:

Information on PPUD is obtained from the reports being prepared at C.B.S.

v. Consideration for Data Check:

Since this information is obtained in the form of a document, data check concerning its contents will not be required.

vi. Input Items:

- a. PPUD number.
- b. Name and address of importer.
- c. Kind of commodity.
- d. Quantity.
- e. CIF value.
- f. Name of vessel.
- g. Port of origin.
- h. Exporting country.

vii. Input Device:

Floppy disk reader will be used for the data entry.

viii. Volume/Frequency of Input:

The total number of transactions being generated is approximately 400 transactions per year, each containing information up to 600 characters. The total volume of data per year would be:

400 transactions x 600 characters / year

(3) Computer Processing

(3)-1. Recording of TAPPI Information

i. Contents:

The required processing is to input the information on TAPPI and update the TAPPI data file.

ii. Frequency:

The updating will be performed every month.

iii. Input Data:

I(1,6)

iv. Output Reports:

None.

(3)-2. Reporting of TAPPI Information

i. Contents:

This processing is to prepare a ledger of importers from the TAPPI data file.

ii. Frequency:

This processing is to be performed semiannually or annually.

iii. Input Data:

None.

iv. Output Reports:

R(1,12)

(3)-3. Recording of PITP Information

i. Contents:

This processing is to input the information on PITP and update the PITP data file.

ii. Frequency:

The updating will be performed every month.

iii. Input Data:

I(1,7)

iv. Output Reports:

None.

(3)-4. Reporting of PITP Information

i. Contents:

This processing is to prepare a ledger of importers from the PITP data file.

ii. Frequency:

This processing is to be performed semiannually or annually.

iii. Input Data:

None.

iv. Output Reports:

R(1,13)

(3)-5. Recording of PPUD Information

i. Contents:

The processing required is to input the information on PPUD and update the PPUD data file.

ii. Frequency:

The updating will be performed every month.

iii. Input Data:

I(1,8)

iv. Output Reports:

None.

(3)-6. Reporting of PPUD Information

i. Contents:

The processing required is to prepare reports concerning PPUD information from the PPUD data file.

ii. Frequency:

This processing is to be performed every month.

iii. Input Data:

None.

iv. Output Reports:

R(1,14), R(1,15)

(4) Output Reports

(4)-1. Ledger of Lubricating Oil Importers: R(1,12)

i. Contents:

This is the list of lubricating oil importers based on the information obtained from TAPPI.

ii. Frequency:

This list will be prepared semiannually or annually.

iii. Output Items:

- a. TAPPI number.
- b. Name and address of importer.
- c. Name and address of representative.
- d. Position.
- e. Kind of commodity.
- f. Term of validity.
- g. Effective region.

iv. Utilization:

This output list will be used as the ledger of importers, and the term of validity of TAPPI can be checked.

(4)-2. Ledger of Lubricating Oil Importers: R(1,13)

i. Contents:

This is the list of lubricating oil importers prepared based on the information obtained from PITP.

ii. Frequency:

This list will be prepared semiannually or annually.

iii. Output Items:

- a. Name and address of importer.
- b. Telephone/telex number of importer.
- c. Trade mark.
- d. Kind of commodity.
- e. Name and address of exporting company.
- f. Term of validity.

iv. Utilization:

The output list will be used as the ledger of importers, and the term of validity of PITP can be checked.

(4)-3. Import Record of Lubricating Oil: R(1,14)

i. Contents:

This will be a report on the import record of lubricating oil, prepared based on the information obtained from PPUD.

ii. Frequency:

This report will be prepared monthly.

iii. Output Items:

- a. Name and address of importer.

- b. PPUD number.
- c. Kind of commodity.
- d. Quantity.
- e. CIF value.
- f. Exporting country.
- g. Port of entry.
- h. Name of vessel.

iv. Utilization:

This report can be utilized for obtaining the monthly record of importation for lubricating oil.

(4)-4. Import Record of Lubricating Oil by Port of Entry: R(1,15)

i. Contents:

This will be a report on the import records of lubricating oil classified by the port of entry, which will be prepared based on the information obtained from PPUD.

ii. Frequency:

This report will be prepared on a monthly basis.

iii. Output Items:

- a. Port of entry.
- b. Imported amount.

iv. Utilization:

This report can be utilized for obtaining the monthly import record by each landing port.

4-2-2. Domestic Trade

4-2-2-1. Outline of the System

The commodities to be studied in this Master Plan concerning the Domestic Trade are the five commodities of clove, copra, cooking oil, fertilizer, and cement, which are considered to be the key commodities to be managed by the Department of Trade and Cooperatives. Almost all of the information on these commodities are obtained at the Head Office from documents or telexes from the provincial trade offices. Basically, there are two types of information being obtained at the Head Office concerning these commodities. One is the price information (auction price, market price), and the other is the quantitative information (volume produced, volume distributed).

Presently, the procedures being taken at the Head Office is to post the information obtained to a ledger and to prepare reports for policy making, which most of the operation is now being performed manually. If this information concerning the five commodities could be processed by a computer, the required information could be retrieved whenever necessary, and the preparation of reports at the Head Office would become much easier.

From the above viewpoint, an information system should be designed from which the necessary outputs could be obtained from the data file established for each five type of commodity. A data file for market price information on all of the five commodities should be developed separately from those data file for each commodity.

Information relating to the domestic trade, after they are coded, will first be recorded on floppy disks, which will then be used for the data entry for this system. The frequency of data entry would be on weekly, half-monthly, or monthly basis depending on the frequency of the information being obtained at the Head Office.

Following is a table showing the input and output requirements of the five commodities to be studied in relation with domestic trade.

TABLE: Input Information Relating to Domestic Trade

Input Data	Frequency of Data Obtained at the Head Office	Frequency of Data Entry	Minimum Frequency of Output	Commodity				
				Clove	Copra	Cooking Oil	Fertilizer	Cement
Special Trade License (by trader)	Half-monthly	Half-monthly	Monthly	0	0			
Information on Auction (by trader)	Weekly	Weekly	Weekly	0				
Supply, Demand Stock Level (by province)	Half-monthly	Half-monthly	Monthly				0	
Performance of Distributor (by Distributor)	Weekly	Weekly	Monthly					0
Performance of Manufacturer (by manufacturer)	Half-monthly	Half-monthly	Monthly					0
Price Information Telex (by province, by commodity)	Weekly	Weekly	Weekly	0	0	0	0	0

4-2-2-2. Clove

(1) General

The current procedures being taken at the Head Office concerning the processing of information on clove could be systematized as described below.

A special trade license for clove is being issued by the provincial trade offices for each shipment. One copy of these special trade license is always being submitted to the Head Office from the provincial trade offices. The items mentioned in the special trade license include the name of consignor, consignee, quantity of shipment, and other important information on the shipment of cloves. These special trade licenses are being submitted on half-monthly basis from the provincial trade offices to the Head Office. A system must be developed which could retrieve the necessary information by province or as time series data from the data file established based on the information obtained from the special trade license for cloves.

Price information on cloves are also being obtained at the Head Office, other than the information from the special trade license, which is being submitted every week from provincial trade offices by telex. This telex message contains weekly market prices of various commodities in each province including cloves. Therefore, clove price information and clove special trade license information must be handled independently on separate data files. The price information data file is to be designed to contain price information on all of the five commodities of clove, copra, cooking

oil, fertilizer, and cement. Details of the price information data file will be covered hereinafter comprehensively.

