

# **Compendium of Agricultural – Environmental Indicators**

**1989-91 to 2000**



**Statistics Analysis Service  
Statistics Division  
Food and Agriculture Organization of the United Nations  
Rome**

November 2003

## Preface

Much can be revealed about the state of food insecurity and hunger by analysing agricultural-environmental indicators. The Statistics Division has been considering this aspect for quite sometime and publication of the present Compendium is a step in this direction. It brings together data compiled and maintained by the Division to derive agricultural-environmental indicators. The Compendium presents time series of selected indicators in a logical manner to help policy makers in understanding the state of the agri-environment and assist in framing suitable policies.

While working on the Compendium, limitations of available data and occasionally its poor quality are reflected. This has been noted and highlighted. However, as the macro-view has not affected, all available data has been included.

The Compendium has been prepared by Mr. Dominic Ballayan, Statistician and Ms. Giorgia DeSantis, Statistical Clerk under the overall supervision of Mr. Pratap Narain, Senior Officer in the Statistical Analysis Service of the Division. The work was supported by Mr. Mohamed Barre, Statistician, Ms. Amanda Gordon, Statistician and Ms. Giulia Cimino, Statistical Clerk by providing necessary data on external assistance to agriculture, agricultural investment, macro-economic aggregates and fertilizer consumption. The work is being treated as a pilot study at this stage. Comments and suggestions to improve the Compendium may be sent to Mr. Jorge Mernies, Chief, Statistical Analysis Service, Statistics Division.

Director  
Statistics Division  
Food and Agriculture Organization of the United Nations  
Rome

## CONTENTS

Symbols used in the tables .....	iii
1. INTRODUCTION.....	4
1.1 Framework.....	4
1.2. Presentation.....	5
1.3. Analysis of the data included in the Compendium .....	5
1.4. Arrangement of the set of indicators .....	6
1.5. An overview of the state of agricultural environment .....	8
(a) Agricultural area and Total area .....	8
(b) Arable land & permanent crops and agricultural area .....	8
(c) Irrigation .....	9
(d) Livestock .....	9
2. INDICATORS FOR CONTINENTS AND REGIONS .....	10
2.1 Spatial and temporal comparison .....	11
2.1.1 Spatial and temporal comparison among economic groups .....	11
2.1.2 Spatial and temporal comparison among continental groups .....	12
2.1.3 Spatial and temporal comparison among regional groups.....	13
2.2 Indicators for world and for economic, regional and continental groups .....	14
2.2.1. World .....	14
2.2.2 Developed countries.....	15
2.2.3. Transition markets .....	16
2.2.4 . Developing countries .....	17
2.2.5. Latin American countries .....	18
2.2.6. The Caribbean countries .....	19
2.2.7. Near East and North Africa.....	20
2.2.8. Sub-Saharan Africa .....	21
2.2.9. East and South East Asia and China.....	22
2.2.10. South Asia .....	23
2.2.11. Africa .....	24
2.2.12. North and Central America .....	25
2.2.13. South America .....	26
2.2.14. Asia excluding (eight) Former USSR Republics .....	27
2.2.15. Europe excluding (seven) Former USSR Republics.....	28
Annex 1: Composition of continental and regional groupings .....	29
Annex 2: Definitions.....	32

### **Symbols used in the tables**

n.a.	Data not available
Ha	Hectare
Kg	Kilogram
US\$	United States dollars
MLN US\$	Million United States dollars
I\$	International dollars
US\$/No	United States dollars per total population
LU/Ha	Livestock units per hectare
No/1000Ha	Number of tractors per a thousand hectares

A blank cell means not applicable

Zero value means data below half the unit

# 1. INTRODUCTION

## 1.1 Framework

Indicators are statistical constructs which support decision-making by revealing trends in data and subsequently, they can be used to analyse the results of policy actions. In addition, indicators provide an early warning of potential economic, social or environmental damage.

At international level, a systematic effort to bring together the work of various organisations on environmental indicators was made by the Commission of Sustainable Development (CSD). This report brings together data on land, agri-chemicals (fertilizer and pesticides), population, labour force, agricultural machinery, macro-economic aggregates (GDP and investment in agriculture) and development assistance provided for agricultural development in the form of indicators. Some of the indicators included in this compendium have also been recommended by the CSD. However, as the objective of the compendium is to reveal the state of agricultural land, instead of a more comprehensive analysis of the environment in general, it also includes some additional indicators not included in the CSD list. Furthermore, while CSD adopts the "Driving Force – State – Response (DSR)" approach, here the indicators have been grouped according to the "Pressure – State – Response (PSR)" framework in order to study the state of agricultural land. Data included in the Compendium covers 168 countries for selected points in time, viz. average of 1989–1991, average of 1994–1996 and individual years 1998, 1999 and 2000. The data has been used to derive the following indicators:

- 1. AGRICULTURAL AREA**
  - 1.1 Agricultural Area/ Total Area
  - 1.2 Arable Land and Permanent Crops/Agricultural Area
  - 1.3 Arable Land /Agricultural Area
  - 1.4 Permanent Crops/Agricultural Area
  - 1.5 Permanent Pastures/Agricultural Area
  - 1.6 Agricultural Labour Force/Agricultural Area
- 2. IRRIGATED LAND**
  - 2.1 Irrigated land/Agricultural Area
  - 2.2 Irrigated land/Arable land and Permanent Crops
- 3. TRACTORS**
  - 3.1 Tractors/Arable land
- 4. PESTICIDES**
  - 4.1 Pesticide consumption/Arable land
  - 4.2 Pesticide consumption/Agricultural Area
- 5. FERTILIZER**
  - 5.1 Fertilizer consumption/Arable land
  - 5.2 Fertilizer consumption/Agricultural Area
- 6. POPULATION**
  - 6.1 Agricultural Population/Total Population
  - 6.2 Agricultural Labour Force/Total Labour Force
- 7. GDP INDICATORS**
  - 7.1 Agricultural GDP /Total GDP
  - 7.2 Agricultural GDP/ Total Labour Force
- 8. LIVE ANIMALS – LIVESTOCK**
  - 8.1 Number of Live Animals/Agricultural Area
  - 8.2 Number of Live Animals/Permanent Pastures
- 9. VALUE OF AGRICULTURAL PRODUCTION IN INTERNATIONAL DOLLARS**
  - 9.1 Value of Agricultural Production (Int. \$)/Agricultural Area
- 10. AGRICULTURAL INVESTMENT**
  - 10.1 Agricultural Investment (constant price 1995)/ Agricultural Area
- 11. EXTERNAL ASSISTANCE TO AGRICULTURE**
  - 11.1 EAA/Agricultural Area
- 12. PRESSURE FOR FOOD PRODUCTION**
  - 12.1 Export Value - Import Value at base year prices for Total Agricultural Production

## **1.2. Presentation**

The Compendium presents indicators for economic groups (developed countries, transition markets and developing countries), continents (Africa, Asia, North and Central America, South America, Europe, Oceania), regional groups of countries (Near East and North Africa, Sub-Saharan Africa, East and South East Asia including China, South Asia, Caribbean, Latin America, and Former USSR) and individual countries. Sections 3 and 4 present economic, continental and regional groups and the breakdown of each indicator by countries respectively. The composition of continents and regional groups is given in Annex 1. Definitions of each data-set are given in Annex 2.

## **1.3. Analysis of the data included in the Compendium**

The basic objective of preparing this Compendium is not to draw any conclusion or analyse the state of the agricultural environment but only to provide basic data to policy makers and analysts. In the past, decision-makers have analysed the economic impact of various programmes and policies without taking into consideration environmental aspects. However, they may like to know the answers to questions such as: (a) What areas need extension support (e.g. use of fertilizer, crop rotation programmes) to improve the quality of land, and what are crop type and farming practices suitable for a region? (b) If the livestock population versus pasture land ratio is suitable for a region and, if not, what changes are required in farming practice for correcting the adverse impact on land? It was noted by the FAO Statistics Division that although agencies like UNEP provide detailed information to review the state of the environment, comprehensive information on agricultural related indicators is not readily available. The information contained in the Compendium is intended to fill this gap, and can be used to study the inter- and intra-regional state of the agricultural environment.

