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# **The FAP Data Bank. Part 1: Organization, Contents and Management**

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**THE FAP DATA BANK  
PART 1: ORGANIZATION, CONTENTS AND MANAGEMENT**

U. Sichra

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## FOREWORD

Understanding the nature and dimensions of the world food problem and the policies available to alleviate it has been the focal point of the IIASA Food and Agriculture Program (FAP) since it began in 1977.

National food systems are highly interdependent, and yet the major policy options exist at the national level. Therefore, to explore these options, it is necessary both to develop policy models for national economies and to link them together by trade and capital transfers. Over the years FAP has, with the help of a network of collaborating institutions, developed and linked national policy models of twenty countries, which together account for nearly 80 percent of important agricultural attributes such as area, production, population, exports, imports and so on. The remaining countries are represented by 14 somewhat simpler models of groups of countries.

To support the work, a data bank was organized at the very beginning of FAP. The FAP data bank has grown in size and complexity and now contains large volumes of data obtained from different sources.

Ulrike Sichra has described the organization, contents and management of the data bank in this paper. Methods and practice for updating and aggregation are described in an accompanying paper.

Kirit S. Parikh  
Program Leader  
Food and Agriculture Program

## PREFACE

The FAP Data Bank is a large collection of data from different sources and constitutes a basic element in the modelling activities of the Food and Agriculture Program. This data bank was created at the very beginning of the Food and Agriculture Program and has grown ever since, in size and complexity. In order to better describe the FAP Data Bank and to document its contents, the vast amount of information has been split into two parts:

"Part 1:" Organisation, Contents and Management

"Part 2:" Updating and Aggregating - Methods and Practice

Part 2 is designed for those who will take care of updating of the FAP Data Bank. That volume not only assumes that the reader is familiar with Part 1, but also that she or he is an experienced computer user, preferably at IIASA.

Part 1, this document, is the introductory paper on which Part 2 is based. It addresses a general audience, interested in data for agricultural modelling, serving at the same time as a document for the FAP modelling activities. The term "aggregation" will frequently be used in this paper. To understand it in its whole complexity the reader is referred to:

"The Aggregation of the Agricultural Supply Utilisation Accounts", WP-83-42, IIASA.

In that paper the methodology and details of aggregations are described at length.

It is hoped that the two parts describing the FAP Data Bank, of which this is the first, will satisfy a long felt need for documentation and clarification.

## ACKNOWLEDGEMENTS

The nature of this paper makes it impossible to list all the persons and organisations that helped towards its coming into existence. The main contributions to the wealth of data come from the following institutions;

- \* The Food and Agriculture Organisation of the United Nations (FAO) Rome, Italy,
- \* The International Labour Organisation of the United Nations (ILO), Geneva, Switzerland; and
- \* The World Bank, Washington DC, USA.

To these organisations the FAP is deeply indebted, recognizing that without their active support the FAP Data Bank would hardly have come into existence. Most of the past and present staff of the FAP has been helpful in one way or other to creating the FAP Data Bank, and thus originating this paper. Many suggestions from both leaders of the program, Ference Rabar and Kirit S. Parikh have contributed to the usefulness of the data bank. Numerous persons in the FAP Collaborating Network have made available new data for their country, or have updated the existing data for it. Our deep gratitude is addressed to them. Without the dedication of Guenther Fischer the Data Bank and its managing routines would not have evolved. Bozena Lopuch and Stefanie Hoffmann worked with big dedication on the CMEA and fertilizer data. The formatting efforts of Lilo Roggenland and Bonnie Riley can be directly seen. Without the careful reviewing done by Gerhard Kroemer and Laslo Zeold many parts would have remained unclear.

And last but not least we wish to thank all the users of the FAP data bank who by using the data, and with their questions, and correction of errors and have helped the FAP Data Bank to become a useful instrument in the modelling activities of the FAP.

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# THE FAP DATA BANK

## PART I: ORGANIZATION, CONTENTS AND MANAGEMENT

*Ulrike Sichra*

### 1. Introduction

The modelling activities of the Food and Agriculture Project at IIASA rely, among others, on an extensive set of data. Broadly speaking this data can be divided into time series and single items.

In this paper emphasis is given to the time series data and only in one instance factors are discussed, which do not change in time (nutritional values).

The purpose of the following pages is to present an overview of the data, mostly referring to agriculture, which is available in computerized form and can be accessed at IIASA with the help of staff members of the FAP.

The structure of the data files, its origin and contents is presented in the first sections. In some instances the methodology for arriving at the time series is presented in great detail. The next sections deal with the logistics of handling the data, like looking at data, extracting data, updating time series, plotting data, etc. As this publication is not only meant for readers outside FAP, but also for the staff who actually handle the data bank, some sections are included which should support them in their daily work.

This paper concludes with an overview of the data available at FAP in computerized form, its deviations from the original state, and the Institutions with whom FAP interacts for data gathering purposes. More details on some of the data origins and computations can be found in further working papers, listed in the references section.

In order to help the reader of this paper, and the user of the data, numerous appendices have been included, which tabulate countries, commodities, etc. or display sample outputs of the data bank.

A word of caution for the computer expert; the term data bank is used here, *not* for a sophisticated data base, relational or network like, obeying an even more sophisticated data base management system. In this document data bank is a set of sequentially organized time series, in machine readable form which obey an internal logic and can be manipulated by, for example, Fortran programs. The FAP chose this mode of data handling due to the lack of space on the inhouse computer for storing large amounts of data, and in order to gain maximum flexibility with respect to exchanging data with other collaborating institutions.

### 2. Organization

The FAP data bank consists of an arbitrary number of time series stored in an arbitrary number of files which can be located on disk and/or magnetic tape.

Independent of the physical location, the files are organised in the same way:

every record consists of 7 integers and 16 pairs of real and character\*1 variables, which are stored sequentially, in binary (unformatted) mode in the file.

Therefore, the statement

```
read(iu,end=991) (icd(i),i=1,7),(x(i),s(i),i=1,16)
```

will always be used for reading, and

```
write(iu) (icd(i),i=1,7),(x(i),s(i),i=1,16)
```

is always the write statement; prior to any other statement the following declaration statement has to be made:

```
character*1 s(16)
```

One can imagine the data being stored on tape or disk in the following way:

```
|icd(1)|icd(2)|.....|icd(7)|x(1)|s(1)|x(2)|s(2)| .....|x(16)|s(16)|
```

Codes and data have the following meaning:

- icd(1) system code, 2 digits, value mostly 11, not used
- (2) country code, 1 to 3 digits, e.g. 9,11,231 (see Appendix 1)
- (3) commodity code, 1 to 4 digits, e.g. 1,15,882,1532 (see Appendix 2, 2a)
- (4) element code, 1 to 2 digits, e.g. 3,15 (see Appendix 3, 3a)
- (5) dimension code, 1 digit; 1,2,3 or 4 (see Appendix 3, 3a)
- (6) first year indicator, 2 digits, e.g. 61,65,66
- (7) creation date, 1 to 4 digits, not used, often set.
  
- x(1) data of year "first year indicator"
- (2) data of year "first year indicator", +1
- (3) data of year "first year indicator", +2
- .
- .
  
- x(16) data of year "first year indicator", +15
- s(1) status indicator for year of "first year indicator"
- (2) status indicator for year of "first year indicator", +1
- .
- .
  
- s(16) status indicator for year of "first year indicator", +15

## 2.1. System Code icd(1)

The system code icd(1) is used at FAO for file keeping purposes, but has not been taken into account at IIASA. The location however is reserved, and the code from FAO is generally taken over, but no program takes it as a parameter.

## 2.2. Country Code icd(2)

The country code icd(2) is taken directly from FAO with the exception of 3 codes:

- \* Country code 0 is used at FAO only for international factors (e.g. nutrients). In the FAP data bank it also stands for aggregates, e.g. all FAP countries to "one" country, for the country code in the world market prices, or in the file with the averages over all countries.
- \* Code 888 is used for the EEC aggregate, and
- \* 777 for the CMEA aggregate.

In Appendix 1 a list of all countries and their codes is given.

This list covers all possible FAO country codes, which does not mean that the FAP Data Bank contains information for each of these countries. Only a subset of the FAO countries in Appendix 1 is dealt with at FAP. The selection was done on the basis of major economic indicators like production, imports and exports of agricultural products, and population and area. The modeling activities at FAP also influenced the choice. The aim was to choose a minimum set of countries which jointly cover at least 80% of the world's total of any given indicator. Together with the constraints of availability of data and the range of FAP's collaborating institutions, the countries listed in Appendix 1a, called the FAP4 countries, were chosen. For the countries with an '\*' there are Supply Utilisation Accounts (SUAs) available at all stages of aggregation for all time spans. For the countries without the marker only some aggregations are covered in the FAP Data Bank.

The data dictionary for countries is stored in the file nfao.2. This is the file used when producing data listings. Any new country codes which will be printed in full text have to appear in the file nfao.2. If no entry is there the data record is stored, but the deciphered listing will have "\*\*\*\*\*" entries instead of the country's name. This same comment applies for commodities icd(3), elements icd(4) and dimensions icd(5).

## 2.3. Commodity Code icd(3)

The commodity codes icd(3) are partly taken from FAO (main commodities and derived products) and partly designed at FAP (aggregations to 27 and 16 commodities, macro data, etc). In Appendix 2 one finds all possible commodity codes and their corresponding text.

The first few lines of this appendix are:

icd(3)	"group"	text
0001	01	population
0002	14	macroeconomics 1
0003	14	macroeconomics 2
0010	03	total trade
0012	17	land use
0013	17	irrigation
0014	16	land use
0015	02	wheat
0016	03	flour

The first 4 digits in each line above are the commodity code, i.e. 0001=population, 0003=total trade, etc; the last 2 digits are the "group" a commodity belongs to. This information is only stored in the dictionary file nfao.3.1 (or nfao.3.22) (see also Appendix 2 and Appendix 2a) to be used in the listing program, when the text for the elements is selected, and is not included in the data record itself.

The "group" codes give further information about the commodity: main crop commodities belong to group 02, derived crop products to group 03, etc. In the element list (Appendix 3 and 3a), element 4 (yield, extraction rate) has the same code, whether in group 02 or 03, but the text that goes with it is different, for convenience of the reader.

Programs which write text for the data and their codes take the commodity text from the file nfao.3.1 and nfao.3.22. The second file is a subset of the first, and helps to speed up processing when very aggregated data has to be printed, as the commodity choice is much smaller then.

#### 2.4. Element Code icd(4)

The meaning of the element codes icd(4) is listed in Appendix 3 and 3a. The first 2 digits are the commodity group these elements belong to, the last 2 digits are the actual element codes.

As an example take a main crop product, and a main animal product. The elements can be 1, 2, ... until 17, the corresponding text is:

element	text	
	crop	animal
01	opening stocks	opening number
02	area sown	potential number of females of reproducing age
03	area harvested	actual number of females reproducing
04	yield	birth rate
05	production	births
06	imports	live imports
07	from stocks	from stock
08	to stocks	to stocks
09	exports	live exports
10	feed	---
11	seed	---
12	waste	natural deaths
13	processing	number slaughtered
14	food	---
15	non-food	other utilisation
16	closing stocks	closing stocks
17	seeding rate	take-off rate

The data dictionary design is such that there may not be more than 17 elements in each group. This has historical reasons and is related to the FAO data files design.

## 2.5. Dimension Code icd(5)

The fifth code icd(5) in a data record is called dimension. It carries information on the unit of measurement of the data which follows. There can be up to 4 dimensions, and in general the following convention is active:

icd(5)	text
1	quantity measure
2	value measure
3	unit price
4	unit price

There are some exceptions however in the aggregations for FAP, which will be discussed later.

In Appendix 3 and 3a the text for the 3 dimensions is also given (in columns 3 to 5). There is no text for icd(5)=4 due to programming reasons. In the same way as the elements the dimensions also have different text, depending on the group a commodity belongs to. The data dictionary for the dimensions is the same as for the elements, i.e. the file bin.1 (bin.22), which are random access files in binary format.

## 2.6. First Year Indicator icd(6)

The first year indicator, stored in the 6th position of the code field (icd(6)), is used for the mapping between the data which follows and the years of the calendar. It has no text associated with it.

## 2.7. Creation Date icd(7)

The last code icd(7) is not meaningful for FAP purposes.

## 2.8. Status Indicator

Each year of data has, immediately following it, an indicator for the status of the data. These are s(1), s(2), ... s(16). This one character can be;

s(i)	text
0 or blank	official figure
*	unofficial figure
F	FAO estimate
C	calculated

After going through some of the aggregation programs other status indicators may be found, but similar to icd(1) and icd(7) this information is not relevant when processing the data in FAP.

It has already been pointed out that the records are written sequentially into a file, and that any number of records can be organized into a file. The order of the records must be by increasing code numbers icd(2), icd(3), ..., icd(5), with icd(5) (dimension) changing first. This is a must because most programs rely on the fact that the data is sorted in this way, and would otherwise report on missing data, or do wrong things. From the data point of view however it is irrelevant in which sequence data is stored.

As a consequence of this ordering scheme the time series on a specific file are ordered by increasing country code icd(2), within a country by increasing commodity code icd(3), within a commodity by increasing element code icd(4) and within an element by increasing dimension code icd(5). An example of some time series could be:

icd(1)	icd(2)	icd(3)	icd(4)	icd(5)	icd(6)	icd(7)	data
22	9	15	3	1	61	999	153240. 0 160011. * 23451. ....
22	9	15	5	1	61	999	.....
11	9	15	5	3	61	383	....
12	9	15	9	1	61	999	....
11	9	15	9	2	61	999	....
22	9	15	15	1	61	282	....
22	9	16	3	1	61	999	....
22	9	16	4	1	61	999	.....
12	10	27	6	1	61	9999	....
12	10	27	6	2	61	9999	....

The data records are designed such that they can only contain exactly 16 years of data. If for any number of years between the "first year indicator" year and "first year indicator"+15 data does not exist, zeros are filled in. Therefore, zero can mean that either data is not available, that it has not been inputted, or that it is really zero. In general it is clear from the type of series what a zero entry could mean. In the case of element 8 (to stocks), a zero entry can frequently be found. Production (element 5) of a commodity might be zero as of a certain year, or up to a certain year, if that product has been newly introduced or its production given up. Time series with only zeros as data are generally not to be found in the data bank.

All existing data management programs see to it that no 2 records with the same code are created. If there should be such 2 records however, search programs would only pick up the first.

From the logical and data organisational point of view it does not make any difference whether there are 16 years in each time series, or less, or more, or if the number of years is variable. But the computer programs that handle the data are designed such that they require exactly 16 years, and most programs even rely on the fact that the first year indicator is the same for all series in one file. The logic of the search programs also suggests this.

In the future, with more data coming in, it would be useful to adapt some of the programs (printing, reading, merging) to allow for variable number of years. For this purpose the first entry in the code field (icd(1)) or the last entry (icd(7)) could be the number of years in the time series.

The read and write statements would then look somewhat like this:

```
read(iu,end=999) (icd(i),i=1,7),(x(i),s(i),i=1,icd(1))
```

Aggregation and price producing programs should probably be left with the fixed number of years per time series (16 currently), and series starting in different years should not be put into the same file as the programs do not check for each read data record the first year indicator.

Currently there are time series available which start in 1961, 1965 and 1966. The series starting in 65 have the average 1961-1965 data as an entry for 1965; the other series always have yearly data. As a consequence of its Data Management System, FAO only reports on integer time series (no digits after the decimal point). For this reason the 4th element icd(4)=4 (extraction rate, yield, exchange rate, etc) are expressed in other units than expected; they have to be divided by 10\*\*4 in order to arrive at the right order of magnitude.



This exception applies to element  $icd(4)=4$  in groups 1 to 17 and group 24. A further exception is element  $icd(4)=13$  in groups 23 and 29 (exchange rates). As an example, production is reported in metric tons, area harvested in hectare, yield in 100gr/ha.

The data files at FAP (IIASA) can be found on disk and on tape. Tapes can be "mt-tapes", which is generally the case for small data files, which easily fit on disk, and which can be quickly restored from tape. There are some tapes which have only one data file on them. These have been put onto tape by using the UNIX command `dd`, without any blocking or converting. This is generally done with large data files (1000 blocks or more), which can then be processed directly from tape and do not have to be written to disk first (for extraction, aggregation, etc).

### 3. Types of Data Files

It can easily be seen that there are a number of classification methods for the different files of the FAP Data Bank. They can be sorted depending on their origin, their contents, their time span, etc.

#### 3.1. Data Files by Origin

Taking the origin of the data files as a classification criterion, one can divide the FAP Data into three main groups:

1. Original FAO files;  
e.g. Production and Trade Yearbooks,  
original Supply Utilization Accounts,  
FAO population data, producer prices, nutritional values.
2. Aggregated data, created at IIASA;  
e.g. `ag`, `ag27`, `ag9`, `vavo27`, `vavo9`.
3. Other Origin:  
e.g. land data, labour force data, ILO data, macro data

This grouping is useful from the user's point of view, as the data can thus be understood by origin, and the search for mistakes (e.g. wrong code or data) can be made more efficient (is the source FAO, ILO, a computer program at IIASA, the aggregation logic, etc ??). On the other hand some programs need to know the origin of the data in order to produce correct results.

In the data files of group 1 (original from FAO) the dimensions (stored in  $icd(5)$ ) have a different meaning than in the data of group 2 (results from aggregations) created at IIASA.

In group 1 (original FAO data) the dimensions and their meanings are

dimension ( $icd(5)$ )	text
1	quantity in mt
2	value in 1000 current US
3	price in NC/mt

In group 2 (aggregations made at IIASA) the corresponding table reads:

dimension (icd(5))	text
1	quantity in 1000 US
2	quantity in mt "equivalent"
3	price (unit see later)
4	price (unit see later)

The value dimension of all commodities are left out in the files of this group. The first level of aggregation, although created at IIASA, follows the dimension conventions of group 1. It is important to be aware of this. Plain data files (without text) might be interpreted wrongly without the information. The program which adds text to the raw data (suputa.f) needs the parameter "1" for files in group 1 and "22" for files in group 2. The files in group 3 can be treated as if they belong to group 1.

### 3.2. Data Files by Content

Very broadly, the FAP Data Bank can be divided, by content, into:

- Production and Trade Yearbooks
- Supply Utilization Accounts and Prices
- Population Data
- Macroeconomic Data (also includes population and fertilizer data)
- Fertilizer Data
- Area Data
- Nutritional values

The grouping of the FAP Data Files by content is closely related to establishing the sources of the different data. The FAP Data Bank has been put together from various sources:

- The UN Food and Agriculture Organization (FAO) in Rome,
- The International Labour Organization (ILO) in Geneva,
- The World Bank in Washington DC,
- various reports, statistical yearbooks, calculations, etc.

From the FAP's modeling point of view the most interesting block of data was the one from FAO. This is constituted by the Production and Trade Yearbooks (on magnetic tape) first used by FAP to clearly identify the modeling work, its coverage, scope, etc; and the Supply Utilization Account (SUA), which have since constituted the basis of the FAP models. Consequently the greatest efforts were invested in these parts of the FAP Data Bank. Time series on prices and nutritional values also belong to this group.

The ILO data on population, labour force and labour participation rates are the basis for the population data. FAO also provided some input to this section, on which will be reported below.

The World Bank data for macroeconomic indicators is the basis for the FAP time series on GNP, expenditures, etc in current and constant values.

And finally a number of reports, statistical yearbooks, etc were used to fill gaps in years, definitions, commodities, etc.

### 3.2.1. Production and Trade Yearbooks

A number of time series between 1961 and 1976, from which the Production and Trade Yearbooks are printed at FAO, are available in computerized form at IIASA. These time series served as a basis for FAP's modelling work. In the meantime more than one update of Supply Utilization Accounts have arrived at IIASA and the original Production and Trade Yearbook time series from FAO have become less important.

All trade and production of agricultural products can be found in the SUA time series, and in much finer detail. There are, however, further time series in inputs to agriculture in the Production Yearbook files which cannot be found in the SUA files.

Most of the FAO countries listed in Appendix 1 and the commodities shown in Appendix 2 are included in the Production and Trade Yearbook series. The Production Yearbook file only gives numbers on production (in mt, e.g. wheat, or number e.g. tractors, cattle). The Trade Yearbook file reports on imports and exports in quantity and value. The original files did not have the sophisticated structure of the FAP data bank, but were subsequently adapted in order to have a uniform structure. These two time series are not actively used by the FAP any more.

### 3.2.2. Supply Utilization Accounts

The Supply Utilization Accounts are an extremely important source of information for the FAP modeling work because with their data it is possible to trace in detail the supply and demand of agricultural goods, not only for natural products such as maize, apples, cattle, but also for processed or derived products such as starch, canned fruits or sausages. In Figure.1 one can see how the chain of supply and demand (utilisation) is built, always keeping in mind that the balance between supply and demand has to be met.

It is evident that the amount of information in the SUA is very large and not easily storable in one file. The agricultural models developed at IIASA do not have as detailed a commodity classification as FAO. Therefore it was necessary to arrive at a much smaller commodity classification which could be used in the national models. A number of computer programs were developed to reduce the amount of information available to a manageable number (Figure.2).

A short example here should make the method of the aggregation, as applied to the SUA's, clear. In Figure.3 the so called "wheat tree" is shown. Each box represents a commodity (wheat, flour, bran, cake, etc), the connecting flows show the dependencies. Flour and bran result simultaneously from wheat. Cakes, pastry and macaroni are made each from a separate amount of flour(\*). The subdivision of each box shows, in scale, the amounts of the various supply (production, import, from stock) and demand elements (to stock, exports, feed, seed, waste, processing, food, other utilisation)(+). The width of the streams corresponds to the extraction rate of the various products (e.g flour=0.25, bran=0.75). The SUA's are calculated such that demand and supply are equal,

(\*) The other products contained in a cake, e.g. eggs, milk, etc. are not reported in the SUA's.

(+) The scaling corresponds to Argentina, 1970 values.

Figure 1:

SUA

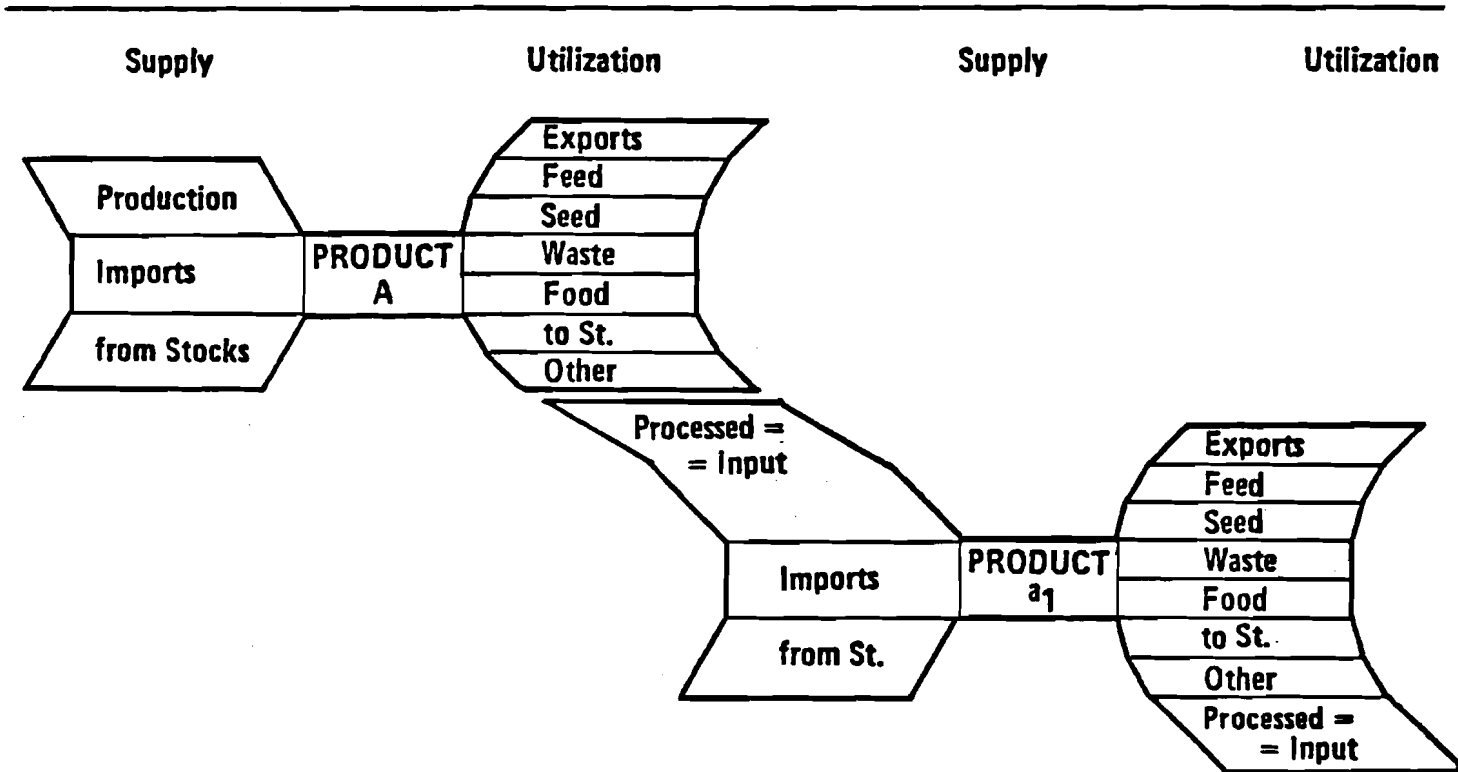


Figure 2:

**AGGREGATIONS**

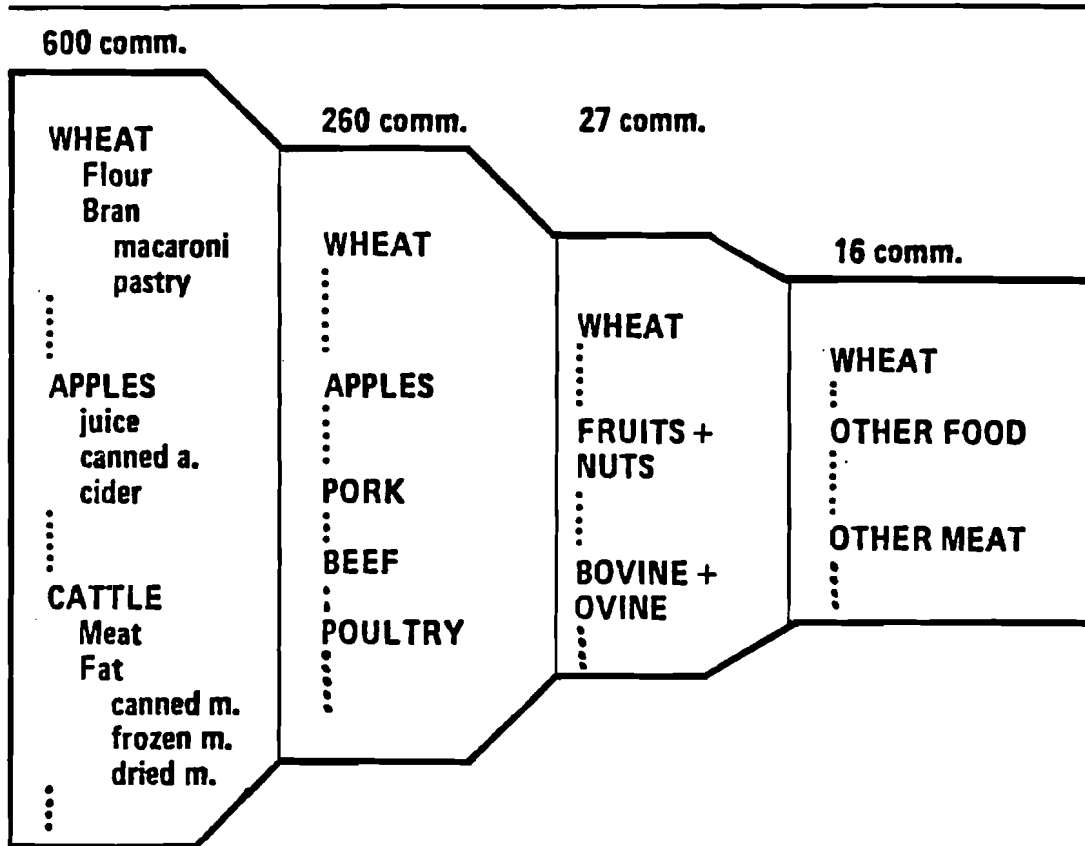
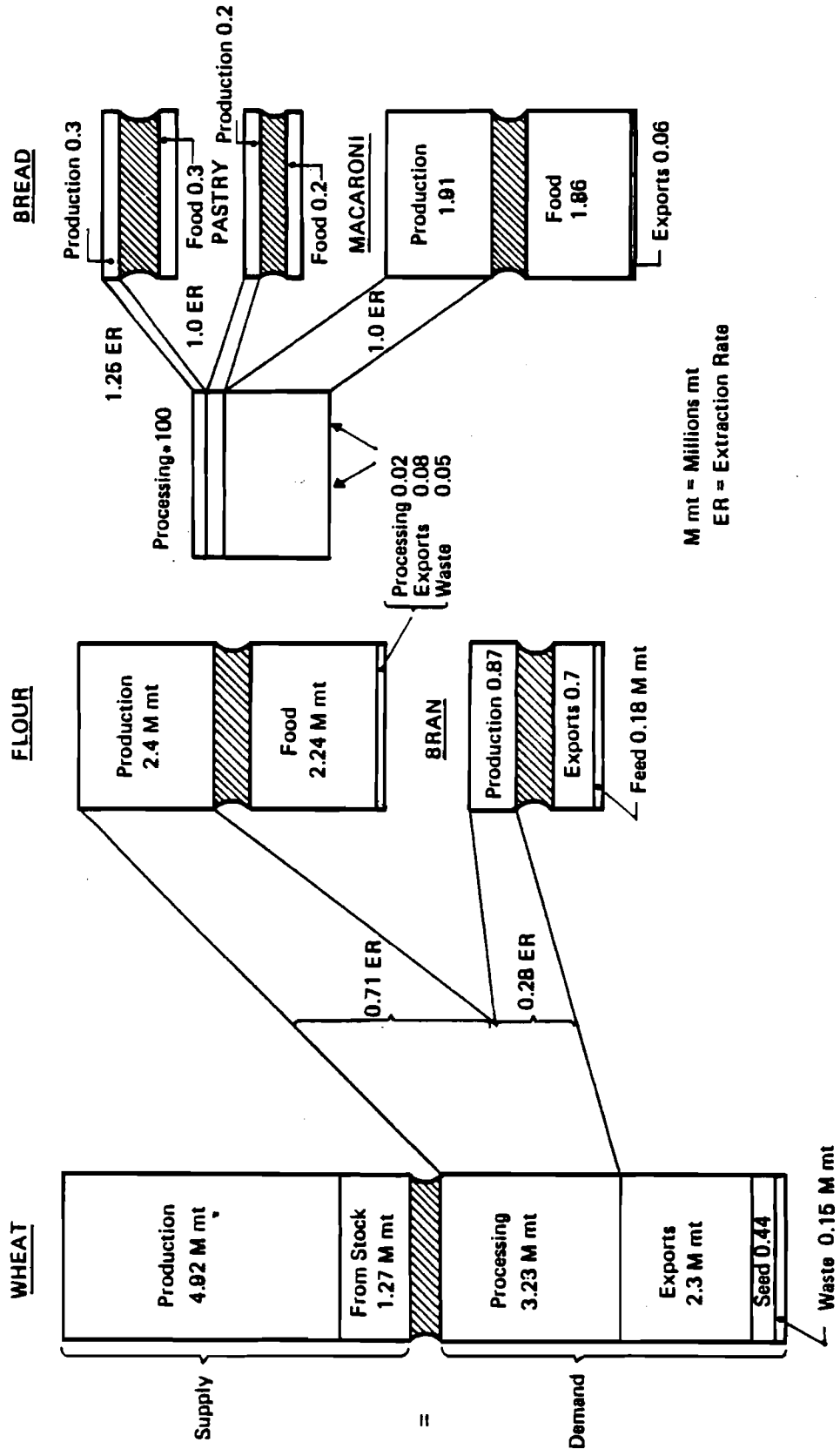


Figure 3:

ARGENTINA 1970

FLOW OF SUPPLY UTILISATION ACCOUNTS



the discrepancy is generally attributed to waste.

The aim of the aggregation is to express all demand and supply, of wheat and its products in this case, in wheat terms only. This means that with the help of extraction rates the demand of derived products can be "converted back" to the main product. In Figure.4 this is shown graphically, also in scale, for the same products as in Figure.3. The production amount of wheat must not change after aggregation, but all other elements may, if somewhere in the chain of derived products such an element occurs. The element "processing" disappears completely from the aggregated product, as all is expressed in terms of wheat, and no processing is necessary.

In the aggregated accounts it is no longer possible to identify the origin of, for example, imports. They can stem from imported pure wheat, or from pastry, being imported. Similarly it is not possible to see in the original (disaggregated) accounts which flour is taken for cake production, the nationally produced or the imported one. The "wheat tree" is a rather clear and easy flow of quantities. If one looks at other commodities, like milk, oil seeds, etc., the flow becomes more complicated but the same philosophy is applied for their aggregation.

The next aggregation steps, from 260 main commodities to 27 commodities in the detailed FAP4 list, and 16 commodities in the small FAP4 list, are very similar as can be seen in Figure.5. The differences are that here the production of the aggregate is composed of the production of all participating commodities, and that instead of extraction rates appropriate weights are used to express the participating element (e.g. pork in mt) in terms of the aggregate (other meat in mt protein). Also in this last figure the boxes for other meat, poultry and eggs, pork and fish are drawn in scale for Argentina in 1970. The aggregations were carried out for each country which participates in the FAP modeling effort. All details for it can be found in [1] and [2].

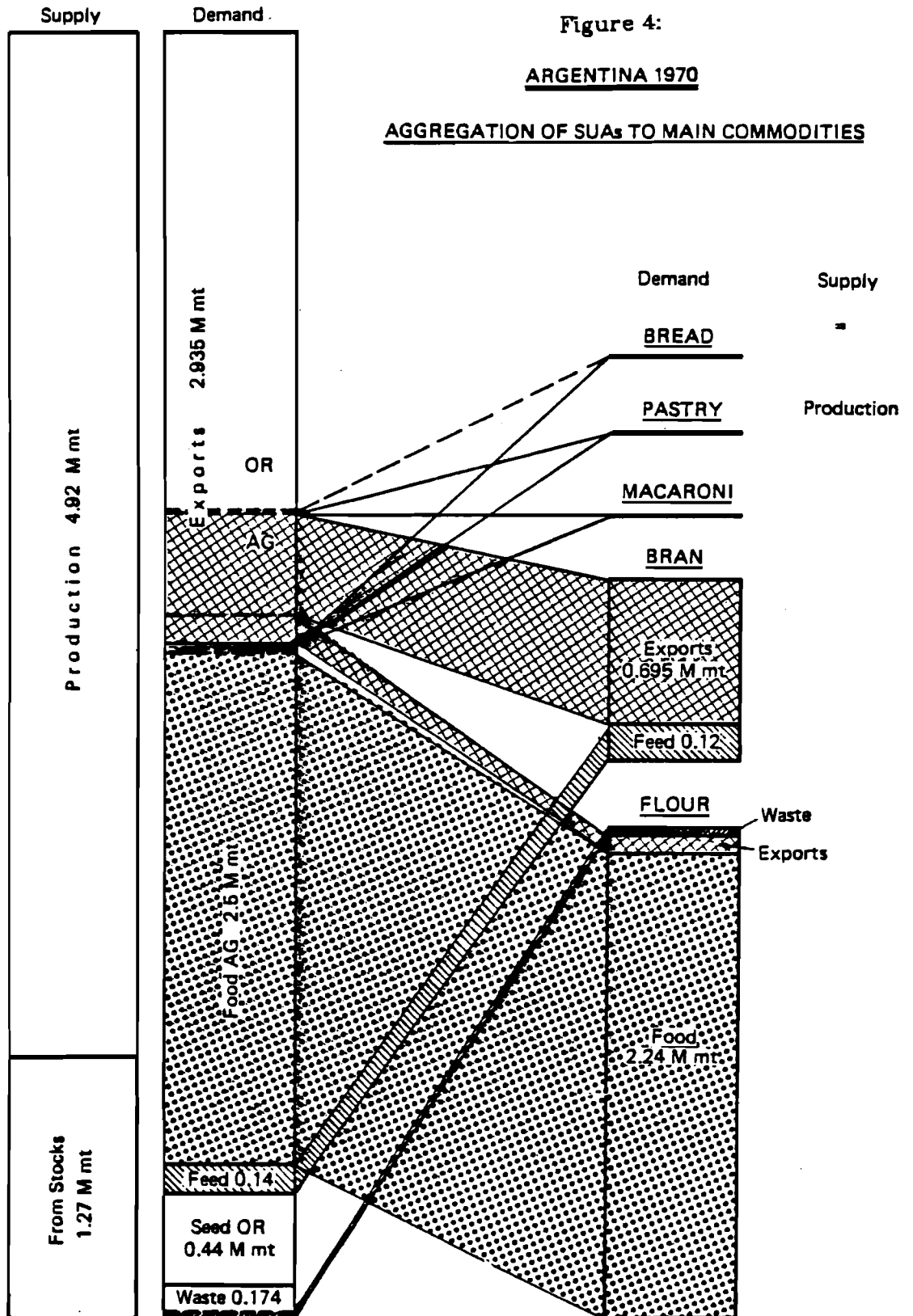
FAO has accounts for all its member countries, starting with 1981. The aggregations however have only been carried out for a selected number of countries (the FAP4 countries listed in Appendix 1a). The reason for this is that each country might have its own commodity trees and would need separate checking, for which there is neither time nor manpower available at FAP, if it was to be done for all FAP countries.

The price data for the various commodities of the SUAs, at all levels of aggregation, is also part of the SUA files. The details of their origin and calculation methods are discussed at length in [2].

There are the following types of prices:

type	element code	dimension code
	icd(4)	icd(5)
producer prices	5	3
import prices	6	3
export prices	9	3
world prices	9	3
feed prices	10	3
food prices	14	3
other util. prices	15	3

**WHEAT AGGREGATED**





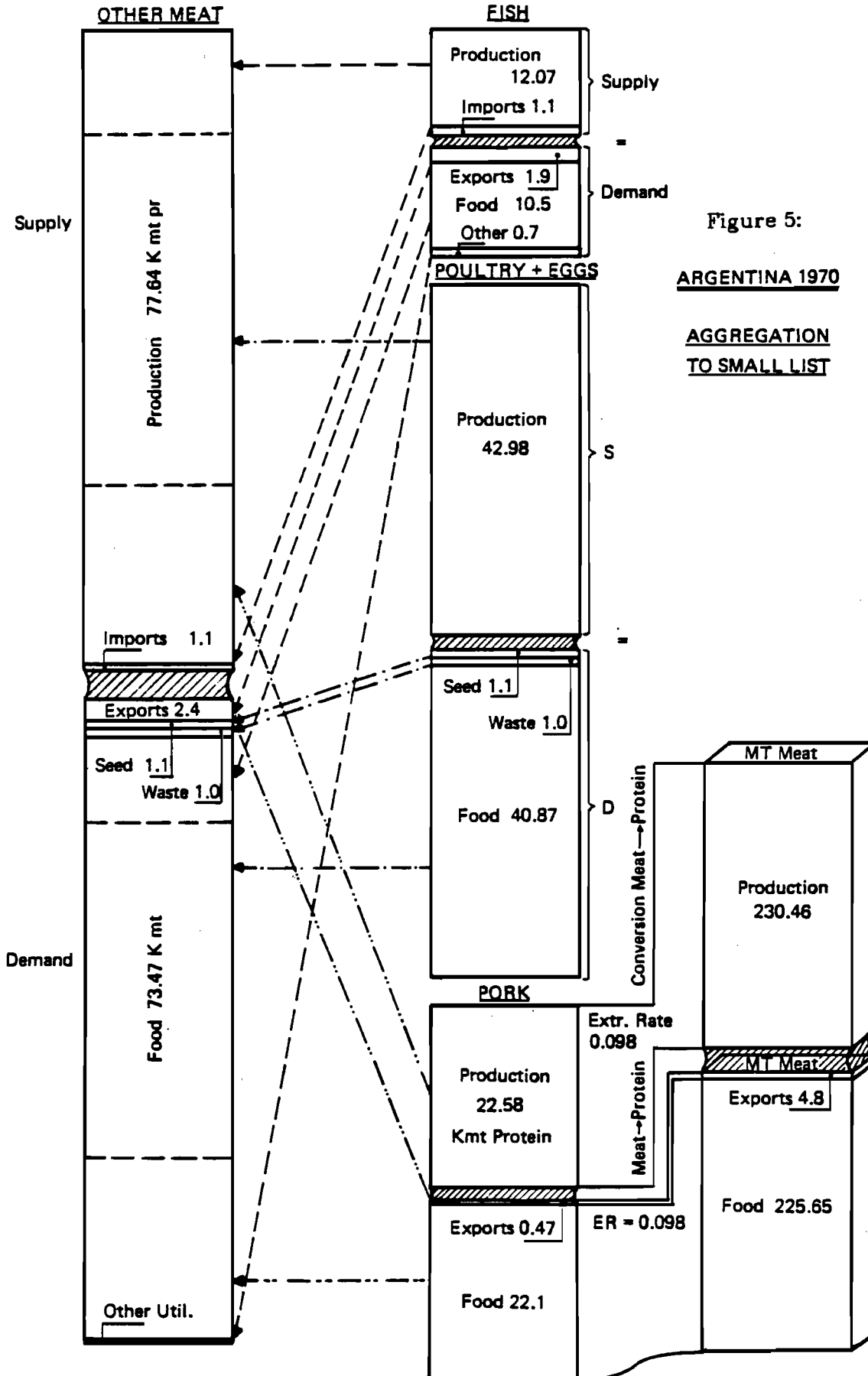


Figure 5:

ARGENTINA 1970

AGGREGATION  
TO SMALL LIST

For the commodities of the 2nd level of aggregation (ag27) there exist also prices with dimension code = 4. This is due to the fact that for some commodities the elements are measured in 2 dimensions:

1... = 1000 US 70 and 2... = mt

The computer programs which deal with these data know about these peculiarities.

### 3.2.3. Population Data

The data on population and its derived quantities like labour force and rural population can be found in several files. There is a file called pop.fap4 which contains only these time series, and the same population data records are also in the file which contains the macro data (all.fap4)

The "commodity" population (icd(3) = 1) is stored in one dimension (icd(5) = 1) in the FAP data bank and consists of the following 4 elements:

element	text
icd(4)	
1	Total population
14	Total labour force
16	Agricultural labour force
17	Nonagricultural labour force

In all cases the unit of measurement is 1000 persons.

#### 3.2.3.1. Sources

The largest quantity of homogeneous population data is from ILO. Originally the format of these time series was different from the rest of the data in the FAP data bank. After going through a transformation this data is now accessible in the same way as the SUAs.

The population data from ILO covers the following aspects:

- \* population, total, agriculture, non-agriculture, by age group, sex;
- \* activity rates by age group, sex and sector;
- \* labour force, total, by age group, sex and sectors.

All this is given in 5 year steps from 1955 to 2000 (with some exceptions). The time series are not from a census, but are estimates and projections. The methodology is described in [4]. Most countries of the world are covered by ILO. Currently the country code in these time series is the same as the one from FAO, due to conversion done at FAP. Further one can find population data in the SUAs (total population all original from FAO). This is yearly data, and is expected to be consistent with the rest of FAO's statistics.

For the time period covering 1966 to 1981, (the latest release of the SUAs) besides population data on total, the following elements are also found on the original SUA tapes:

commodity icd(3)	element icd(4)	dimension icd(5)	text
1	14	1	ag.pop/tot.pop
1	15	1	rur.pop/tot.pop
1	16	1	tot.lab/tot.pop
1	17	1	ag.lab/tot.lab

### 3.2.3.2. Method

The first time series (total population) can be copied from the SUA tape without further processing. The three other elements require some calculations and recoding before they can be incorporated into the data bank. The ILO time series are the basis for calculating participation rates and rural population. The following assumptions were made:

- The labour force splits between agriculture and non agriculture in the same way as population splits between rural and urban.
- The development of labour force (total, agriculture and non-agriculture) follows a linear trend between the years reported by ILO (5-year steps).

The reason for these assumptions is that data is available on rural and urban population for a number of years, whereas the labour force data for the different sectors can only be retrieved for a few years from the ILO data. On the basis of these assumptions and on the available information from FAO and ILO the following steps were performed:

1. Take the time series for total population (1961 - 1976) for each country from the original SUA data file.
2. Take the time series (1950-2000 in 5 year steps) for total labour force for each country from the ILO data file.
3. Take the time series (1950-2000 in 5 year steps) for total, urban and rural population for each country from the ILO data file.
4. Apply the ratio urban/total and rural/total population to the total labour force in order to arrive at agriculture and non-agriculture labour force:

$$\begin{aligned} \text{lag} &= \text{ltot} * \text{prur}/\text{ptot} \\ \text{lnag} &= \text{ltot} * \text{purb}/\text{ptot} = \text{ltot} - \text{lag} \end{aligned}$$

where

$$\begin{aligned} \text{lag} &= \text{labour force in agriculture} \\ \text{lnag} &= \text{labour force in non-agriculture} \\ \text{ltot} &= \text{total labour force} \\ \text{ptot} &= \text{total population} \\ \text{prur} &= \text{rural population} \\ \text{purb} &= \text{urban population} \end{aligned}$$

5. Interpolate linearly between each pair of "5-year steps" (i.e. 60-65, 65-70, 70-75, 75-80) and thus complete the required time series on a yearly basis for 1961 to 1976.

A comparison between the time series generated by the above method, and the series on the 66-81 release of the SUA shows that both ILO and FAO base their calculations on similar assumptions of ratios. Therefore the calculations of the new years become easier. They can be done on a yearly basis by using the rates given in the SUAs and applying them to the total population figures. The program po60.f can be used for this purpose. The data in all four time series is complete for all FAP4 countries.

### **3.2.4. Macro Data**

In the FAP Data Bank the term Macro Data is used for macroeconomic data, i.e. GDP, expenditures, etc., but also for population, fertilizer and exchange rates.

Unfortunately there is no comprehensive publication available, which would contain all macroeconomic data required for all years and all countries. It was therefore necessary to rely on a number of sources for the data collection.

#### **3.2.4.1. Sources**

These were the main sources for the times series:

- (a) Labour force estimates and projections from the International Labour Organisation (ILO) in Geneva and Supply Utilisation Accounts (SUA) from FAO, Rome (see previous section).
- (b) World Tables from the World Bank, Washington DC.
- (c) National Account Statistics, from the United Nations.
- (d) National Accounts for the OECD countries.
- (e) FAO Trade Yearbooks.
- (f) Fertilizer Yearbooks from FAO.
- (g) Experts from the countries being modeled.

Data on labour force and population was retrieved from Source a. and has been discussed in the previous Section. Source b. is the origin of most macroeconomic data. In source c. information for developing countries could be found. Sources d. and e. were consulted to retrieve information for developed economies. The FAO Trade Yearbooks and the World Tables were the source for the exchange rates from national currency to US and vice versa. Information on fertilizer consumption and fertilizer prices was taken from the corresponding yearbooks. These elements will be discussed in the next Section.

And finally experts from different countries were consulted in cases where the data available so far was not complete enough or did not match their national information.

### 3.2.4.2. Grouping and Methods

The commodities, elements, and dimensions of the different times series included in this part of the data bank are listed in Appendix 2a. Of these commodities (and their elements) population (1) and fertilizer (3110) are reported by all FAP4 countries. The other, purely macro data, is only covered by a country if its economic reports match the classification. In other words, GDP resources + expenditures, deflator + index, capital will only be found in market economies, whereas macro economic CMEA (at current and constant prices) is reserved for the centralized economies, i.e. the countries which constitute CMEA and the aggregate.

In all time series except Population Deflator and Index the data is expressed in millions of national currency. Population is in 1000, deflator and index are rates multiplied by  $10^{**4}$ . As the year 1970 was taken as base year for the constant prices time series it was sometimes necessary to convert from other base years by using the formula:

$$x_{70}(t) = x_T(t) * x_{70}(70) / x_T(70)$$

where

$$\begin{aligned} x_{70}(t) &= \text{datum at 70-constant-prices for year } t \\ x_T(t) &= \text{datum at T-constant-price for year } t \\ x_t(t) &= \text{datum at current prices for year } t \end{aligned}$$

Each of the GDP groups, current and constant 1970 has two time series:

Total GDP (at market prices) and  
Agricultural GDP (excluding forestry).

These four time series have been taken over from the corresponding sources, bearing in mind that forestry had to be deducted from agriculture. In some cases it has been necessary to convert the data from other base years to 1970 with the above formula. Resources and Expenditures, Current and Constant 1970 have the same type of time series under both prices (current and constant). They are seven;

- Private Consumption
- Government Consumption
- Total Resources ( = Private Consumption + Government Consumption + Gross Capital Formation)
- Gross Capital Formation ( = Gross Fixed Investments + Stock Formation)
- Gross Fixed Investments
- Stock Formation ( = Change in Stocks)
- Net Exports ( = Exports - Imports)

The commodity Deflator and Index only has one entry, exchange rate expressed in national currency per US ,multiplied by  $10^{**4}$ . At 1970 prices the Capital group should consist of the following time series:

- Total Capital Stock (= Agriculture + Non-Agriculture)
- Agriculture Capital Stock
- Non-Agriculture Capital Stock
- Agricultural Investments

The Capital Stocks (Total, Ag and Non-ag) were calculated using a computer program which, depending on the availability of data, uses different methods.

### Method 1

Known:

DT(t): absolute depreciation at constant prices for the whole economy

IT(t), IA(t): Gross investments total and into agriculture, at constant prices

Assumptions:

dT: depreciation rate for the whole economy

$\beta$ : proportion of total capital stock being used in agriculture  
( $KA = \beta * KT$ )

$\varepsilon$ : the relation of depreciation rate of the whole economy to that of agriculture ( $dA = \varepsilon * dT$ )

For the base year (1970):

$$\begin{aligned}KT(70) &= DT(70) / dT \\KA(70) &= \beta * KT(70) \\KNA(70) &= KT * (1-\beta) = KT(70) - KTA(70)\end{aligned}$$

and for all other years:

$$\begin{aligned}KT(t) &= KT(t-1) - DT(t-1) + IT(t) \\KA(t) &= KA(t-1) * (1-\varepsilon*dT(t-1)) + IA(t) \\KNA(t) &= KT(t) - KNA(t)\end{aligned}$$

if DT(t) is not given then:

$$DT(t) = KT(t) * dT$$

### Method 2:

Known:

DT(t)

Assumptions:

$\beta$ : proportion of total capital stock being in agriculture  
 $KA(t) = \beta * KT(t)$

dT: the depreciation rate of the whole economy

Calculate for all years:

$$\begin{aligned}KT(70) &= DT(t) / dT(t) \\KT(t) &= KT(t-1) - DT(t-1) + IT(t) \\KA(t) &= \beta * KT(t) \\KNA(t) &= (1-\beta) * KT(t)\end{aligned}$$

The minimum data required for both methods is:  $DT(70)$ ,  $d$ ,  $\beta$  and  $IT(t)$  and  $GDP(t)$  at current and constant prices in order to arrive at the necessary deflators for the depreciation. In Table 1 below the factors used for the different countries are shown. The time series on Fertilizer and Pesticides are explained in the next section.

### 3.2.5. Fertilizer Data

The data on fertilizer is included in the file with macroeconomic data. There are a number of remarks to be made about these time series. It would be very useful to have information on fertilizer consumption for the different kinds of crops in terms of quantity and money, as well as some information on the subsidization of this means of production. This need is sometimes satisfied in the detailed country models, which operate with data provided by the home institutions of the corresponding modellers. In this case, however, the aim is to provide consistent time series for a number of countries which are more or less comparable.

The experienced collector and user of actual data in agriculture might be aware of the difficulties one runs into by the above mentioned aim. In order to ease the work efforts have been concentrated on two of four types of time series, and even these two types cannot be computed or collected for all FAP4 countries. For the Basic Linked System information on quantity and value of fertilizer consumed in a country, for all types of land (agricultural and pasture) is needed. There are many different kinds of fertilizer, which can be grouped according to their main components into nitrogenous, phosphate and potash fertilizer. In most countries the nitrogenous fertilizer plays the most important role, although there are some exceptions. Therefore information on nitrogen consumption in the countries to be modelled has been collected, on a yearly basis, measured in metric tons. Similarly it has been tried to arrive at the yearly total expenditure of all three kinds of fertilizer by the farmers. The ratio of total expenditure divided by consumption of nitrogen was then computed as "fertilizer price".

The aim in the fertilizer section of the FAP Data Bank was to arrive at four types of series (covering the years between 1961 and 1976):

1. Total fertilizer consumption measured in 1000 units of national currency
2. Nitrogen consumption measured in metric tons
3. Fertilizer price in units of national currency per metric ton (as explained above)
4. Intermediate consumption of nonagricultural goods in agriculture in 1000 units of national currency (e.g. water, electricity, machinery, fertilizer, etc.)

**Table 1. Factors for Calculating Capital Stocks**

code	Country	d	beta
9	Argentina	2.03	.13
10	Australia	2.5	.061
11	Austria (*)		
15	Bel-Lux	2.8	.05
16	Banglad.	1.5	.354
21	Brazil	2.5	.12
27	Bulgaria	-	-
33	Canada	4.1	.042
41	China	-	-
51	CSSR	-	-
54	Denmark	2.9	.7
59	Egypt	2.2	.034
68	France	2.8	.063
77	GDR	-	-
78	FRG	3.1	.038
84	Greece		
97	Hungary	-	-
100	India	-	.297
101	Indonesia	1.9	.377
104	Ireland	2.5	.136
106	Italy	2.7	.085
110	Japan	3.0	.055
114	Kenya	2.2	.265
138	Mexico	3.3	.113
150	Netherlands	2.8	.068
156	New Zealand	2.5	.061
159	Nigeria	2.0	.384
165	Pakistan	1.8	.221
173	Poland	-	-
174	Portugal		
183	Romania	-	-
203	Spain		
210	Sweden (*)		
216	Thailand	1.9	.256
228	USSR	-	-
229	UK	2.34	.036
231	USA	3.0	.030

(\*) time series on capital stock provided by country experts

### 3.2.5.1. Sources

The search for data has been limited to a small number of publications from FAO, so that the time series remain somehow comparable. The most recent publications were taken when available, otherwise older issues were also used. Sometimes this method caused some conflicts, as the data differed drastically from one publication year to the next. This problem was encountered in the 4th time series (intermediate consumption of nonagriculture to agriculture) and sometimes also in the first (total consumption of fertilizer).



Series 1 and 4 were taken from the Economic Accounts for Agriculture, FAO, Issue 1 (1961 to 1971) and Issue 2 (1965 to 1977). Although these issues claim to cover all years of interest, this is not the case for all countries. Only seldom data for 1978, the last year of the time series, could be found.

Series 1 was sometimes computed by other methods, if it could not be found in the above mentioned sources, or it was left out altogether, since it does not play a crucial role in the modelling work.

Series 2 (consumption of nitrogen fertilizer measured in metric tons) was taken from the Fertilizer Yearbooks of FAO, issues 1980, 1979 or 1978 (depending on the year needed), and earlier issues, called Annual Fertilizer Review, also by FAO, for the years 1977 back to 1960.