(2) Input Data

(2)-1. Special Trade License for Cloves for Domestic Trade: I(2,1)

i. Contents:

Special trade license for cloves are issued to the inter-island traders by their respective provincial trade offices for each shipment of cloves. One copy of every special trade license issued is being submitted to the Head Office every half-month. The Head Office is checking how the shipment of cloves is being handled by these special trade licenses.

ii. Generation Frequency:

The special trade license for cloves are submitted from provincial trade offices to the Head Office on half-monthly basis. The total number of special trade licenses for cloves being submitted to the Head Office is approximately 200 per year.

iii. Information Flow:

Inter-Island Trader → District Trade Office → Provincial Trade Office → Head Office

iv. Information Media:

The information on special trade license is obtained at the Head Office in the form of documents.

v. Consideration for Data Check:

The contents of special trade licenses should be checked thoroughly at the provincial trade offices, since these are important documents for the distribution of cloves. A system to check the errors arising from coding and data entry must be established at the Head Office.

vi. Input Items:

Following are the items mentioned in the special trade license for cloves which will be the input items.

- a. Name of provincial trade office issuing the license.
- b. Name of inter-island trader (consignor).
- c. Address of inter-island trader
- d. PAP number
- e. Quantity of shipment.
- f. Quality of clove.
- g. Port of origin.
- h. Port of destination.
- i. Name of consignee.
- j. Address of consignee.
- k. Term of validity.
- l. Date of application/issuance.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of special trade license information.

viii. Volume/Frequency of Input:

Information being obtained from special trade license for clove is equal to approximately 200 characters. Therefore,

the following would be the data volume per month:

200 transactions x 200 characters / month

If the initial data entry is to be performed for those transactions generated in the past one year, the total number of transaction for initial data entry would be as follows:

200 transaction/month x 12 months = 2,400 transactions

(2)-2. Information on Auction of Cloves: I(2,2)

i. Contents:

Clove is being auctioned to inter-island traders from KUD/PUSKUD. Information on the auction of cloves being collected by each provincial trade office are telexed to the Head Office.

ii. Generation Frequency:

Information on clove auction is telexed to the Head Office from provincial trade offices every week. Each telex contains information on auctions for the week.

iii. Information Flow:

District Trade Office → Provincial Trade Office → Head Office

iv. Information Media:

Information on auction of clove is obtained at the Head Office by telex from the provincial trade offices.

v. Consideration for Data Check:

Accurate information on clove auction to be forwarded to the

Head Office must be collected at the provincial trade office level. To increase the reliability of the clove auction information being telexed to the Head Office, measures such as to submit copies of documents to confirm the telexed information should be considered.

vi. Input Items:

Following are the input items concerning clove auction.

- a. Name of province.
- b. Date (week).
- c. Name of successful bidder
- d. Quantity.
- e. Unit price.
- f. Quality.
- g. Name of KUD/PUSKUD.

vii. Input Device:

Data entry of clove auction information will be performed by floppy disk reader unit.

viii. Volume/Frequency of Input:

The maximum number of telexes received at the Head Office on clove auction is 27, when telexed from all provincial trade offices. The volume of information contained in one telex is equal to approximately 500 characters. Following is the volume of data per week:

27 transactions x 500 characters / week

If the initial data entry is to be performed for those

transactions generated in the past one year, the total number of transaction would be as follows:

27 transactions x 53 weeks = 1,431 transactions

(3) Computer Processing

(3)-1. Processing of Special Trade License for Clove

i. Contents:

The major processing required is to update the data file developed based on the information obtained from special trade license for cloves, and to totalize and make tabulations of various lists.

ii. Frequency:

The updating of the data file will be performed on a half-monthly basis, upon receipt of special trade licenses. Totalization and tabulation of these information will be performed monthly and annually.

iii. Input Data:

I(2,1)

iv. Output Reports:

R(2,1), R(2,2), R(2,3), R(2,4), R(2,5), R(2,6)

(3)-2. Processing of Clove Auction Information

i. Contents:

The required processing is the updating of clove data file established based on the telex of clove auction, and

totalizing and tabulation of the information.

ii. Frequency:

The updation of the data file will be performed every week upon receipt of the telex. Processing of tables are to be performed on monthly and annual bases.

iii. Input Data:

I(2,2)

iv. Output Reports:

R(2,7), R(2,8)

(4) Output Reports

(4)-1. Shipment Record by Province (monthly): R(2,1)

i. Contents:

This report is the record of monthly shipment quantities in each province, classified by quality of cloves.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month.
- b. Monthly quantities of shipment of cloves by province, and the totals.
- c. Quality of cloves.

iv. Utilization:

This will enable the Head Office to check the shipment status of cloves in each province classified by quality.

(4)-2. Inter-provincial Shipment of Cloves (monthly): R(2,2)

i. Contents:

This is a matrix of monthly inter-provincial shipment of cloves indicating the quantity of shipment between each province.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month.
- b. Inter-provincial shipment of cloves, and the total quantity shipped/received by each province.

iv. Utilization:

This report will be used to check the monthly record of shipment of cloves between each province.

(4)-3. List of Traders by Province: R(2,3)

i. Contents:

This is a list of traders by province, indicating the quantity of shipment by each trader.

ii. Frequency:

This is a monthly report

iii. Output Items:

- a. Year, month.
- b. Name of province.
- c. Name of trader.
- d. Address of trader.
- e. PAP number.
- f. Quantity of shipment.

iv. Utilization:

This report is used to check the shipment conditions of traders in each province.

(4)-4. Quantity of Shipment by Province (annual): R(2,4)

i. Contents:

This is a table describing the annual shipment quantities in each province, classified by quality.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year.
- b. Annual quantity of shipment in each province.
- c. Quality of cloves.

iv. Utilization:

This report will be used to check the annual shipment quantity of cloves in each province by quality.

(4)-5. Inter-provincial Shipment of Cloves (annual): R(2,5)

i. Contents:

This is a matrix of inter-provincial shipment of cloves indicating the quantity of shipment between each province.

ii. Frequency:

This is an annual report.

iii. Output Items:

a. Year.

b. Annual inter-provincial shipment of cloves and the total quantity shipped/received by each province.

iv. Utilization:

This report will be used to check the annual record of shipment of cloves between each province by the year.

(4)-6. Time Series Data by Traders and by Provinces: R(2,6)

i. Contents:

This is a time series data on the quantity of shipment by traders, and the total quantity of shipment in each province. Monthly and annual time series data can be prepared.

ii. Frequency:

This report will be prepared on an annual basis.

iii. Output Items:

a. Year/month.

b. Name of province.

c. Monthly shipment record by traders and the total quantities of each province.

d. Annual shipment record by traders and the total quantities of each province.

e. Growth over the previous month/year.

iv. Utilization:

This will enable the Head Office to check the monthly/annual trends in fluctuation of clove shipment by traders and also by provincial levels.

(4)-7. Results of Auction in Each Province: R(2,7)

i. Contents:

This is a table of the weekly quantity of clove auction in each province, the price, and the quality.

ii. Frequency:

This is a weekly report.

iii. Output Items:

- a. Year, week.
- b. Name of province.
- c. Quantity auctioned.
- d. Average unit price.
- e. Quality.

iv. Utilization:

This report will be used for checking the status of clove auction in each province.