Before looking into the indicators, the nature and limitations of the data should be understood. The indicator series is based on the data compiled by FAO Statistics Division that form a statistical time series starting with the year 1961. The statistics are published in the Production Yearbook and Fertilizer Yearbook and also presented on the FAO website. Some of the basic characteristics of these data-sets are given below:

- (i) A leading difficulty faced by the Statistics Division arises from the huge quantity of data required to create a global data-set covering all countries and all items, necessary to undertake global and regional analysis. Not only is there a huge quantity of annual figures relating to various elements to collect or estimate, evaluate and record but also the magnitude of the figures - in terms of units - varies between a few thousands to millions depending upon the country.
- (ii) These data are collected in numerous ways, primarily by sending tailored questionnaires to member countries. Other sources are international and national publications, including general yearbooks, agricultural yearbooks, pocket-books, periodicals, FAO Country Representatives' reports, and country visits by ESS statisticians. In some cases, official figures released by the countries can be found in these publications long before they reach FAO through the questionnaires. It is not always easy to ascertain which of the figures reported by the various sources is the most recent or the most reliable, although the national Yearbook data are supposed to be the most accurate. However, they report historical data up to a period of one to three years behind the current year.
- (iii) The data are evaluated for consistency within the country and between countries in line with the definitions and coverage of the data recommended by FAO. Furthermore, although there are so many sources of data, it should be noted that most sources deal with the limited data according to their own statistical system. In other words, too much information for certain commodities and too little for others. This results in missing data and gaps in the series. In the absence of any figure from official or unofficial sources, estimates for missing data are made on the basis of various assumptions. However, the estimation of a complete time series, when neither official nor unofficial data are available, presents more difficulties. All these, of course, are the matters which deserve attention and which receive only limited resources.

As an example, the land use classification adopted in this connection is linked to the FAO's recommendations for censuses of agriculture. The FAO land use statistics are more linked to the use of land for agriculture and are historically based on point estimates derived from data collected in periodic agricultural censuses and estimated in intercensal years using a variety of information and data sources. The analysis on data received from countries indicates that the land use definition given by the FAO is not adopted by the majority of countries in collecting and compiling data. Some of the problems countries faced in collection, compilation and presentation of data on land use are given below:

(i) There is no universally accepted concept for some of the items used in the land use classifications. Definitions used by reporting countries vary considerably and items classified under the same category often relate to different kinds of land. Three important points in this connection are as follows:

- (a) Most countries define arable land as the land that is potentially cultivable, whereas FAO's definition refers to land under temporary crops, meadow and pasture. This classification also includes fallow land. Fallow land is generally of two types: land that has been left idle in the current crop season to improve the productivity of the land; and land that is left fallow for a longer time period and for which no cultivation activity has been planned. Many countries do not distinguish between these two types of fallow area and count them under arable land.
- (b) Area under shifting cultivation presents another problem for collection of data on arable land. This activity can be defined as cultivation involving the removal or burning of vegetation for pasturage or other purposes to support human life. This practice is being done in both fallow areas (which are of a permanent nature) as well as in forest areas. Many countries include this category of land under arable land. Some countries (such as Mali, Niger) also include area under shifting cultivation in the harvested area but exclude it from arable land.
- (c) Some countries refer to wooded land as what statistician prefers to call 'woodland'. In most developed countries, animals graze in these areas. Statistically, the areas where animals graze are classified as pasture while those involved in resource assessment classify them (on the basis of satellite imagery) as wooded land. Similarly there are also problems with the classification of area under some plantation crops. For example, should rubber plantations be classified as wooded land or woodland?

(ii) Furthermore, the land use database is not always up-to-date for several reasons. In many countries, there is no established statistical system to generate such data. Gaps have been filled by FAO estimates using other information and assumptions while keeping the time series data reliable. These problems are highlighted to point out that the indicators derived using country data should be seen to reflect the general magnitude of the data rather than an exact measurement. It is possible to compile a more appropriate indicator for each individual country by taking into account their farming customs; however, this has not been attempted as it would present problems in inter-country comparison and aggregation. Therefore, in the present compendium this global data-set has been included without making adjustments for each individual country in order to present an overview of the state of environment.

#### **1.4. Arrangement of the set of indicators**

One of the most common examples of describing the use of a set of indicators to provide comprehensive view at a glance is the dashboard of a car, where information on different related factors is put together in one location to provide an overall picture to the user. This suggests that a set of indicators needs to be defined and organised keeping in view the ultimate objective. The present compendium is a step in this direction. It has been organised with the intention of studying the state of the agricultural environment in different regions of the world by looking at agricultural land, a key resource. To analyse 'the state' and understand areas of real concern, regional indicators have been supported by country level information and continental groupings have been further supported by regional groups. A logical framework of the analysis is given below.

## **A. Pressure Indicators:**

Four indicators dealing with production, agricultural production, land and labour have been selected to indicate pressure of agricultural activity on agricultural land.

P.1 Pressure for food and agriculture production for a region has been measured through net export (i.e. export value less import value) of agricultural and food production at base period price. This indicator can be positive or negative depending on the extent of dependence on the rest of the world. Values with a positive sign reveal a comfortable situation for the region. Net product has been divided by total population to compare magnitude of the pressure among regions and countries.

P.2 Agricultural land per agricultural worker (labour force) reveals pressure of economic activity on agricultural land. The smaller the value of the number indicates more pressure on the land.

P.3/4 Both the indicators 'Number of live animals per hectare of permanent pastures' and 'Number of live animals per hectare of agricultural area' presents the livestock–land ratio. Keeping two similar indicators has been considered appropriate as in some of the developing countries livestock also depends on agricultural waste.

## **B. State Indicators:**

Fifteen indicators have been selected to reveal the current and changing state of agricultural land. These indicators highlight: (a) importance of agricultural activity in the country and among the workers (three indicators); (b) distribution of land use (five indicators); (c) use of agri-chemicals and machineries (five indicators); and (d) status of irrigation (two indicators). While studying use of agri-chemicals, indicators have been constructed using arable land as well as total agricultural land keeping in view differences in the agricultural practice in different countries. Similarly, in the case of the status of irrigated land, both agricultural area and area under temporary and permanent crops are used as indicators. Selected indicators are:

- S.1 Share of agricultural GDP in total GDP
- S.2 Share of population dependent on agriculture in total population
- S.3 Share of agricultural labour force in total labour force
  
- S.4 Share of agricultural land in total area
- S.5 Share of arable land and land under permanent crops in total agricultural area
- S.6 Share of arable land in total agricultural land
- S.7 Share of land under permanent crops in the total agricultural land
- S.8 Share of land under permanent pastures in the total agricultural land
  
- S.9 Fertilizer consumption per hectare of arable land
- S.10 Fertilizer consumption per hectare of agricultural land
- S.11 Pesticide consumption per hectare of arable land
- S.12 Pesticide consumption per hectare of agricultural land
- S.13 Number of tractors used per hectare of arable land
- S.14 Share of irrigated land in total agricultural land
- S.15 Share of irrigated land in total land under temporary and permanent crops

## **C. Response Indicators**

Four indicators have been selected to indicate response of agricultural activity on agricultural land. Response has been defined in two ways: first, by looking at land and labour productivity and second, by the response of society and the international community in providing resources for the improvement of agriculture. The indicators are:

- R.1 Value of agricultural production per hectare of agricultural area
- R.2 Agricultural GDP per agricultural worker (labour force)
- R.3 Agricultural investment per hectare of agricultural area
- R.4 External assistance to agriculture per hectare of agricultural area



## **1.5. An overview of the state of agricultural environment**

The following analysis of the trend in agricultural land use in Asia is made to illustrate the interpretation of the derived indicators. The data source for the indicators is the FAOSTAT database on Land Use Statistics. Growth rates are measured over the time period 1989-1991 to 1998-2000 and the most recent indicators refer to the average of the period 1998-2000.

### **(a) Agricultural area and Total area**

Asia recorded the largest growth (2.5%) in the share of agricultural land to total land area over the ten year period out of all continents. This compares to a growth of 0.9% for the world and 1.6% for developing countries. Developed countries underwent a decline of 0.3%.

Although a minimal growth was noted in South Asia, the actual share remained very high at 50.0% (second only to the Caribbean). This large share was a result of the significant areas of agricultural land in Bangladesh (62.6% of total land), India (54.9%) and Sri Lanka (35.7%). Overall in the world, agricultural land makes up 37.3% of total land.

### **(b) Arable land & permanent crops and agricultural area**

This category refers to the use of land cultivated for productive activities such as cereals, root crops, industrial crops (e.g. cotton, tobacco, oilseeds), vegetables, flowers and ornamental plants, orchards, vineyards, olives, etc.

The total agricultural area in the world amounts to 5.0 billion ha. Of this, about 1.5 billion ha (30.4%) is arable land and land under permanent crops. A decreasing growth rate of 0.3% has been noted over the ten year period.

South Asia has the largest share of arable and permanent crop land in total agricultural land (91.5%), though with a slow growth rate of 0.2% over the period under review. Within the region, India and Bangladesh have very high shares – 94.0% and 93.3% respectively. The region which follows South Asia is the Caribbean.

The same picture arises when looking at the share of arable land only in total agricultural area. Once again, the large share in South Asia is due to Bangladesh and India. In the case of permanent crops, South Asia has had the largest growth over the decade (at 10.7%), and share is 4.5%. The country within the region devoting the largest share of its land to permanent crops is Sri Lanka, with 43.3%, whereas the rest of the countries have a low share varying from between 1.8% and 4.4%.

In the world, the share of area under permanent pastures in total agricultural area is 69.6%. In South Asia, it is 8.5%, and a decline of 2.0% was recorded over the period under review. Within regional groups, only the Caribbean shows a share of less than 69%. In continental groups, Africa and South America have the highest shares – at 81.4% and 80.4% respectively.