Series 3 (fertilizer price) was computed at FAP, and the sources used were numerous. All the publications mentioned above were consulted, as well as Production Yearbooks and Trade Yearbooks of FAO (issues between 1963 and 1979). The World Tables, of the World Bank, were consulted for appropriate exchange rates. Participants of the FAP collaboration network calculated the time series needed for some countries, adapting them to the specific characteristics of these countries.

### 3.2.5.2. Methods

In the ideal case one would have preferred to use only one method for each of the four series. Then the data would also be comparable across countries. Unfortunately this was not possible due to the lack of information found in the sources consulted. For each time series appropriate methods were chosen and used accordingly, as data were available. This procedure was applied to each country independently. In Appendix 6 (Country table of sources and references) one can find the details for each country.

#### Series 1:

##### *Total Fertilizer Consumption in 1000 units of National Currency*

Not much efforts were invested in this series, as it is not being directly used in the modelling efforts. Besides, in the ideal case, the product of Series 2 (consumption of nitrogen in mt) and Series 3 (fertilizer price) leads to Series 1. If some years are missing it stems from the fact that the mentioned source does not report on those years, or that the time series in different issues are too different from each other.

#### Series 2:

##### *Consumption of Nitrogen in Metric Tons*

This was the easiest series of all to assemble. The sources mentioned before have rather detailed and complete information on this item.

#### Series 3:

##### *Fertilizer Price in National Currency per Metric Ton*

The biggest effort has been invested in this series, as homogeneous data for all countries could not be found, and even within a country all the years needed could not be covered. Depending on the availability of data one (or more) of the following methods was used, giving preference to the first, then the second,

third, etc.

*Method 1:* Calculate the "fertilizer price" (total fertilizer consumption in units of national currency by total nitrogen use in mt) for one year (t) and for all the other years multiply this price by the corresponding fertilizer price index (reported in the Fertilizer or Production Yearbooks).

$$p(t) = \text{series 1 (t)} / \text{series 2 (t)}$$

$$p(t+n) = p(t) * \text{index (t+n)} \quad n = \dots, -3, -2, -1, 1, 2, 3, \dots$$

This is the "cleanest" method, but it could only be applied to the most developed countries, and not even here to all (see Appendix 6).

*Method 2:* Not only for one year, as in Method 1, but for all years, calculate the price as ratio of total consumption of fertilizer in national currency by total use of nitrogen in metric tons.

$$p(t) = \text{series 1 (t)} / \text{series 2 (t)} \quad t = 1, 2, 3, \dots, 16$$

In some cases this method was used for all years available, and the missing years were calculated with method 1. It also proved useful to apply this method for checking purposes.

*Method 3:* This procedure involves a fair amount of calculation and assumes that information needed for the first 2 methods is not available, or that it is not very reliable or gives "strange" results. In the Fertilizer and Production Yearbooks from FAO one can sometimes find prices paid by farmers for different kinds of fertilizers, as well as the consumption figures of these kinds. The prices are sometimes reported in national currency, sometimes in US (therefore the need of exchange rates).

$$x(t) = \sum_i (pNi(t) * \text{consNi}(t)) + \sum_j (pPj(t) * \text{consPi}(t))$$

$$+ \sum_k (pKk(t) * \text{consKi}(t))$$

$$y(t) = \sum_i (\text{consNi}(t))$$

$$p(t) = x(t) / y(t) \quad t = 1, 2, 3, \dots, 16$$

where.

$\sum_i$  = sum over all i

pNi = price of kind i of nitrogen fertilizer,

pPj = price of kind j of phosphate fertilizer,

pKk = price of kind k of potash fertilizer, and

consNi = consumption of kind i of nitrogen fertilizer,

consPj = consumption of kind j of phosphate fertilizer,

consKk = consumption of kind k of potash fertilizer,

Also this method was used for checking purposes when other methods gave rise to doubts, or all years could not be completed and there was too big a difference between methods. This is also a suitable method to arrive at Series 1 (total fertilizer consumption in national currency) when needed.

One should not forget that "price paid by farmers" sometimes includes subsidies, sometimes not. As there is no consistent information for all countries on subsidies this problem has been neglected. The "policy module" is expected to tackle it when necessary.

*Method 4:* For some countries, especially developing countries, neither information on price index nor prices paid by farmers could be found. Further most of these countries are mainly importers of fertilizers. From the Trade Yearbooks information on total imports of fertilizers in value terms could be compiled, and in the Fertilizer Yearbooks information on total imports in quantity terms was available. On the assumption that the import price would be charged to the farmer one could then calculate the "FAP fertilizer price".

$$\begin{aligned}x(t) &= (\text{ImvaC}(t) + \text{ImvaM}(t)) / (\text{ImquN}(t) + \text{ImquP}(t) + \text{ImquK}(t)) \\y(t) &= x(t) * (\text{ConsN}(t) + \text{ConsP}(t) + \text{ConsK}(t)) \\p(t) &= y(t) / \text{ConsN}(t) \quad t = 1,2,3,\dots,16\end{aligned}$$

where

ImvaC	= import value of crude fertilizer
ImvaM	= import value of manufactured fertilizer
ImquN	= import quantity of nitrogen fertilizer
ImquP	= import quantity of phosphate fertilizer
ImquK	= import quantity of potash fertilizer
ConsN	= consumption quantity of nitrogen fertilizer
ConsP	= consumption quantity of phosphate fertilizer
ConsK	= consumption quantity of potash fertilizer

It is conceivable that this method might introduce a large error in the "fertilizer price". At the same time this is the last resource of information one has and thus the last chance. When the price was calculated in this way, every effort was made to arrive at the complete time series (1961 to 1976). In case of missing years other methods were used and cross-checked with several other years to be sure that the error was not too great.

#### Series 4:

##### *Intermediate Consumption of Nonagriculture in Agriculture*

This time series was taken over from the Economic Accounts for Agriculture, when available, otherwise the series was left out for the country and/or years which were not reported on. The term "year" generally refers to the crop year from July 1 to June 30, and is counted for the year into which the starting month falls. In the reference books used one can sometimes find data for 1961/62 for example. In such cases the datum was assigned to the first year (1961). For more details on subsidies, reference period, etc., consult the notes in the sources of the data.

### 3.2.5.3. Organization of the Time Series

The time series on fertilizer are organized in the same way as the other time series in the FAP Data Bank. For each country there are up to 4 records of data (one for each series).

The fertilizer (and related series, i.e. intermediate input of nonagriculture) all have the same commodity code: 3110.

The different element and dimension codes are:

element	dimension	
1	2	total consumption of fertilizer (1000 national currency)
2	1	consumption of nitrogen fertilizer (mt)
2	3	consumer price of fertilizer (nc per mt)
6	2	intermediate consumption of nonag in ag (1000 nc)

The creation date is only sometimes set, and of no importance to us here. The status indicator has no meaning here. When a datum has a zero entry it can mean that either no data are available, or too small an amount. Usually it means the former. In Appendix 6 one can identify for each country and type of time series from which source it stems and/or which method was used for calculating it. The missing years (between 1961 and 1976) are also identified. The time series for the EC (icd(2)=888) has been calculated by adding up all time series of the corresponding member countries. Each national currency has been converted into EUROs, which is the "EC currency".

### 3.2.6. Data on Area

Currently the FAP Data Bank has only one file with data on area. This file starts with 1961 and covers 16 years.

There is only one commodity in the area file:

icd(3)	text
12	land use

and it has 4 elements:

element	text
icd(4)	
1	total area (including land and area under inland water bodies)
6	arable land and under permanent crops (7 + 12)
7	arable land (temporary crops counted once, temporary meadows and pastures, market and kitchen gardens, temporarily fallow or lying idle)
12	under permanent crops (crops need not be replanted every year, excludes trees for wood or timber)

All elements are given in one unit of measurement,  $icd(5)=1$ ; and are expressed in 1000 ha. At this moment there are only complete time series for the total area of the countries, the other three types of time series (arable&perm crops, arable land and permanent crops) start at the year 1964. The data has been taken from Production Yearbooks from FAO. There are 4 countries where exceptions have been made. For Netherlands, Kenya, Tanzania and Philippines the areas reported in different Production Yearbook differ considerably (there seems to have been a revision of the data at one point). As it was not possible to find data for all years, the missing ones were interpolated.

### 3.2.7. Nutritional Values

The nutrient content of all edible commodities in the SUAs has also been made available by FAO. These are:

<u>value</u>	<u>unit</u>
calories	Kcal/100gr
protein	gr/100gr
fat	gr/100gr

These factors are given for the country "world" ( $icd(2) = 0$ ) i.e. without taking into account the peculiarities of a country, and for separate countries as well. The last group does not cover all commodities of the SUAs. The above factors are fixed in time, the format of the data thus being different from the other time series (see [2]). The nutritional factors are stored in the files "nutc.bin.w" (world) and "nut.bin.n" (country-wise). A further set of nutritional values has been compiled at FAP. It contains only "world" factors, for all SUA commodities, and is also fixed in time (no time series). The following factors are included in this file:

<u>value</u>	<u>unit</u>
calories	kcal/100gr
protein (low)	gr/100gr
protein (high)	gr/100gr
fat	gr/100gr
calcium	mg/100gr
iron	mg/100gr
vitamin a	iu/100gr
thiamin	mg/100gr
riboflavin	mg/100gr
niacin	mg/100gr
vitamin c	mg/100gr

All the above values are stored in the file mix.nut

By combining the various items of the SUAs with the nutritional values interesting figures like food intake, calories availability, per capita consumption of protein, etc. can be calculated. Such time series, for the small and the detailed FAP commodity lists can be found in the files fovavo.9 and fovavo.27.

### 3.3. Data Files by Time Span

It has been explained earlier in this paper that the data records are designed such as to permit storage of exactly 16 years of data. At the same time it was pointed out that a number of programs rely on the fact that there are only time series of the same time span in one file. Thus care has been taken to separate records with different starting years (icd(6)) from each other. In general one can gather from the file name which time span is covered by the time series in that file. Another method would be to list the beginning of a file and thus get the needed information.

Currently there are 4 time spans available at FAP:

- Series starting 1961, ending 1976, old FAO version (file.61)
- Series starting 1961, ending 1976, updated from 1965 onwards (file.61-65)
- Series starting 1965, ending 1980, FAO version (file.80)
- Series starting 1966, ending 1981, latest FAO version (file.66)

It is important to remember that the series starting at 1965 do not have yearly data for 1965, but the average 1961-1965. All other data is yearly data. The last series, ending in 1981, frequently only has data up to 1980 in it.

Although it would look unproblematic to simply update all old versions of time series with newly available data, great caution should be exercised when doing so. It frequently happens that new SUAs have changes of 5% or more in some commodities as compared to the old ones. The crucial years are the ones where new series start, as there should be no jumps from old to new accounts. But it is not only a matter of changing everything by 5%, as the balance of supply and demand has to be kept, and not only in the original commodity but also in further stages of aggregation.

A big problem is also presented when the processing item of a product changes, or a new branch of a commodity tree is introduced. In such cases it is advisable to correct by hand all elements of that commodity and of its derived products. In general it can be said that, unless the differences from one release of SUAs to the next are not too big, it is best to keep each version of the SUAs separate.

### 4. Data Handling

All data has been stored in files using FORTRAN programs, and all programs which deal with the data are consequently also written in FORTRAN. Most of the programs have first been written for the PDP 11/70 and also used there, and were later transferred to the VAX 11/780. There is one program which still can only be executed on the PDP because of the space problems on the disks. In general, any job which requires writing binary data directly to tape has to be performed on the PDP (unless a new 77 compiler permits to do so).

On the PDP the programs have to be compiled with ftn, using the switches -ls and -lv. This has been done at the beginning and has to be kept now, as the resulting time series would not be compatible with the older ones if the switches were not used.

The binary representation for data on the PDP and the VAX (ftn and f77) is different. There is a routine on the PDP, called "vax", which makes binary VAX-files out of binary PDP-files. Correspondingly there is a program, also on the PDP, which converts binary VAX-files to binary PDP-files. These programs (and

subroutines) only work on the standard FAP Data Bank records, but are easy to convert to any other type of binary record. The programs which handle the files of the FAP Data Bank can be divided into 3 groups:

1. Frequently used programs
2. Aggregation programs
3. Other programs

In this paper only the frequently used programs will be discussed. The aggregation programs are dealt with in a separate paper [1]. Other programs are too application and user dependent to be described here.

A relatively small set of programs is generally used to deal with the data. There are programs readily available to perform the following actions:

- Extract
- List
- Correct
- Merge
- Make binary
- Make formatted
- Get one record (subroutine)

#### 4.1. Extract

The extraction program is designed to select certain time series from a specified file (disk or tape) and write them (in binary format still) to another file. The selection is by country, commodity and element. There will always be taken all dimensions and the full time series in any request. The resulting subset of data has the same structure as the original file.

Source Program:   extr.f  
Input: unit 1   = data file or /dev/rmt [0,1]  
          unit 5   = control file (in.ex.some)  
Output: unit 2   = output file assigned automatically in  
                  the control file ex.some (for the binary data)  
          unit 6   = control output

Sample call: extr 1=/dev/rmt0 5=in.ex.eec 6=che.extr

Structure of the control file in.ex.some:

	file	comment
	ctl /tmp/sichra/ex.some	after ctl comes file name
	ctr y	y: inclusive, n: exclusive
	9 11	i4 country codes
	%	indicates end of country codes
	com y	y: inclusive, n: exclusive
1	15 1523	i5 commodity codes
	27 116	
	%	indicates end of commodity codes
	el n	y: inclusive, n: exclusive
		i4 element codes
	%	(no codes, means that all are taken)

## 4.2. Listing

After the extraction of data has been made the records have sometimes to be made "readable" for humans. This request can also be forwarded for whole files, but care should be taken not to use the line printer for too long a time, as the print versions of binary files tend to get rather large. The simple printing routine produces files which are approximately 3.5 times larger than the binary files.

There are 3 list programs which convert binary records into ASCII records, which can then be listed on the screen or the line printer. One program only prints the codes and time series, the other programs add text to the codes.

### 4.2.1. Print Codes and Time series

Source Program: supbinr.f  
Input: unit 5= binary data file (disk or tape)  
Output: unit 6= ascii data file, in the following format:  
(7i5,8f12.0/35x,8f12.0)

Sample call: sb < binary.argentina > list.argentina

There is a slightly different version of this program, called sb.2, which prints 2 decimals of each datum. Original FAO data, and thus the aggregates made in FAP, do not need decimals as the accuracy is enough, or has been taken care of by changing the units of measurement (yield, extraction rate). But when national producer prices are computed at IIASA, the number of digits before the decimal point is sometimes too small. Therefore the option exists to print more digits. The binary representation has all possible digits and no precautions are therefore necessary when using the binary data files.

A sample output of this program is given in Appendix 10. It shows the first few records for Argentina (icd(2)=9) in the most aggregated form.

### 4.2.2. Print Codes, Time Series and some Text

This program is only suitable for printing data which have small number of digits (e.g. prices, extraction rates).



Source Program: prrd.f  
Parameter 1: binary data file  
Parameter 2: 1 or 22(\*) (depending on the data belonging to group  
1 or 2 of data; see earlier description).  
Output: standard output, can be piped to printer,  
written to file, etc.

(\*) 22 is a "magic" number, has historical reasons.

Sample call: prrd bin.argentina 1 > list.argentina

In Appendix 11 prices for the most aggregated commodities in Argentina are shown.

#### 4.2.3. Full Listing

There is a program which produces an output similar to the FAO turnaround document, with all codes deciphered, and the status indicator of the data also displayed. Zeros are not printed, but blanks are filled in instead.

Source Program: suputa.f (suputal.f., suputailo.f, etc)  
Parameter 1: binary data file  
Parameter 2: 1 or 22 (as before)  
Parameter 3: blank or l or ilo  
Output: standard output, which can be piped directly to the  
line printer.

Sample call: sup bin9.argentina 22 " > list9.argentina

The normal listing requires an empty string as third parameter. If one wants a new page to start after each commodity and country, "1" is the needed third parameter. If population and labour force data from ILO is to be listed, the corresponding parameter should be "ilo".

In Appendix 4 a short explanation of possible abbreviations of the displayed output is given. This is helpful for reading the example of a long listing printed in Appendix 12.

#### 4.3. Merge

In order to add some time series to an existing data file (at the end or at any other place), to merge two data files; or to replace old time series by new time series, it is necessary to run a program which from 2 data files makes a third data file. This can then be copied onto the original file if so wanted. (Do not merge file1 and file2 to file1 directly!!). There are 2 merge programs at the moment which produce the same results but give different reports of the events.

The first program (mer) lists all records which have the same codes icd(2) to icd(5) in the old and new data file and also outputs both complete time series, whereas the second program (mergsua) lists the codes of same time series records, and only lists the corresponding time series in case they differ, and then also their absolute and relative difference. At the end statistics on the number of records in and out are also printed.

Source Program: mer.f and mergsua.f  
Input: unit 1 = old binary data file  
unit 2 = new binary data file  
Output: unit 3 = resulting merged file  
unit 6 = list of differences, and nr of records merged

Sample call: mer 1=bin.old 2=bin.update 3=bin.new > checkfile

The program "mergsua" can be suitably used to compare time series, in cases of updates for example. If the programs are used in the currently stored mode, they will only give good results if all the time series involved have the same starting year. In order to compare new series (e.g. starting 1966) with old series (e.g. starting 1961) program merdiff can be used. It only lists differences for the overlapping years.

Source Program: merdiff.f  
Input: unit 1= old data file, e.g. starting at 61  
unit 2= new data file, e.g. starting at 66  
unit 8= eps, relative level as of which difference will be reported (e.g. 0.05)  
Output: on standard output the differences,  
unit 3= binary file with differences

Sample call: merdiff 1 = 1 bin.old.61; 2 = bin.new.66; 3 = bin.diff > check diff

#### 4.4. Correction of data

One can think of changing whole time series, or only single years. In the latter case the above merge programs could be adapted to meet the purpose. As each of these cases might be very special, there is no general program which can perform this. However, there are a number of programs called adsome\*.f as they are able to combine existing binary data with corrections inputted in ascii code. They have been tailored to meet specific purposes.

If whole time series should be changed, or new ones inputted, the solution is easier. For this:

Source Program: in.f  
Input: unit 5 = ascii file with codes and time series  
Output: unit 2 = binary data file converted from unit 5  
unit 6 = control output

Sample call: a.out < ascii.argentina 2=bin.argentina 6=check.in

The format of the ascii input records must be:

line	format	explanation
line 1:	7i6	codes of the time series
line 2:	8f13.0	data for year 1 to year 8
line 3:	8f13.0	data for year 9 to year 16
line 4:	7i6	codes of the time series
line 5:	8f13.0	data for year 1 to year 8
line 6:	.....	

In both cases the resulting binary files will have to be merged to the final data file using mer or mergsua from above.

#### 4.5. Make Binary Records

The program in.f used for correcting whole time series can also be run to create binary data records (see above).

#### 4.6. Make Formatted Records

As binary data records can only be properly read by the computer that wrote them, it is necessary to change the data representation of these records if one wants to use them on other computer installations. Experience has shown that many operating systems do not encourage different blocking factors on one input tape. There is also a standard format for moving programs and/or data between different installations. This format is 80 characters/record (and 10 records/block). Thus, in order to have the most widely acceptable format, the data records will be converted from binary to the following formatted form:

line	format	explanation
1:	7i5	codes
2:	6f12.0	data year 1 to year 6
3:	6f12.0	data year 7 to year 12
4:	6f12.0	data year 13 to year 16
5:	7i5	codes
6:	6f12.0	.....
		....

The g-format can also be used instead of the f-format. The program to perform this and its input/output units are:

```
Source Program:  cvt.f
Input:  unit 1  = binary data file (disk or tape)
Output: unit 6  = ascii data file
```

Sample call: `cvt 1=bin.argentina > ascii.argentina`

The command

```
dd if=file.ascii cbs=80 obs=800 conv=ebcdic of=/dev/rmt[0,1]
```

makes a file on the magnetic tape which will be readable on most installations, and whose specifications are:

```
NT,1600bpi,
no label
ebcdic
80 char/rec
800 char/block
```

(the system call 'mtibm' can also be used for this purpose).

The data listed in Appendix 7 (Argentina, most aggregated mode) have the form shown in Appendix 10 after having been processed by the above program.

#### 4.7. Get One Record

In many programs there is the need to find one specific record of a data file without searching too long for it (rewind each time). For this purpose a subroutine has been written which avoids frequent rewinds.

Source program: geta.f  
Call: call geta (iu,ictr,icom,iel,id,x,iy,ly,undef,ipo,irew)

This is the meaning of the parameters:

iu unit number of data input file (INPUT)  
ictr country code of wanted record (INPUT)  
icom commodity code of wanted record (INPUT)  
iel element code of wanted record (INPUT)  
id dimension code of wanted record (INPUT)  
x output array with found time series, or undef if not found (OUTPUT)  
iy first year of data wanted (e.g.61) (INPUT)  
ly last year of data wanted (e.g.76) (INPUT)  
undef value given x, in case time series is not in input file (INPUT)  
ipo requested time series is not in input file (OUTPUT)  
= 0: time series has been found  
= 1: time series has NOT been found  
irew read, do not rewind (INPUT)  
= 3: rewind iu only  
≠3: read

## 5. Graphs

There does not exist a standard routine in the FAP Data Bank to automatically plot the available time series. This can be done on a case by case basis. The reason being that each user generally wants a different type of plot.

On the VAX 11/780 there is currently available a plotting package called NEWPLOT which offers a fast and easy method to plot any desired time series from the FAP Data Bank.

A few actions are needed before a plot can be made. These are:

- 1) Select the data to be plotted, preferably convert them to ascii format (from the binary storage more) for checking purposes.
- 2) Prepare the plot control file with titles, axes, minima, maxima, etc.
- 3) Create plot files with the package NEWPLOT
- 4) Make hard copies of these plot files on the plotter.

### 5.1. Select Data for Plotting

The data selection is preferably done by first extracting the wanted data onto a separate file with the program "extr". From here the plot routine can immediately read the data (binary) read. But a better method is to make first an ascii file, with the program "sb" or "cvt". An example of such an ascii data file is shown in Appendix 14.

### 5.2. Prepare Plot Control File

The contents of the plot control file depends completely on the application. A sample plot control file is shown in Appendix 11.

### 5.3. Create Plot Files

Unless otherwise specified NEWPLOT creates plot files (binary) which are suitable to be listed (plotted) directly on a video terminal. These files can be generated interactively or in the background. It depends on the mode in which NEWPLOT is started.

### 5.4. Make Hard Copies

The plot files generated by NEWPLOT can be converted to a format suitable for the Varian printer with the command

```
di-vn < plotfile | vnsort > varianfile
```

The format suitable for the BBC plotter results from

```
di-bbc < plotfile > bbcfile
```

Each of the two files can be printed with the commands

```
p -pri:varian varianfile (on the PDP), or  
pv70 varianfile (on the VAX); and  
cat bbcfile >/dev/bbc (on the VAX).
```

## 6. Possible Requests

In this section an attempt is made to find answers to possible questions and request from customers of the FAP Data Bank. It is clear that these answers will not cover all questions, but hopefully the most frequent ones.

### 6.1. Is there data on ...?

See Appendix 5 where an overview of the existing data files and their storage and contents is given.

### 6.2. I need the following data ...!

After checking in Appendix 7 and the next section whether the data is available, it is necessary to find out from the customer how the data is wanted:

- hard copy (listing, short or long)
- binary
- on magnetic tape

#### 6.2.1. Hard Copy

This request can be satisfied by running an extraction on the relevant data file and later one of the listing programs. One can save some paper if the user only needs the ascii listing with the codes and no text is required. If only prices are needed, the intermediate listing program should be used.

The full listing should only be run on relatively short files, e.g. extractions from ag9, ag27, or at most ag (main commodities). A complete listing of the original data of one country could mean 1500 blocks of printout. The customer should be asked if that amount of printout is really wanted. There are no copyright problems (see later) with giving away printouts.

### **6.2.2. Binary Data**

If requested data is to be processed later by computer programs it is best to provide the customer with a binary data file (the plain result from the extraction program), and explain the organisation of the file, its codes, etc. Section 1 of this paper gives the necessary details.

If complete data files are needed (e.g. ag9, all prices) it is best not to make a copy but to tell the user where the file can be found, and explain the use of the subroutine geta.

### **6.2.3. Magnetic Tape**

There are occasions when members of the collaborating Institutes, or also unrelated customers, request time series to be taken away. In such cases the extraction program should be run to get the requested data. If a whole file is wanted, no extraction needs to be run. The time series can be put on tape using the program "cvt". Information on the organisation of the data and the meaning of the codes should be provided as well. *Attention!!* The original SUA and the original producer prices may *not* be given away on magnetic tape unless the customer has a written permission from FAO. The different levels of aggregation are not subject to this restriction, but the program leader of FAP should be consulted to avoid authorship problems. See section 8 for more details on this.

### **6.3. Correct the Following Data**

There have been numerous cases when experts from different countries have found single years of time series, or even complete time series in the FAP Data Bank to be wrong, or not suitable for their modeling work.

The policy up to now has been to include these corrections into the Data Bank as far as possible, specially if they do not interfere with the aggregation procedures (too many exceptions). Major corrections should be documented as far as possible.

If only single years are to be corrected the program adsome.f can be adapted and used, the resulting time series should be merged with the old data ("mer"). For whole time series to be corrected the program "in.f" is most suitable.

### **6.4. Include New Time Series**

In general this activity should be in line with the overall FAP modeling work. The program in.f, or a customer-made program can be used for this purpose. It is important to check now that the country, commodity and element list (Appendices 1 to 3) know about possible new codes, otherwise they should be updated. Documentation for new time series is essential.

### 6.5. Aggregations

Any request for different aggregations than the standard FAP aggregations (ag, ag27, ag9) should be discouraged. The reason for this is

- \* confusion about the different aggregation patterns
- \* labour intensive activity
- \* theoretically any combination of commodities to "special aggregations" is possible, thus ... ?????

These requests have only been fulfilled when relatively little changes were necessary in the aggregation programs, control files, procedures, etc. See [1] and [2] for details. Again here, documentation is essential. It is best to create separate directories for these activities, and use a complete set of programs and input files exclusively for each such exercise.

### 6.6. Compare Different Time Series

It seems reasonable to compare a number of time series with others (across countries, commodities, years, etc). So far the only ready made programs to do this are mergsua and merdiff. Both programs differ in that the first, mergsua, can only compare 2 time series with same beginning years (icd(6)), and mer66.1 can compare data that start 1961 with data starting 1966. In both cases country, commodity, element and dimension codes have to be identical.

Any other types of comparisons would need separate programs, which could be based, however, on the above programs.

## 7. Data Files and their Contents

The FAP Data Bank is a set of files, ordered by different criteria, stored on magnetic tape and/or disk, sometimes readily available in printed form. There is no procedure similar to commercially available data banks by which the user logs into the data bank and starts queries. There are several reasons for this state of the art;

- copyright regulations
- lack of storage space
- lack of demand

The following summary of the availability of data, its coverage, storage mode and filename of the place where it can be found is meant both for the FAP and the non-FAP reader. It will always remain true, however, that any query and extraction of data must be done by FAP staff members and cannot be made independently. In general, the easiest way to find out whether a certain time series exists at all is to try to extract it (have it extracted). If it is not there nothing will result from the extraction other than the message

"0 records have been extracted to file ....".

The certainty, however, can be narrowed down to the following countries, commodities and types of data:

### **7.1. Countries**

In the FAP data bank there is some data available for all FAO countries (Appendix 1), as far as FAO reports on them. All data (SUAs, Population, Macro Data, Area, Prices) exists for all FAP4 countries (Appendix 1a).