(4)-8. Results of Auction by Traders: R(2,8)

i. Contents:

This report describes the amount of cloves bid by each trader and the bid price.

ii. Frequency:

This will be a weekly report.

iii. Output Items:

- a. Year, week,
- b. Name of province.
- c. Name of trader.
- d. Amount of cloves bid, and the bid price.

iv. Utilization:

This report will be used to check the amount of cloves bid by each trader.

4-2-2-3. Copra

(1) General

The current procedure being taken at the Head Office concerning the processing of copra information can be systematized as described below.

A special trade license for copra is being issued by the provincial trade offices for each shipment of copra, the same as in the case of cloves. One copy of every special trade license is being submitted to the Head Office from the provincial trade offices. The items mentioned in the special trade license include name of consignor, consignee, quantity of shipment and other important

information on the shipment of copra. These special trade licenses are being submitted to the Head Office on a half-monthly basis from the provincial trade offices. A system must be developed which can retrieve the necessary information by provinces, or as time series data from the data file established based on the information obtained from the special trade licenses for copra.

Market price information on copra are also being obtained at the Head Office, other than the information from the special trade license. It is being submitted weekly from the provincial trade offices by telex. However, price information on copra should be maintained in a data file separate from the data file for the shipment record of copra. The price information data file is to be designed to contain price information of all five commodities studied in this Master Plan, which will be covered comprehensively hereinafter.

(2) Input Data

(2)-1. Special Trade License for Copra: 1(2,3)

i. Contents:

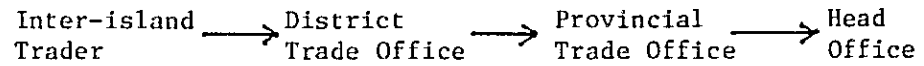
Special trade license for copra is issued to the inter-island traders by their respective provincial trade office for each shipment. One copy of every special trade license issued is being submitted to the Head Office every half-month. The Head Office is checking the shipment status of copra by these special trade licenses.

ii. Generation Frequency:

The special trade licenses for copra are submitted to the

Head Office from the provincial trade office on a half-monthly basis. The total number of special trade license being submitted is approximately 100 per month.

iii. Information Flow:



iv. Information Media:

The information on special trade license for copra is obtained at the Head Office in the form of documents.

v. Consideration for Data Check:

The contents of the special trade license should be checked thoroughly at provincial trade offices since this is an important document concerning the distribution of copra. A system to check errors arising from coding and data entry must be established at the Head Office.

vi. Input Items:

Following are the items mentioned in the special trade license which will be the input items.

- a. Name of provincial trade office issuing the license.
- b. Name of inter-island trader (consignor).
- c. Address of inter-island trader.
- d. PAF number.
- e. Quantity of shipment.
- f. Quality of copra.
- g. Port of loading.

- h. Port of destination,
- i. Name of consignee,
- j. Address of consignee.
- k. Term of validity.
- l. Date of application/issuance.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of special trade license information.

viii. Volume/Frequency of Input:

Information obtained from one special trade license for copra is equal to approximately 200 characters. Therefore, the following would be the data volume per month:

100 transactions x 200 characters / month

If the initial data entry would be performed for the transactions generated in the last one year, the total number of transaction for data entry would be as follows:

100 transactions/month x 12 month = 1,200 transactions

(3) Computer Processing:

i. Contents:

The major processing required is to update the data file for copra developed based on the information obtained from special trade license, and to totalize and tabulate various lists.

ii. Frequency:

The updating of the data file will be performed on a half-

monthly basis, upon receipt of special trade licenses.

Totalization and tabulation of these information will be performed monthly and annually.

iii. Input Data:

I(2,3)

iv. Output Reports:

R(2,9), R(2,10), R(2,11), R(2,12), R(2,13), R(2,14)

(4) Output Reports

(4)-1. Shipment Records by Province (monthly): R(2,9)

i. Contents:

This report is the record of monthly quantities of shipment in each province classified by quality of copra.

ii. Frequency:

This is a monthly report.

iii. Output Items:

a. Year, month.

b. Monthly quantity of shipment of copra in each province and the totals.

c. Quality of copra.

iv. Totalization:

This report will enable the Head Office to manage the quantity of shipment of copra in each province, classified by quality.

(4)-2. Inter-provincial Shipment of Copra (monthly): R(2,10)

i. Contents:

This is a matrix of inter-provincial shipment of copra, indicating the quantity of shipment of copra between each province.

ii. Frequency:

This is a monthly report.

iii. Output Items:

a. Year, month.

b. Inter-provincial shipment of copra and the totals by each province.

iv. Utilization:

This report will be used to check the distribution status of copra between each province.

(4)-3. List of Traders by Provinces: R(2,11)

i. Contents:

This is a list of traders indicating the quantity of copra shipment by each trader by province.

ii. Frequency:

This is a monthly report.

iii. Output Items:

a. Year, month.

b. Name of province.

- c. Name of trader.
- d. Address of trader.
- e. PAP number.
- f. Quantity of shipment

iv. Utilization:

This report is used to obtain information on the shipment status of traders in each province.

(4)-4. Quantity of Shipment by Province (annual): R(2,12)

i. Contents:

This is a list describing the annual quantity of copra shipment in each province classified by quality.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year.
- b. Annual quantity of shipment in each province.
- c. Quality of copra.

iv. Utilization:

This report is used to obtain information of annual shipment quantities of copra in each province by quality.

(4)-5. Inter-provincial Shipment of Copra (annual): R(2,13)

i. Contents:

This is a matrix of inter-provincial shipment of copra

indicating the quantity of shipment of copra between each province.

ii. Frequency:

This is an annual report.

iii. Output Items:

a. Year.

b. Annual inter-provincial shipment of copra and the totals by each province.

iv. Utilization:

This report is used to obtain information on the shipment quantity of copra between each province by the year.

(4)-6. Time Series Data by Traders and by Provinces: R(2,14)

i. Contents:

This is a time series data on quantity of shipment by traders, and the total quantity in each province. Monthly and annual time series data can be prepared.

ii. Frequency:

This report will be prepared on an annual basis.

iii. Output Items:

a. Year/month.

b. Monthly shipment record by traders and the total quantities in each province.

c. Annual shipment record by traders and the total quantities in each province.

d. Growth over the previous month/year.

iv. Utilization:

This will give figures of the monthly/annual fluctuation of shipment by each trader and by each province.

4-2-2-4. Cooking Oil

(1) General

The only information being obtained at the Head Office concerning cooking oil is the weekly price information being collected at the provincial trade offices and the district trade office.

There are no special trade licenses issued as in the case of cloves or copra. Therefore, there will be no need to establish a data file for cooking oil. The information obtained on cooking oil prices are to be contained in the same data file together with price information of the other four commodities. Details of the price information data file will be mentioned later in section 4-2-2-7.

4-2-2-5. Fertilizer

(1) General

The current procedures being taken at the Head Office concerning the processing of fertilizer information could be systematized as described below.

There is no special trade license for fertilizers. Supply-demand, stock information are telexed to the Head Office from the provincial trade offices every half-month. Based on the telexed

supply-demand and stock information, a system must be developed which could retrieve the necessary information by provinces or as a time series data from the data file for fertilizer.