The world average of agricultural area per agricultural worker was 3.8 ha, with a large difference noted between regional and economic groups. The largest area was recorded in developed countries, with 37.6 ha, followed by North and Central America with 30.5 ha. South Asia had the lowest figure, of 0.7 ha per agricultural worker. This could be explained by the region's increasing agricultural population pressure for agriculture land. Two countries in the region, Bhutan and Nepal, have the highest overall share of agricultural population in total population (93.8% and 93.1%).

Response indicators show that the value of agricultural production per hectare of agricultural land is highest in South Asia, at I\$ 720.6. Sub-Saharan Africa continues to show the lowest value of I\$ 71.8. The high value in South Asia may be due to high cropping intensity and reported low share of area under permanent pasture in total agricultural land as compared to the rest of the regions of the world.

On the contrary, the second response indicator of Agricultural GDP per agricultural worker shows South Asia the second lowest in all regions, with a value of US\$ 404. Only Sub-Saharan Africa was lower with US\$ 315.

### **(c) Irrigation**

As the world moves toward increasing food security and agricultural production, irrigation has become one of the major contributing factors to achieving this goal. It is known that the large proportion of water withdrawn from rivers, lakes and aquifers mainly flows into agriculture. The efficient use of this proportion of water for high agricultural productivity will also depend on the employment of new technologies. Depending on the availability of water resources the irrigated area will vary among the regions of the world.

In the world, about 0.3 billion ha of land is irrigated, amounting to 5.4% of total agricultural land. Growth over the 1990's was 4.4%. The share of irrigated land in arable and permanent crop land amounts to 17.8%, growing at a rate of 4.8%. Asia makes up a share of 33.2% of the world's agricultural land, and 12.8% of this is irrigated (0.2 billion ha). The highest share of irrigated land was noted in South Asia, with 35.0%, and a record growth rate of 8.1%. Pakistan and Bangladesh in particular had a large portion of irrigated land in total agricultural land.

### **(d) Livestock**

Livestock is considered an important source for the supply of energy, food and support for agricultural production necessary for the improvement of human well-being. At the same time it is important to mention that an increase in livestock population may result in inducing additional pressure on land due to overgrazing and eventually become a source for land degradation. Considering this aspect of livestock development, growth of livestock production may differ significantly across countries with varying natural endowments, mainly the land available for meadows and pastures. Therefore this analysis at the global and regional scale using the derived indicators for live animal is meant to make a broad comparison for providing a panoramic description of what seems to be happening rather than an exact measurement of the situation. For facilitating cross country comparison by taking into account all types of livestock/poultry, the number has been expressed in "livestock unit" by converting different types of livestock taking 'feed aspects' into account (see definitions on page 34 for more details).

At the global level, the number of live animals per hectare of agricultural area in livestock units (LU) was 0.33. Among regional groups, South Asia reported the highest LU/ha of 1.09, followed by the Caribbean with 0.77 LU/ha. A similar picture exists for number of live animals per hectare of permanent pastures. The overall average is 0.48 LU/ha, with South Asia reporting the highest figure of 12.84, and the Caribbean second in regional ranking, with 1.91. Near East and North Africa showed the lowest number of live animals per hectare of both permanent pasture and agriculture area, at 0.19 and 0.15 respectively. South Asia may need to watch the growth in its livestock population to ensure that it does not expand too rapidly.

## **2. INDICATORS FOR CONTINENTS AND REGIONS**

This Section provides an overview of the state of agricultural land in different continents/regions. Data has been organised in two alternative ways. The first four tables of the section present spatial and temporal comparisons among economic groups, continents and regional groups. These tables bring together average data for 1998-2000 to reveal the current status of the group and the growth rate for the period 1989-1991 to 1998-2000 to reveal how the indicator was behaving over the total period. The second set of tables presents indicators for continental and regional groups at three points of time, namely average for the periods 1989-1991, 1994-1996 and 1998-2000 to supplement conclusions drawn from the first set.

## 2.1 Spatial and temporal comparison

### 2.1.1 Spatial and temporal comparison among economic groups

Average for 1998-2000 and growth rate (in brackets) for the period 1989-91 to 1998-2000

		Unit	World	Developed Countries	Transition Markets	Developing Countries
<b>Pressure Indicators</b>						
P.1	Net export of agricultural and food products at base year price	MLN US\$	-16724	-8081	1225	-8643
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-3.00	-8.25	14.89	-1.88
P.3	Agricultural area per agricultural worker	Ha per worker	3.8 (-2.6)	37.6 (12.0)	19.7 (11.9)	2.5 (-2.6)
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.48 (6.6)	0.41 (-6.9)	0.33 (-15.6)	0.51 (5.8)
P.5	Number of live animal per hectare of agricultural area	LU/Ha	0.33 (6.8)	0.27 (-6.0)	0.20 (-12.7)	0.37 (5.4)
<b>State Indicators</b>						
S.1	Share of agricultural GDP in total GDP	Percent	4.4 (-7.5)	2.0 (-22.8)	7.4 (-31.1)	14.5 (-2.8)
S.2	Share of population dependent on agricultural in total population	Percent	42.8 (-4.0)	7.9 (-14.1)	15.8 (-11.4)	52.6 (-4.5)
S.3	Share of agricultural labour force in total labour force	Percent	45.1 (-3.9)	7.6 (-14.0)	15.4 (-11.3)	56.0 (-4.5)
S.4	Share of agricultural area in total area	Percent	37.3 (0.9)	32.8 (-0.3)	27.1 (1.1)	40.5 (1.6)
S.5	Share of arable land and land under permanent crops in total agricultural area	Percent	30.4 (-0.3)	34.8 (-1.8)	40.5 (-4.5)	27.8 (1.0)
S.6	Share of arable land in total agricultural area	Percent	27.8 (-0.8)	33.5 (-1.9)	39.4 (-4.6)	24.5 (0.3)
S.7	Share of area under permanent crops in total agricultural area	Percent	2.6 (5.6)	1.3 (1.3)	1.1 (0.5)	3.3 (6.2)
S.8	Share of area under permanent pastures in total agricultural area	Percent	69.6 (0.2)	65.2 (1.0)	59.5 (3.4)	72.2 (-0.4)
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	99.1 (6.9)	83.5 (-1.5)	29.1 (-12.4)	111.6 (13.0)
S.10	Fertilizer consumption per hectare of agricultural area	Kg/Ha	27.6 (6.0)	28.0 (-3.3)	11.5 (-16.5)	27.3 (13.3)
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.30 (-0.4)	1.55 (-8.5)	0.38 (-45.2)	1.02 (25.1)
S.12	Pesticide consumption per hectare of agricultural area	Kg/Ha	0.39 (-1.4)	0.52 (-9.7)	0.15 (-47.0)	0.28 (24.7)
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	19.1 (0.2)	31.6 (-1.3)	16.8 (-6.5)	9.1 (11.6)
S.14	Share of irrigated land in total agricultural area	Percent	5.4 (4.4)	3.7 (1.7)	3.9 (-3.7)	6.4 (5.0)
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	17.8 (4.8)	10.5 (3.6)	9.6 (0.8)	23.2 (4.0)
<b>Response Indicators</b>						
R.1	Value of agricultural production per hectare of agricultural area	I\$/Ha	259.2 (9.5)	259.1 (0.3)	149.0 (-18.1)	259.2 (16.5)
R.2	Agricultural GDP per agricultural worker	US\$ per worker	1046 (12.5)	9711 (-15.6)	1746 (-7.4)	705 (24.1)
R.3	Investment per hectare of agricultural area	US\$/Ha	788 (1.5)	967 (-1.0)	659 (-5.9)	683 (4.2)
R.4	External assistance to agriculture per hectare of agricultural area	Current US\$/Ha	3.1 (-12.4)			3.1 (-12.5)

## 2.1.2 Spatial and temporal comparison among continental groups

Average for 1998-2000 and growth rate (in brackets) for the period 1989-91 to 1998-2000