### **7.2. Commodities**

The Supply Utilisation Accounts (SUAs) cover all FAO commodities listed in Appendix 2. As data is aggregated the list becomes smaller, and at the final level of 27 (ag27) and 18 (ag9) commodities the list is much smaller (Appendix 2b). The relevant elements and dimensions are in Appendix 3 (for FAO commodities) and Appendix 3a (for FAP commodities). In Appendix 2a the commodities for the macro files are listed, together with their elements and dimensions.

### **7.3. Files**

The major types of data, the files where they can be found and the coverage period are tabulated in Appendix 5. In order to understand the meaning of producer prices, world market prices, FAP prices, etc. the reader is referred to [1], [2] and [3].

## **8. Exceptions and Corrections**

Up to now a number of exceptions and corrections have been included in different files of the FAP Data Bank.

### **8.1. Exceptions for Feed Programs**

The special aggregation run to be used in the feed allocation model has not been documented at length. On the other hand there is no plan to repeat the exercise. But in case this should happen (so many things have), a few remarks are necessary.

Most of the programs and files related to this exercise have a suffix "kl" somewhere (wei.conv.kl, ag9.kl, etc). Some files and programs are unique to the exceptions for feed programs. These are feedfac.f and the resulting outputs feedfac9.bin and feedfac27.bin, as well as a program to calculate yield of eggs (eggqu.f).

The resulting aggregations ag9.kl and ag27.kl have special codes, ag27.kl starts with 3701, ag9.kl with 3801. The corresponding texts are included in the files nfao.3.1 and nfao.3.22, therefore the normal list programs can be run on these files.

### **8.2. Exceptions for Kenya**

The detailed country model of Kenya needs also some special aggregations, which have all been made in a subdirectory called shah. As the use of the resulting output is different than in the exceptions for the feed programs, the special codes have not been included in the text files, it is not possible to run a meaningful listing on the output. Also here the documentation is very bad (nonexistent) and any repetition of the exercise should be discussed with the user of that data first.



### 8.3. Exceptions for Australia (and New Zealand)

In order to take account of the importance of ovine production in Australia (and New Zealand) the detailed and simplified FAP commodity lists have been adapted in the following way:

detailed		simplified	
3407	bovine meat	3304	bovine meat
3428	ovine meat	3317	ovine meat
3429	wool and hides from ovine	3318	wool and hides from ovine
3430	ovine fat	3319	bovine fat

All other commodities stay the same, but start with 34.. in the detailed list and 33.. in the simplified.

### 8.4. Exceptions and Corrections for New Zealand

In New Zealand a further exception was made, and the new classification has been used in the detailed model for that country. The following Table 2 shows this special commodity grouping:

**Table 2: Commodity Classification for New Zealand**

code	text	code	text
3201	wheat	3216	bev.dist.alcohol
3202	rice	3217	fibres
3203	coarse grains	3218	ind.crops
3204	veg.oil	3219	offals cattle
3205	prot.feed	3220	offals sheep
3208	sugar	3221	pig fat
3207	bov meat	3222	poultry fat
3208	---	3223	fish oil
3209	pig+pltry+egg	3224	meat meal
3210	milk	3225	fish meal
3211	---	3226	sil+hid.cat+ov
3212	veg+rts+frr+nut	3227	pig hides
3213	fish products	3228	ovine meat
3214	---	3229	steer+degr+tal
3215	coffee+cocoa+tea	3230	wool

These time series can only be printed without text, in the raw form, as there is no suitable text available in the commodity text files nfao.3.1 and nfao.3.22. In addition to a new classification the time series between 1961 and 1976 have also been edited and corrected by Alan Rae from New Zealand.

### 8.5. Corrections for Other Countries

The subdirectory "corr" referred to in the previous section contains a number of files with corrections for several countries and commodities. In general the terminology is such that the country code is used somewhere in the file.

Corrections and additions were done for a number of countries, the most important of them being:

	Country	Person
10	Australia	Brian Parmenter
11	Austria	Karl Ortner
33	Canada	John Graham
156	New Zealand	Alan Rae Tony Lewis
174	Portugal	Raoul Jorge
223	Turkey	???

## 9. Interactions with Other Institutions

The reader will be convinced by now that the FAP Data Bank is not a stand alone product, but requires continuous interaction, exchange of data and ideas, etc with a number of institutions. The places discussed in this section will by no means cover all activities, past or future, only the main ones should be listed here.

### 9.1. Food and Agriculture Organization of the United Nations, FAO, Rome.

For new SUA, magnetic tapes, documentation, errors, etc. the Statistics Division within the Economic and Social Policy Division should be contacted. Important names are:

Nurul Islam,	Assistant Director, ESD
C.L. Quance,	ESS
J.P. O'Hagan,	ESD
G. Parniczky,	ESS
M. De Nigris,	ESC

Jelle Bruinsma, ESD, is also familiar with some of the problems and can be addressed for that matter. The authorization to use the SUAs on magnetic tape at FAP has been issued by the Editorial Branch, FAO, Via delle Terme di Caracalla, I-00100 Rome. Any other applications for giving data to third parties should be made to that division as well. In general it is best to hand-carry the tapes from Rome, or at least have them sent by Pouch. Allow for at least 4 weeks before a request for existing data can be fulfilled. Updates are in general announced very early, but only released after 6 to 8 months.

### 9.2. Center for World Food Studies, Amsterdam.

This institute collaborates very closely with FAP and is interested in receiving data for the following countries:

18 Bangladesh  
101 Indonesia  
216 Thailand

The Center for World Food Studies has an agreement with FAO (and FAP) and is allowed to receive the original SUAs from FAP. In addition they are interested in all stages of aggregation, prices, nutritional content, and also the programs and control files that go with preparing these data files.

The main contact person there is:

Michiel Keyzer  
Vrije Universiteit  
P.O. Box 7161  
1105 De Boelelaan  
1007 MC Amsterdam

### **9.3. Free University of Brussels**

Occasionally one might receive requests from the Free University of Brussels. These requests are in general restricted to SUAs and prices. Similarly to Amsterdam, there is an agreement between Brussels and FAO which allows FAP to give original SUAs to them.

The contact person there is  
Jean Waelbroeck  
Universite Libre de Bruxelles  
Centre d'Economie Mathematique  
et d'Econometrie  
CP 135  
Avenue F.-D. Roosevelt 50  
B-1050 Bruxelles

**REFERENCES**

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- [3] U.Sichra: *World Prices for the Detailed and the Small FAP Commodity lists, WP-84-95. International Institute for Applied Systems Analysis, Laxenburg, Austria, 1984.*
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**Appendix 1: Country List from FAO.**

<u>code</u>	<u>country</u>		
000	world	054	denmark
002	afghanistan	055	dominica
003	albania	058	dominican rp
004	algeria	058	ecuador
005	amer samoa	059	egypt
006	andorra	060	el salvador
007	angola	061	eq guinea
008	antigua	062	ethiopia
009	argentina	064	faeroe is
010	australia	065	flakland is
011	austria	066	fiji
012	bahamas	067	finland
013	bahrain	068	france
014	barbados	069	fr guiana
015	belgium-lux	070	fr polynesia
016	bangladesh	072	djibouti
017	bermuda	074	gabon
018	bhutan	075	gambia
019	bolivia	076	gaza strip
020	botswana	077	german dr
021	brazil	078	germany fed
023	belize	081	ghana
024	br ind oc tr	082	gibraltar
025	solomon is	083	gilbert is
026	brunei	084	greece
027	bulgaria	085	greenland
028	burma	086	grenada
029	burundi	087	guadeloupe
032	cameroon	088	guam
033	canada	089	guatemala
034	canton is	090	guinea
035	cape verde	091	guyana
036	cayman is	093	haiti
037	cent afr emp	094	holy see
038	sri lanka	095	honduras
039	chad	096	hong kong
040	chile	097	hungary
041	china	099	iceland
042	christmas is	100	india
043	cocos is	101	indonesia
044	colombia	102	iran
045	comoros	103	iraq
046	congo	104	ireland
047	cook islands	105	israel
048	costa rica	106	italy
049	cuba	107	ivory coast
050	cyprus	109	jamaica
051	czechoslovak	110	japan
053	benin	111	johnston is

112	jordan	175	guin bissau
114	kenya	178	east timor
115	kampuchea dm	177	puerto rico
116	korea dpr	179	qatar
131	malaysia	181	rhodesia
117	korea rep	182	reunion
118	kuwait	183	romania
120	lao	184	rwanda
121	lebanon	187	st helena
122	lesotho	188	st kitts etc
123	liberia	189	st lucia
124	libya	190	st pier etc
125	liechtensten	191	st vincent
128	macau	192	san marino
129	madagascar	193	sao tome etc
130	malawi	194	saudi arabia
132	maldives	195	senegal
133	mali	196	seychelles
134	malta	197	sierra leone
135	martinique	200	singapore
136	mauritania	201	somalia
137	mauritius	202	south africa
138	mexico	203	spain
139	midway is	204	sp no africa
140	monaco	205	westn sahara
141	mongolia	208	sudan
142	montserrat	207	surinam
143	morocco	209	swaziland
144	mozambique	210	sweden
147	namibia	211	switzerland
148	nauru	212	syria
149	nepal	214	taiwan
150	netherlands	215	tanzania
151	neth antille	216	thailand
153	newcaledonia	217	togo
155	new hebrides	218	tokelau
156	new zealand	219	tonga
157	nicaragua	220	trinidad etc
158	niger	221	oman
159	nigeria	222	tunisia
160	niue island	223	turkey
161	norfolk island	224	turks caicos
162	norway	225	u a emirates
164	pacific is	226	uganda
165	pakistan	227	tuvalu
166	panama	228	ussr
167	panama ca zn	229	uk
168	papua n guin	231	usa
169	paraguay	233	upper volta
170	peru	234	uruguay
171	philippines	236	venezuela
172	pitcairn is	237	viet nam
173	poland	239	virgin is uk
174	portugal	240	virgin is us

242	wake island	345	escap all
243	wallis etc	346	oecd europe
244	samoa	347	msa neareast
246	yemen ar	348	escap devped
247	yemen dem	349	ecwa
248	yugoslavia	350	arab world
250	zaire	351	rafe devping
251	zambia	352	rafe all
288	mal sabah	353	rnea countr
289	mal sarawak	354	dev.ped all
290	mal peninsul	355	dev.ping all
301	developed	356	msa all
302	n america	357	china
303	w europe	358	africa ex sa
304	eec	359	e s afr dev
305	w eur ex eec	360	msa africa r
306	oceania	361	nord ctrs-fo
307	oth dev.ped	362	other eec-fo
308	developing	363	oth w eur-fo
309	africa	364	neast+naf-fo
310	n w africa	365	s. sahara-fo
311	w africa	366	far east -fo
312	central afr	367	cent plan-fo
313	e africa	368	all devpd-fo
314	s africa dev	369	w europe -fo
315	lat america	370	all devpg-fo
316	central amer	374	n.e.asia oth
317	caribbean	375	eec.other
318	south americ	378	oth we,other
319	near east	377	nw afr,other
320	n east afr	378	w.afr.others
321	n east asia	379	c.afr.,other
322	far east	380	e.afr.,other
323	south asia	381	fpa northafr
324	e se asia	382	fpa westaf n
325	oth dv.ping	383	fpa westaf s
326	n america dev	384	fpa centrafr
327	oceania dev	385	fpa eastsoua
328	centr plannd	386	s.asia,other
329	asian cpe	387	e+se asia ot
330	msa far east	388	c.amer.other
331	asian cpe -c	389	caribb.other
332	e eur+ussr	390	s.amer.other
334	e europe	391	ec la sela
335	europe	392	ec lafta
336	n c america	393	ec cacm
337	asia	394	ec caricom
338	africa	395	ec andean
339	oceania	396	ec river pl
340	world -c	397	ec af aec
341	world	398	ec eac
342	oecd	399	ec udeac
343	ecla	400	ec gepgi
344	escap dyping	401	ec ecowas



402 ec ceao  
403 ec senegal  
404 ec ocam  
405 ec entente  
406 ec mano riv  
407 ec maghreb  
408 ec ne caeu  
409 ec acm  
410 ec gulf c m  
411 ec fe bangk  
412 ec asean  
413 ec rod  
414 malaysia  
415 ldc total  
416 ldc africa  
417 ldc neareast  
418 ldc asia  
776 cmea ex ussr (FAP)  
333 producer countries  
444 latin countries  
555 african countries  
666 asian countries  
777 cmea (FAP)  
888 eec (FAP)  
999 lat+afr+asia  
890 FAP 33 ctr.  
891 FAP resid  
892 FAP 20 ctr.  
893 FAP-0 resid  
895 Rest World

Appendix 1a: FAP countries (\* = FAP4)

EEC and Japan	
15	Belgium - Luxembourg (*)
54	Denmark (*)
68	France (*)
78	Federal Rep. of Germany (*)
104	Ireland(*)
106	Italy(*)
110	Japan(*)
150	Netherlands(*)
229	UK(*)
888	Total EEC

CMEA	
27	Bulgaria(*)
51	Czechoslovakia(*)
77	German Democratic Republic(*)
97	Hungary(*)
173	Poland(*)
183	Romania(*)
228	USSR(*)
777	Total CMEA

Rest of Europe	
11	Austria(*)
67	Finland(*)
84	Greece(*)
162	Norway
174	Portugal(*)
203	Spain(*)
210	Sweden(*)
211	Switzerland
223	Turkey(*)
248	Yugoslavia

Developing Africa	
4	Algeria
59	Egypt(*)
62	Ethiopia
114	Kenya(*)
143	Morocco
159	Nigeria(*)
206	Sudan
212	Syria
215	Tanzania
222	Tunisia

Developing Asia	
16	Bangladesh
100	India(*)
101	Indonesia(*)
102	Iran
103	Iraq
116	Korean Democr. Rep
165	Pakistan(*)
171	Philippines
216	Thailand

Latin America	
9	Argentina(*)
21	Brazil(*)
138	Mexico(*)
170	Peru
236	Venezuela

Other Countries	
10	Australia(*)
33	Canada(*)
41	China(*)
156	New Zealand(*)
202	South Africa
231	USA(*)

**Appendix 2: Commodities from FAO and FAP**  
**SUPPLY UTILIZATION ACCOUNTS and PRODUCTION YEARBOOK**

commodity code	group code	text			
0001	01	population	0080	03	flour millet
0002	14	macroecon.1	0081	03	bran millet
0003	14	macroecon.2	0082	03	beer millet
0010	03	total trade	0083	02	sorghum
0012	17	land use	0084	03	flour sorghm
0013	17	irrigation	0085	03	bran sorghum
0014	16	land use	0086	03	beer sorghum
0015	02	wheat.	0089	02	buckwheat
0016	03	flour wheat	0090	03	flour buckwh
0017	03	bran wheat	0091	03	bran buckwht
0018	03	macaroni	0092	02	quinoa
0020	03	bread	0101	02	canary seed
0022	03	pastry	0103	02	mixed grain
0023	03	wheat, starch	0104	03	flour mix gr
0024	03	wheat, gluten	0105	03	bran of mix gr
0027	02	rice, paddy	0108	02	cereals nes
0028	03	rice, husked	0109	03	infant food
0031	03	rice, milled	0110	03	wafers
0032	03	rice, broken	0111	03	flour cereal
0034	03	rice, starch	0112	03	bran cereal
0035	03	bran rice	0113	03	cer prep nes
0036	03	oil rice brn	0116	02	potatoes
0037	03	cake ricebrn	0117	03	flour potat
0041	03	breakf cerls	0119	03	potato stch
0044	02	barley	0121	03	potato tap
0046	03	barley, pearl	0122	02	sweet potato
0049	03	malt barley	0125	02	cassava
0050	03	malt extract	0126	03	flour cass
0051	03	beer barley	0127	03	cassava tap
0056	02	maize	0128	03	cassava drd
0058	03	flour maize	0129	03	cassava stch
0059	03	bran maize	0136	02	taro
0060	03	oil maize	0137	02	yams
0061	03	cake maize	0149	02	roots tub ns
0063	03	maize gluten	0150	03	flour rt tub
0064	03	starch maize	0151	03	roots tub dr
0066	03	beer maize	0156	02	sugar cane
0067	03	white maize	0157	02	sugar beets
0068	02	pop corn	0158	03	cane sugar
0071	02	rye	0159	03	beet sugar
0072	03	flour rye	0161	02	sugar crops
0073	03	bran rye	0162	03	sugar,c. raw
0075	02	oats	0163	03	sugar,n-cent
0076	03	oats, rolled	0164	03	sugar refind
0079	02	millet	0165	03	molasses

0167	03	sugar nes	0264	03	karit nt but
0168	03	sugar conf	0265	02	castor beans
0169	03	beet pulp	0266	03	oil cast bns
0170	03	bagasse	0267	02	sunflwr seed
0171	03	sugars flav	0268	03	oil sunf sd
0176	02	beans, dry	0269	03	cake sunf sd
0181	02	brd beans,dr	0270	02	rapeseed
0187	02	peas, dry	0271	03	oil rapeseed
0191	02	chick-peas	0272	03	cake rapeseed
0195	02	cow peas,dry	0273	03	olive resid
0197	02	pigeon peas	0274	03	oil oliveres
0201	02	lentils	0275	02	tung nuts
0205	02	vetches	0276	03	tung oil
0210	02	lupins	0280	02	safflower
0211	02	pulses nes	0281	03	oil saffwer
0212	03	flour pulses	0282	03	cake saffwr
0216	02	brazil nuts	0289	02	sesame seed
0217	02	cashew nuts	0290	03	oil ses sd
0220	02	chestnuts	0291	03	cake ses sd
0221	02	almonds	0292	02	mustard seed
0222	02	walnuts	0293	03	oil must sd
0223	02	pistachios	0296	02	poppy seed
0224	02	kolanuts	0297	03	oil pop sd
0225	02	hazelnuts	0298	03	cake pop sd
0226	02	arecanuts	0299	02	melonseed
0230	03	cashew she	0305	02	tallow seeds
0231	03	almonds she	0308	03	veg tallow
0232	03	walenuts she	0307	03	stilling oil
0233	03	hazelnuts she	0310	02	kapok fruit
0234	02	nuts nes	0311	03	kapokseed sb
0235	03	preprd nuts	0312	03	kapoksee shed
0236	02	soybeans	0313	03	oil of kapok
0237	03	oil soyabean	0314	03	cake kapok
0238	03	cake soybean	0328	02	seed cotton
0239	03	soya sauce	0329	03	cottonseed
0240	03	soya paste	0331	03	oil cotton s
0241	03	soya curd	0332	03	cake cotton
0242	02	groundnuts	0333	02	linseed
0243	03	groundnut she	0334	03	oil linseed
0244	03	oil groundnt	0335	03	cake linseed
0245	03	cake groundt	0336	02	hempseed
0249	02	coconuts	0337	03	oil hemspsd
0250	03	coconuts,des	0338	03	cake hemspsd
0251	03	copra	0339	02	oilseeds nes
0252	03	oil coconuts	0340	03	oil vg or ns
0253	03	cake coconut	0341	03	cak oilsd ns
0256	03	palm kernels	0343	03	oil meals
0257	03	palm oil	0358	02	cabbages
0258	03	oil,palm ker	0368	02	artichokes
0259	03	cake,palm ker	0367	02	asparagus
0260	02	olives	0372	02	lettuce
0261	03	olive oil	0373	02	spinach
0262	03	olive,pres	0388	02	tomatoes
0263	02	karite nuts	0390	03	juice tomato

0391	03	tomato paste	0550	02	currants
0392	03	peeld tomato	0552	02	blueberries
0393	02	cauliflower	0554	02	cranberries
0394	02	pumpk+sq+grd	0558	02	berries nes
0397	02	cucmbr+gherk	0580	02	grapes
0399	02	eggplants	0581	03	raisins
0401	02	chil+pep,grn	0563	03	must grapes
0402	02	onions,green	0564	03	wine
0403	02	onions, dry	0585	03	vermth simil
0406	02	garlic	0587	02	watermelons
0414	02	beans, green	0588	02	mel inc cant
0417	02	peas, green	0569	02	figs
0420	02	brd bean, grn	0570	03	figs, dried
0423	02	string beans	0571	02	mangoes
0426	02	carrots	0572	02	avocados
0446	02	green corn	0574	02	pineapples
0449	02	mushrooms	0575	03	pineapple can
0459	02	chicory root	0576	03	pineap juice
0460	03	veg pr fr dr	0577	02	dates
0461	02	carobs	0600	02	papayas
0463	02	vegetables	0603	02	frt trop nes
0464	03	veget dr nes	0604	03	fr trp dr ns
0465	03	vegt can nes	0619	02	fruit nes
0466	03	juice veg ns	0620	03	fruit dr nes
0469	03	vegs dehydr	0622	03	fruit juice
0471	03	vegs vinegar	0623	03	fruit pr nes
0472	03	vegs pr nes	0624	03	flour fruit
0473	03	vegs frozen	0632	03	???????
0474	03	vegs temp pr	0633	03	bev non-alc
0486	02	bananas	0634	03	bev dis alc
0489	02	plantains	0635	03	straw, husks
0490	02	oranges	0636	02	maize fd+sil
0491	03	juice orange	0637	02	sorghum fs
0495	02	tangerines	0638	02	rye grass fs
0497	02	lemon limes	0639	02	grasses fs
0507	02	grapefruit	0640	02	clover fs
0509	03	grapef juice	0641	02	alfalfa fs
0512	02	citr frt nes	0643	02	legumes fs
0513	03	citrus juice	0644	02	cabbage fod
0515	02	apples	0645	02	pumpkins fod
0517	03	cider	0646	02	turnips fod
0521	02	pears	0647	02	beets fodder
0523	02	quinces	0648	02	carrots fod
0526	02	apricots	0649	02	swedes fod
0530	02	sour cherry	0650	03	leaves+tops
0531	02	cherries	0851	02	forage prod
0534	02	peaches	0852	03	veg prod
0536	02	plums	0853	03	food wastes
0537	03	plums, dried	0654	03	dregs,br+dis
0541	02	stone fruit	0655	02	veg root fod
0542	02	pome fruit	0656	02	coffee,green
0544	02	strawberries	0657	03	coffee roast
0547	02	raspberries	0658	03	coffee subst
0549	02	gooseberries	0659	03	coffee extr

0661	02	cocoa beans	0852	03	concentr nes
0662	03	cocoa powder	0853	03	vitamins
0663	03	cocoa paste	0854	03	feed additiv
0664	03	cocoa butter	0855	03	feed mineral
0665	03	choc prod ns	0857	02	hay non-leg
0666	03	???????	0858	02	hay legumin
0667	02	tea	0859	02	hay unspecif
0671	02	mate	0860	02	range past
0674	02	tea nes	0861	02	improv past
0677	02	hops	0862	03	fl/meal misc
0687	02	pepper w/l/b	0864	04	calves
0689	02	pimento	0865	05	veal
0692	02	vanilla	0866	04	cattle
0693	02	cinnamon	0867	05	beef veal
0698	02	cloves	0868	06	offals cattl
0702	02	nutmeg	0869	06	fat cattle
0711	02	anise	0870	03	beef boneless
0723	02	spices nes	0872	03	beef dss
0737	03	oil citronll	0873	03	meat extract
0748	02	peppermint	0874	03	sausage beef
0753	03	ess oils nes	0875	03	beef prep
0754	02	pyrethrum	0876	03	beef canned
0755	03	pyret extr.	0882	08	cow milk
0756	03	pyret marc	0885	03	cream, fresh
0766	02	seed cotton	0886	03	butter, cows
0767	03	cotton lint	0887	03	ghee, cows
0768	03	cotton cardd	0888	03	sk milk cows
0769	03	cotton waste	0889	03	wh milk,cond
0770	03	cotton lintr	0890	03	whey,condens
0771	02	flax raw	0894	03	wh milk,evap
0773	02	flax fibre	0895	03	skmilk evap
0774	03	flax tow	0896	03	sk milk cond
0777	02	hemp fibre	0897	03	cowmilk dry
0780	02	jute	0898	03	milk sk dr c
0782	02	jute-like	0899	03	dry buttermilk
0788	02	ramie	0900	03	dry whey
0789	02	sisal	0901	03	cheese w cow
0800	02	agave nes	0903	03	whey, fresh
0809	02	abaca	0904	03	cheese s cow
0821	02	fibre nes	0917	03	casein
0826	02	tobacco	0919	07	cattle hides
0828	03	cigarettes	0920	03	hide w cattl
0829	03	cigars	0921	03	hide d cattl
0831	03	tobacco prod	0922	03	hide n cattl
0836	02	nat rubber	0927	07	skin f calve
0837	03	rubber dry	0928	03	skin w calve
0839	03	natural gums	0929	03	skin d calve
0840	03	com feed cat	0930	03	skin n cattl
0841	03	com feed pou	0944	15	ind cattmeat
0842	03	com feed pig	0945	16	bio cattmeat
0845	03	com feed oth	0946	04	buffaloes
0846	03	glut feed&me	0947	05	buffalo meat
0850	03	feed sup	0948	06	offal buffal
0851	03	nonprot nitr	0949	06	fat buffalo

0951	08	buffalo milk	1043	03	lard
0952	03	butter buffl	1044	07	pigskins
0953	03	ghee buffalo	1045	03	skin w pigs
0954	03	milk sk buff	1046	03	skin d pigs
0955	03	chees buffl	1047	03	skin nes pig
0957	07	buffalo hide	1055	15	ind pigmeat
0958	03	hide w buffl	1056	16	bio pigmeat
0959	03	hide d buffl	1057	04	chickens
0972	15	ind buffmeat	1058	05	chicken meat
0973	16	bio buffmeat	1059	06	offal chickn
0974	04	lambs	1060	03	meat pr chck
0975	05	lamb meat	1061	03	meat od chck
0976	04	sheep	1062	09	hen eggs
0977	05	mutton lamb	1063	03	eggs l hen
0978	06	offals sheep	1064	03	eggs dry hen
0979	06	fat of sheep	1065	03	fat poultry
0982	08	sheep milk	1066	03	fat r poultr
0983	03	butter sheep	1067	03	hen eggs no
0984	03	sheep cheese	1068	04	ducks
0985	03	sk milk shee	1070	15	ind duckmeat
0987	10	wool, greasy	1071	16	bio duckmeat
0988	03	wool, scoured	1072	04	geese
0994	03	grease wool	1077	15	ind geesmeat
0995	07	sheepskins	1078	16	bio geesmeat
0996	03	skin w sheep	1079	04	turkeys
0997	03	skin d sheep	1087	15	ind turkmeat
0998	03	skin nes sh	1088	16	bio turkmeat
0999	07	skinwool sh	1089	05	poultry meat
1007	03	wool shoddy	1091	09	eggs ex hen
1008	03	hair carded	1092	03	oth egg (no)
1009	03	wool waste	1094	15	ind chckmeat
1012	15	ind sheepmeat	1095	16	bio chckmeat
1013	16	bio sheepmeat	1096	04	horses
1014	04	kids	1097	05	horsemeat
1015	05	kids meat	1098	05	????????
1016	04	goats	1100	10	hair horses
1017	05	goat meat	1102	07	horse hides
1018	06	offals goats	1103	03	hide w horse
1019	06	fat of goats	1104	03	hide d horse
1020	08	goat milk	1105	03	hide y horse
1021	03	goat cheese	1107	04	asses
1025	07	goatskins	1110	04	mules
1026	03	skin w goat	1120	15	ind horsemeat
1027	03	skin d goat	1121	16	bio horsmeat
1028	03	skin nes goa	1122	15	ind ass meat
1032	15	ind goatmeat	1123	16	bio ass meat
1033	16	bio goatmeat	1124	15	ind mulemeat
1034	04	pigs	1125	16	bio mulemeat
1035	05	pigmeat	1126	04	camels
1036	06	offals pigs	1127	05	meat camel
1037	06	fat pigs	1128	06	offals camel
1039	03	bacon pigs	1129	06	fat camel
1041	03	sausages pig	1130	08	camel milk
1042	03	meat pr pig	1133	07	hides camel