Market price information on fertilizers are also being telexed to the Head Office, the same as in the case of other commodities. The market price information will be contained in the data file for price information mentioned in section 4-2-2-7, but not in this data file for fertilizer.

(2) Input Data

(2)-1. Supply, Demand, Stock Information: I(2,4)

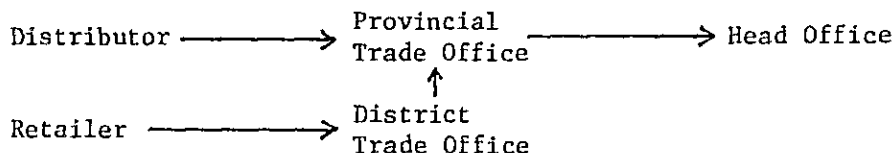
i. Contents:

The reports concerning supply-demand and stock of fertilizers are prepared based on information being collected on distributors, sub-distributors, and retailers by the provincial trade offices and district trade offices. This information is telexed on a half-monthly basis from the provincial trade offices to the Head Office. The Head Office is checking the supply-demand conditions of fertilizers from these telexed information.

ii. Generation Frequency:

The supply-demand, stock information are telexed to the Head Office every half-month. The total number of telexes received at the Head Office would be 54 per month when telexed from all of the provincial trade offices.

iii. Information Flow:



iv. Information Media:

Supply-demand and stock information on fertilizers are telexed to the Head Office.

v. Consideration for Data Check:

The supply-demand and stock information on the five types of fertilizers (urea, TSP, DSP, ZA, KCL) are being collected and totalized by each type at district trade offices and provincial trade offices. It must be checked at these levels so that there will be no error in the information they have obtained. Furthermore, telex errors must also be avoided. The reliability of telexed information is not so high, therefore, measures to confirm the contents of the telexed information, such as by letter, must be considered. On the other hand, a system to check the errors arising from coding and data entry must be established at the Head Office to avoid such errors.

vi. Input Items:

Following are the input items.

- a. Name of province.
- b. Time period.

- c. Type of fertilizer.
- d. Quantity of fertilizer supplied by type.
- e. Demand of fertilizers by type.
- f. Stock of fertilizer by type.

vii. Input Device:

Floppy disk reader unit will be used for data entry of supply, demand, and stock information of fertilizers.

viii. Volume/Frequency of Input:

Information equal to 200 characters can be obtained from the telex on supply-demand and stock of fertilizers, and therefore, the following is the monthly data volume:

54 transactions x 200 characters / month

If the initial data entry is to be conducted for the transactions generated in the past one year, the number of transaction for initial data entry would be as follows:

54 transactions x 12 month = 648 transactions

(3) Computer Processing

(3)-1. Processing of Supply, Demand and Stock Information

i. Contents:

The major processing required is to update the data file for fertilizers, concerning the supply-demand and stock conditions by each of the five types, and to totalize and tabulate various lists.

ii. Frequency:

The updating of the data file will be performed on a half-monthly basis, upon receipt of the telex by the Head Office. Totalizing and tabulation of these information will be performed monthly and annually.

iii. Input Data:

I(2,4)

iv. Output Reports:

R(2,15), R(2,16), R(2,17), R(2,18)

(4) Output Reports

(4)-1. Supply, Demand, Stock Conditions by Province

(monthly): R(2,15)

i. Contents:

This report is the table of monthly supply, demand, and stock volume of fertilizers in each province and at the national level.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month.
- b. Name of province.
- c. Type of fertilizer.
- d. Supply by each type

- e. Demand by each type.
- f. Stock by each type.

iv. Utilization:

This report will enable the Head Office to manage the monthly supply, demand, stock conditions of fertilizers at the provincial level and also at the national level.

(4)-2. Supply, Demand, Stock Conditions by Province
(annual): R(2,16)

i. Contents:

This report is the yearly table of supply, demand, and stock volume of fertilizers in each province and at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year.
- b. Name of province.
- c. Type of fertilizer.
- d. Supply by each type.
- e. Demand by each type.
- f. Stock by each type.

iv. Utilization:

This report will enable the Head Office to manage the annual supply, demand, stock conditions of fertilizers

at the national level as well as at the provincial level.

(4)-3. Time Series Data of Supply, Demand and Stock: R(2,17)

i. Contents:

This is a time series data of monthly supply, demand, and stock volume of five types of fertilizers in each province and at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year, month,
- b. Name of province,
- c. Type of fertilizer,
- d. Monthly supply by each type,
- e. Monthly demand by each type,
- f. Monthly stock by each type,

iv. Utilization:

This report will enable the Head Office to manage the monthly supply, demand, stock fluctuation trends of fertilizers at the provincial level and at the national level.

(4)-4. Time Series Data of Supply, Demand and Stock: R(2,18)

i. Contents:

This is a time series data of annual supply, demand, and stock volume of five types of fertilizers in each

province and at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year.
- b. Name of province.
- c. Type of fertilizer.
- d. Annual supply by each type.
- e. Annual demand by each type.
- f. Annual stock by each type.

iv. Utilization:

This report will enable the Head Office to manage the fluctuation trends in annual supply, demand, stock of fertilizers at the national level, as well as at the provincial level.

4-2-2-6. Cement

(1) General

The current procedures being taken at the Head Office concerning the processing of cement information could be systematized as mentioned below.

There is also no special trade license for the shipment of cement. Instead, the Head Office is receiving weekly documents from provincial trade offices on the actual performance record of each distributor. A system should be designed to establish a data file

for the information obtained on performance record of distributors, which will enable the Head Office to utilize the distribution information on cement.

There are also documents being submitted from the cement manufacturer to the Head Office on a half-monthly basis. This information should be recorded on another data file from which necessary information on cement manufacturers can be obtained, separately from that for distributors.

Market price information on cement will also be mentioned later in section 4-2-2-7, since this information will be kept on the same data file together with price information of other commodities.

(2) Input Data

(2)-1. Performance Record of Distributors: I(2,5)

i. Contents:

The information on initial stock, demand, final stock etc. of distributors are being collected at the provincial trade offices and being reported to the Head Office. The Head Office is checking the performance records of cement distributors from these reports.

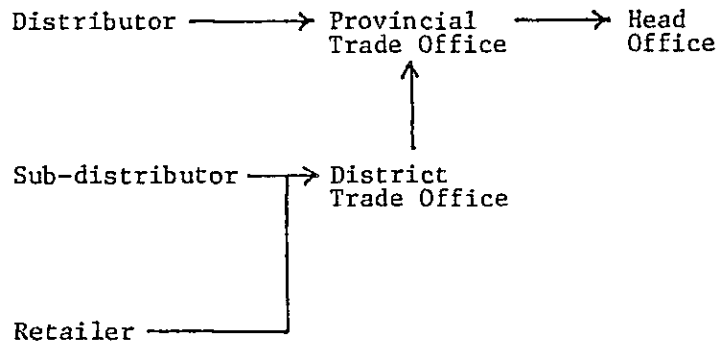
ii. Generation Frequency:

Performance record of each cement distributor is being totalized and reported to the Head Office on a weekly basis. The Head Office should be receiving

up to 27 reports per week from all of the provincial trade offices,

iii. Information Flow:

Information concerning performance records of cement distributors are being collected by the provincial trade offices and district trade offices. After all these information are totalized at the provincial trade office level, they are reported to the Head Office. Following is the information flow.



iv. Information Media:

Performance records of cement distributors are being reported to the Head Office by documents.

v. Consideration for Data Check:

The totalizing of performance records of cement distributors are actually being performed at the provincial trade offices and district trade offices. Therefore, the correct information must be recorded at these levels. A system to check the errors arising from coding and data entry must be established at the Head Office.

vi. Input Data;

Following are the items mentioned in the performance record report on cement distributors being submitted from the provincial trade offices.