		Unit	World	Africa	Asia	Europe	North & Central America	South America
<b>Pressure Indicators</b>								
P.1	Net export of agricultural and food products at base year price	MLN US\$	-16724	-7431	-49121	-10506	8038	23643
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-3.00	-10.46	-13.84	-22.31	16.70	69.39
P.3	Agricultural area per agricultural worker	Ha per worker	3.8 (-2.6)	5.7 (-7.2)	1.3 (-1.2)	11.7 (13.3)	30.5 (-0.8)	23.6 (4.3)
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.48 (6.6)	0.23 (2.8)	0.76 (4.8)	2.44 (-4.4)	0.61 (3.2)	0.53 (2.3)
P.5	Number of live animal per hectare of agricultural area	LU/Ha	0.33 (6.8)	0.19 (2.0)	0.47 (5.4)	0.91 (-4.4)	0.35 (3.5)	0.42 (1.6)
<b>State Indicators</b>								
S.1	Share of agricultural GDP in total GDP	Percent	4.4 (-7.5)	16.3 (-3.1)	9.0 (3.5)	2.2 (-17.3)	1.8 (-10.7)	6.7 (-8.8)
S.2	Share of population dependent on agricultural in total population	Percent	42.8 (-4.0)	56.1 (-4.0)	54.0 (-4.2)	7.2 (-16.1)	11.0 (-8.3)	18.7 (-11.2)
S.3	Share of agricultural labour force in total labour force	Percent	45.1 (-3.9)	58.1 (-4.1)	57.5 (-4.0)	7.5 (-15.3)	9.0 (-7.2)	18.3 (-11.5)
S.4	Share of agricultural area in total area	Percent	37.3 (0.9)	36.5 (0.4)	49.6 (2.5)	43.6 (-1.9)	27.7 (-0.9)	35.7 (2.1)
S.5	Share of arable land and land under permanent crops in total agricultural area	Percent	30.4 (-0.3)	18.6 (3.6)	38.1 (-1.0)	62.5 (0.0)	42.5 (-0.4)	19.6 (3.2)
S.6	Share of arable land in total agricultural area	Percent	27.8 (-0.8)	16.3 (3.3)	33.8 (-1.9)	56.2 (-0.1)	41.1 (-0.6)	17.4 (3.2)
S.7	Share of area under permanent crops in total agricultural area	Percent	2.6 (5.6)	2.3 (5.6)	4.3 (7.0)	6.4 (0.8)	1.3 (6.0)	2.2 (2.5)
S.8	Share of area under permanent pastures in total agricultural area	Percent	69.6 (0.2)	81.4 (-0.8)	61.9 (0.6)	37.5 (0.0)	57.5 (0.3)	80.4 (-0.7)
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	99.1 (6.9)	21.4 (-1.1)	157.1 (13.4)	170.9 (-10.7)	95.8 (3.8)	80.0 (24.9)
S.10	Fertilizer consumption per hectare of agricultural area	Kg/Ha	27.6 (6.0)	3.5 (2.2)	53.2 (11.3)	96.0 (-10.8)	39.4 (3.1)	13.9 (28.9)
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.30 (-0.4)	0.43 (-11.9)	0.78 (13.4)	3.35 (-4.2)	2.11 (4.1)	2.11 (77.0)
S.12	Pesticide consumption per hectare of agricultural area	Kg/Ha	0.39 (-1.4)	0.07 (-7.7)	0.39 (7.9)	1.91 (-3.9)	0.94 (3.5)	0.37 (82.8)
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	19.1 (0.2)	2.9 (-3.4)	14.9 (11.4)	80.1 (-1.4)	23.1 (1.4)	53.9 (-5.1)
S.14	Share of irrigated land in total agricultural area	Percent	5.4 (4.4)	1.1 (5.7)	12.8 (4.1)	8.4 (3.9)	4.9 (4.8)	1.6 (3.0)
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	17.8 (4.8)	6.1 (2.0)	33.7 (5.2)	13.5 (3.9)	11.6 (5.2)	8.4 (-0.2)
<b>Response Indicators</b>								
R.1	Value of agricultural production per hectare of agricultural area	I\$/Ha	259.2 (9.5)	84.8 (12.6)	436.3 (16.6)	927.9 (1.6)	323.4 (11.0)	181.7 (13.4)
R.2	Agricultural GDP per agricultural worker	US\$ per worker	1046 (12.5)	466 (-4.6)	724 (25.5)	12335 (7.7)	9282 (12.6)	3238 (22.9)
R.3	Investment per hectare of agricultural area	US\$/Ha	788 (1.5)	305 (6.8)	1111 (3.1)	2749 (-1.1)	1276 (2.3)	445 (2.0)
R.4	External assistance to agriculture per hectare of agricultural area	Current US\$/Ha	3.1 (-12.4)	2.4 (-21.5)	4.0 (-9.0)		7.1 (-9.1)	1.5 (-3.8)

### 2.1.3 Spatial and temporal comparison among regional groups

Average for 1998-2000 and growth rate (in brackets) for the period 1989-91 to 1998-2000

		Unit	Developing Countries	Latin America	Caribbean	Near East & North Africa	Sub-Saharan Africa	East & South East Asia and China	South Asia
<b>Pressure Indicators</b>									
P.1	Net export of agricultural and food products at base year price	MLN US\$	-8643	23082	-527	-21766	1195	-9394	-850
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-1.88	48.75	-14.03	-55.53	2.27	-5.06	-0.65
P.3	Agricultural area per agricultural worker	Ha per worker	2.5 (-2.6)	19.1 (2.7)	3.2 (-1.4)	9.3 (0.3)	5.2 (-7.8)	1.2 (-1.5)	0.7 (-6.0)
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.51 (5.8)	0.53 (1.8)	1.91 (6.6)	0.19 (-2.9)	0.22 (12.4)	0.64 (10.7)	12.84 (8.1)
P.5	Number of live animal per hectare of agricultural area	LU/Ha	0.37 (5.4)	0.42 (1.1)	0.77 (0.2)	0.15 (-1.3)	0.18 (11.5)	0.44 (9.6)	1.09 (5.9)
<b>State Indicators</b>									
S.1	Share of agricultural GDP in total GDP	Percent	14.5 (-2.8)	6.3 (-11.7)	4.8 (-15.4)	12.0 (-7.0)	29.0 (0.1)	18.8 (4.9)	24.1 (-7.4)
S.2	Share of population dependent on agricultural in total population	Percent	52.6 (-4.5)	21.1 (-10.6)	25.2 (-7.3)	30.5 (-7.5)	64.7 (-3.7)	60.4 (-4.0)	54.7 (-3.9)
S.3	Share of agricultural labour force in total labour force	Percent	56.0 (-4.5)	20.0 (-10.9)	23.9 (-8.0)	33.9 (-7.4)	66.6 (-3.5)	62.2 (-4.0)	59.0 (-3.6)
S.4	Share of agricultural area in total area	Percent	40.5 (1.6)	37.7 (2.0)	55.8 (-1.3)	36.0 (6.7)	38.9 (0.2)	49.4 (0.9)	50.0 (0.1)
S.5	Share of arable land and land under permanent crops in total agricultural area	Percent	27.8 (1.0)	20.8 (2.7)	59.5 (4.8)	21.7 (-5.4)	17.8 (3.9)	30.8 (2.3)	91.5 (0.2)
S.6	Share of arable land in total agricultural area	Percent	24.5 (0.3)	18.5 (2.6)	44.8 (5.3)	19.3 (-5.8)	15.6 (3.7)	25.5 (0.9)	87.0 (-0.3)
S.7	Share of area under permanent crops in total agricultural area	Percent	3.3 (6.2)	2.4 (3.6)	14.7 (3.4)	2.4 (-1.6)	2.2 (6.0)	5.3 (9.6)	4.5 (10.7)
S.8	Share of area under permanent pastures in total agricultural area	Percent	72.2 (-0.4)	79.2 (-0.7)	40.5 (-6.0)	78.3 (1.7)	82.2 (-0.8)	69.2 (-1.0)	8.5 (-2.0)
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	111.6 (13.0)	80.2 (19.5)	57.5 (-33.5)	74.8 (6.8)	8.9 (-6.5)	224.9 (11.8)	110.7 (19.8)
S.10	Fertilizer consumption per hectare of agricultural area	Kg/Ha	27.3 (13.3)	14.8 (22.6)	25.8 (-29.9)	14.4 (0.6)	1.4 (-3.0)	57.4 (12.8)	96.3 (19.5)
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.02 (25.1)	2.24 (61.3)	3.42 (-3.9)	1.13 (16.6)	0.16 (-27.6)	1.96 (27.3)	0.39 (-5.1)
S.12	Pesticide consumption per hectare of agricultural area	Kg/Ha	0.28 (24.7)	0.40 (66.5)	1.22 (-2.6)	0.22 (8.4)	0.02 (-23.4)	1.15 (24.9)	0.34 (-5.3)
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	9.1 (11.6)	16.2 (-2.8)	11.8 (0.3)	18.8 (12.8)	1.1 (3.2)	8.0 (17.5)	9.5 (21.1)
S.14	Share of irrigated land in total agricultural area	Percent	6.4 (5.0)	2.2 (3.3)	9.9 (2.5)	6.1 (-0.7)	0.6 (3.1)	9.3 (5.3)	35.0 (8.1)
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	23.2 (4.0)	10.8 (0.6)	16.7 (-2.2)	27.9 (4.9)	3.2 (-0.8)	30.3 (3.0)	38.3 (7.9)
<b>Response Indicators</b>									
R.1	Value of agricultural production per hectare of agricultural area	\$/Ha	259.2 (16.5)	185.7 (12.8)	344.0 (-7.3)	154.1 (6.4)	71.8 (13.8)	475.0 (23.6)	720.6 (13.9)
R.2	Agricultural GDP per agricultural worker	US\$ per worker	705 (24.1)	2930 (18.6)	1615 (11.9)	2394 (1.9)	319 (-8.2)	703 (54.8)	404 (7.0)
R.3	Investment per hectare of agricultural area	US\$/Ha	683 (4.2)	487 (2.1)	1345 (1.8)	681 (-1.6)	247 (12.5)	1037 (6.0)	1842 (5.5)
R.4	External assistance to agriculture per hectare of agricultural area	Current US\$/Ha	3.1 (-12.5)	2.4 (-6.1)	11.2 (-12.4)	2.1 (-22.2)	1.9 (-24.4)	4.9 (3.2)	(6.4) (-18.9)