1134	03	hides w camel
1135	03	hides d camel
1136	03	hide u camel
1137	15	ind camlmeat
1138	16	bio camelmeat
1140	05	???????
1141	05	?????
1163	05	game meat
1164	03	meat dry nes
1166	05	meat nes
1167	03	offals nes
1168	03	oils animal
1171	04	animals nes
1172	03	meat pr nes
1173	03	meat meal
1174	02	fish meal
1181	04	beehives
1182	10	honey
1183	10	beeswax
1185	10	cocoon reel
1186	03	silk, raw
1187	10	cocoon unr
1195	10	fur skins
1213	03	hides nes fr
1214	03	hide ws
1215	03	hide ds
1216	03	hide nes
1217	03	leather used
1218	03	hair fine
1219	03	hair coarse
1221	03	stearine
1222	03	degras
1223	03	oils fish
1225	03	tallow
1232	03	food prep
1242	03	margarine
1243	03	fats prep ns
1259	03	food wastes
1274	03	oils boiled
1275	03	oils hydrogn
1276	03	fatty acids
1277	03	res fatty s
1293	03	org mat 29
1294	03	seeds
1295	03	spermaceti
1296	03	waxes veg
1297	03	protein



PRODUCTION YEARBOOK

commodity code	group code	text			
1299	11	soil mach	1353	11	aliphatic cp
1300	11	agr mach nes	1354	11	nematocides
1301	11	tractors all	1355	11	al phosphide
1302	11	tractors tot	1356	11	car tetrachl
1303	11	tractors crw	1357	11	pesticides
1304	11	tractors whl	1360	11	nitrofertlz
1305	11	garden tract	1361	11	ammon sulph
1306	11	harv thresh	1362	11	ammon nitrat
1307	11	milking mash	1363	11	amm sul nitr
1308	11	lindane	1364	11	sodium nitr
1309	11	d d t	1365	11	calcium nitr
1310	11	b h c	1366	11	calcium cyan
1311	11	other chlorin	1367	11	urea
1312	11	aldrin etc	1368	11	amm phosph n
1313	11	carbamates i	1369	11	other nitr fer
1314	11	other herbicid	1370	11	oth compl n
1315	11	toxaphene	1371	11	ammonia d ap
1316	11	fenitrothion	1372	11	calc am nitr
1317	11	parathion	1374	11	nit fert nes
1318	11	malathion	1375	11	phosphfertlz
1319	11	org phos oth	1376	11	sing superph
1320	11	chlorobenzil	1377	11	conc superph
1321	11	bot insc pyr	1378	11	basic slag
1324	11	bot insc oth	1379	11	amm phosph p
1325	11	miner oils	1380	11	other phos fer
1326	11	arsenicals	1381	11	oth compl p
1327	11	bromides	1385	11	phos fer nes
1328	11	oth fumigant	1386	11	potashfertiliz
1330	11	other insect	1387	11	potas sulph
1331	11	dinitro comp	1388	11	muriate 45
1332	11	dithiocarbam	1389	11	muria 20-45
1333	11	seed dress m	1390	11	crude salts
1334	11	seed dress o	1391	11	oth pot fert
1335	11	sulphur	1392	11	compl fer k
1336	11	lime sulphur	1396	11	pot fert nes
1337	11	urea derivat	1397	11	fert m nes
1338	11	aromatic cp	1398	11	nat sod nitr
1339	11	carbamates h	1399	11	phosphat nat
1340	11	copper comp	1400	11	pot salt nat
1341	11	oth fungicid	1401	11	fertil organ
1342	11	2,4,-d	1402	11	ammonia
1343	11	mcpa	1403	11	phosph acid
1344	11	2,4,5-t	1404	11	sulphur acid
1345	11	triazines	1405	11	agric lime
1346	11	anticoagul	1406	11	gypsum
1347	11	oth rodent	1410	11	int comb eng
1348	11	pesticid nes	1411	11	electr motor
1350	11	plant gr reg	1412	11	trucks farms
1352	11	methoxychlor			

SUPPLY UTILIZATION ACCOUNTS

commodity code	group code	text			
1501	12	frwtr diad f	1558	13	crstc meals
1502	13	frwtr fz whl	1559	13	crst meal of
1503	13	frwtr fillet	1562	12	mlluscs frsh
1504	13	frwtr fz flt	1563	13	molsc frozen
1505	13	frwtr cured	1564	13	molsc cured
1506	13	frwtr canned	1565	13	molsc canned
1507	13	frwtr pr nes	1566	13	molsc meals
1508	13	frwtr meals	1567	13	mols meal of
1509	13	frwt bdy oil	1570	12	cephlp fresh
1510	13	frwt liver oil	1571	13	cphlp frozen
1511	13	frwt meal of	1572	13	cphlp cured
1514	12	dmrsl fresh	1573	13	cphlp canned
1515	13	dmrsl fz whl	1574	13	cphlp pr nes
1516	13	dmrsl fillet	1575	13	cphlp meals
1517	13	dmrsl fz flt	1576	13	cphl meal of
1518	13	dmrsl cured	1579	12	aquto mammal
1519	13	dmrsl canned	1580	13	aq m meat
1520	13	dmrsl pr nes	1581	13	aq m meals
1521	13	dmrsl meals	1582	13	aq m oils
1522	13	dmrs bdy oil	1583	13	aq m prep ns
1523	13	dmrs lvr oil	1584	13	aq m meal of
1524	13	dmrs meal of	1587	12	aqutc anim f
1527	12	pelagic frsh	1588	13	aq a cured
1528	13	pelge fz whl	1589	13	aq a meals
1529	13	pelge fillet	1590	13	aq a prep ns
1530	13	pelge fz flt	1591	13	aq a meal of
1531	13	pelge cured	1594	12	aqutc plants
1532	13	pelge canned	1595	13	aq p dried
1533	13	pelge pr nes	1596	13	aq p prep ns
1534	13	pelge meals	1599	13	fish tot val
1535	13	pelg bdy oil			
1536	13	pelg lvr oil			
1537	13	pelg meal of			
1540	12	marine nes f			
1541	13	marine fz whl			
1542	13	marin fillet			
1543	13	marin fz flt			
1544	13	marin cured			
1545	13	marin canned			
1546	13	marin pr nes			
1547	13	marin meals			
1548	13	marn bdy oil			
1549	13	marn lvr oil			
1550	13	marn meal of			
1553	12	crstaceans f			
1554	13	crstc frozen			
1555	13	crstc cured			
1556	13	crstc canned			
1557	13	crstc pr nes			

FORESTRY

commodity code	group code	text			
1601	02	sawl vener c	1659	02	p unc w free
1602	02	sawlogs c	1660	02	unbl sulphit
1603	02	veneerlogs c	1661	02	bl sulphite
1604	02	sawl ven nc	1662	02	unbl sulphat
1606	02	veneerlogs b	1663	02	bl sulphate
1608	02	pulpwood c	1664	02	pap linerbd
1609	02	pitprops c	1665	02	linrbrd kraft
1611	02	pulpwood nc	1666	02	kft lnr unbl
1612	02	pitprops nc	1667	02	dissolving
1614	02	pulpwood	1668	02	other fi pul
1615	02	pitprops	1670	03	waste paper
1617	02	sc w plp(nc)	1671	02	newsprint
1618	02	unb site(nc)	1672	02	oth linrbrd
1619	02	chips	1673	02	fting medium
1620	02	residues	1674	02	print+writin
1621	02	bl s-phite	1675	02	other paper
1622	02	nwood cell f	1676	02	housh+san pa
1623	02	other ind c	1677	02	flt md s-che
1624	02	unb sate(nc)	1678	02	oth flt med
1625	02	other ind	1679	02	kft wr pack
1626	02	other ind no	1680	02	sack kraft
1627	02	fuelwood c	1681	02	wrapping pap
1628	02	fuelwood nc	1683	02	paper+bd nes
1629	02	fuelwood	1684	02	prt+wr unc
1630	02	charcoal	1685	02	prt+wr coat
1631	02	sleepers	1686	02	sol bl brd
1632	02	sawnwood c	1687	02	ot fold bxbd
1633	02	sawnwood nc	1688	02	ot wrpkgpabd
1634	02	veneer	1689	02	ot paper
1637	02	bl sate(nc)	1690	02	ot paperbd
1638	02	ot plp straw	1691	02	ot paper nes
1639	02	ot plp bagas	1692	02	ot papbd nes
1640	02	plywood	1693	02	blchd sulpha
1641	02	plywood c	1694	02	ot kft wr pk
1642	02	plywood b	1695	02	folding bxbd
1643	02	ot plp bambo	1696	02	kft lnr blch
1644	02	ot plp reeds	1698	02	wood pulp c
1645	02	blockboard	1699	02	paper+papbd
1646	02	particle brd			
1647	02	nwd partbd			
1648	02	disving(nc)			
1649	02	fibrebnd comp			
1650	02	fibred,ncomp			
1652	02	p ctd w cont			
1653	02	p ctd w free			
1654	02	mech wd pulp			
1655	02	s-ch wd pulp			
1656	02	chem wd pulp			
1658	02	p unc w cont			

PRODUCTION YEARBOOK

commodity code	group code	text			
1701	03	grand total	1750	02	fodder prim
1702	03	a fi fo prim	1751	02	jute ans sim
1703	03	a fi fo proc	1752	03	fibre crops
1704	03	food	1753	02	fibre prim
1705	03	food prim	1754	03	fibre prod
1706	03	food proc	1755	03	livestock
1707	03	no food	1756	04	live animals
1708	03	no food prim	1757	03	livestock pr
1709	03	no food proc	1758	03	live pr prim
1710	03	agriculture	1759	03	live pr proc
1711	03	agriclt prim	1760	03	animal pr pr
1712	03	agriclt proc	1761	03	meat offals
1713	03	crops	1762	05	meat of prim
1714	02	crops prim	1763	03	meat of proc
1715	03	crops proc	1764	03	meat
1716	03	cereals	1765	05	meat prim
1717	02	cereals prim	1766	03	meat proc
1718	03	cereals proc	1767	03	beef mu pork
1719	03	roots+tubers	1768	05	b mu po prim
1720	02	root+tub pr	1769	03	b mu po proc
1721	07	catt&buf hide	1770	03	offals edibl
1722	03	sugar crops	1771	06	offals prim
1723	02	sugar prim	1772	02	offals proc
1724	03	sugar proc	1773	03	slaughtr fat
1725	03	pulses	1774	06	sl. fat prim
1726	02	pulses prim	1775	03	sl. fat proc
1727	03	olive oil t	1776	03	hides skins
1728	11	pho fert tot	1777	07	hides prim
1729	02	treenut prim	1778	03	hides proc
1730	11	pot fert tot	1779	03	milk
1731	03	oilcrops	1780	08	milk primary
1732	02	oilcrop prim	1781	03	milk procesd
1733	03	oilcrop proc	1782	03	eggs
1734	03	vegetables	1783	09	eggs primary
1735	02	vegetbl prim	1784	03	eggs procesd
1736	03	vegetbl proc	1785	03	veg products
1737	03	fruit	1786	03	an products
1738	02	fruit prim	1787	03	oil and fat
1739	03	fruit proc	1788	03	veg oil fat
1740	03	stimulants	1789	03	ani oil fat
1741	02	stimul prim	1790	03	sugar s hony
1742	03	whmilk,ev+co	1791	03	trnut ex oil
1743	03	spices	1792	03	cer st sugar
1744	02	spices prim	1793	03	tot exc alc
1745	03	cheese(all)	1794	03	alcohol bev
1746	04	cattle&buff	1795	11	crude fertlz
1747	15	beef buf ind	1796	03	off etc prim
1748	15	mut goat ind	1797	03	raw material
1749	04	sheep&goats	1798	03	raw mat prim

1799	03	raw mat proc
1800	02	veget+melons
1801	03	fr ex m prim
1802	03	cereal bran
1803	03	oil cakes
1804	03	citrus prim
1805	11	agr requisit
1806	03	beef buff m.
1807	03	mutton g. m.
1808	03	poultry meat
1809	03	milk dr sk
1810	03	cow b cheese
1811	03	butter ghee
1812	03	skmilk, ev+co
1813	03	fibres silk
1814	02	coarse grain
1815	03	milk p ex bu
1816	03	ev cond milk

FAO AGGREGATES

commodity code	group code	text			
1817	11	nit fert tot	1851	12	crust+moll
1818	11	tot fertiliz	1852	12	oth aq an+pl
1819	03	dry milk	1853	06	ani+fish oil
1820	11	agr machnry	1854	02	tea and sim
1821	12	tot mar fish	1855	02	hops+chicory
1822	12	finfish frfz	1856	03	beer
1823	12	finfish proc	1857	03	oth alc bev
1824	13	f s frozen	1858	03	skimmed milk
1825	13	flt chl fz	1859	02	wood pulp nm
1826	13	shlf f fz cr	1860	02	paper+-board
1827	13	f s cured	1861	02	roundwood
1828	13	f s canned	1862	02	roundwood c
1829	13	f s prep nes	1863	02	roundwood nc
1830	13	fish meal	1864	02	fuelwd+charc
1831	13	fish oil	1865	02	ind roundwd
1832	13	shlf cann pr	1866	02	ind round c
1833	13	fish prod	1867	02	ind round nc
1834	13	fish food	1868	02	sawlog+ven
1835	13	fish nonfood	1869	02	pitprops
1836	13	fish fz w fl	1870	02	pulpwd+part
1837	13	fish cured	1871	02	other ind
1838	13	fish cann pr	1872	02	sawnwood
1839	13	fish total	1873	02	panels
1840	12	total fish	1874	02	fibreboard
1841	03	oilcpr-p.oil	1875	02	wood pulp
1842	02	pul nut olcr	1876	02	paper+bd
1843	02	millet+sorg.	1877	02	forest prod
1844	02	misc cereals	1878	02	pulp for pap
1845	02	misc roots	1879	02	wood+lumber
1846	03	sugar+honey	1880	02	pitp&oth ind
1847	02	orang+tang			
1848	02	other citrus			
1849	02	misc fruits			
1850	05	misc meat			

TRADE YEARBOOK

commodity code	group code	text			
2702	02	agric.pr.tot.	2765	03	wheat+fl, equ
2732	11	crude fertil.	2766	02	rice
2733	11	manuf.fertil.	2768	02	cereals nes
2741	04	bovine cattle	2769	02	orang+tang+c
2742	04	sheep + goats	2770	02	oth citr fru
2743	03	meat fr+ch+fr	2771	02	bananas
2744	03	meat bov fr	2774	02	pulses
2745	03	meat sheep fr	2775	02	sug,tot,r eq
2746	03	meat poult fr	2776	03	coffe gr+roa
2747	06	offals edb fr	2779	03	bran+mill pr
2748	06	meat off fr n	2780	03	oils cake me
2749	03	meat dr salt.	2782	03	oils cake ne
2750	03	meat,dr,nes	2784	03	lard+fat,p+p
2751	03	canned meat n	2785	03	margarine et
2752	03	sausages	2786	03	wine+verm+si
2753	03	meat pre pres	2787	03	beer
2754	03	milk cd+dr+fr	2788	03	groundn tot sh
2755	03	milk cond	2789	02	rape+must seed
2756	03	milk dry	2790	02	natural rubber
2757	03	milk fresh	2791	03	silk
2758	03	butter	2793	03	flax fib+tow+w
2759	03	cheese+curd	2794	02	sisal+oth agav
2760	02	onions	2796	03	anim oil+fat+g
2762	09	eggs in she	2797	03	rape+must oils
2763	03	eggs liqu,dr	2800	03	jute+sim fib
2764	02	cereals	2819	03	olive oil total

PASTURES

commodity code	group code	text
2901	02	cereal hayes
2902	02	past+green hay
2903	02	green fod tot
2904	02	alfalfa
2905	02	guinea grass
2906	02	forag fod
2951	11	phosph to past
2952	11	fert to past

FAP COMMODITIES

Detailed List

commodity code	group code	text
3001	02	wheat+wh.pr.
3002	02	rice
3003	02	coarse grain
3004	02	veget. oil
3005	02	protein feed
3006	02	sugar
3007	24	bov.+ov.meat
3008	24	pork
3009	24	poultry+eggs
3010	24	dairy prod.
3011	02	veget.,roots
3012	02	fruits+nuts
3013	02	fishery pr.
3014	02	coffee
3015	02	cocoa,tea
3016	02	bev.dist.alc.
3017	02	fibres
3018	02	indust.crops
3019	02	non-agr
3020	02	bov.+ov.fats
3021	02	pig fat
3022	02	poultry fat
3023	02	fish oil
3024	02	meat meal
3025	02	fish meal
3026	02	wool,hides
3027	02	pig hides



MACRO DATA

commodity code	group code	text
3101	18	GDP(cur.pr)
3102	18	GDP(cst.pr.)
3103	19	res+exp(cur)
3104	19	res+exp(cst)
3105	20	investment
3106	21	govnt.fin.
3107	22	gvt.cur.exp.
3108	23	gvt.cap.exp.
3109	23	deflat+index
3110	25	fertil.+pest
3111	26	capital(cur)
3112	26	capital(cst)
3113	29	mac.ec.cmea(cur)
3114	29	mac.ec.cmea(cst)
3201	29	net mat.prod(cur)
3202	29	net mat.prod(cst)
3203	29	net res+exp (cur)
3204	29	net res+exp (cst)
3209	29	defl + index

SPECIAL AGGREGATION for Australia and NZ  
Simplified List

commodity code	group code	text
3301	02	wheat S1 (**)
3302	02	rice S2 (**)
3303	02	oth.cerls.S3 (**)
3304	24	bov.meat S4 (**)
3305	24	dairy pr. S5 (**)
3306	24	oth.meat S6 (**)
3307	02	prt.feed S7C (**)
3308	02	oth.food S8C (**)
3309	02	non-food S9C (**)
3310	02	non-agr S10 (**)
3311	12	bov.fat S8L4 (**)
3312	12	oth.fat S8L6 (**)
3313	12	m.meal S7L4 (**)
3314	12	f.meal S7L6 (**)
3315	12	h+h+w S9L4 (**)
3316	12	pig hid.S9L6 (**)
3317	24	ovine meat (**)
3318	12	h+w ov. (**)
3319	12	ov. fat (**)

Detailed List

commodity code	group code	text
3401	02	wheat+wh.pr.(++)
3402	02	rice (++)
3403	02	coarse grain (++)
3404	02	veget. oil (++)
3405	02	protein feed (++)
3406	02	sugar (++)
3407	24	bovine meat (++)
3408	24	pork (++)
3409	24	poultry+eggs (++)
3410	24	dairy prod. (++)
3411	02	veget.,roots (++)
3412	02	fruits+nuts (++)
3413	02	fishery pr. (++)
3414	02	coffee (++)
3415	02	cocoa,tea (++)
3416	02	bev.dist.alc.(++)
3417	02	fibres (++)
3418	02	indust.crops (++)
3419	24	non-agriculture (++)
3420	02	bovine fats (++)
3421	02	pig fat (++)
3422	02	poultry fat (++)
3423	02	fish oil (++)
3424	02	meat meal (++)
3425	02	fish meal (++)
3426	02	hides bov.(++)
3427	02	pig hides (++)
3428	02	ovine meat (++)
3429	02	h+w ovine (++)
3430	02	ovine fat (++)

FAP COMMODITIES  
Simplified List

commodity code	group code	text
3501	02	wheat S1
3502	02	rice S2
3503	02	oth.cerls.S3
3504	24	bov.meat S4
3505	24	dairy pr. S5
3506	24	oth.meat S6
3507	02	prt.feed S7C
3508	02	oth.food S8C
3509	02	non-food S9C
3510	02	non-agr S10
3511	12	bov.fat S8L4
3512	12	oth.fat S8L6
3513	12	m.meal S7L4
3514	12	f.meal S7L6
3515	12	h+h+w S9L4
3516	12	pig hid.S9L6
3601	02	Agriculture
3602	02	Non-Agric.

SPECIAL AGGREGATION for Feed Programs  
Detailed List

commodity code	group code	text
3701	02	wheat+wh.pr.(++)
3702	02	rice (++)
3703	02	coarse grain (++)
3704	02	veget. oil (++)
3705	02	protein feed (++)
3706	02	sugar (++)
3707	24	bovine+ov meat (++)
3708	24	pork (++)
3709	24	poultry+eggs (++)
3710	24	dairy prod. (++)
3711	02	veget.,roots (++)
3412	02	fruits+nuts (++)
3713	02	fishery pr. (++)
3714	02	coffee (++)
3715	02	cocoa,tea (++)
3716	02	bev.dist.alc.(++)
3717	02	fibres (++)
3718	02	indust.crops (++)
3719	24	non-agriculture (++)
3720	02	bovine+ov fats (++)
3721	02	pig fat (++)
3722	02	poultry fat (++)
3723	02	fish oil (++)
3724	02	meat meal (++)
3725	02	fish meal (++)
3726	02	hides bov+ov(++)
3727	02	pig hides (++)
3728	02	potatoes (++)
3729	02	cassava (++)
3730	02	eggs (++)

Simplified List

commodity code	group code	text
3801	02	wheat S1 (**)
3802	02	rice S2 (**)
3803	02	oth.cerls.S3 (**)
3804	24	bov+ov.meat S4 (**)
3805	24	dairy pr. S5 (**)
3806	24	oth.meat S6 (**)
3807	02	prt.feed S7C (**)
3808	02	oth.food S8C (**)
3809	02	non-food S9C (**)
3810	02	non-agr S10 (**)
3811	12	bov+ov.fat S8L4 (**)
3812	12	oth.fat S8L6 (**)
3813	12	m.meal S7L4 (**)
3814	12	f.meal S7L6 (**)
3815	12	h+h+w S9L4 (**)
3816	12	pig hid.S9L6 (**)
3817	24	potatoes (**)
3818	12	cassava (**)
3819	12	eggs (**)

ILO DATA

commodity code	group code	text
4001	27	ilo-popul.
4002	27	ilo-lab. force
4003	27	ilo-act.rates
4004	28	ilo-sect.rates
4005	28	ilo-sect.lab.for

FAO AGGREGATES

commodity code	group code	text
5001	02	wheat
5002	02	rice,paddy
5003	02	maize
5004	02	barley
5005	02	oth. cereals
5006	02	root+tub pr
5007	02	sugar,raw
5008	02	pulses prim.
5009	02	vegetables
5010	02	bananas
5011	02	citrus prim.
5012	02	fruits
5013	02	veg oil+seeds
5014	02	cocoa beans
5015	02	coffee, green
5016	02	tea and sim.
5017	02	tobacco
5018	02	seed cotton
5019	02	jute+sim.
5020	02	nat rubber
5021	05	beef buff m.
5022	05	mutton g. m.
5023	05	pigmeat
5024	05	poultry meat
5025	08	milk primary
5026	09	eggs primary
5501	02	wheat
5502	02	rice
5503	02	coarse grain
5504	02	oilseeds
5506	02	sugar, raw
5507	05	bov.+ov.meat
5508	05	pork
5509	02	fowl+egg(pr)
5510	08	dairy prod.
5511	02	veget.,roots
5512	02	fruits
5513	02	tea
5514	02	seed cotton
5515	02	oth. non-food

**Appendix 2a: Commodities, Elements and Dimensions of the Macro Data.**

commodity	element	dimension	text
1			population
	1	1	total population
	14	1	total labour force
	16	1	agricultural labour force
	17	1	non agricultural labour force
3101		.	GDP at current prices
	1	1	total
	2	1	non agriculture
	3	1	agriculture
3102			GDP at constant 1970 prices
	1	1	total
	2	1	non agriculture
	3	1	agriculture
3103			Resources and Expenditures at current prices
	4	1	private consumption
	5	1	government consumption
	6	1	total resources
	7	1	gross capital formation
	8	1	gross fixed investments
	9	1	stock formation
	12	1	net exports
3104			Resources and Expenditures at constant 1970 prices
	4	1	private consumption
	5	1	government consumption
	6	1	total resources
	7	1	gross capital formation
	8	1	gross fixed investments
	9	1	stock formation
	12	1	net exports
3109			Deflator and Index
	13	1	exchange rate
3110			Fertilizer and pesticides
	1	2	fertilizer consumption
	2	1	nitrogen consumption
	2	3	price of nitrogen
	6	2	intermediate consumption of non.ag
3111			Capital at current prices
	4	1	depreciation
	5	1	agricultural investment

3112			Capital at constant 1970 prices
	1	1	total capital stock
	2	1	non agriculture capital stock
	3	1	agriculture capital stock
	5	1	agricultural investment
3113			Macro Economic CMEA at current prices
	1	1	total
	3	1	agriculture
	4	1	total consumption
	7	1	net capital formation
	8	1	net fix investment
	9	1	stock formation
	10	1	exports
	11	1	imports
	12	1	net exports
	13	1	exchange rate (NC/Rb)
3114			Macro Economic CMEA at constant prices
	1		total
	3		agriculture
	4		total consumption

**Appendix 2b: Commodities from FAP**

FAP Commodities  
Detailed List

commodity code	group code	text
3001	02	wheat+wh.pr.
3002	02	rice
3003	02	coarse grain
3004	02	veget. oil
3005	02	protein feed
3006	02	sugar
3007	24	bov.+ov.meat
3008	24	pork
3009	24	poultry+eggs
3010	24	dairy prod.
3011	02	veget.,roots
3012	02	fruits+nuts
3013	02	fishery pr.
3014	02	coffee
3015	02	cocoa,tea
3016	02	bev.dist.alc.
3017	02	fibres
3018	02	indust.crops
3019	02	non-agr
3020	02	bov.+ov.fats
3021	02	pig fat
3022	02	poultry fat
3023	02	fish oil
3024	02	meat meal
3025	02	fish meal
3026	02	wool,hides
3027	02	pig hides

MACRO DATA

commodity code	group code	text
3101	18	GDP(cur.pr)
3102	18	GDP(cst.pr.)
3103	19	res+exp(cur)
3104	19	res+exp(cst)
3105	20	investment
3106	21	govnt.fin.
3107	22	gvt.cur.exp.
3108	23	gvt.cap.exp.
3109	23	deflat+index
3110	25	fertil.+pest
3111	26	capital(cur)
3112	26	capital(cst)
3113	29	mac.ec.cmea(cur)
3114	29	mac.ec.cmea(cst)
3201	29	net mat.prod(cur)
3202	29	net mat.prod(cst)
3203	29	net res+exp (cur)
3204	29	net res+exp (cst)
3209	29	defl + index

SPECIAL AGGREGATION for Australia and NZ  
Simplified List

commodity code	group code	text
3301	02	wheat S1 (**)
3302	02	rice S2 (**)
3303	02	oth.cerls.S3 (**)
3304	24	bov.meat S4 (**)
3305	24	dairy pr. S5 (**)
3306	24	oth.meat S6 (**)
3307	02	prt.feed S7C (**)
3308	02	oth.food S8C (**)
3309	02	non-food S9C (**)
3310	02	non-agr S10 (**)
3311	12	bov.fat S8L4 (**)
3312	12	oth.fat S8L6 (**)
3313	12	m.meal S7L4 (**)
3314	12	f.meal S7L6 (**)
3315	12	h+h+w S9L4 (**)
3316	12	pig hid.S9L6 (**)
3317	24	ovine meat (**)
3318	12	h+w ov. (**)
3319	12	ov. fat (**)

Detailed List

commodity code	group code	text
3401	02	wheat+wh.pr.(++)
3402	02	rice (++)
3403	02	coarse grain (++)
3404	02	veget. oil (++)
3405	02	protein feed (++)
3406	02	sugar (++)
3407	24	bovine meat (++)
3408	24	pork (++)
3409	24	poultry+eggs (++)
3410	24	dairy prod. (++)
3411	02	veget.,roots (++)
3412	02	fruits+nuts (++)
3413	02	fishery pr. (++)
3414	02	coffee (++)
3415	02	cocoa,tea (++)
3416	02	bev.dist.alc.(++)
3417	02	fibres (++)
3418	02	indust.crops (++)
3419	24	non-agriculture (++)
3420	02	bovine fats (++)
3421	02	pig fat (++)
3422	02	poultry fat (++)
3423	02	fish oil (++)
3424	02	meat meal (++)
3425	02	fish meal (++)
3426	02	hides bov.(++)
3427	02	pig hides (++)
3428	02	ovine meat (++)
3429	02	h+w ovine (++)
3430	02	ovine fat (++)



FAP Commodities  
Simplified List

commodity code	group code	text
3501	02	wheat S1
3502	02	rice S2
3503	02	oth.cerls.S3
3504	24	bov.meat S4
3505	24	dairy pr. S5
3506	24	oth.meat S6
3507	02	prt.feed S7C
3508	02	oth.food S8C
3509	02	non-food S9C
3510	02	non-agr S10
3511	12	bov.fat S8L4
3512	12	oth.fat S8L6
3513	12	m.meal S7L4
3514	12	f.meal S7L6
3515	12	h+h+w S9L4
3516	12	pig hid.S9L6
3601	02	Agriculture
3602	02	Non-Agric.