- a. Name of province.
- b. Time period.
- c. Name of distributor.
- d. Initial stock.
- e. Supply.
- f. Demand.
- g. Final stock (in warehouse/others).
- h. Selling price.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of performance records of cement distributors.

viii. Volume/Frequency of Input:

Information estimated to be equal to 700 characters can be obtained from the report on performance records of cement distributors. Following is the weekly data volume:

27 transactions x 700 characters / week

If the initial data entry is to be conducted for the transactions generated in the past one year, the number of transaction for initial data entry would be:

27 transactions/week x 53 weeks = 1,431 transactions

(2)-2. Performance Record of Manufacturers: I(2,6)

i. Contents:

The information on production volume, demand, stock, etc. of cement manufacturers are reported to the Head Office directly from the manufacturers by document. The Head Office is checking the performance of cement manufacturers from these reports.

ii. Generation Frequency:

Performance record of each cement manufacturer is reported every half-month to the Head Office from the manufacturers. The number of transaction is approximately 10 per month.

iii. Information Flow:

Performance record of cement manufacturers are reported from the manufacturers directly to the Head Office without going through the provincial trade offices.

Cement Manufacturer \longrightarrow Head Office

iv. Information Media:

Performance records of cement manufacturers are being reported to the Head Office by documents.

v. Consideration for Data Check:

Performance records of cement manufacturers are being prepared by each manufacturer. A system to check the

propriety of the mentioned items, and errors arising from coding and data entry, must be established at the Head Office.

vi. Input Items:

Following are the input items mentioned in the report:

- a. Time period.
- b. Name and address of manufacturer.
- c. Demand by each distributor.
- d. Initial stock.
- e. Production volume.
- f. Costs.
- g. Final stock.
- h. Demand by distributor, and by region.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of supply, demand, and stock information on cement manufacturers.

viii. Volume/Frequency of Input:

The volume of information contained in one report concerning performance record of manufacturers is equal to 500 characters. Therefore, following would be the monthly data volume:

10 transactions x 500 characters / month

If the initial data entry is to be performed for those transactions generated in the past one year,

the number of transaction for initial data entry would be as follows:

10 transactions/month x 12 months = 120 transactions

(3) Computer Processing

(3)-1. Processing of Performance Record of Distributors

i. Contents:

The major processing required is to update the data file for performance record of distributors in accordance with the reports obtained from provincial trade offices, and to totalize and tabulate various lists.

ii. Frequency:

The updating of data file will be performed on a weekly basis, upon receipt of the report. Totalizing and tabulation of these information will be performed monthly and annually.

iii. Input Data:

I(2,5)

iv. Output Reports:

R(2,19), R(2,20), R(2,21), R(2,22)

(3)-2. Processing of Performance Record of Manufacturers

i. Contents:

The major processing required is to update the data file for performance record of manufacturers, and to

totalize and tabulate various lists.

ii. Frequency:

The updating of data file will be performed on a half-monthly basis, upon receipt of the report. Totalizing and tabulation of this information will be performed monthly and annually.

iii. Input Data:

I(2,6)

iv. Output Reports:

R(2,23), R(2,24), R(2,25), R(2,26)

(4) Output Reports

(4)-1. Performance Record of Distributors by Province

(monthly): R(2,19)

i. Contents:

This report is the monthly table of supply, demand, stock condition, etc. of cement distributors in each province and at the national level.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month.
- b. Name of province.
- c. Name of distributor.

- d. Initial stock,
- e. Supply.
- f. Demand.
- g. Final stock (in warehouse/others).
- h. Selling price.
- i. Total of above items d. through g. by province.
- j. Total of above items d. through g. nationwide.

iv. Utilization:

This report will enable the Head Office to obtain information on the monthly distribution and stock conditions of distributors by each province and at the national level.

(4)-2. Performance Record of Distributors by Province
(annual): R(2,20)

i. Contents:

This report is the annual table of supply, demand, stock condition, etc. of cement distributors in each province and at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Year.
- b. Name of province.
- c. Name of distributor.
- d. Demand.

- e. Supply.
- f. Selling price.
- g. Total of above items d, and e, by province.
- h. Total of above items d, and e, nationwide.

iv. Utilization:

This report will enable the Head Office to obtain information on the annual distribution and stock conditions of distributors by each province and at the national level.

(4)-3. Time Series Data of Performance Record of Distribution (monthly): R(2,21)

i. Contents:

This is a time series data of monthly performance record of distributors by each province and at the national level,

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Date of preparation.
- b. Month.
- c. Name of province.
- d. Name of distributor.
- e. Initial stock.
- f. Supply.
- g. Demand.

- h. Final stock,
- i. Selling price.
- j. Total of above items e. through h. by province.
- k. Total of above items e. through h. nationwide

iv. Utilization:

This report will enable the Head Office to manage the trends of monthly distribution and stock conditions of distributors by each province and at the national level.

(4)-4. Time Series Data of Performance Record of Distributors (annual): R(2,22)

i. Contents:

This is a time series data of annual performance record of distributors by each province and at the national level.

ii. Frequency:

This is an annual report,

iii. Output Items:

- a. Date of preparation,
- b. Year.
- c. Name of province.
- d. Name of distributor,
- e. Demand.
- f. Supply.
- g. Total of above items e. and f. by province,
- h. Total of above items e. and f. nationwide,

iv. Utilization:

This report will enable the Head Office to manage the trends of annual distribution and stock conditions of distributors by each province and at the national level.

(4)-5. Performance Record of Manufacturer (monthly): R(2,23)

i. Contents:

This report is the monthly table of production volume, sales volume, stock volume concerning cement manufacturers and the nationwide total.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month.
- b. Name of manufacturer,
- c. Initial stock.
- d. Production volume.
- e. Sales volume by region and by distributor, and the totals,
- f. Export volume.
- g. Final stock.
- h. Total of above items c. through g.

iv. Utilization:

This report will enable the Head Office to obtain information on the monthly production volume, sales volume, stock conditions of each manufacturer, as

well as at the national level.

(4)-6. Performance Record of Manufacturer (annual): R(2,24)

i. Contents:

This report is the annual table of production volume, sales volume concerning cement manufacturers and the nationwide total.

ii. Frequency:

This is an annual report,

iii. Output Items:

- a. Year.
- b. Name of manufacturer.
- c. Production volume.
- d. Sales volume by region and by distributor, and the totals.
- e. Export volume.
- f. Total of above items c. through e.

iv. Utilization:

This report will enable the Head Office to have first-hand information on the annual production volume, sales volume, stock conditions of each manufacturer, and also at the national level.

(4)-7. Time Series Data of Performance Record of Manufacturers (annual): R(2,25)

i. Contents:

This is a time series data of annual performance record of manufacturers and also the trends at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Date of preparation.
- b. Year.
- c. Name of manufacturer,
- d. Production volume.
- e. Sales volume by region and by distributor, and the totals.
- f. Export volume.
- g. Total of above items d. through f.

iv. Utilization:

This report will enable the Head Office to manage the trends of annual production and sales volume by each manufacturer and nationwide.