## 2.2 Indicators for world and for economic, regional and continental groups

### 2.2.1. World

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-6876	-17623	-16724
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-1.41	-3.34	-3.00
P.3	Agricultural land per agricultural worker	Ha per worker	4.0	3.9	3.8
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.42	0.47	0.48
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.29	0.33	0.33
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	5.2	4.5	4.4
S.2	Share of population dependent on agricultural in total population	Percent	46.4	44.4	42.8
S.3	Share of agricultural labour force in total labour force	Percent	48.9	46.8	45.1
S.4	Share of agricultural land in total area	Percent	36.6	37.2	37.3
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	30.6	30.4	30.4
S.6	Share of arable land in total agricultural land	Percent	28.3	27.9	27.8
S.7	Share of area under permanent crops in total agricultural land	Percent	2.3	2.5	2.6
S.8	Share of area under permanent pastures in total agricultural land	Percent	69.4	69.6	69.6
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	86.8	92.4	99.1
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	24.6	25.8	27.6
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.31	1.27	1.30
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.40	0.38	0.39
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	19.0	19.0	19.1
S.14	Share of irrigated land in total agricultural land	Percent	5.0	5.2	5.4
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	16.2	17.3	17.8
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	216.2	234.5	259.2
R.2	Agricultural GDP per agricultural worker	US\$ per worker	827	991	1046
R.3	Investment per hectare of agricultural land	US\$/Ha	765	783	788
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	4.0	3.1	3.1

## 2.2.2 Developed countries

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-6905	-9031	-8081
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-7.44	-9.42	-8.25
P.3	Agricultural land per agricultural worker	Ha per worker	29.9	34.2	37.6
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.48	0.44	0.41
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.31	0.29	0.27
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	3.3	2.4	2.0
S.2	Share of population dependent on agricultural in total population	Percent	10.6	9.0	7.9
S.3	Share of agricultural labour force in total labour force	Percent	10.2	8.6	7.6
S.4	Share of agricultural land in total area	Percent	33.0	33.2	32.8
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	36.1	35.2	34.8
S.6	Share of arable land in total agricultural land	Percent	34.8	33.9	33.5
S.7	Share of area under permanent crops in total agricultural land	Percent	1.3	1.3	1.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	63.9	64.8	65.2
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	86.0	83.5	83.5
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	29.9	28.3	28.0
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.85	1.58	1.55
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.64	0.54	0.52
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	32.4	31.8	31.6
S.14	Share of irrigated land in total agricultural land	Percent	3.5	3.6	3.7
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	9.8	10.3	10.5
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	257.7	246.4	259.1
R.2	Agricultural GDP per agricultural worker	US\$ per worker	13647	9870	9711
R.3	Investment per hectare of agricultural land	US\$/Ha	987	982	967
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha			



### 2.2.3. Transition markets

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	1406	1071	1225
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	16.80	12.89	14.89
P.3	Agricultural land per agricultural worker	Ha per worker	15.8	18.1	19.7
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.47	0.43	0.33
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.26	0.25	0.20
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	15.6	9.1	7.4
S.2	Share of population dependent on agricultural in total population	Percent	20.1	17.6	15.8
S.3	Share of agricultural labour force in total labour force	Percent	19.6	17.1	15.4
S.4	Share of agricultural land in total area	Percent	26.5	27.4	27.1
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	44.4	41.8	40.5
S.6	Share of arable land in total agricultural land	Percent	43.2	40.6	39.4
S.7	Share of area under permanent crops in total agricultural land	Percent	1.1	1.2	1.1
S.8	Share of area under permanent pastures in total agricultural land	Percent	55.6	58.2	59.5
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	38.0	29.3	29.1
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	16.4	11.9	11.5
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.26	0.50	0.38
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.54	0.21	0.15
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	19.3	17.9	16.8
S.14	Share of irrigated land in total agricultural land	Percent	4.2	4.0	3.9
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	9.5	9.5	9.6
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	222.0	156.8	149.0
R.2	Agricultural GDP per agricultural worker	US\$ per worker	2037	2099	1746
R.3	Investment per hectare of agricultural land	US\$/Ha	744	724	659
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha			

## 2.2.4 . Developing countries

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	28	-8592	-8643
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	0.01	-1.99	-1.88
P.3	Agricultural land per agricultural worker	Ha per worker	2.6	2.6	2.5
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.46	0.49	0.51
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.33	0.36	0.37
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	15.3	13.7	14.5
S.2	Share of population dependent on agricultural in total population	Percent	57.6	54.8	52.6
S.3	Share of agricultural labour force in total labour force	Percent	61.4	58.4	56.0
S.4	Share of agricultural land in total area	Percent	39.2	40.1	40.5
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	27.3	27.5	27.8
S.6	Share of arable land in total agricultural land	Percent	24.3	24.3	24.5
S.7	Share of area under permanent crops in total agricultural land	Percent	2.9	3.2	3.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	72.7	72.5	72.2
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	87.4	99.9	111.6
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	21.3	24.3	27.3
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.66	0.92	1.02
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.18	0.25	0.28
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	7.3	8.3	9.1
S.14	Share of irrigated land in total agricultural land	Percent	5.8	6.2	6.4
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	21.4	22.6	23.2
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	190.9	227.3	259.2
R.2	Agricultural GDP per agricultural worker	US\$ per worker	458	589	705
R.3	Investment per hectare of agricultural land	US\$/Ha	629	664	683
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	4.0	3.1	3.1

## 2.2.5. Latin American countries

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	14748	15227	23082
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	36.29	34.31	48.75
P.3	Agricultural land per agricultural worker	Ha per worker	18.1	18.7	19.1
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.51	0.53	0.53
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.41	0.42	0.42
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	8.1	7.5	6.3
S.2	Share of population dependent on agricultural in total population	Percent	26.3	23.3	21.1
S.3	Share of agricultural labour force in total labour force	Percent	25.2	22.2	20.0
S.4	Share of agricultural land in total area	Percent	36.2	37.2	37.7
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	19.8	20.4	20.8
S.6	Share of arable land in total agricultural land	Percent	17.5	18.1	18.5
S.7	Share of area under permanent crops in total agricultural land	Percent	2.2	2.4	2.4
S.8	Share of area under permanent pastures in total agricultural land	Percent	80.2	79.6	79.2
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	56.1	65.8	80.2
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	9.9	11.9	14.8
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.86	1.51	2.24
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.14	0.26	0.40
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	11.7	11.9	11.8
S.14	Share of irrigated land in total agricultural land	Percent	2.1	2.2	2.2
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	10.6	10.8	10.8
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	146.0	166.4	185.7
R.2	Agricultural GDP per agricultural worker	US\$ per worker	2084	3057	2930
R.3	Investment per hectare of agricultural land	US\$/Ha	467	481	487
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	2.7	2.2	2.4

## 2.2.6. The Caribbean countries

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	1891	-293	-527
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	55.79	-8.16	-14.03
P.3	Agricultural land per agricultural worker	Ha per worker	3.3	3.3	3.2
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	1.68	1.85	1.91
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.77	0.77	0.77
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	6.8	5.1	4.8
S.2	Share of population dependent on agricultural in total population	Percent	29.3	26.9	25.2
S.3	Share of agricultural labour force in total labour force	Percent	28.3	25.8	23.9
S.4	Share of agricultural land in total area	Percent	57.3	56.7	55.8
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	54.2	58.5	59.5
S.6	Share of arable land in total agricultural land	Percent	40.4	44.2	44.8
S.7	Share of area under permanent crops in total agricultural land	Percent	13.8	14.3	14.7
S.8	Share of area under permanent pastures in total agricultural land	Percent	45.8	41.5	40.5
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	129.9	63.3	57.5
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	52.5	28.0	25.8
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	3.70	3.91	3.42
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	1.29	1.38	1.22
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	17.12	15.98	16.18
S.14	Share of irrigated land in total agricultural land	Percent	9.5	9.7	9.9
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	17.5	16.5	16.7
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	400.3	320.8	344.0
R.2	Agricultural GDP per agricultural worker	US\$ per worker	1291	1267	1615
R.3	Investment per hectare of agricultural land	US\$/Ha	1299	1332	1345
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	14.6	14.2	11.2