SPECIAL AGGREGATION for Feed Programs  
Detailed List

commodity code	group code	text
3701	02	wheat+wh.pr.(++)
3702	02	rice (++)
3703	02	coarse grain (++)
3704	02	veget. oil (++)
3705	02	protein feed (++)
3706	02	sugar (++)
3707	24	bovine+ov meat (++)
3708	24	pork (++)
3709	24	poultry+eggs (++)
3710	24	dairy prod. (++)
3711	02	veget.,roots (++)
3412	02	fruits+nuts (++)
3713	02	fishery pr. (++)
3714	02	coffee (++)
3715	02	cocoa,tea (++)
3716	02	bev.dist.alc.(++)
3717	02	fibres (++)
3718	02	indust.crops (++)
3719	24	non-agriculture (++)
3720	02	bovine+ov fats (++)
3721	02	pig fat (++)
3722	02	poultry fat (++)
3723	02	fish oil (++)
3724	02	meat meal (++)
3725	02	fish meal (++)
3726	02	hides bov+ov(++)
3727	02	pig hides (++)
3728	02	potatoes (++)
3729	02	cassava (++)
3730	02	eggs (++)

Simplified List

commodity code	group code	text
3801	02	wheat S1 (**)
3802	02	rice S2 (**)
3803	02	oth.cerls.S3 (**)
3804	24	bov+ov.meat S4 (**)
3805	24	dairy pr. S5 (**)
3806	24	oth.meat S6 (**)
3807	02	prt.feed S7C (**)
3808	02	oth.food S8C (**)
3809	02	non-food S9C (**)
3810	02	non-agr S10 (**)
3811	12	bov+ov.fat S8L4 (**)
3812	12	oth.fat S8L6 (**)
3813	12	m.meal S7L4 (**)
3814	12	f.meal S7L6 (**)
3815	12	h+h+w S9L4 (**)
3816	12	pig hid.S9L6 (**)
3817	24	potatoes (**)
3818	12	cassava (**)
3819	12	eggs (**)

ILO DATA

commodity code	group code	text
4001	27	ilo-popul.
4002	27	ilo-lab. force
4003	27	ilo-act.rates
4004	28	ilo-sect.rates
4005	28	ilo-sect.lab.for

**Appendix 3: Elements and Dimensions for FAO Commodities**

commodity group	element code	text	dimension code		
			1	2	3
1	1	total	1000		
1	2	*****	****		
1	3	*****	****		
1	4	*****	****		
1	5	rural	1000		
1	6	urban	1000		
1	7	agriculture	1000		
1	8	non agric	1000		
1	9	labor force	1000		
1	10	agriclabforc	1000		
1	11	nonagrlabfor	1000		
1	12	*****	****		
1	13	*****	****		
1	14	agpop/tpop	000001		
1	15	rural/tpop	000001		
1	16	totlab/tpop	000001		
1	17	aglab/totlab	000001		
2	1	op stocks	mt	1000 \$	
2	2	area sown	ha		
2	3	area harv	ha		
2	4	yield	*kg/ha		
2	5	production	mt	1000 \$	
2	6	imports	mt	1000 \$	\$/mt
2	7	from stocks	mt	1000 \$	
2	8	to stocks	mt	1000 \$	
2	9	exports	mt	1000 \$	\$/mt
2	10	feed	mt	1000 \$	
2	11	seed	mt	1000 \$	
2	12	waste	mt	1000 \$	
2	13	processed	mt	1000 \$	
2	14	food	mt	1000 \$	
2	15	other util	mt	1000 \$	
2	16	cl stocks	mt	1000 \$	
2	17	seed rate	kg/ha		
3	1	op stocks	mt		
3	2	** not used			
3	3	input	mt		
3	4	extr rate	kg/mt		
3	5	production	mt	thous.	
3	6	imports	mt	1000 \$	\$/mt
3	7	from stocks	mt		
3	8	to stocks	mt		
3	9	exports	mt	1000 \$	\$/mt
3	10	feed	mt		
3	11	seed	mt		
3	12	waste	mt		
3	13	processed	mt		
3	14	food	mt		
3	15	other util	mt		

3	16	cl stocks	mt			
3	17	seed rate	kg/ha			
4	1	stocks	head	number		
4	2	fem repr age	head			
4	3	fem act repr	head			
4	4	birth rate	.0001			
4	5	born	head	1000 \$		
4	6	imports	head	1000 \$	\$/mt	
4	7	from stocks	head	1000 \$		
4	8	to stocks	head	1000 \$		
4	9	exports	head	1000 \$	\$/mt	
4	10	feed	head	1000 \$		
4	11	** not used				
4	12	nat death	head	1000 \$		
4	13	slaughtered	head	1000 \$		
4	14	food	head	1000 \$		
4	15	other util	head	1000 \$		
4	16	cl stocks	head	1000 \$		
4	17	take off rat	.001			
5	1	op stocks	mt			
5	2	** not used				
5	3	slaughtered	head			
5	4	carcass wt	*kg/an			
5	5	production	mt			
5	6	imports	mt	1000 \$	\$/mt	
5	7	from stocks	mt			
5	8	to stocks	mt			
5	9	exports	mt	1000 \$	\$/mt	
5	10	feed	mt			
5	11	** not used				
5	12	waste	mt			
5	13	processed	mt			
5	14	food	mt			
5	15	other util	mt			
5	16	cl stocks	mt			
5	17	** not used				
6	1	op stocks	mt			
6	2	** not used				
6	3	slaughtered	head			
6	4	f/c yield	kg			
6	5	production	mt			
6	6	imports	mt	1000 \$	\$/mt	
6	7	from stocks	mt			
6	8	to stocks	mt			
6	9	exports	mt	1000 \$	\$/mt	
6	10	feed	mt			
6	11	** not used				
6	12	waste	mt			
6	13	processed	mt			
6	14	food	mt			
6	15	other util	mt			
6	16	cl stocks	mt			
6	17	of carc wt				
7	1	op stocks	mt			

7	2	** not used				
7	3	slaughtered	head			
7	4	yield	*kg/an			
7	5	production	mt	thous.		
7	6	imports	mt	1000 \$		\$/mt
7	7	from stocks	mt			
7	8	to stocks	mt			
7	9	exports	mt	1000 \$		\$/mt
7	10	feed	mt	1000 \$		
7	11	** not used				
7	12	waste	mt	1000 \$		
7	13	processed	mt	1000 \$		
7	14	food	mt	thous.		
7	15	other util	mt	1000 \$		
7	16	cl stocks	mt	1000 \$		
7	17	wt per piece	kg	1000 \$		
8	1	op stocks	mt			
8	2	cows	head			
8	3	milk animals	head			
8	4	yield	*kg/an			
8	5	production	mt			
8	6	import	mt	1000 \$		\$/mt
8	7	from stocks	mt			
8	8	to stocks	mt			
8	9	exports	mt	1000 \$		\$/mt
8	10	feed	mt			
8	11	** not used				
8	12	waste	mt			
8	13	processed	mt			
8	14	food	mt			
8	15	other util	mt			
8	16	cl stocks	mt			
8	17	** not used				
9	1	op stocks	mt			
9	2	population	head			
9	3	laying	head			
9	4	yield	kg			
9	5	production	mt			
9	6	imports	mt	1000 \$		\$/mt
9	7	from stocks	mt			
9	8	to stocks	mt			
9	9	exports	mt	1000 \$		\$/mt
9	10	feed	mt			
9	11	for hatching	mt			
9	12	waste	mt			
9	13	processed	mt			
9	14	food	mt			
9	15	other util	mt			
9	16	cl stocks	mt			
9	17	wt per egg	gram			
10	1	op stocks	mt	mt		
10	2	population	head	number		
10	3	prod populin	head	number		
10	4	yield	kg	kg		

10	5	production	mt	thous.	
10	6	imports	mt	1000 \$	\$/mt
10	7	from stocks	mt	1000 \$	
10	8	to stocks	mt	1000 \$	
10	9	exports	mt	1000 \$	\$/mt
10	10	feed	mt	1000 \$	
10	11	** not used			
10	12	waste	mt	1000 \$	
10	13	processed	mt	1000 \$	
10	14	food	mt	1000 \$	
10	15	other util	mt	1000 \$	
10	16	cl stocks	mt	1000 \$	
10	17	** not used			
11	1	in use	mt	number	
11	2	** not used			
11	3	capacity prd	mt		
11	4	use	kg/ha		
11	5	production	mt	number	
11	6	imports	mt	number	
11	7	from stocks	mt	number	
11	8	to stocks	mt	number	
11	9	exports	mt	number	
11	10	feed	mt	number	
11	11	** not used			
11	12	loss	mt	number	
11	13	** not used			
11	14	food	mt	number	
11	15	consumption	mt	number	100 kg
11	16	cl stocks	mt	number	
11	17	** not used			
12	1	** not used			
12	2	** not used			
12	3	** not used			
12	4	** not used			
12	5	production	mt		
12	6	imports	mt	1000 \$	\$/mt
12	7	from stocks	mt		
12	8	to stocks	mt		
12	9	exports	mt	1000 \$	\$/mt
12	10	feed	mt		
12	11	breed/bait	mt		
12	12	waste	mt		
12	13	processing	mt		
12	14	food	mt		
12	15	other util	mt		
12	16	** not used			
12	17	** not used			
13	1	op stocks	mt		
13	2	** not used			
13	3	input	mt		
13	4	extr rate	hg/mt		
13	5	output	mt		
13	6	imports	mt	1000 \$	\$/mt
13	7	from stocks	mt		

13	8	to stocks	mt		
13	9	exports	mt	1000 \$	\$/mt
13	10	feed	mt		
13	11	baiting	mt		
13	12	waste	mt		
13	13	processing	mt		
13	14	food	mt		
13	15	other util	mt		
13	16	cl stocks	mt		
13	17	** not used			
14	1	pv cons expn			
14	2	gv cons expn			
14	3	grs cap form			
14	4	exports g+s			
14	5	imports g+s			
14	6	stat discr +			
14	7	stat discr -			
14	8	ind tax-subs			
14	9	gdp fc agr			
14	10	gdp fc min			
14	11	gdp fc man			
14	12	gdp fc oth			
14	13	gdp fc uns			
14	14	n f income +			
14	15	n f income -			
14	16	depreciation			
14	17	curr change			
15	1	** not used			
15	2	** not used			
15	3	production	head		
15	4	carcass wt	*kg/an		
15	5	production	mt		
15	6	** not used			
15	7	** not used			
15	8	** not used			
15	9	** not used			
15	10	** not used			
15	11	** not used			
15	12	** not used			
15	13	** not used			
15	14	** not used			
15	15	** not used			
15	16	** not used			
15	17	** not used			
16	1	** not used			
16	2	** not used			
16	3	production	head		
16	4	live weight	*kg/an		
16	5	production	mt		
16	6	** not used			
16	7	** not used			
16	8	** not used			
16	9	** not used			
16	10	oth ar land	1000ha		

16	11	pastur culiv	1000ha
16	12	pastur unclt	1000ha
16	13	forest grazd	1000ha
16	14	unused land	1000ha
16	15	built area	1000ha
16	16	** not used	
16	17	** not used	
17	1	total area	1000ha
17	2	inland water	1000ha
17	3	land area	1000ha
17	4	agr/land	
17	5	agric area	1000ha
17	6	arab&perm cr	1000ha
17	7	arable land	1000ha
17	8	temp crops	1000ha
17	9	tem meadow	1000ha
17	10	gardens	1000ha
17	11	tem fallow	1000ha
17	12	perm crops	1000ha
17	13	perm pasture	1000ha
17	14	forest&woodl	1000ha
17	15	other land	1000ha
17	16	pot for agr	1000ha
17	17	pot for for	1000ha
18	1	GDP(mkt.pr.)	mill.
18	2	GNP(mkt.pr.)	mill.
18	3	agriculture	mill.
18	4	mining	mill.
18	5	construct.	mill.
18	6	manufact.	mill.
18	7	el.,wat.,gas	mill.
18	8	transp.,comm	mill.
18	9	trade	mill.
18	10	bank.,assur.	mill.
18	11	housing	mill.
18	12	services	mill.
18	13	publ.admin.	mill.
18	14	oth.branches	mill.
18	15	stat.discrep	mill.
18	16	GDP(fct.cst)	mill.
18	17	net ind.tax.	mill.
19	1	GDP(mkt.pr.)	mill.
19	2	n.fct.inc.ab	mill.
19	3	GNP(mkt.pr.)	mill.
19	4	priv.consum.	mill.
19	5	gvnt.consum.	mill.
19	6	tot.resourc.	mill.
19	7	gr.cap.form.	mill.
19	8	gr.fix.invst	mill.
19	9	stock form.	mill.
19	10	exports	mill.
19	11	imports	mill.
19	12	net exports	mill.
19	13	stat.discrep	mill.



19	14	gr.nat.sav.	mill.
19	15	gr.dom.sav.	mill.
19	16	gr.pub.sav.	mill.
19	17	gr.priv.sav.	mill.
20	1	private	mill.
20	2	public	mill.
20	3	for constr.	mill.
20	4	for building	mill.
20	5	for machin.	mill.
20	6	by agricult.	mill.
20	7	by mining	mill.
20	8	by manufact.	mill.
20	9	by constr.	mill.
20	10	by el.,w.,g.	mill.
20	11	by trsp.,com	mill.
20	12	by trade	mill.
20	13	by bank.,ass	mill.
20	14	by housing	mill.
20	15	by services	mill.
20	16	by publ.adm.	mill.
20	17	by oth.brch.	mill.
21	1	tot.revenue	mill.
21	2	curr.expend.	mill.
21	3	cap.expend.	mill.
21	4	curr.surplus	mill.
21	5	overall supl	mill.
21	6	** not used	mill.
21	7	** not used	mill.
21	8	** not used	mill.
21	9	** not used	mill.
21	10	** not used	mill.
21	11	** not used	mill.
21	12	** not used	mill.
21	13	** not used	mill.
21	14	** not used	mill.
21	15	** not used	mill.
21	16	** not used	mill.
21	17	** not used	mill.
22	1	total	mill.
22	2	agriculture	mill.
22	3	education	mill.
22	4	health	mill.
22	5	transport	mill.
22	6	communicat.	mill.
22	7	trsf.loc.gvt	mill.
22	8	subs.+transf	mill.
22	9	int.on debt	mill.
22	10	defense	mill.
22	11	other expend	mill.
22	12	** not used	mill.
22	13	** not used	mill.
22	14	** not used	mill.
22	15	** not used	mill.
22	16	** not used	mill.

22	17	** not used	mill.	
23	1	total	mill.	
23	2	agriculture	mill.	
23	3	education	mill.	
23	4	health	mill.	
23	5	transport	mill.	
23	6	communicat.	mill.	
23	7	industry	mill.	
23	8	housing	mill.	
23	9	lending	mill.	
23	10	others	mill.	
23	11	** not used	mill.	
23	12	** not used	mill.	
23	13	exch.rate	nc/\$	EUR/nc
23	14	GDP deflator		
23	15	whs pr.index		
23	16	ret.pr.index		
23	17	** not used	mill.	

**Appendix 3a: Elements and Dimensions for FAP Commodities**

commodity group	element code	text	dimension codes		
			1	2	3
1	1	total	1000		
1	2	female	1000		
1	3	females ma	1000		
1	4	birth rate	.0001		
1	5	born	1000		
1	6	immigration	1000		
1	7	** not used			
1	8	** not used			
1	9	emigration	1000		
1	10	rural total	1000		
1	11	urban total	1000		
1	12	agriculture			
1	13	agriculture	1000		
1	14	labforce tot	1000		
1	15	labforce rat	.0001		
1	16	labf. agr.	1000		
1	17	labf. non ag	1000		
2	1	op stocks	1000 \$	mt	
2	2	area sown	ha		
2	3	area harv	ha		
2	4	yield	* \$/ha	*kg/ha	
2	5	production	1000 \$	mt	unit.p
2	6	imports	1000 \$	mt	
2	7	from stocks	1000 \$	mt	
2	8	to stocks	1000 \$	mt	
2	9	exports	1000 \$	mt	unit.p
2	10	feed	1000 \$	mt	unit.p
2	11	seed	1000 \$	mt	
2	12	waste	1000 \$	mt	
2	13	unit price			
2	14	food	1000 \$	mt	
2	15	other util	1000 \$	mt	
2	16	** not used			
2	17	process.634	mt		
3	1	op stocks	1000 \$	mt	
3	2	** not used			
3	3	input	1000 \$	mt	
3	4	extr rate	kg/mt		
3	5	production	1000 \$	mt	unit.p
3	6	imports	1000 \$	mt	
3	7	from stocks	1000 \$	mt	
3	8	to stocks	1000 \$	mt	
3	9	exports	1000 \$	mt	unit.p
3	10	feed	1000 \$	mt	unit.p
3	11	seed	1000 \$	mt	
3	12	waste	1000 \$	mt	
3	13	processed	1000 \$	mt	
3	14	food	1000 \$	mt	

3	15	other util	1000 \$	mt	mt
3	16	cl stocks	1000 \$	mt	
3	17	process.834	mt		
4	1	stocks	head	number	
4	2	fem repr age	head		
4	3	fem act repr	head		
4	4	birth rate	.0001		
4	5	born	head	1000 \$	
4	6	imports	head	1000 \$	
4	7	from stocks	head	1000 \$	
4	8	to stocks	head	1000 \$	
4	9	exports	head	1000 \$	
4	10	feed	head	1000 \$	
4	11	** not used			
4	12	nat death	head	1000 \$	
4	13	slaughtered	head	1000 \$	
4	14	food	head	1000 \$	
4	15	other util	head	1000 \$	
4	16	cl stocks	head	1000 \$	
4	17	take off rat	.001		
5	1	op stocks	1000 \$	mt	
5	2	** not used			
5	3	slaughtered	head		
5	4	yield	*\$/an	*kg/an	
5	5	production	1000 \$	mt	unit.p
5	6	imports	1000 \$	mt	
5	7	from stocks	1000 \$	mt	
5	8	to stocks	1000 \$	mt	
5	9	exports	1000 \$	mt	unit.p
5	10	feed	1000 \$	mt	
5	11	** not used			
5	12	waste	1000 \$	mt	
5	13	processed	1000 \$	mt	
5	14	food	1000 \$	mt	
5	15	other util	1000 \$	mt	
5	16	cl stocks	1000 \$	mt	
5	17	** not used			
6	1	op stocks	1000 \$	mt	
6	2	** not used			
6	3	slaughtered	head		
6	4	f/c yield	hc	hg	
6	5	production	1000 \$	mt	unit.p
6	6	imports	1000 \$	mt	
6	7	from stocks	1000 \$	mt	
6	8	to stocks	1000 \$	mt	
6	9	exports	1000 \$	mt	unit.p
6	10	feed	1000 \$	mt	
6	11	** not used			
6	12	waste	1000 \$	mt	
6	13	processed	1000 \$	mt	
6	14	food	1000 \$	mt	
6	15	other util	1000 \$	mt	
6	16	cl stocks	1000 \$	mt	
6	17	of caro wt			

7	1	op stocks	1000 \$	mt	
7	2	** not used			
7	3	slaughtered	head		
7	4	yield	*\$/an	*kg/an	
7	5	production	1000 \$	mt	unit.p
7	6	imports	1000 \$	mt	
7	7	from stocks	1000 \$	mt	
7	8	to stocks	1000 \$	mt	
7	9	exports	1000 \$	mt	unit.p
7	10	feed	1000 \$	mt	
7	11	** not used			
7	12	waste	1000 \$	mt	
7	13	processed	1000 \$	mt	
7	14	food	1000 \$	mt	
7	15	other util	1000 \$	mt	
7	16	cl stocks	1000 \$	mt	
7	17	wt per piece	hg	1000 \$	
8	1	op stocks	1000 \$	mt	
8	2	cows	head		
8	3	milk animals	head		
8	4	yield	*\$/an	*kg/an	
8	5	production	1000 \$	mt	unit.p
8	6	import	1000 \$	mt	
8	7	from stocks	1000 \$	mt	
8	8	to stocks	1000 \$	mt	
8	9	exports	1000 \$	mt	unit.p
8	10	feed	1000 \$	mt	
8	11	** not used			
8	12	waste	1000 \$	mt	
8	13	processed	1000 \$	mt	
8	14	food	1000 \$	mt	
8	15	other util	1000 \$	mt	
8	16	cl stocks	1000 \$	mt	
8	17	** not used			
9	1	op stocks	1000 \$	mt	
9	2	population	head		
9	3	laying	head		
9	4	yield	hc	hg	
9	5	production	1000 \$	mt	unit.p
9	6	imports	1000 \$	mt	
9	7	from stocks	1000 \$	mt	
9	8	to stocks	1000 \$	mt	
9	9	exports	1000 \$	mt	unit.p
9	10	feed	1000 \$	mt	
9	11	for hatching	1000 \$	mt	
9	12	waste	1000 \$	mt	
9	13	processed	1000 \$	mt	
9	14	food	1000 \$	mt	
9	15	other util	1000 \$	mt	
9	16	cl stocks	1000 \$	mt	
9	17	wt per egg	gram		
10	1	op stocks	1000 \$	mt	
10	2	population	head	number	
10	3	prod populin	head	number	

10	4	yield	hc			
10	5	production	1000 \$	mt	unit.p	
10	6	imports	1000 \$	mt		
10	7	from stocks	1000 \$	mt		
10	8	to stocks	1000 \$	mt		
10	9	exports	1000 \$	mt	unit.p	
10	10	feed	1000 \$	mt		
10	11	** not used				
10	12	waste	1000 \$	mt		
10	13	processed	1000 \$	mt		
10	14	food	1000 \$	mt		
10	15	other util	1000 \$	mt		
10	16	cl stocks	1000 \$	mt		
10	17	** not used				
11	1	in use	number			
11	2	** not used				
11	3	capacity prd	1000 \$	mt		
11	4	use	kg/ha			
11	5	production	number			
11	6	imports	number			
11	7	from stocks	number			
11	8	to stocks	number			
11	9	exports	number			
11	10	feed	number			
11	11	** not used				
11	12	loss	number			
11	13	** not used				
11	14	food	1000 \$	mt		
11	15	consumption	1000 \$	mt		
11	16	cl stocks	1000 \$	mt		
11	17	** not used				
12	1	** not used				
12	2	** not used				
12	3	prim.prod.	1000 \$	mt		
12	4	yield	*\$/mt			
12	5	production	1000 \$	mt	unit.p	
12	6	imports	1000 \$	mt		
12	7	from stocks	1000 \$	mt		
12	8	to stocks	1000 \$	mt		
12	9	exports	1000 \$	mt	unit.p	
12	10	feed	1000 \$	mt	unit.p	
12	11	breed/bait	1000 \$	mt		
12	12	waste	1000 \$	mt		
12	13	processing				
12	14	food	1000 \$	mt		
12	15	other util	1000 \$	mt		
12	16	** not used				
12	17	** not used				
13	1	op stocks	1000 \$	mt		
13	2	** not used				
13	3	input	1000 \$	mt		
13	4	extr rate	10**-4	10**-4		
13	5	output	1000 \$	mt		
13	6	imports	1000 \$	mt		

13	7	from stocks	1000 \$	mt	
13	8	to stocks	1000 \$	mt	
13	9	exports	1000 \$	mt	unit.p
13	10	feed	1000 \$	mt	
13	11	baiting	1000 \$	mt	
13	12	waste	1000 \$	mt	
13	13	processing	1000 \$	mt	
13	14	food	1000 \$	mt	
13	15	other util	1000 \$	mt	
13	16	cl stocks	1000 \$	mt	
13	17	** not used			
14	1	pv cons expn			
14	2	gv cons expn			
14	3	grs cap form			
14	4	exports g+s			
14	5	imports g+s			
14	6	stat discr +			
14	7	stat discr -			
14	8	ind tax-subs			
14	9	gdp fc agr			
14	10	gdp fc min			
14	11	gdp fc man			
14	12	gdp fc oth			
14	13	gdp fc uns			
14	14	n f income +			
14	15	n f income -			
14	16	depreciation			
14	17	curr change			
15	1	** not used			
15	2	** not used			
15	3	production	head		
15	4	carcass wt	* \$/an	*kg/an	
15	5	production	1000 \$	mt	
15	6	** not used			
15	7	** not used			
15	8	** not used			
15	9	** not used			
15	10	** not used			
15	11	** not used			
15	12	** not used			
15	13	** not used			
15	14	** not used			
15	15	** not used			
15	16	** not used			
15	17	** not used			
16	1	** not used			
16	2	** not used			
16	3	production	head		
16	4	live weight	* \$/an	*kg/an	
16	5	production	1000 \$	mt	
16	6	** not used			
16	7	** not used			
16	8	** not used			
16	9	** not used			

16	10	oth ar land	1000ha
16	11	pastur culiv	1000ha
16	12	pastur unclt	1000ha
16	13	forest grazd	1000ha
16	14	unused land	1000ha
16	15	built area	1000ha
16	16	** not used	
16	17	** not used	
17	1	total area	1000ha
17	2	inland water	1000ha
17	3	land area	1000ha
17	4	agr/land	
17	5	agric area	1000ha
17	6	arab&perm cr	1000ha
17	7	arable land	1000ha
17	8	temp crops	1000ha
17	9	tem meadow	1000ha
17	10	gardens	1000ha
17	11	tem fallow	1000ha
17	12	perm crops	1000ha
17	13	perm pasture	1000ha
17	14	forest&woodl	1000ha
17	15	other land	1000ha
17	16	pot for agr	1000ha
17	17	pot for for	1000ha
18	1	GDP(mkt.pr.)	mill.
18	2	GNP(mkt.pr.)	mill.
18	3	agriculture	mill.
18	4	mining	mill.
18	5	construct.	mill.
18	6	manufact.	mill.
18	7	el.,wat.,gas	mill.
18	8	transp.,comm	mill.
18	9	trade	mill.
18	10	bank.,assur.	mill.
18	11	housing	mill.
18	12	services	mill.
18	13	publ.admin.	mill.
18	14	oth.branches	mill.
18	15	cons.fix.cap	mill.
18	16	GDP(fct.est)	mill.
18	17	net ind.tax.	mill.
19	1	GDP(mkt.pr.)	mill.
19	2	n.fct.inc.ab	mill.
19	3	GNP(mkt.pr.)	mill.
19	4	priv.consum.	mill.
19	5	gvnt.consum.	mill.
19	6	tot.resourc.	mill.
19	7	gr.cap.form.	mill.
19	8	gr.fix.invst	mill.
19	9	stock form.	mill.
19	10	exports	mill.
19	11	imports	mill.
19	12	net exports	mill.