(4)-8. Time Series Data of Performance Record of Manufacturers (monthly): R(2,26)

i. Contents:

This is a time series data of monthly performance record of manufacturers and also the trends at the national level.

ii. Frequency:

This is an annual report.

iii. Output Items:

- a. Date of preparation.
- b. Month.
- c. Name of manufacturer.
- d. Production volume.
- e. Sales volume by region and by distributor and its total.
- f. Export volume.
- g. Initial stock.
- h. Final stock.
- i. Total of above items d, through h,

iv. Utilization:

This report will enable the Head Office to manage the trends of monthly production volume, sales volume, stock conditions by each manufacturer and nationwide.

4-2-2-7. Market Price Information

(1) General

Presently, market price information on major commodities are being collected by the market reporters of the provincial trade offices and district trade offices. The price information is telexed to the Head Office through the provincial trade offices. Only the five commodities of clove, copra, cooking

oil, fertilizer, and cement will be covered in this Master Plan Study for establishing a data file for these information, from which the market price of each commodity and its trends could be retrieved.

(2) Input Data

(2)-1. Price Telex: I(2,7)

i. Contents:

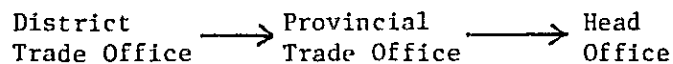
The price telex being sent from the provincial trade office to the Head Office contains market price information for all of the five commodities. The Head Office is checking the price fluctuation in each province by these telexes.

ii. Generation Frequency:

Price information telexes are sent from provincial trade offices to the Head Office on a weekly basis,

iii. Information Flow:

Market price information are being collected by market reporters of each provincial trade office and district trade office and telexed to the Head Office through the provincial trade offices. Following is the information flow:



iv. Information Media:

The Head Office is receiving the price information from provincial trade offices by telex,

v. Consideration for Data Check:

The important thing is that there shall be no error in the telex information from the provincial trade office to the Head Office. Therefore, a system to check the errors arising at the time when the message is being telexed must be established, as well as a system for checking the contents of the telexed message received at the Head Office. Measures such as to confirm the contents of the telex at the Head Office by documents sent from the provincial trade office will be required. Furthermore, a system to check the errors arising from coding and data entry must also be established at the Head Office.

vi. Input Data:

Following are the price information obtained from telexes for the data entry.

- a. Date,
- b. Name of province,
- c. Name of commodity,
- d. Market price of each commodity.

vii. Input Device:

Floppy disk reader unit will be used for the data entry of the price information.

viii. Volume/Frequency of Input:

The telex contains price information equal to 60 characters. The weekly volume of information is as follows:

27 transactions x 60 characters / week

If the initial data entry is to be performed for those transactions generated in the past one year, the following would be the total number of transaction for the data entry:

27 transaction/week x 53 week = 1,431 transactions

(3) Computer Processing

(3)-1. Processing of Price Information

i. Contents:

The major processing required is to update the data file for price information concerning the five commodities, and to totalize and tabulate this information.

ii. Frequency:

The updating of data file will be performed weekly, upon receipt of the price telex. Processing of charts will be performed weekly, monthly, and annually.

iii. Input Data:

I(2,7)

iv. Output Reports:

R(2,27), R(2,28), R(2,29)

(4) Output Reports

(4)-1. Price Table by Province (weekly): R(2,27)

i. Contents:

This is the price list of five commodities in each province.

ii. Frequency:

This is a weekly report.

iii. Output Items:

- a. Time period.
- b. Name of province.
- c. Name of commodity.
- d. Market price of each commodity.

iv. Utilization:

This table will be used to manage the price of each commodity by province.

(4)-2. Price Table by Province (monthly): R(2,28)

i. Contents:

This is a table of weekly price trends of five commodities for the month (once every 4-5 weeks) in each province.

ii. Frequency:

This report will be prepared every month (once every 4-5 weeks).

iii. Output Items:

- a. Time period.
- b. Name of province.
- c. Name of commodity.
- d. Weekly price trends of the month for each commodity and the monthly average.
- e. Increase or decrease from the previous week.

iv. Utilization:

This table will be used to manage the weekly price fluctuation of the month for each commodity by province.

(4)-3. Price Table by Province (annual): R(2,29)

i. Contents:

This is a table of weekly price trends of five commodities for the year (once every 53-54 weeks) in each province.

ii. Frequency:

This report will be prepared every year (once every 53-54 weeks),

iii. Output Items:

- a. Time period.
- b. Name of province.
- c. Name of commodity.
- d. Weekly price trends of the year for each commodity.
- e. Increase or decrease from the previous week,

- f. Trends of monthly average prices of the year for each commodity.
- g. Increase or decrease from the previous month for each commodity.

iv. Utilization:

This table will enable the Head Office to have first-hand information on the weekly price trends and also the monthly average price trends for the year for each commodity by province.

4-2-3. Concerning Price Information

4-2-3-1. Consumer Price Index

(1) General

The current procedures being taken at the Head Office concerning consumer price index information is to totalize and tabulate the computer output information obtained from C.B.S. manually. The characteristics of this operation is that the transactions concerning consumer price index are not generated within the Department. This point must be kept in mind when designing the system, especially concerning the information media to be obtained from C.B.S., since it will have great effect on the efficiency of the operation. If this information were to be obtained in the form of computer output lists even after the systematization, there will be almost no improvement concerning the errors occurring from coding and data entry, or the time required for these procedures, which will reduce the merits

of the systematization. Therefore, if possible, MT's or floppy disks are recommended as the media for receiving these information from C.B.S., when looked from the point of view of accuracy and promptitude.

Also, designing of code and file has close relation with the above-mentioned points so that if the information from C.B.S. are to be received by such media as MT's, consideration for compatibility between the two systems is necessary for increasing the efficiency of the processing.

(2) Input Data

(2)-1. Computer Output List from C.B.S.: I(3,1)

i. Contents:

This is the list of consumption expenditure for 115 to 150 commodities in 17 provinces. The type of commodities and services surveyed are classified according to the following items.

A. Food

- a. Cereals and other processed grain.
- b. Meat and processed meat products.
- c. Fresh fish.
- d. Dried fish (preserved).
- e. Eggs, milk and dairy products.
- f. Vegetable.
- h. Fruits.
- i. Spices.

- j. Fats and oils.
- k. Non-alcoholic beverages.
- l. Other foodstuffs.

B. Housing

- a. Rent and home related cost.
- b. Fuel, electricity, and water.
- c. Household furnishings.
- d. Household utensils.

C. Clothing

- a. Clothing for men.
- b. Clothing for women.
- c. Clothing for children.