## 2.2.7. Near East and North Africa

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-17160	-17777	-21766
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-53.84	-49.37	-55.53
P.3	Agricultural land per agricultural worker	Ha per worker	9.3	9.8	9.3
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.21	0.18	0.19
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.16	0.14	0.15
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	13.9	12.4	12.0
S.2	Share of population dependent on agricultural in total population	Percent	35.7	32.8	30.5
S.3	Share of agricultural labour force in total labour force	Percent	39.5	36.4	33.9
S.4	Share of agricultural land in total area	Percent	31.6	36.2	36.0
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	24.2	22.0	21.7
S.6	Share of arable land in total agricultural land	Percent	21.7	19.8	19.3
S.7	Share of area under permanent crops in total agricultural land	Percent	2.5	2.3	2.4
S.8	Share of area under permanent pastures in total agricultural land	Percent	75.8	78.0	78.3
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	65.5	60.0	74.8
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	14.2	11.9	14.4
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.83	1.02	1.13
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.19	0.21	0.22
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	14.8	16.3	18.8
S.14	Share of irrigated land in total agricultural land	Percent	6.1	5.9	6.1
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	25.4	26.6	27.9
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	136.1	136.6	154.1
R.2	Agricultural GDP per agricultural worker	US\$ per worker	2306	2160	2394
R.3	Investment per hectare of agricultural land	US\$/Ha	704	659	681
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	3.5	2.8	2.1

## 2.2.8. Sub-Saharan Africa

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	2215	2259	1195
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	5.34	4.76	2.27
P.3	Agricultural land per agricultural worker	Ha per worker	6.1	5.5	5.2
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.18	0.20	0.22
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.15	0.17	0.18
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	29.0	28.7	29.0
S.2	Share of population dependent on agricultural in total population	Percent	69.7	66.9	64.7
S.3	Share of agricultural labour force in total labour force	Percent	71.6	68.8	66.6
S.4	Share of agricultural land in total area	Percent	38.7	38.5	38.9
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	16.5	17.5	17.8
S.6	Share of arable land in total agricultural land	Percent	14.5	15.3	15.6
S.7	Share of area under permanent crops in total agricultural land	Percent	2.0	2.1	2.2
S.8	Share of area under permanent pastures in total agricultural land	Percent	83.5	82.5	82.2
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	10.1	8.7	8.9
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	1.5	1.3	1.4
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.30	0.16	0.16
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.04	0.02	0.02
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	1.1	1.1	1.1
S.14	Share of irrigated land in total agricultural land	Percent	0.5	0.6	0.6
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	3.3	3.3	3.2
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	55.4	64.0	71.8
R.2	Agricultural GDP per agricultural worker	US\$ per worker	378	292	319
R.3	Investment per hectare of agricultural land	US\$/ha	195	234	247
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	3.3	1.8	1.9

## 2.2.9. East and South East Asia and China

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-2216	-10143	-9394
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-1.33	-5.71	-5.06
P.3	Agricultural land per agricultural worker	Ha per worker	1.2	1.2	1.2
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.52	0.63	0.64
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.37	0.44	0.44
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	17.1	15.7	18.8
S.2	Share of population dependent on agricultural in total population	Percent	65.6	62.8	60.4
S.3	Share of agricultural labour force in total labour force	Percent	67.4	64.6	62.2
S.4	Share of agricultural land in total area	Percent	48.5	48.2	49.4
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	29.5	30.1	30.8
S.6	Share of arable land in total agricultural land	Percent	25.1	24.9	25.5
S.7	Share of area under permanent crops in total agricultural land	Percent	4.4	5.2	5.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	70.5	69.9	69.2
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	180.0	219.6	224.9
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	45.2	54.7	57.4
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.21	2.65	1.96
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.74	1.53	1.15
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	5.8	6.5	8.0
S.14	Share of irrigated land in total agricultural land	Percent	8.4	9.0	9.3
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	28.6	29.9	30.3
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	555.5	643.3	720.6
R.2	Agricultural GDP per agricultural worker	US\$ per worker	293	505	703
R.3	Investment per hectare of agricultural land	US\$/Ha	922	1012	1037
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	4.6	4.7	4.9

## 2.2.10. South Asia

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	896	2478	-850
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	0.81	2.04	-0.65
P.3	Agricultural land per agricultural worker	Ha per worker	0.8	0.7	0.7
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	10.99	12.08	12.84
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.98	1.04	1.09
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	28.0	25.9	24.1
S.2	Share of population dependent on agricultural in total population	Percent	59.2	56.7	54.7
S.3	Share of agricultural labour force in total labour force	Percent	63.5	61.0	59.0
S.4	Share of agricultural land in total area	Percent	49.9	49.8	50.0
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	91.1	91.4	91.5
S.6	Share of arable land in total agricultural land	Percent	87.5	87.1	87.0
S.7	Share of area under permanent crops in total agricultural land	Percent	3.7	4.3	4.5
S.8	Share of area under permanent pastures in total agricultural land	Percent	8.9	8.6	8.5
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	77.2	91.2	110.7
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	67.5	79.4	96.3
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.43	0.37	0.39
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.38	0.33	0.34
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	6.5	8.5	9.5
S.14	Share of irrigated land in total agricultural land	Percent	29.9	33.6	35.0
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	32.9	36.7	38.3
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	555.5	643.3	720.6
R.2	Agricultural GDP per agricultural worker	US\$ per worker	353	379	404
R.3	Investment per hectare of agricultural land	US\$/Ha	1654	1781	1842
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	9.7	6.9	6.4



## 2.2.11. Africa

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-3775	-4787	-7431
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-6.64	-7.42	-10.46
P.3	Agricultural land per agricultural worker	Ha per worker	6.6	6.1	5.7
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.22	0.21	0.23
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.18	0.17	0.19
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	17.4	15.6	16.3
S.2	Share of population dependent on agricultural in total population	Percent	60.8	58.1	56.1
S.3	Share of agricultural labour force in total labour force	Percent	63.2	60.3	58.1
S.4	Share of agricultural land in total area	Percent	36.2	36.2	36.5
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	17.3	18.3	18.6
S.6	Share of arable land in total agricultural land	Percent	15.3	16.1	16.3
S.7	Share of area under permanent crops in total agricultural land	Percent	2.1	2.2	2.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	82.7	81.7	81.4
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	21.9	20.0	21.4
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	3.3	3.2	3.5
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.55	0.53	0.43
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.08	0.08	0.07
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	3.2	3.2	2.9
S.14	Share of irrigated land in total agricultural land	Percent	1.0	1.1	1.1
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	5.9	6.1	6.1
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	66.9	75.6	84.8
R.2	Agricultural GDP per agricultural worker	US\$ per worker	512	432	466
R.3	Investment per hectare of agricultural land	US\$/Ha	267	291	305
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	3.9	2.7	2.4

## 2.2.12. North and Central America

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	22925	16729	8038
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	53.57	36.57	16.70
P.3	Agricultural land per agricultural worker	Ha per worker	31.0	30.7	30.5
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.57	0.60	0.61
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.33	0.34	0.35
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	2.3	2.0	1.8
S.2	Share of population dependent on agricultural in total population	Percent	13.0	11.9	11.0
S.3	Share of agricultural labour force in total labour force	Percent	10.4	9.6	9.0
S.4	Share of agricultural land in total area	Percent	28.2	28.1	27.7
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	42.8	42.7	42.5
S.6	Share of arable land in total agricultural land	Percent	41.7	41.5	41.1
S.7	Share of area under permanent crops in total agricultural land	Percent	1.2	1.3	1.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	57.2	57.3	57.5
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	88.9	94.3	95.8
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	37.0	39.1	39.4
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	1.94	2.16	2.11
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.88	0.97	0.94
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	22.4	22.6	23.1
S.14	Share of irrigated land in total agricultural land	Percent	4.5	4.8	4.9
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	10.5	11.2	11.6
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	262.6	296.9	323.4
R.2	Agricultural GDP per agricultural worker	US\$ per worker	7321	8070	9282
R.3	Investment per hectare of agricultural land	US\$/Ha	1219	1255	1276
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	8.6	6.2	7.1

## 2.2.13. South America

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	14462	14843	23643
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	49.02	46.30	69.39
P.3	Agricultural land per agricultural worker	Ha per worker	21.7	22.8	23.6
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.50	0.52	0.53
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.41	0.42	0.42
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	8.1	7.7	6.7
S.2	Share of population dependent on agricultural in total population	Percent	23.7	20.7	18.7
S.3	Share of agricultural labour force in total labour force	Percent	23.4	20.4	18.3
S.4	Share of agricultural land in total area	Percent	34.3	35.2	35.7
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	18.4	19.0	19.6
S.6	Share of arable land in total agricultural land	Percent	16.3	16.8	17.4
S.7	Share of area under permanent crops in total agricultural land	Percent	2.1	2.2	2.2
S.8	Share of area under permanent pastures in total agricultural land	Percent	81.6	81.0	80.4
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	51.3	65.8	80.0
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	8.4	11.1	13.9
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.67	1.39	2.11
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.11	0.23	0.37
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	59.8	56.3	53.9
S.14	Share of irrigated land in total agricultural land	Percent	1.5	1.6	1.6
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	8.4	8.4	8.4
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	141.3	161.7	181.7
R.2	Agricultural GDP per agricultural worker	US\$ per worker	2145	3525	3238
R.3	Investment per hectare of agricultural land	US\$/Ha	428	439	445
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	1.6	1.6	1.5