19	13	stat.discrep	mill.
19	14	gr.nat.sav.	mill.
19	15	gr.dom.sav.	mill.
19	16	gr.pub.sav.	mill.
19	17	gr.priv.sav.	mill.
20	1	private	mill.
20	2	public	mill.
20	3	for constr.	mill.
20	4	for building	mill.
20	5	for machin.	mill.
20	6	by agricult.	mill.
20	7	by mining	mill.
20	8	by manufact.	mill.
20	9	by constr.	mill.
20	10	by el.,w.,g.	mill.
20	11	by trsp.,com	mill.
20	12	by trade	mill.
20	13	by bank.,ass	mill.
20	14	by housing	mill.
20	15	by services	mill.
20	16	by publ.adm.	mill.
20	17	by oth.brch.	mill.
21	1	tot.revenue	mill.
21	2	curr.expend.	mill.
21	3	cap.expend.	mill.
21	4	curr.surplus	mill.
21	5	overall supl	mill.
21	6	** not used	mill.
21	7	** not used	mill.
21	8	** not used	mill.
21	9	** not used	mill.
21	10	** not used	mill.
21	11	** not used	mill.
21	12	** not used	mill.
21	13	** not used	mill.
21	14	** not used	mill.
21	15	** not used	mill.
21	16	** not used	mill.
21	17	** not used	mill.
22	1	total	mill.
22	2	agriculture	mill.
22	3	education	mill.
22	4	health	mill.
22	5	transport	mill.
22	6	communicat.	mill.
22	7	trsf.loc.gvt	mill.
22	8	subs.+transf	mill.
22	9	int.on debt	mill.
22	10	defense	mill.
22	11	other expend	mill.
22	12	** not used	mill.
22	13	** not used	mill.
22	14	** not used	mill.
22	15	** not used	mill.

22	16	** not used	mill.			
22	17	** not used	mill.			
23	1	total	mill.			
23	2	agriculture	mill.			
23	3	education	mill.			
23	4	health	mill.			
23	5	transport	mill.			
23	6	communicat.	mill.			
23	7	industry	mill.			
23	8	housing	mill.			
23	9	lending	mill.			
23	10	others	mill.			
23	11	** not used	mill.			
23	12	** not used	mill.			
23	13	exch.rate	nc/\$	EUR/nc		
23	14	GDP deflator				
23	15	whs pr.index				
23	16	ret.pr.index				
23	17	** not used	mill.			
24	1	stocks	number			
24	2	** not used				
24	3	milking anim	head			
24	4	yield	* \$/an	*kg/an		
24	5	production	1000 \$	mt	unit.p	
24	6	imports	1000 \$	mt		
24	7	from stocks	1000 \$	mt		
24	8	to stocks	1000 \$	mt		
24	9	exports	1000 \$	mt	unit.p	
24	10	feed	1000 \$	mt	unit.p	
24	11	breed/bait	1000 \$	mt		
24	12	waste	1000 \$	mt		
24	13	unit price				
24	14	food	1000 \$	mt		
24	15	other util.	1000 \$	mt		
24	16	** not used				
24	17	** not used				
25	1	fertilizer	mt	1000nc	unit.p	
25	2	nitrogen	mt	1000nc	unit.p	
25	3	phosphate	mt	1000nc	unit.p	
25	4	potash	mt	1000nc	unit.p	
25	5	N+K2O+P2O5.	mt	1000nc	unit.p	
25	6	intm.cons.na	mt	1000nc	unit.p	
25	7	** not used				
25	8	** not used				
25	9	** not used				
25	10	** not used				
25	11	** not used				
25	12	** not used				
25	13	** not used				
25	14	** not used				
25	15	** not used				
25	16	** not used				
25	17	** not used				
26	1	cap.stock	mill.			

26	2	agr.capital	mill.		
26	3	nag.capital	mill.		
26	4	depreciation	mill.		
26	5	agr.investm.	mill.		
26	6	nag.investm.	mill.		
26	7	agr.deprec.	mill.	.0001	
26	8	nag.deprec.	mill.	.0001	
26	9	total.deprec	mill.	.0001	
28	10	** not used	mill.		
26	11	** not used	mill.		
26	12	** not used	mill.		
26	13	** not used	mill.		
26	14	** not used	mill.		
26	15	** not used			
26	16	** not used			
26	17	** not used			
27	1	0- 9 years	male	female	total
27	2	10-14 years	male	female	total
27	3	15-19 years	male	female	total
27	4	20-24 years	male	female	total
27	5	25-44 years	male	female	total
27	6	35-54 years	male	female	total
27	7	55-64 years	male	female	total
27	8	65+years	male	female	total
27	9	all	male	female	total
27	10	** not used			
27	11	** not used			
27	12	** not used			
27	13	** not used			
27	14	** not used			
27	15	** not used			
27	16	** not used			
27	17	** not used			
28	1	agriculture	male	female	total
28	2	industry	male	female	total
28	3	services	male	female	total
28	4	** not used			
28	5	** not used			
28	6	** not used			
28	7	** not used			
28	8	** not used			
28	9	** not used			
28	10	** not used			
28	11	** not used			
28	12	** not used			
28	13	** not used			
28	14	** not used			
28	15	** not used			
28	16	** not used			
28	17	** not used			
29	1	total	mill.		
29	2	** not used			
29	3	agriculture	mill.		
29	4	total cons.	mill.		

29	5	** not used	mill.
29	6	** not used	
29	7	net cap.for	mill.
29	8	net fix inv	mill.
29	9	stock form.	mill.
29	10	exports	mill.
29	11	imports	mill.
29	12	net exports	mill.
29	13	exch.rate	nc/rb
29	14	** not used	
29	15	** not used	
29	16	** not used	
29	17	** not used	

#### Appendix 4: Abbreviations of Full Listing (SUPUTA)

Each block of data enclosed in '...\*\*\*\*\*...' refers to one commodity of one country.

First line:        nn1 nn2 nn3 text1 text2  
                  nn1: not relevant code  
                  nn2: country code  
                  nn3: commodity code  
                  text1: country text  
                  text2: commodity text

#### Time series:

line 1: years 1961 to 1968 (or 65 to 72, or 66 to 73)  
line 2: years 1969 to 1976 (or 73 to 80, or 74 to 81)

Indicators to the right of the data: (applicable to original FAO data, in the aggregated versions all is computed data)

blank official figure  
c        computed number  
f        FAO estimate  
\*        inofficial figure

#### Item column: n1n2

n1: item (element) code (1,2,... or 17)  
n2: unit (dimension) code (1,2 or 3)  
text: item (element) text

#### Unit column:

---

1000\$	1000 US dollars
1000nc	1000 national currency
unit.p	unit price (mostly in national currency)
mt	metric tons
number	number, units
cum	current unit of measurement, always 1000\$
nc	national currency
nc/\$	national currency per us dollar times 10**4
nc/rb	national currency per rubel
EUR/nc	euros per national currency
ha	hectarea
hg/mt	100 gramm per mt
hg/ha	100 gramm per hectar
*kg/ha	100 gramm per hectar
*kg/an	100 gramm per animal
*\$/mt	10 us cents per mt
*\$/ha	10 us cents per hectar
*\$/an	10 cents per animal
mill.	million national currency

#### yy column:

ny1: year of first datum  
ny2: year of 9th datum

**Appendix 5: Data Files and Time Coverage**

Mnemonics:

FAP2, fap2 countries appendix 1a (also called FAP countries)  
 FAP4, fap4 countries appendix 1a  
 61+65 update from 66 onwards

Type of Data	Files	Explanation	Coverage
Macroeconomics	all.fap2	FAP2	65-74
	all.fap4	FAP4	61-67
	gdp.66	FAP2	66-81
Exchange Rates	all.fap2	see macro	65-74
	all.fap4	see macro	61-76
	exch.all	FAP2	61-76
	exch.all.66	FAP4	66-81
Population	all.fap2	see macro	65-74
	all.fap4	see macro	61-76
	pop.bin	FAP2	61-76
	pop.bin.66	FAO countries	66-81
Fertilizer	all.fap2	see macro	65-76
	all.fap4	see macro	61-76
	fert.fap2		
	fert.fap4		
Area	area.bin	FAP4	61-76
Nutritive Factors	mix.nut	intern.factors	11 nutrients
	nutc.bin.w	intern.factors, corrected	3 nutrients
	nut.bin.n	national factors	3 nutrients
Nutrient Intake	fovapc.fap4	intake/cap/day	61-76, 3 nut
	fovapc.fap4.66	intake/cap/day	66-81, 11 nut
Nutrient Content	fova27.fap4	unit content for ag27	61-76, 11 nut
	fova9.fap4	unit content for ag9	61-76, 11 nut
	fova27.fap4.66	unit content for ag27	66-81, 11 nut
	fova9.fap4.66	unit content for ag9	66-81, 11 nut
FAO Producer Prices	on dd-tape	orig. nat.prod.prices	61-76
		orig. nat.prod.prices	66-81
FAP Producer Prices	prices.fap4.new	nat.prod.prices, completed	61-76
	prices.fap4.66	nat.prod.prices completed	66-81
FAP Prices	vavo27.fap4	prices for ag27	61-76
	vavo27.fap4.re	prices for ag27,demand	61-76

	vavo9.fap4	prices for ag9	81-78
	vavo9.fap4.re	prices for ag9, demand	61-76
	vavo27.fap4.66	prices for ag27	66-81
	vavo27.fap4.66.re	...	66-81
	vavo9.fap4.66	...	66-81
	vavo9.fap4.66.re	...	66-81
World Export (Import) Prices	price.a	(average exp price/comm)	61-76
	price61+65.a		61-76
	price66.a		66-81
World Market Prices	worldp27	world exp price for 27	61-76
	worldp27.re	world exp price for 19, demand	61-76
	worldp9	world exp price for 16	61-76
	worldp9.re	world exp price for 10, demand	61-76
	worldp27.66	...	66-81
	worldp27.66.re	...	66-81
	worldp9.66	...	66-81
	worldp9.66.re	...	66-81
10th price	bin.3019	world non-ag price	61-76
Original SUA	on dd-tape	FAP2	61-76
		FAP4 (upd.66)	61-76
		all FAO countries	65-80
		all FAO countries	66-81
		FAP4 countries	66-81
Aggregated SUA	ag, dd-tape	FAP2	61-76
		FAP4 (upd.66)	61-76
		FAP4 countries	65-80
		FAP4 countries	66-81
Converted SUA	agcv, dd-tape	FAP2	61-76
		FAP4 (upd.66)	61-76
		FAP4 countries	65-80
		FAP4 countries	66-81
ag27 SUA, with prices	ag27, dd-tape	FAP2	61-76
		FAP4 (upd.66)	61-76
		FAP4 countries	66-81
ag27 SUA, no prices	ag27, dd-tape	FAP4 countries	65-80
ag9 SUA, with prices	ag9, dd-tape	FAP2	61-76
		FAP4 (upd.66)	61-76
		FAP4 countries	66-81
ag9 SUA, no prices	ag9, dd-tape	FAP4 countries	65-80
EEC SUAs	or.888	original SUA (upd.66)	61-76

	ag.888	aggregated SUA (upd.66)	61-76
	ag.888.66	aggregated SUA	66-81
	ag27.888	ag27 and prices ...	61-76
	ag27.888.66	ag27 and prices ...	66-81
	ag9.888	ag9 and prices ...	61-76
	ag9.888.66	ag9 and prices ...	66-81
CMEA SUAs	or.777	original SUA	61-76
	ag.777	aggregated SUA	61-76
	ag.777.66	aggregated SUA	66-81
	ag27.777	ag27	61-76
	ag27.777.66	ag27	66-81
	ag9.777	ag9	61-76
	ag9.777.66	ag9	66-81
ONE SUAs FAP2	or.one	original SUA	61-76
	ag.one	aggregated SUA	61-76
	ag27.one	ag27	61-76
	ag9.one	ag9	61-76
ONE SUAs FAP4	or.one.61+65	original SUA (upd.66)	61-76
	or.one.66	original SUA	66-81
	ag.one.61+65	aggregated SUA ...	61-76
	ag.one.66	aggregated SUA	66-81
	ag27.one.61+65	ag27 ...	61-76
	ag27.one.66	ag27 ...	66-81
	ag9.one.61+65	ag9 ...	61-76
	ag9.one.66	ag9	66-81



**Appendix 6: Methods and Sources for Fertilizer Calculations**

Country	Item	Reference and/or Method	Missing
9 Argentina	1,2 Fert cons 1000nc	a	71-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	3(61-74),4 and corr (75-76)	71-76
	6,2 Int. nonag to ag	a	
10 Australia	1,2 Fert cons 1000nc	a	61-67,76
	2,1 Fert cons mt	b(superphosphate), expert from the Impact Project, Melbourne	
	2,3 Fert price nc/mt	3(61), 1(62-76)	76
	6,2 Int. nonag to ag	a	
11 Austria	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	Expert from the Agricultural Institute, Vienna (Karl Ortner)	
	2,3 Fert price nc/mt	a	76
	6,2 Int. nonag to ag	a	
15 Belgium	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	76
	6,2 Int. nonag to ag	a	
16 Bangladesh	1,2 Fert cons 1000nc	a	61-71
	2,1 Fert cons mt	b(64-76), Experts from Amsterdam (M.Keyzer)	
	2,3 Fert price nc/mt	not available	61-76
	6,2 Int. nonag to ag	a	61-71
21 Brazil	1,2 Fert cons 1000nc	not available	61-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	4 and corrected(61-65), 3(66-76)	61-76
	6,2 Int. nonag to ag	not available	
27 Bulgaria	1,2 Fert cons 1000nc	not available	61-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	61-76
	6,2 Int. nonag to ag	not available	61-76
33 Canada	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	76
	6,2 Int. nonag to ag	a	
41 China	1,2 Fert cons 1000nc	not available	61-76
	2,1 Fert cons mt	b	61-63
	2,3 Fert price nc/mt	not available	61-76
	6,2 Int. nonag to ag	not available	61-76
54 Denmark	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	76
	6,2 Int. nonag to ag	a	
59 Egypt	1,2 Fert cons 1000nc	a(61-68) 5(69-76)	69-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2(61-68),3(69-76)	69-76
	6,2 Int. nonag to ag	a	
68 France	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	3	76
	6,2 Int. nonag to ag	a	

77 GDR	1,2 Fert cons 1000nc	a	61-65,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	a	
78 FRG	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	
	6,2 Int. nonag to ag	a	
84 Greece	1,2 Fert cons 1000nc	a(61-75), 5(76)	
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2(61-75),1(76)	
	6,2 Int. nonag to ag	a, corrected(61-64)76	
97 Hungary	1,2 Fert cons 1000nc	a(new)	61-65,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	a (new)	
100 India	1,2 Fert cons 1000nc	a	61-64,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	a	
101 Indonesia	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2 (very different from 3)	
	6,2 Int. nonag to ag	a	
104 Ireland	1,2 Fert cons 1000nc	a	
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	
	6,2 Int. nonag to ag	a	
106 Italy	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	3(61-65),1(66-77)	
	6,2 Int. nonag to ag	a	
110 Japan	1,2 Fert cons 1000nc	Expert from the Agric. University of Tokyo	75-76
	2,1 Fert cons mt		
	2,3 Fert price nc/mt		
	6,2 Int. nonag to ag		
114 Kenya	1,2 Fert cons 1000nc	a	61-63,75-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	3	
	6,2 Int. nonag to ag	a	
138 Mexico	1,2 Fert cons 1000nc	a	(61-67),5(68-76)
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2(61-74),1(75-76) checked with method 3	
	6,2 Int. nonag to ag	a	
150 Netherlands	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	
	6,2 Int. nonag to ag	a	
158 New Zealand	1,2 Fert cons 1000nc	a	61-71
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	Expert from the Dep.of Agric. Econom.,Massey U.,New Zealand	
	6,2 Int. nonag to ag	a	
159 Nigeria	1,2 Fert cons 1000nc	a	61-65,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	4	
	6,2 Int. nonag to ag	a	

165 Pakistan	1,2 Fert cons 1000nc	a	61-68,75-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1(69-74),3 and corr (rest)	
	6,2 Int. nonag to ag	a	
173 Poland	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	a	
174 Portugal	1,2 Fert cons 1000nc	a (large difference between old and new edition)	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	3	
	6,2 Int. nonag to ag	a (large difference between old and new edition)	
183 Romania	1,2 Fert cons 1000nc	a	61-65,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	a	
203 Spain	1,2 Fert cons 1000nc	a(61-75),5(76)	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2(61-75),1(76)	
	6,2 Int. nonag to ag	a	
210 Sweden	1,2 Fert cons 1000nc	a	75-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	Experts of the Agricultural University of Uppsala	
	6,2 Int. nonag to ag	a	
216 Thailand	1,2 Fert cons 1000nc	a(65-75)	61-64,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	4	
	6,2 Int. nonag to ag	a	
223 Turkey	1,2 Fert cons 1000nc	a	61-64,76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	Experts from the University of Ankara	
	6,2 Int. nonag to ag	a	
228 USSR	1,2 Fert cons 1000nc	not available	61-76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	not available	
	6,2 Int. nonag to ag	not available	
229 UK	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	1	
	6,2 Int. nonag to ag	a	
231 USA	1,2 Fert cons 1000nc	a	76
	2,1 Fert cons mt	b	
	2,3 Fert price nc/mt	2(61-75),1(76), checked	
	6,2 Int. nonag to ag	a	
888 EEC	1,2 Fert cons 1000nc		76
	2,1 Fert cons mt	aggregated, taking euros as currency unit	
	2,3 Fert price nc/mt		
	6,2 Int. nonag to ag		

**References:**

- a. Economic Accounts for Agriculture, FAO issue 1 1961-1971, issue 2 1965-1977
- b. Fertilizer Yearbooks, FAO, 1978,1979,1980 Annual Fertilizer Review, FAO, 1960,1961,....,1977
- c. Trade Yearbook, FAO, 1963,1964,....,1979
- d. Production Yearbook, FAO, 1963,1964,....,1979
- e. World Tables, World Bank

**Methods for calculating the price:**

- 1 Take price for 1 year, multiply by fertilizer price index for all the other years
- 2 Divide total fertilizer use in NC by nitrogen fertilizer use in mt.
- 3 Take individual prices for types of fertilizer, multiply by consumption and add up, divide by nitrogen consumption.
- 4 Take total imports of fertilizer (crude and manufactured) in US\$, divide by total imports of fertilizer in mt, multiply by total consumption of fertilizer in mt, divide by consumption of nitrogen in mt, convert to national currency.
- 5 Inverse of 2: total use in 1000 nc ="price"of n \* consumption of n

Appendix 7

23	9	3501	2	1	61	9999	4952000.	4874300.	6276000.	6496700.	5425500.	6291200.	6613000.	6679500.
							6238700.	4468200.	4986000.	5627000.	4251800.	5183000.	5753000.	7175000.
23	9	3501	3	1	61	9999	4420900.	3744700.	5676000.	6135400.	4601200.	5213600.	5837200.	5837200.
23	9	3501	4	2	61	9999	5191300.	3701000.	4314640.	4965100.	3957900.	4233000.	5270600.	6386000.
							12950.	15222.	15751.	18353.	13212.	11982.	12595.	9833.
23	9	3501	5	2	61	9999	13523.	13294.	13164.	15911.	16574.	14103.	16260.	17225.
							5725000.	5700000.	8940000.	11260000.	6079000.	6247000.	7320000.	5740000.
23	9	3501	5	3	61	1182	7020000.	4920000.	5680000.	7900000.	6560000.	5970000.	8570000.	11000000.
							47.	56.	56.	66.	80.	77.	112.	135.
23	9	3501	6	2	61	9999	152.	141.	168.	240.	515.	677.	966.	5628.
							84.	50.	1.	0.	16.	0.	169045.	20.
23	9	3501	7	2	61	9999	392075.	61.	27.	25.	422066.	284.	0.	84.
							0.	0.	0.	0.	4449000.	2534000.	0.	864000.
23	9	3501	8	2	61	9999	1270000.	1270000.	0.	0.	0.	0.	0.	0.
							1277000.	3449000.	3688000.	3688000.	0.	1615000.	1615000.	0.
23	9	3501	9	2	61	9999	498000.	883000.	744000.	744000.	140000.	350843.	2549827.	2480560.
							1509104.	2294477.	4269146.	4269146.	7105404.	5540769.	2574826.	2978705.
23	9	3501	10	2	61	9999	3003867.	2935628.	1528272.	2320323.	3617804.	2328915.	2372588.	4020871.
							123347.	128268.	135191.	91522.	233384.	188858.	182873.	403013.
23	9	3501	10	3	61	1182	846446.	139920.	136289.	1478207.	133040.	173337.	434574.	1021862.
							36.	43.	51.	60.	72.	69.	101.	122.
23	9	3501	11	2	61	9999	137.	127.	151.	216.	464.	609.	869.	5065.
							470000.	460000.	596000.	617000.	515000.	598000.	629000.	665000.
23	9	3501	12	2	61	9999	640000.	440000.	498600.	562700.	425180.	512180.	560000.	600000.
							130248.	161500.	160943.	227611.	274660.	169340.	172631.	194497.
23	9	3501	14	2	61	9999	163050.	174426.	164379.	239463.	202531.	235951.	235951.	257522.
							2215386.	2270410.	2304390.	2366721.	2399568.	2284034.	2314715.	2362805.
23	9	3501	14	3	61	1182	2260712.	2500087.	2469487.	2555333.	2463512.	2455880.	2417061.	2619169.
							40.	47.	56.	66.	80.	77.	112.	135.
23	9	3502	2	1	61	9999	152.	141.	168.	240.	515.	677.	966.	5628.
							53000.	59000.	57300.	57700.	78700.	56300.	68300.	79700.
23	9	3502	3	1	61	9999	95800.	109300.	81200.	93200.	86400.	88700.	96500.	91100.
							46000.	53060.	52300.	54020.	67880.	46795.	61830.	70800.
23	9	3502	4	2	61	9999	87500.	101900.	77200.	83100.	76550.	82700.	92500.	87270.
							21701.	23020.	22829.	23564.	26412.	23667.	23515.	26771.
23	9	3502	5	2	61	9999	26417.	26760.	24997.	23705.	22755.	25600.	25423.	23724.
							99825.	122143.	119394.	127292.	179286.	110752.	145395.	189541.
23	9	3502	5	3	61	1182	231146.	272684.	192974.	196988.	174192.	211710.	235159.	207040.
							126.	126.	157.	192.	243.	239.	358.	360.
23	9	3502	6	2	61	9999	343.	334.	552.	2164.	1696.	2551.	3624.	21113.
							0.	3.	2.	0.	0.	88.	0.	0.
23	9	3502	7	2	61	9999	6.	18.	0.	0.	0.	0.	0.	0.
							6700.	7370.	3350.	0.	0.	25460.	0.	0.
23	9	3502	8	2	61	9999	0.	0.	50250.	0.	0.	0.	0.	0.
							0.	0.	0.	10720.	18090.	0.	1340.	1340.
23	9	3502	9	2	61	9999	50250.	11390.	19715.	12637.	44468.	61863.	49804.	57832.
							13928.	40389.	92428.	27278.	36381.	35491.	64411.	78366.
23	9	3502	10	2	61	9999	74525.	100340.	12611.	9583.	14257.	6706.	10887.	17132.
							11629.	12611.	19898.	18253.	16060.	25362.	29449.	25700.
23	9	3502	10	3	61	1182	15554.	19795.	19898.	18253.	16060.	25362.	29449.	25700.
							93.	114.	141.	173.	215.	322.	324.	324.
23	9	3502	11	2	61	9999	309.	301.	497.	1948.	1526.	2296.	3261.	19002.
							5360.	4690.	5360.	6700.	5360.	5360.	6700.	8040.
23	9	3502	12	2	61	9999	9380.	7370.	6378.	6479.	6010.	6030.	6365.	8040.
							3670.	4740.	4644.	4496.	6004.	4219.	5001.	6030.
23	9	3502	14	2	61	9999	7538.	9726.	8084.	7258.	6230.	7526.	7927.	7054.
							67086.	67086.	83107.	83156.	91107.	58153.	7446.	98144.
23	9	3502	14	3	61	1182	73906.	124082.	116436.	137720.	109512.	137302.	127007.	89499.
							103.	126.	157.	192.	243.	239.	358.	360.
							334.	334.	552.	2164.	1696.	2551.	3624.	21113.

23	9	3503	2	1	61	9999	13277300.	13123700.	13260300.	13528700.	13363100.	14105200.	14780800.	16480900.
							17168400.	17522500.	19635700.	18924600.	19572000.	19511600.	18190900.	17621200.
23	9	3503	3	1	61	9999	6808700.	5921460.	6713150.	7243270.	6131500.	7148160.	7533380.	7976660.
							8259100.	9661190.	10470500.	8351550.	10123750.	9863500.	8623500.	8328800.
23	9	3503	4	2	61	9999	12593.	13534.	12135.	12842.	12116.	15159.	15880.	12784.
							13332.	15003.	15402.	12635.	16749.	17442.	16267.	15476.
23	9	3503	5	2	61	9999	8573921.	8013814.	8146343.	9301994.	7428912.	10836141.	11963183.	10197006.
							11010833.	14494292.	16126279.	10551913.	16956016.	17203516.	14024801.	12889600.
23	9	3503	5	3	61	1182	35.	35.	45.	57.	75.	74.	112.	99.
							121.	121.	152.	244.	415.	606.	837.	4803.
23	9	3503	6	2	61	9999	2854.	4526.	5951.	4617.	4851.	4549.	517.	3374.
							693.	1098.	1402.	687.	180.	182.	42.	103.
23	9	3503	7	2	61	9999	920501.	620351.	123255.	232406.	954843.	115191.	36205.	202369.
							584456.	403456.	1176559.	660000.	28667.	729333.	170000.	950000.
23	9	3503	8	2	61	9999	94456.	4293.	113385.	714667.	0.	28000.	1231137.	283000.
							2571002.	337409.	169000.	5369989.	2190000.	300000.	41000.	140333.
23	9	3503	9	2	61	9999	5896739.	4163959.	3241308.	3906751.	3906751.	5148970.	5357839.	4148264.
							4550034.	7760951.	8810641.	4007005.	6797433.	9280765.	6290665.	6968779.
23	9	3503	10	2	61	9999	4988139.	3654955.	2962886.	3252516.	3681020.	4903178.	4471158.	5008940.
							28.	5788308.	6220720.	5539785.	6891687.	7233561.	6802919.	5659180.
23	9	3503	10	3	61	1182	28.	34.	45.	55.	71.	73.	110.	97.
							125.	117.	148.	243.	398.	590.	821.	4880.
23	9	3503	11	2	61	9999	552692.	509006.	508487.	484537.	484809.	511044.	550151.	590645.
							561746.	540542.	554138.	564398.	575368.	542310.	538019.	607200.
23	9	3503	12	2	61	9999	180874.	177923.	151016.	192984.	169240.	222437.	241936.	213830.
							226554.	299612.	333830.	226330.	361506.	361979.	308902.	266253.
23	9	3503	14	2	61	9999	137717.	128556.	112038.	125607.	146786.	142252.	147683.	158070.
							164395.	172024.	162606.	160415.	168869.	214418.	213338.	197959.
23	9	3503	14	3	61	1182	28.	36.	46.	58.	74.	80.	108.	100.
							121.	111.	166.	240.	419.	574.	839.	4964.
23	9	3504	1	1	61	9999	44187068.	43773472.	41279320.	43229800.	46916744.	48548400.	50548000.	50309600.
							47540556.	47484912.	48336000.	50178000.	52108800.	51945648.	54395400.	54176200.
23	9	3504	4	2	61	9999	616.	689.	800.	599.	554.	617.	646.	660.
							772.	710.	544.	560.	521.	519.	559.	645.
23	9	3504	5	2	61	9999	2721333.	3018175.	3301072.	2588202.	2597076.	2994963.	3264347.	3321343.
							3670848.	3369661.	2627649.	2811766.	2714999.	2695637.	3040683.	3492205.
23	9	3504	5	3	61	1182	285.	354.	448.	561.	727.	840.	1007.	1062.
							1133.	1629.	2937.	4845.	7246.	6754.	12659.	73721.
23	9	3504	6	2	61	9999	12.	6.	26.	4845.	0.	4.	4.	6.
							12.	6.	26.	4845.	0.	4.	4.	6.
23	9						12.	6.	0.	0.	338.	188.	145.	0.