D. Miscellaneous

- a. Medical care.
- b. Personal care and cosmetics.
- c. Education.
- d. Recreation and sports.
- e. Transportation costs.
- f. Tobacco and alcoholic beverages.

ii. Generation Frequency:

These data are obtained once every month from C.B.S.

iii. Information Flow:

C.B.S. —————> Head Office

iv. Information Media:

Presently, data is obtained from computer output lists. If possible, MT's or floppy disks are recommended.

v. Consideration for Data Check:

If obtained in the form of output lists, errors arising from coding and data entry must be checked at the Head Office. If obtained in the form of MT's or floppy disks, data check need not be considered.

vi. Input Items:

Input items are the expenditures of 115 to 150 commodities by province by day, and the ratio of each item to the total.

vii. Input Device:

The input device will depend on the media of information obtained from C.B.S. If it is by output lists or floppy disks, floppy disk reader units will be used. If by MT, MT unit will be used.

viii. Volume/Frequency of Input:

The breakdown of the number of commodities to be surveyed is as follows. 150 commodities in five provinces, 140 commodities in eight provinces, 125 commodities in three provinces, and 115 commodities in one province. Total volume of data obtained from C.B.S. every month would be for a total of 2,360 commodity items.

(3) Computer Processing

(3)-1. Processing of Consumer Price Index Information

i. Contents:

The required processing is to update the data file based on the output lists obtained from C.B.S., and to tabulate various charts.

ii. Frequency:

This processing will be performed monthly.

iii. Input Data:

I(3,1)

iv. Output Reports:

R(3,1), R(3,2), R(3,3)

(4) Output Reports

(4)-1. Fluctuations in Consumer Price Indices: R(3,1)

i. Contents:

This is a list of fluctuations in consumer price index of each commodity by province and at the national level, indicated by changes from the previous month in percentage.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year and month.
- b. Name of commodity.
- c. Fluctuation of consumer price index by province and at the national level.

iv. Utilization:

This can be used to analyze the trend of cost of living in the provinces.

(4)-2. Fluctuation of Household Consumption Expenditure:

R(3,2)

i. Contents:

This is a summary of expenditure for each commodity by province.

ii. Frequency:

It will consist of a monthly report.

iii. Output Items:

- a. Month, year and province.
- b. Name of commodity.
- c. Consumption expenditure for the previous and current month.
- d. Fluctuation in consumption expenditure as changes from the previous month.
- e. The ratio of each commodity to the total for the month.

f. Weight of each fluctuation for each consumption expenditure item [(c,d) x e]

iv. Utilization:

This can be used to analyze the fluctuation in consumption expenditure in each province,

(4)-3. Ranking of Fluctuation in Consumer Price Index: R(3,3)

i. Contents:

This is a summary of ranking list of commodities by fluctuation in consumer price index by province.

ii. Frequency:

This is a monthly report.

iii. Output Items:

- a. Year, month and name of province.
- b. Name of commodity.
- c. Weight of each fluctuation in consumption expenditure.
- d. Ratio of changes in consumer price index.

iv. Utilization:

This will help the Head Office to formulate policy for the stabilization of prices since this is detailed information concerning price fluctuation.

4-2-3-2. Commodity Prices

Commodity price information can be divided into the next two fields.

- a. Daily price trends in the world market.
- b. Price trends of domestic commodities - price trends of important domestic commodities by each commodity in 27 major provincial capital cities.

This system will enable the recording of the above information and process various reports. Details of the above two commodity prices are described below.

4-2-3-2-1. Daily Price Trends in the World Market

(1) General

This system is to update the daily price information by each commodity market and establish a data file for these items. Based on the data file, a table of time series data by each commodity market will be prepared.

The file volume will increase daily, but since the number of commodity markets is limited, this will present no major problem.

The only data check required will be a visual check and a simple logical check (blank check, range check).

(2) Input data

(2)-1. Publications from ANTARA News Agency (Daily Price List): I(3,2)

i. Contents:

This is a daily price information of the world commodity market.

ii. Generation Frequency;

This information is generated daily.

iii. Information Flow:

Following is the Information flow.

ANTARA News Agency \longrightarrow Head Office

iv. Information Media:

This is obtained from publications.

v. Consideration for Data Check:

Since the number of commodities is small, a visual check before the data entry would be sufficient.

vi. Input Items:

Price of the following 16 commodities for 29 commodity markets.

<u>Commodity</u>	<u>Number of Commodity Market</u>
a. Rubber RSS I	3
b. Rubber RSS III	2
c. Copra	2
d. Coffee	2
e. Pepper	2
f. Palm Seed	2
g. Palm Oil	2
h. Vegetable Oil	3
i. Beans	2

j. Corn	1
k. Sugar	1
l. Hemp	1
m. Jute	1
n. Tin	1
o. Lead	1
p. Gold	2

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

One transaction is generated every day for the 29 commodity markets, 10 characters are required for information on one commodity market. Therefore, following is the daily information volume:

29 commodity markets x 10 characters / day

(3) Computer Processing

(3)-1. Data Entry

i. Contents:

Processing required is the data entry of the information obtained from the above-mentioned transaction after a simple logical check for the updating of the commodity market price data file.

ii. Frequency:

This processing is to be performed daily, The data obtained is on a daily basis, however, the processing may be performed on a weekly basis.

iii. Input Data:

I(3,2)

iv. Output Reports:

None .

(3)-2. Preparation of Daily Trends of Commodity Price List

i. Contents:

This processing is to prepare reports from the daily data file.

ii. Frequency:

The processing is to be performed daily or weekly.

iii. Input Data:

None .

iv. Output Reports:

R(3,4)

(3)-3. Preparation of Weekly Trends of Commodity Price List

i. Contents:

This processing is to prepare reports from the daily data file.

ii. Frequency:

The processing is to be performed monthly.

iii. Input Data:

None.

iv. Output Reports:

R(3,5)

(4) Output Reports

(4)-1. Daily Trends of Commodity Price Lists: R(3,4)

i. Contents:

This is a report on daily trends of commodity prices by each commodity market.

ii. Frequency:

Daily or weekly.

iii. Output Items:

Daily actual commodity prices.

iv. Utilization:

This will be used to check the daily price trends in the world market by each commodity market.

(4)-2. Weekly Trends of Commodity Price: R(3,5)

i. Contents:

This is a list of weekly price trends for the month

and ratio of fluctuation from the previous week,
Price of a certain day of the week will be selected
from the daily data file which will be used to es-
tablish the price for the week.

ii. Frequency:

This is a monthly report.

iii. Output Items:

Weekly actual commodity price and the ratio of
fluctuation.

iv. Utilization:

This will be used to check the weekly price trends
in the world market by each commodity market.

4-2-3-2-2. Price Trends in the Domestic Market

(1) General

The following three types of transactions, submitted
from each provincial trade office, will be the input
of this system.

- a. Weekly report on commodity prices: Price of im-
portant commodities (approx. 160 commodities) at
every provincial capital.
- b. Half-monthly report on commodity prices: Price of
important commodities (approx. 80 commodities) at
every provincial capital.

- c. Monthly report on commodity prices: Price of important commodities (approx. 60 commodities) at every provincial capital.

Data entry will be performed by each type of transaction and by province. Three types of data file, each compiled by commodity and province as time series data, will be established by type of transaction, that is weekly, half-monthly, and monthly. From these data files, time series data list for each commodity by each provincial capital will be prepared.

The volume of input data and the file is expected to become very large as a whole.

It is assumed that the contents of the above-mentioned three transactions are already checked at the provincial trade office level.