### 2.2.14. Asia excluding (eight) Former USSR Republics

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-35570	-44179	-49121
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-11.49	-13.18	-13.84
P.3	Agricultural land per agricultural worker	Ha per worker	1.4	1.4	1.3
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	0.70	0.74	0.76
P.5	Number of live animal per hectare of agricultural land	LU/Ha	0.43	0.46	0.47
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	8.4	7.5	9.0
S.2	Share of population dependent on agricultural in total population	Percent	58.8	56.2	54.0
S.3	Share of agricultural labour force in total labour force	Percent	62.4	59.7	57.5
S.4	Share of agricultural land in total area	Percent	47.1	48.9	49.6
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	38.9	37.9	38.1
S.6	Share of arable land in total agricultural land	Percent	35.1	33.7	33.8
S.7	Share of area under permanent crops in total agricultural land	Percent	3.7	4.1	4.3
S.8	Share of area under permanent pastures in total agricultural land	Percent	61.1	62.1	61.9
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	122.1	142.9	157.1
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	42.9	48.2	53.2
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	0.61	0.86	0.78
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	0.33	0.42	0.39
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	12.0	13.6	14.9
S.14	Share of irrigated land in total agricultural land	Percent	11.8	12.4	12.8
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	30.5	32.7	33.7
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	320.7	382.1	436.3
R.2	Agricultural GDP per agricultural worker	US\$ per worker	460	612	724
R.3	Investment per hectare of agricultural land	US\$/Ha	1045	1084	1111
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha	4.8	3.9	4.0

## 2.2.15. Europe excluding (seven) Former USSR Republics

		Unit	1989-91	1994-96	1998-00
	<b>Pressure Indicators:</b>				
P.1	Net export of agricultural and food products at base year price	MLN US\$	-18621	-15375	-10506
P.2	Per caput net export of agricultural and food products at base year price	US\$/No	-40.41	-32.84	-22.31
P.3	Agricultural land per agricultural worker	Ha per worker	9.1	10.3	11.7
P.4	Number of live animals per hectare of permanent pastures	LU/Ha	2.67	2.48	2.44
P.5	Number of live animal per hectare of agricultural land	LU/Ha	1.00	0.93	0.91
	<b>State Indicators:</b>				
S.1	Share of agricultural GDP in total GDP	Percent	3.2	2.6	2.2
S.2	Share of population dependent on agricultural in total population	Percent	10.2	8.4	7.2
S.3	Share of agricultural labour force in total labour force	Percent	10.4	8.6	7.5
S.4	Share of agricultural land in total area	Percent	45.3	43.8	43.6
S.5	Share of arable land and land under permanent crops in total Agricultural land	Percent	62.5	62.6	62.5
S.6	Share of arable land in total agricultural land	Percent	56.2	56.3	56.2
S.7	Share of area under permanent crops in total agricultural land	Percent	6.3	6.3	6.4
S.8	Share of area under permanent pastures in total agricultural land	Percent	37.5	37.4	37.5
S.9	Fertiliser consumption per hectare of arable land	Kg/Ha	214.2	176.0	170.9
S.10	Fertilizer consumption per hectare of agricultural land	Kg/Ha	120.5	99.1	96.0
S.11	Pesticide consumption per hectare of arable land	Kg/Ha	3.65	3.09	3.35
S.12	Pesticide consumption per hectare of agricultural land	Kg/Ha	2.07	1.77	1.91
S.13	Number tractors used per hectare of arable land	No. per 1000 Ha	82.4	80.1	80.1
S.14	Share of irrigated land in total agricultural land	Percent	7.8	8.3	8.4
S.15	Share of irrigated land in total arable land & land under permanent crops	Percent	12.5	13.3	13.5
	<b>Response Indicators:</b>				
R.1	Value of agricultural production per hectare of agricultural land	I\$/Ha	899.4	888.0	927.9
R.2	Agricultural GDP per agricultural worker	US\$ per worker	10632	12778	12335
R.3	Investment per hectare of agricultural land	US\$/Ha	2809	2782	2749
R.4	External assistance to agriculture per hectare of agricultural land	Current US\$/Ha			

## ***Annex 1: Composition of continental and regional groupings***

### ***Developed Countries:***

Albania, Andorra, Armenia, Australia, Austria, Azerbaijan, Belgium-Luxembourg, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, Channel Is, Croatia, Czech Rep, Czechoslovak, Denmark, Estonia, Faeroe Is, Finland, France, Georgia, Germany, Gibraltar, Greece, Holy See, Hungary, Iceland, Ireland, Isle Of Man, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Macedonia, Malta, Moldova Rep, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Fed, San Marino, Slovakia, Slovenia, South Africa, Spain, Svalbard Is, Sweden, Switzerland, Tajikistan, Turkmenistan, UK, USA, USSR, Ukraine, Uzbekistan, Yugoslav SFR, Yugoslavia.

### ***Transition Market Economies:***

Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Rep, Czechoslovak, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova Rep, Poland, Romania, Russian Fed, Slovakia, Slovenia, Tajikistan, Turkmenistan, USSR, Ukraine, Uzbekistan, Yugoslav SFR, Yugoslavia.

### ***Developing Countries:***

Afghanistan, Algeria, American Samoa, Angola, Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Benin, Bermuda, Bhutan, Bolivia, Botswana, Bouvet Is, British Indian Ocean Territories, British Virgin Is, Brazil, Brunei Darussalam, Burkina Faso, Burundi, Cambodia, Cameroon, Canton Is, Cape Verde, Cayman Is, Central African Rep, Chad, Chile, China, Christmas Is, Cocos Is, Colombia, Comoros, Congo Dem. Rep, Congo Rep, Cook Is, Costa Rica, Cote d'Ivoire, Cuba, Cyprus, Djibouti, Dominica, Dominican Rep, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Ethiopia PDR, Falkland Is, Fiji Islands, French Guiana, French Polynesia, French South Territories, Gabon, Gambia, Gaza Strip, Ghana, Greenland, Grenada, Guadeloupe, Guam, Guatemala, Guinea, Guinea Bissau, Guyana, Haiti, Heard Is, Honduras, India, Indonesia, Iran, Iraq, Jamaica, Johnston Is, Jordan, Kenya, Kiribati, Korea Dem. People's Rep, Korea Rep, Kuwait, Laos, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Is, Martinique, Mauritania, Mauritius, Mayotte, Mexico, Micronesia, Midway Is, Mongolia, Montserrat, Morocco, Mozambique, Myanmar, Northern Marianas, Namibia, Nauru, Nepal, Netherlands Antilles, New Caledonia, Nicaragua, Niger, Nigeria, Niue, Norfolk Is, Oman, Pacific Is, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Pitcairn Is, Puerto Rico, Qatar, Reunion, Rwanda, Samoa, Sao Tome Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Singapore, Solomon Is, Somalia, South Georgia, Sri Lanka, St Helena, St Kitts Nevis, St Lucia, St Pierre and Miquelon, St Vincent, Sudan, Suriname, Swaziland, Syria, Tanzania, Thailand, Timor Leste, Togo, Tokelau, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turks and Caicos Is, Tuvalu, US Virgin Is, Uganda, United Arab Emirates, Uruguay, Us Minor Is, Vanuatu, Venezuela, Viet Nam, Wake Is, Wallis and Futuna Is, Western Sahara, Yemen, Zambia, Zimbabwe.

### ***Latin America:***

Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Falkland Is, Fr Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, South Georgia, Suriname, Uruguay, Venezuela.

**Caribbean:**

Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, British Virgin Is, Cayman Is, Cuba, Dominica, Dominican Rep, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Netherlands Antilles, Puerto Rico, St Kitts and Nevis, St Lucia, St Vincent, Trinidad and Tobago, Turks and Caicos Is, US Virgin Is.

**Near East and North Africa:**

Afghanistan, Algeria, Bahrain, Cyprus, Egypt, Gaza Strip, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates, Yemen.

**Sub-Saharan Africa:**

Angola, Benin, Botswana, British Indian Ocean Territories, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Rep, Chad, Comoros, Congo, Dem Rep, Congo Rep, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Ethiopia PDR, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, St Helena, Sudan, Swaziland, Tanzania, Togo, Uganda, Western Sahara, Zambia, Zimbabwe.

**East and South East Asia and China:**

Brunei Darussalam, Cambodia, China, Indonesia, Korea Dem People's Rep, Korea Rep, Laos, Malaysia, Mongolia, Myanmar, Philippines, Singapore, Thailand, Timor Leste, Viet Nam.