23	9	Argentina	3501	wheat	S1	5	3	61	40.19	47.23	56.24	66.27	80.06	77.00	112.00	135.00
									152.00	141.00	168.00	240.00	515.00	677.00	966.00	5627.97
23	9	Argentina	3501	wheat	S1	10	3	61	36.17	42.51	50.62	59.64	72.06	69.30	100.80	121.50
									136.80	126.90	151.20	216.00	463.50	609.30	869.40	5065.18
23	9	Argentina	3501	wheat	S1	14	3	61	40.19	47.23	56.24	66.27	80.06	77.00	112.00	135.00
									152.00	141.00	168.00	240.00	515.00	677.00	966.00	5627.97
23	9	Argentina	3502	rice	S2	5	3	61	103.25	126.16	156.67	192.03	242.79	238.81	358.21	359.70
									343.28	334.33	552.24	2164.18	1695.52	2550.75	3623.88	21112.95
23	9	Argentina	3502	rice	S2	10	3	61	92.93	113.54	141.00	172.82	218.51	214.93	322.39	323.73
									308.96	300.90	497.01	1947.76	1525.97	2295.67	3261.49	19001.65
23	9	Argentina	3502	rice	S2	14	3	61	103.25	126.16	156.67	192.03	242.79	238.81	358.21	359.70
									343.28	334.33	552.24	2164.18	1695.52	2550.75	3623.88	21112.95
23	9	Argentina	3503	oth.oerls.	S3	5	3	61	28.31	35.20	45.25	56.60	74.93	73.70	111.82	99.16
									124.40	121.37	152.42	244.35	414.58	606.07	836.96	4802.98
23	9	Argentina	3503	oth.oerls.	S3	10	3	61	27.85	33.85	44.92	55.25	70.95	72.61	110.31	96.93
									124.91	117.07	148.47	242.96	397.94	589.56	820.95	4880.45
23	9	Argentina	3503	oth.oerls.	S3	14	3	61	28.14	35.64	46.24	57.53	74.32	80.29	108.20	99.88
									121.39	111.16	165.75	239.98	418.69	573.86	838.80	4964.12
23	9	Argentina	3504	bov.meat	S4	5	3	61	284.58	353.63	447.86	561.25	727.40	840.24	1006.66	1062.34
									1132.51	1628.57	2936.81	4845.24	7246.18	6754.35	12659.10	73720.97
23	9	Argentina	3504	bov.meat	S4	14	3	61	284.52	353.04	449.98	566.57	739.50	844.09	1010.46	1065.23
									1138.68	1645.22	2981.71	4871.85	7336.96	6796.33	12741.28	74010.34
23	9	Argentina	3504	bov.meat	S4	15	3	61	154.77	157.01	167.47	199.44	246.77	280.95	318.22	332.75
									407.76	533.63	947.94	1709.96	2951.37	2894.92	5211.49	28863.82
23	9	Argentina	3505	dairy pr.	S5	5	3	61	27.34	34.71	44.94	57.27	75.75	89.00	105.00	129.00
									156.00	219.00	277.00	380.00	643.00	600.00	1130.00	6583.45
23	9	Argentina	3505	dairy pr.	S5	10	3	61	6.83	8.68	11.23	14.32	18.94	22.25	26.25	32.25
									39.00	54.75	69.25	95.00	160.75	150.00	282.50	1645.86
23	9	Argentina	3505	dairy pr.	S5	14	3	61	27.34	34.71	44.94	57.27	75.75	89.00	105.00	129.00
									156.00	219.00	277.00	380.00	643.00	600.00	1130.00	6583.45
23	9	Argentina	3506	oth.meat	S6	5	3	61	3407.96	4333.70	5365.38	6450.84	8172.40	8093.19	12763.72	15237.17
									16003.42	17702.20	24556.07	35200.87	58753.75	73442.32	160641.56	1005151.50
23	9	Argentina	3506	oth.meat	S6	14	3	61	3327.66	4198.68	5131.62	6193.95	8113.41	7968.27	12460.86	14865.17
									15611.24	16784.18	23305.38	31606.21	52344.49	72251.72	145818.08	876261.06
23	9	Argentina	3506	oth.meat	S6	15	3	61	340.17	571.51	645.29	684.61	952.91	1109.23	2665.04	1653.37
									652.78	5166.60	0.	0.	66080.06	63371.43	188097.52	1909081.63
23	9	Argentina	3507	prt.feed	S7C	5	3	61	264.23	363.23	412.43	500.52	695.84	810.09	1005.33	1153.69
									1188.57	1329.01	2352.13	3726.59	4926.08	4586.61	6909.65	37329.01
23	9	Argentina	3507	prt.feed	S7C	10	3	61	492.85	840.51	739.12	491.98	1031.29	888.39	1154.39	1056.73
									1297.03	1730.31	2727.44	4671.74	4084.75	4795.63	5658.00	33557.62
23	9	Argentina	3507	prt.feed	S7C	14	3	61	758.44	189.58	234.94	306.37	357.76	438.56	487.17	954.80
									1078.06	1017.71	1587.72	1920.80	2597.37	1933.96	3795.31	22122.67
23	9	Argentina	3507	prt.feed	S7C	15	3	61	0.	0.	0.	0.	0.	501.07	630.87	792.98
									850.88	739.45	1012.44	2024.52	2965.30	3881.23	5533.23	32318.67
23	9	Argentina	3508	oth.food	S8C	5	3	61	283.05	350.24	454.77	573.78	750.31	870.19	1039.69	1266.79
									1461.65	1555.09	1902.22	3956.31	6379.28	7784.60	11559.57	68164.86
23	9	Argentina	3508	oth.food	S8C	10	3	61	21.97	34.74	57.03	90.85	155.40	557.62	411.43	437.14
									558.84	519.27	596.25	1038.86	1491.43	1959.43	2797.71	16299.65
23	9	Argentina	3508	oth.food	S8C	14	3	61	290.49	344.01	437.84	574.02	745.64	870.99	1112.75	1317.82
									1505.87	1656.70	2007.07	4169.84	6226.67	7698.95	12799.86	72336.91
23	9	Argentina	3508	oth.food	S8C	15	3	61	316.79	350.37	429.90	501.89	600.07	606.38	826.65	1251.86
									1449.52	1559.34	2121.01	4166.55	6074.04	10038.62	16480.60	85578.79
23	9	Argentina	3509	non-food	S9C	5	3	61	405.90	468.61	591.21	680.03	911.03	1041.49	936.22	1288.71
									1590.72	1829.87	3163.21	4699.36	8886.35	11137.04	18239.56	103179.84
23	9	Argentina	3509	non-food	S9C	15	3	61	399.56	444.80	3163.92	755.97	1006.54	1113.00	983.07	1469.34
									1785.82	1791.59	3530.19	5360.17	9601.00	11733.32	18761.44	103705.43
23	9	Argentina	3510	non-agr	S10	5	3	61	678.77	853.57	1093.15	1379.41	1778.41	2237.65	2871.35	3162.70
									3415.34	3775.00	4927.96	7705.16	12243.10	16027.00	44091.50	256557.00
23	9	Argentina	3511	bov.fat	S8L4	5	3	61	326.56	407.65	519.89	653.32	847.51	974.97	1170.94	1263.33
									1313.87	1899.60	3457.26	5633.45	8379.47	7801.91	14564.28	84916.26





Appendix 9

wheat S1

Argentina

23 9 3501

item	unit	Argentina		wheat S1		1964		1965		1966		1967		1968	
		yy	yy	1962	1963	1972	1973	1974	1975	1976	1976	1976			
21 area sown	ha	61	4952000.	4874300.	6276000.	6496700.	5425500.	6291200.	6613000.	6679500.	6613000.	6613000.	6679500.	6613000.	6679500.
		69	6238700.	4468200.	4986000.	5627000.	4251800.	5183000.	5753000.	7175000.	5753000.	5753000.	7175000.	5753000.	7175000.
31 area harv	ha	61	4420900.	3744700.	5676000.	6135400.	4601200.	5213600.	5811600.	5837200.	5270600.	5811600.	5837200.	5270600.	6386000.
		69	5191300.	3701000.	4314640.	4965100.	3957900.	4233000.	5270600.	6386000.	4233000.	5270600.	6386000.	4233000.	6386000.
42 yield	•kg/ha	61	12950.	15222.	15751.	18353.	13212.	11982.	12595.	9833.	11982.	12595.	9833.	11982.	17225.
		69	13523.	13294.	13164.	15911.	16574.	14103.	16260.	17225.	14103.	16260.	17225.	14103.	17225.
52 production	mt	61	5725000.	5700000.	8940000.	11260000.	6079000.	6247000.	7320000.	5740000.	5970000.	7320000.	5740000.	8570000.	11000000.
		69	7020000.	4920000.	5680000.	7900000.	6560000.	5970000.	8570000.	11000000.	5970000.	8570000.	11000000.	5970000.	11000000.
53 production	unit.p	61	40.	47.	56.	66.	80.	77.	112.	135.	77.	112.	135.	77.	135.
		69	152.	141.	168.	240.	515.	677.	966.	5628.	677.	966.	5628.	677.	5628.
62 imports	mt	61	84.	50.	1.	16.	422066.	284.	169045.	20.	284.	169045.	20.	84.	84.
		69	392075.	61.	27.	25.	4449000.	2534000.	864000.	864000.	2534000.	864000.	864000.	2534000.	864000.
72 from stocks	mt	61	630000.	1270000.											
		69													
82 to stocks	mt	61	1277000.		3449000.	3688000.	140000.	350843.	1615000.	2480660.	350843.	1615000.	2480660.	350843.	2480660.
		69	498000.		883000.	744000.			2549827.	2480660.		2549827.	2480660.		2480660.
92 exports	mt	61	1509104.	3309872.	2294477.	4269146.	7105404.	5540769.	2978705.	2978705.	5540769.	2978705.	2978705.	5540769.	2978705.
		69	3003867.	2935628.	1528272.	2320323.	3617804.	2328915.	4020871.	4020871.	2328915.	4020871.	4020871.	2328915.	4020871.
102 feed	mt	61	123347.	128268.	135191.	91522.	233384.	188858.	182873.	403013.	188858.	182873.	403013.	188858.	403013.
		69	846446.	139920.	136289.	1478207.	133040.	173337.	434574.	1021862.	173337.	434574.	1021862.	173337.	1021862.
103 feed	unit.p	61	36.	43.	51.	60.	72.	69.	101.	122.	69.	101.	122.	69.	122.
		69	137.	127.	151.	216.	464.	609.	869.	5065.	609.	869.	5065.	609.	5065.
112 seed	mt	61	470000.	460000.	596000.	617000.	515000.	598000.	629000.	665000.	598000.	629000.	665000.	598000.	665000.
		69	640000.	440000.	498600.	562700.	425180.	512180.	560000.	600000.	512180.	560000.	600000.	512180.	600000.
122 waste	mt	61	130248.	161500.	160943.	227611.	274660.	169340.	172631.	194497.	169340.	172631.	194497.	169340.	257522.
		69	163050.	174426.	164379.	239463.	202531.	149129.	235951.	257522.	149129.	235951.	257522.	149129.	257522.
142 food	mt	61	2215386.	2270410.	2304390.	2366721.	2399568.	2284034.	2314715.	2362805.	2284034.	2314715.	2362805.	2284034.	2362805.
		69	2260712.	2500087.	2469487.	2555333.	2463512.	2455880.	2417061.	2619169.	2455880.	2417061.	2619169.	2455880.	2619169.
143 food	mt	61	40.	47.	56.	66.	80.	77.	112.	135.	77.	112.	135.	77.	135.
		69	152.	141.	168.	240.	515.	677.	966.	5628.	677.	966.	5628.	677.	5628.

Argentina

23 9 3502

rice S2

item	unit	yy	1961 1969	1962 1970	1963 1971	1964 1972	1965 1973	1966 1974	1967 1975	1968 1976
21 area sown	ha	61 69	53000. 95800.	59000. 109300.	57300. 81200.	57700. 93200.	78700. 86400.	56300. 88700.	68300. 96500.	79700. 91100.
31 area harv	ha	61 69	46000. 87500.	53060. 101900.	52300. 77200.	54020. 83100.	67880. 76550.	46795. 82700.	61830. 92500.	70800. 87270.
42 yield	•kg/ha	61 69	21701. 26417.	23020. 26760.	22829. 24997.	23564. 23705.	26412. 22755.	23667. 25600.	23515. 25423.	26771. 23724.
52 production	mt	61 69	99825. 231146.	122143. 272684.	119394. 192974.	127292. 196988.	179286. 174192.	110752. 211710.	145395. 235159.	189541. 207040.
53 production	unit.p	61 69	103. 343.	126. 334.	157. 552.	192. 2164.	243. 1696.	239. 2551.	358. 3624.	360. 21113.
62 imports	mt	61 69	6. 6.	3. 18.	2. 2.	88. 88.				
72 from stocks	mt	61 69	6700.	7370.	3350. 50250.			25460.		
82 to stocks	mt	61 69	50250.	11390.		10720.	18090.		1340.	1340.
92 exports	mt	61 69	13928. 74525.	40389. 100340.	19715. 92428.	12637. 27278.	44468. 36381.	61863. 35491.	49804. 64411.	57832. 78366.
102 feed	mt	61 69	11629. 15554.	12611. 19795.	9920. 19898.	9583. 18253.	14257. 16060.	6706. 25362.	10887. 29449.	17132. 25700.
103 feed	unit.p	61 69	93. 309.	114. 301.	141. 497.	173. 1948.	219. 1526.	215. 2296.	322. 3261.	324. 19002.
112 seed	mt	61 69	5360. 9380.	4690. 7370.	5360. 6378.	6700. 6479.	5360. 6010.	5360. 6030.	6700. 6365.	8040. 6030.
122 waste	mt	61 69	3670. 7538.	4740. 9726.	4644. 8084.	4496. 7258.	6004. 6230.	4219. 7526.	5001. 7927.	7054. 7446.
142 food	mt	61 69	71939. 73906.	67086. 124082.	83107. 116436.	83156. 137720.	91107. 109512.	58153. 137302.	71664. 127007.	98144. 89499.
143 food	mt	61 69	103. 343.	126. 334.	157. 552.	192. 2164.	243. 1696.	239. 2551.	358. 3624.	360. 21113.

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23 9 3503 Argentina oth.cerls.S3

item	unit	yy	1961 1969	1962 1970	1963 1971	1964 1972	1965 1973	1966 1974	1967 1975	1968 1976
21 area sown	ha	61 69	13277300. 17168400.	13123700. 17522500.	13260300. 19635700.	13528700. 18924600.	13363100. 19576200.	14105200. 19511600.	14780800. 18190900.	16480900. 17621200.

31	area harv	ha	61	6808700.	5921460.	6713150.	7243270.	6131500.	7148160.	7533380.	7976660.
			69	8259100.	9661190.	10470500.	8351550.	10123750.	9863500.	8621650.	8328800.
42	yield	●kg/ha	61	12593.	13534.	12135.	12842.	12116.	15159.	15880.	12784.
			69	13332.	15003.	15402.	12635.	16749.	17442.	16267.	15476.
52	production	mt	61	8573921.	8013814.	8146343.	9301994.	7428912.	10836141.	11963183.	10197006.
			69	11010833.	14494292.	16126279.	10551913.	16956016.	17203516.	14024801.	12889600.
53	production	unit.p	61	28.	35.	45.	57.	75.	74.	112.	99.
			69	124.	121.	152.	244.	415.	606.	837.	4803.
62	imports		61	2854.	4526.	5951.	4617.	4851.	4549.	517.	3374.

Appendix 10

23	9 3501	2	1	61 9999				
4952000.00		4874300.00		6276000.00	6496700.00	5425500.00	6291200.00	
6613000.00		6679500.00		6238700.00	4468200.00	4986000.00	5627000.00	
4251800.00		5183000.00		5753000.00	7175000.00			
23	9 3501	3	1	61 9999				
4420900.00		3744700.00		5676000.00	6135400.00	4601200.00	5213600.00	
5811600.00		5837200.00		5191300.00	3701000.00	4314640.00	4965100.00	
3957900.00		4233000.00		5270600.00	6386000.00			
23	9 3501	4	2	61 9999				
12949.85		15221.51		15750.53	18352.51	13211.77	11982.12	
12595.50		9833.48		13522.62	13293.71	13164.48	15911.06	
16574.45		14103.47		16260.01	17225.18			
23	9 3501	5	2	61 9999				
5725000.00		5700000.00		8940000.00	11260000.00	6079000.00	6247000.00	
7320000.00		5740000.00		7020000.00	4920000.00	5680000.00	7900000.00	
6560000.00		5970000.00		8570000.00	11000000.00			
23	9 3501	5	3	61 1182				
40.19		47.23		56.24	66.27	80.06	77.00	
112.00		135.00		152.00	141.00	168.00	240.00	
515.00		677.00		966.00	5627.97			
23	9 3501	6	2	61 9999				
84.19		49.81		1.08	0.	15.63	0.	
169044.95		19.78		392074.59	60.55	27.00	25.00	
422066.00		284.00		0.	84.44			
23	9 3501	7	2	61 9999				
0.		630000.00		0.	0.	4449000.00	2534000.00	
0.		864000.00		0.	1270000.00	0.	0.	
0.		0.		0.	0.			
23	9 3501	8	2	61 9999				
1277000.00		0.		3449000.00	3688000.00	0.	0.	
1615000.00		0.		498000.00	0.	883000.00	744000.00	
140000.00		350843.00		2549827.25	2480660.25			
23	9 3501	9	2	61 9999				
1509103.88		3309872.25		2294476.50	4269146.00	7105403.50	5540768.50	
2574826.25		2978704.50		3003866.75	2935627.75	1528272.25	2320322.50	
3617803.75		2328915.00		2372587.75	4020870.75			
23	9 3501	10	2	61 9999				
123347.05		128267.60		135191.06	91522.47	233384.31	188858.19	
182872.56		403013.19		846445.69	139919.53	136288.50	1478206.88	
133039.64		173336.58		434573.72	1021861.75			
23	9 3501	10	3	61 1182				
36.17		42.51		50.62	59.64	72.06	69.30	
100.80		121.50		136.80	126.90	151.20	216.00	
463.50		609.30		869.40	5065.18			
23	9 3501	11	2	61 9999				
470000.00		460000.00		596000.00	617000.00	515000.00	598000.00	
629000.00		665000.00		640000.00	440000.00	498600.00	562700.00	
425180.00		512180.00		560000.00	600000.00			
23	9 3501	12	2	61 9999				
130247.67		161499.91		160943.45	227610.64	274659.56	169339.52	
172630.64		194496.94		163049.80	174426.14	164379.08	239462.80	
202531.23		149129.25		235950.92	257522.31			
23	9 3501	14	2	61 9999				
2215385.50		2270410.00		2304390.25	2366720.75	2399568.25	2284034.00	
2314715.25		2362805.00		2260712.25	2500087.25	2469487.25	2555333.00	
2463511.50		2455880.25		2417060.50	2619169.00			
23	9 3501	14	3	61 1182				
40.19		47.23		56.24	66.27	80.06	77.00	
112.00		135.00		152.00	141.00	168.00	240.00	
515.00		677.00		966.00	5627.97			

23	9 3502	2 1	61 9999				
	53000.00	59000.00	57300.00	57700.00	78700.00	56300.00	
	68300.00	79700.00	95800.00	109300.00	81200.00	93200.00	
	86400.00	88700.00	96500.00	91100.00			
23	9 3502	3 1	61 9999				
	46000.00	53060.00	52300.00	54020.00	67880.00	46795.00	
	61830.00	70800.00	87500.00	101900.00	77200.00	83100.00	
	76550.00	82700.00	92500.00	87270.00			
23	9 3502	4 2	61 9999				
	21701.10	23019.72	22828.65	23563.92	26412.20	23667.43	
	23515.35	26771.36	26416.72	26759.98	24996.65	23704.89	
	22755.34	25599.81	25422.62	23724.11			
23	9 3502	5 2	61 9999				
	99825.06	122142.63	119393.86	127292.30	179286.02	110751.74	
	145395.39	189541.25	231146.33	272684.22	192974.11	196987.67	
	174192.16	211710.42	235159.19	207040.28			
23	9 3502	5 3	61 1182				
	103.25	126.16	156.67	192.03	242.79	238.81	
	358.21	359.70	343.28	334.33	552.24	2164.18	
	1695.52	2550.75	3623.88	21112.95			
23	9 3502	6 2	61 9999				
	0.	2.61	1.76	0.	0.	88.28	
	0.	0.	6.16	18.10	0.	0.	
	0.	0.	0.	0.			
23	9 3502	7 2	61 9999				
	6700.00	7370.00	3350.00	0.	0.	25460.00	
	0.	0.	0.	0.	50250.00	0.	
	0.	0.	0.	0.			
23	9 3502	8 2	61 9999				
	0.	0.	0.	10720.00	18090.00	0.	
	1340.00	1340.00	50250.00	11390.00	0.	0.	
	0.	0.	0.	0.			
23	9 3502	9 2	61 9999				
	13927.56	40389.12	19715.40	12636.74	44468.08	61862.50	
	49803.76	57831.55	74524.77	100339.98	92427.91	27277.88	
	36381.01	35490.80	64410.87	78365.97			
23	9 3502	10 2	61 9999				
	11629.29	12610.89	9919.83	9583.11	14257.22	6705.64	
	10886.80	17131.71	15554.29	19794.94	19897.96	18252.70	
	16059.85	25361.61	29449.27	25700.02			
23	9 3502	10 3	61 1182				
	92.93	113.54	141.00	172.82	218.51	214.93	
	322.39	323.73	308.96	300.90	497.01	1947.76	
	1525.97	2295.67	3261.49	19001.65			
23	9 3502	11 2	61 9999				
	5360.00	4690.00	5360.00	6700.00	5360.00	5360.00	
	6700.00	8040.00	9380.00	7370.00	6378.40	6478.90	
	6009.90	6030.00	6365.00	6030.00			
23	9 3502	12 2	61 9999				
	3669.67	4739.60	4643.67	4496.42	6004.22	4218.75	
	5001.24	7053.70	7537.67	9725.55	8084.35	7258.18	
	6229.66	7525.82	7926.95	7445.81			
23	9 3502	14 2	61 9999				
	71938.54	67085.63	83106.71	83156.03	91106.50	58153.14	
	71663.59	98144.29	73905.76	124081.84	116435.50	137720.00	
	109511.73	137302.19	127007.10	89498.50			
23	9 3502	14 3	61 1182				
	103.25	126.16	156.67	192.03	242.79	238.81	
	358.21	359.70	343.28	334.33	552.24	2164.18	
	1695.52	2550.75	3623.88	21112.95			

23	9 3503	2	1	61 9999			
13277300.00		13123700.00		13260300.00	13528700.00	13363100.00	14105200.00
14780800.00		16480900.00		17168400.00	17522500.00	19635700.00	18924600.00
19576200.00		19511600.00		18190900.00	17621200.00		
23	9 3503	3	1	61 9999			
6808700.00		5921460.00		6713150.00	7243270.00	6131500.00	7148160.00
7533380.00		7976660.00		8259100.00	9661190.00	10470500.00	8351550.00
10123750.00		9863500.00		8621650.00	8328800.00		
23	9 3503	4	2	61 9999			
12592.60		13533.51		12134.90	12842.26	12115.98	15159.34
15880.23		12783.55		13331.76	15002.60	15401.63	12634.68
16748.75		17441.59		16266.96	15475.94		
23	9 3503	5	2	61 9999			
8573921.00		8013814.00		8146342.50	9301994.00	7428912.00	10836141.00
11963183.00		10197006.00		11010833.00	14494292.00	16126279.00	10551913.00
16956016.00		17203516.00		14024801.00	12889600.00		
23	9 3503	5	3	61 1182			
28.31		35.20		45.25	56.60	74.93	73.70

**Appendix 11.**

```
note      ***** plots for world prices nom,10 and 16 commodities
obs       20
vars      52
orde      col
form      (10x,20g12.4)
type      line
basi      ,1961,1
scal      no
xmin      1960
xmax      1980
xsc       5
xfm       (f5.0,t5,' ')
yfm       (f7.0,t7,' ')
tlgd      ,0.16
lgd       yes,0.16
symb      1,2,3,4,5,6,7,8,9,0,*,+
wind      0.0,0.0,8.45,10.56
read      ,n01,n02,n03,n04,n05,n06,n07,n08,n09,n10,n11,n12,n13,n14,n15,n16
skip      11
read      ,r01,r02,r03,r04,r05,r06,r07,r08,r09,r10,r11,r12,r13,r14,r15,r16
skip      11
read      ,s01,s02,s03,s04,s05,s06,s07,s08,s09,s10
skip      9
read      ,t01,t02,t03,t04,t05,t06,t07,t08,t09,t10
gt        wheat rice grains dairy (world price in $/unit)
ymin      0.
ymax      400.
ysc       10
upda      n01,lab,wheat
upda      n02,lab,rice
upda      n03,lab,grains
upda      n05,lab,dairy
load      wheat,rice,grains,dairy
print
plot      1961,20
gt        bov.meat oth.meat prt.feed (world price in $/unit)
upda      n04,lab,bov.meat
upda      n06,lab,oth.meat
upda      n07,lab,prt.feed
upda      s07,lab,prt.feed
load      bov.meat,oth.meat,prt.feed
ymin      0.
ymax      10000.
plot      1961,20
gt        other meat (world price in $/unit)
load      oth.meat
plot      1961,20
gt        protein feed (world price in $/unit)
load      prt.feed
ymax      1000.
plot      1961,20
gt        oth.food non-food non-ag (world price in $/unit)
```

upda n08,lab,oth.food  
upda n09,lab,non-food  
upda n10,lab,non-ag  
load oth.food,non-food,non-ag  
ymin 250.  
ymax 2750.  
plo t1961,20  
gt bov.fat oth.fat (world price in \$/unit)  
upda n11,lab,bov.fat  
upda n12,lab,oth.fat  
load bov.fat,oth.fat  
ymin 250.  
ymax 2750.  
plot 1961,20  
gt m.meal f.meal (world price in \$/unit)  
upda n13,lab,m.meal  
upda n14,lab,f.meal  
load m.meal,f.meal  
ymin 0.  
ymax 800.  
plot 1961,20  
gt h-h-w pig-hid. (world price in \$/unit)  
upda n15,lab,h-h-w  
upda n16,lab,pig-hid.  
load h-h-w,pig-hid.  
ymin 0.  
ymax 2500.  
plot 1961,20  
gt oth.food non-food non-ag (world price in \$/unit)  
upda s08,lab,o.f-10  
upda s09,lab,n-f-10  
upda s10,lab,n-ag-10  
load o.f-10,n-f-10,n-ag-10  
ymin 250.  
ymax 2750.  
plot 1961,20  
gt other food (world price in \$/unit)  
load o.f-10  
ymin 0.  
ymax 2000.  
plot 1961,20  
gt non-food (world price in \$/unit)  
load n-f-10  
ymin 250.  
ymax 2750.  
plot 1961,20  
lgd no  
gt 10 commodities (world price in \$/unit)  
load wheat,rice,grains,dairy,bov.meat,oth.meat,prt.feed.  
ymin 0.  
ymax 3000.  
lgd no  
tran ,,,, \*0.1  
plot 1961,20  
stop