(2) Input Data

(2)-1. Weekly Report on Commodity Prices: I(3,3)

i. Contents:

This is the information on weekly prices of domestic commodities at each provincial capital.

ii. Generation Frequency:

This information is generated weekly.

iii. Information Flow:

Provincial Trade Office \longrightarrow Head Office

iv. Information Media:

This information is obtained from reports,

v. Consideration for Data Check:

It is assumed that the mentioned items of the transaction are already being checked at provincial trade office level. Therefore, only a simple logical check will be performed before the data entry.

vi. Input Items:

Prices of approximately 160 commodities are the input items. Major commodities surveyed are:

- a. Food (rice, fish, salt, sugar, oil, vegetables, meat, etc.).
- b. Textiles.
- c. Export commodities (coffee beans, copra, etc.).
- d. Lumber.
- e. Rubber.
- f. Livestock.

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

The number of transactions generated every week is for 27 provinces containing 160 items. 10 characters are required for one item. Therefore, the

following is the monthly data volume:

4 weeks x 27 provinces x 160 items x 10 characters / month

(2)-2. Half-monthly Report on Commodity Prices: I(3,4)

i. Contents:

This is the information on half-monthly prices of domestic commodities at each provincial capital.

ii. Generation Frequency:

This report is generated on half-monthly basis.

iii. Information Flow:

Provincial Trade Offices \longrightarrow Head Office

iv. Information Media:

These information are obtained from reports.

v. Consideration for Data Check:

It is assumed that the mentioned items of the transaction are already being checked at provincial trade office level. Therefore, only a simple logical check will be performed before the data entry.

vi. Input Items:

Prices of approximately 80 commodities are the input items. Major commodities surveyed are:

Coffee (powdered).

Fruits.

Condiments .
Stationery .
Medicine .
Tire .
Chemical products .

vii. Input Devices:

Floppy disk reader units will be used for the data entry.

viii. Volume/Frequency of Input:

The number of transaction generated every half-month is for the 27 provinces, each with 80 items. These are 10 characters for one item. Therefore, the monthly data volume would be as follows:

2 x 27 provinces x 80 items x 10 characters / month

(2)-3. Monthly Report on Commodity Prices: I(3,5)

i. Contents:

This is the information on monthly prices of domestic commodities in each provincial capital.

ii. Generation Frequency:

This report is generated on monthly basis.

iii. Information Flow:

Provincial Trade Office \longrightarrow Head Office

iv. Information Media:

This information is obtained from reports,

v. Consideration for Data Check:

It is assumed that the mentioned items of the transaction are already being checked at provincial trade office levels. Therefore, only a simple logical check will be performed before the data entry.

vi. Input Items:

Prices of approximately 60 commodities are checked.

Major commodities surveyed are:

Typewriter paper.

Automobile parts.

Electric appliances (television sets, radios).

Housing materials.

Rental for warehouses.

Transportation costs (land/sea).

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

The number of transactions generated every month is for the 27 provinces, each containing 60 items.

There are 10 characters for one item. Therefore, the monthly data volume would be as follows:

27 provinces x 60 items x 10 characters / month

(3) Computer Processing

(3)-1. Data Entry

i. Contents:

Data entry of the information obtained from the above-mentioned transaction after a simple logical check will be performed. Data entry of transaction will be performed separately depending on the type of transaction. The weekly, half-monthly, and monthly data file will be updated by weekly, half-monthly, and monthly transactions respectively.

ii. Frequency:

The frequency of updating will be monthly for all three types of transactions.

iii. Input Data:

I(3,3), I(3,4), I(3,5)

iv. Output Reports:

None.

(3)-2. Processing of Reports

i. Contents:

Following reports are to be processed from the weekly, half-monthly, monthly data files.

ii. Frequency:

This processing will be performed on a monthly basis.

iii. Input Data:

None.

iv. Output Reports:

R(3,6), R(3,7), R(3,8)

(4) Output Reports

(4)-1. Weekly Price Trends: R(3,6)

i. Contents:

These are outputs of weekly price trends of each commodity by province, prepared from the weekly data file. (Maximum 160 tables).

ii. Frequency:

These are monthly reports.

iii. Output Items:

Weekly commodity prices and the average of the month.

iv. Utilization:

This will be used to check the price trends of important commodities in each provincial capital.

(4)-2. Half-monthly Price Trends: R(3,7)

i. Contents:

These are outputs of half-monthly price trends of each commodity by province, prepared from the half-monthly data file. (Maximum 80 tables).

ii. Frequency:

These are monthly reports.

iii. Output Items:

Half-monthly commodity price and average for the month.

iv. Utilization:

This will be used to check the price trends of important commodities in each provincial capital.

(4)-3. Monthly Price Trends: R(3,8)

i. Contents:

These are outputs of monthly price trends of each commodity by province, prepared from the monthly data file. (Maximum 80 tables).

ii. Frequency:

These are monthly reports.

iii. Output Items:

Monthly commodity price and the average for the year.

iv. Utilization:

This will be used to check the price trends of important commodities in each provincial capital.

4-2-3-3. Check Price

(1) General

World market conditions of export commodities are an important source of information for the determination of check price. This system is aimed at the recording of such information and quick preparation of reports for the determination of check price.

Furthermore, if this system could be expanded in the future to record other price information in connection with the check price, all of this information could be linked together in order to establish a totalized system for the determination of check price.

This system is to establish and update the data file for monthly price information by commodity. Table of time series data for each commodity and indicators will be prepared from the data file.

There will be no problem concerning the data entry and the volume of data file since the number of commodities to be surveyed, is limited and the frequency of data entry is on a monthly basis. There will also be no need for special data check such as verifying but only visual check or a simple logical check (blank, range) will be required.

(2) Input Data

(2)-1. Publications from ANTARA News Agency (market condition reports, rubber price reports, etc.): I(3,6)

i. Contents:

These are information on monthly prices of the world market conditions.

ii. Generation Frequency:

The information is generated monthly.

iii. Information Flow:

ANTARA News Agency \longrightarrow Head Office

iv. Information Media:

The information is obtained from publications.

v. Consideration for Data Check:

Only a simple visual check is requested before the data entry since the number of commodities is small and the frequency of data entry is once every month.

vi. Input Items:

Price of following 17 commodities are the input items.

- a. Rubber, RSS I.
- b. Rubber, RSS III.
- c. Coffee.
- d. Pepper.
- e. Copra.
- f. Coconut oil.
- g. Palm oil.
- h. Palm seed oil.
- i. Copra cake.
- j. Dried cassava/tapioca.

- k. Corn.
- l. Rice bran.
- m. Cinnamon.
- n. Nutmeg.
- o. Mace.
- p. Cattle (Bali).
- q. Lumber.

vii. Input Device:

Floppy disk reader unit will be used for the data entry.

viii. Volume/Frequency of Input:

There is one transaction generated every month with 17 items which has 10 characters each. Following is the monthly data volume:

17 items x 10 characters / month

(3) Computer Processing

(3)-1. Data Entry

i. Contents:

Processing required is the data entry of the information obtained from the above-mentioned transactions after a simple logical check is performed for establishing and updating the monthly commodity data file.

ii. Frequency:

This processing will be performed monthly.

iii. Input Data:

I(3,6)

iv. Output Reports:

None.

(3)-2. Processing of Statistical Data and Indicators

i. Contents:

Reports are to be made from the data file established.

ii. Frequency:

This processing is required on monthly basis.

iii. Input Data:

None.

iv. Output Reports:

R(3,9), R(3,10)

(4) Output Reports

(4)-1. Monthly Trends of Commodity Price: R(3,9)

i. Contents:

This is a report on the monthly trends of each commodity and its average.

ii. Frequency:

This is a monthly report.