**South Asia:**

Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.

**Africa:**

Algeria, Angola, Benin, Botswana, British Indian Ocean Territories, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Rep, Chad, Comoros, Congo Dem Rep, Congo Rep, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Ethiopia PDR, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Sao Tome Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, St Helena, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Western Sahara, Zambia, Zimbabwe.

**North and Central America:**

Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Br Virgin Is, Canada, Cayman Is, Costa Rica, Cuba, Dominica, Dominican Rp, El Salvador, Greenland, Grenada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, St Kitts Nevis, St Lucia, St Pierre and Miquelon, St Vincent, Trinidad and Tobago, Turks and Caicos, US Virgin Is, USA,

**South America:**

Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Is, Fr Guiana, Guyana, Paraguay, Peru, South Georgia, Suriname, Uruguay, Venezuela.

**Asia:**

Afghanistan, Bahrain, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cyprus, Gaza Strip, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Korea D P Rep, Korea Rep, Kuwait, Laos, Lebanon, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Singapore, Sri Lanka, Syria, Thailand, Timor Leste, Turkey, United Arab Emirates, Viet Nam, Yemen. In order to present a consistent picture, data of the Asian Independent republics of USSR (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) have not been included in the continental total

**Europe:**

Albania, Andorra, Austria, Belgium-Luxembourg, Bosnia and Herzegovina, Bulgaria, Channel Is, Croatia, Czech Rep, Czechoslovak, Denmark, Faeroe Is, Finland, France, Germany, Gibraltar, Greece, Holy See, Hungary, Iceland, Ireland, Isle Of Man, Italy, Liechtensten, Macedonia, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Svalbard Is, Sweden, Switzerland, UK, Yugoslav SFR. In order to present a consistent picture, data of the European Independent republics of USSR (Belarus, Estonia, Latvia, Lithuania, Moldova, the Russian Federation and Ukraine) have not been included in the continental total.



## **Annex 2: Definitions**

### LAND USE / LAND COVER

Land is defined as a physical entity which includes natural resources: the soils, minerals, agriculture and forests. These components are essential to maintaining the productive capacity of an economically sustainable environment. Many problems which are now being recognised in natural and agricultural land systems have arisen because of inadequate technologies for assessing and monitoring land resources, preventing land pollution and rehabilitating contaminated lands

It should be borne in mind that definitions used by reporting countries vary considerably and items classified under the same category often relate to greatly differing kinds of land. Definitions of land use (land cover) categories are as follows:

Total Area: the total area of the country, including area under inland water bodies. Data in this category are obtained mainly from the United Nations Statistical Division, New York. Possible variations in the data may be due to updating and revisions of the country data and not necessarily to any change of area.

Land Area: total area excludes area under inland water bodies. The definition of inland water bodies generally includes major rivers and lakes. Data in this category are obtained mainly from the United Nations Statistical Division, New York. Possible variations in the data may be due to updating and revisions of the country data and not necessarily to any change of area.

Agricultural Land: the sum of area under "Arable land", "Permanent crops" and "Permanent pastures".

Arable Land: land under temporary crops (double-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category. Data for arable land are not meant to indicate the amount of land that is potentially cultivable.

Permanent Crops: land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee and rubber; this category includes land under flowering shrubs, fruit trees, nut trees and vines, but excludes land under trees grown for wood or timber.

Permanent Pasture: land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land). The dividing line between this category and the category "Forests and woodland"; is rather indefinite, especially in the case of shrubs, savannah, etc., which may have been reported under either of these two categories.

Forests and Woodland: land under natural or planted stands of trees, whether productive or not. This category includes land from which forests have been cleared but that will be reforested in the foreseeable future, but it excludes woodland or forest used only for recreation purposes. The question of shrub land, savannah, etc. raises the same problem as in the category "Permanent meadows and pastures". In the year 1995 and onward there will be no data for this category. Data relating to forest area can be obtained from the FAO Forest Resources Division.

Non arable and permanent crops: from 1995 this element includes any other land not specifically listed under arable land and land under permanent crops, permanent pastures, forests and woodland, built on areas, roads, barren lands, etc.

Irrigated Area: data on irrigation relate to areas equipped to provide water to the crops. These include areas equipped for full and partial control irrigation, spate irrigation areas, and equipped wetland or inland valley bottoms.

## TRACTORS

Tractors: data generally refer to total wheel and crawler tractors (excluding garden tractors) used in agriculture.

## PESTICIDES

Pesticides Consumption: data refer to the quantity of pesticides used in or sold to the agricultural sector expressed in metric tons of active ingredients

## FERTILIZER

Fertilizers Consumption: quantity of fertilizer consumed in agriculture expressed in metric tons of plant nutrient.

## POPULATION

Population: the total population series have been obtained from the UN Population Division, which prepares estimates and projections of the total population by sex and age for each fifth year from 1950 to 2050. These series are biennially revised and the present ones refer to the 2000 revision ("World Population Prospects: The 2000 Revision", United Nations, New York, 2001). As part of this biennial exercise the UN also derives annual estimates by interpolation. The urban/rural population, the economically active population and the agricultural/non-agricultural population segments were obtained by systematically applying to the total population the series of relevant ratios (i.e. proportion of urban population, proportion of economically active population by sex and age, etc). The total population usually refers to the present-in-area (de facto) population which includes all persons physically present within the present geographical boundaries of countries at the mid-point of the reference period.

Agricultural Population: it is defined as all persons depending for their livelihood on agriculture, hunting, fishing or forestry. This estimate comprises all persons actively engaged in agriculture and their non-working dependants

Total Economically Active Population: this refers to the number of all employed and unemployed persons (including those seeking work for the first time). It covers employers; self-employed workers; salaried employees; wage earners; unpaid workers assisting in a family, farm or business operation; members of producers' cooperatives; and members of the armed forces. The economically active population is also called the labour force.

Total Economically Active Population in agriculture: the economically active population in agriculture is that part of the economically active population engaged in or seeking work in agriculture, hunting, fishing or forestry.

## GROSS DOMESTIC PRODUCT

Gross Domestic Product (current US\$): Gross Domestic Product (GDP) is the sum of gross value added by all resident producers in the economy plus any product taxes minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.

Agriculture, value added (current US\$): agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Data are in current U.S. dollars.

## LIVE ANIMALS

Data refers to the number of animals of the species present in the country at the time of enumeration in terms of livestock unit (LU). It includes animals raised either for draft purposes or for meat and dairy production or kept for breeding. Live animals in captivity for fur or skin such as foxes, minks, etc., are not included. The enumeration chosen, when more than one survey is taken, is the closest to the beginning of the calendar year.

Live animals data is reported in livestock unit (LU) for comparison of different species across geographical regions. The livestock unit is a standardized animal units obtained by multiplying total number of animals with a conversion factors that takes into account "feed requirements" for the animal. The following conversion factors have been used for compiling the livestock unit for each country/region.

	Cattle	Buffalo	Sheep	Goats	Pigs	Horses	Camels	Chickens	Ducks Turkeys Geese	Rabbits
North Africa	0.70	0.70	0.10	0.10	0.20	0.8	1.1	0.01	0.03	0.02
Sub Saharan Africa	0.50	0.50	0.10	0.10	0.20	0.8	1.1	0.01	0.03	0.02
South Africa	0.70	0.70	0.10	0.10	0.20	0.8	1.1	0.01	0.03	0.02
North America	1.00	1.00	0.15	0.10	0.25	0.8	1.1	0.01	0.03	0.02
Central America	0.70	0.70	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
South America	0.70	0.70	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
Asia	0.50	0.50	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
Eastern Europe	0.70	0.70	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
Oceania Developing	0.50	0.50	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
USSR	0.60	0.60	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02
OECD	0.90	0.90	0.10	0.10	0.25	0.8	1.1	0.01	0.03	0.02

## VALUE OF AGRICULTURAL PRODUCTION IN INTERNATIONAL DOLLAR

Value of Agricultural production (Net production at 1989-91 International dollar prices): the value of agricultural production has been derived by multiplying net production (i.e. gross production after deductions of quantities used as seed and feed) with international commodity average (average of 1989, 1990 and 1991) prices. These "international prices", expressed in so-called "international dollars", are derived using a Geary-Khamis formula for the agricultural sector. This method assigns a single "price" to each commodity. For example, one metric ton of wheat has the same price regardless of the country where it was produced.

## AGRICULTURAL INVESTMENT

Capital Stock in Agriculture and Investment in Agriculture: the estimates of Investment in Agriculture have indirectly been derived by the FAO Statistics Division using physical data on livestock, tractors, irrigated land and land under permanent crops, etc. and the average prices for the year 1995. These data enabled the derivation of the Capital Stock in Agriculture and the annual change in the latter is taken to reflect Investment in Agriculture.

## EXTERNAL ASSISTANCE TO AGRICULTURE

External Assistance to Agriculture (EAA): the External Assistance to Agriculture (EAA) is the commitments made by bilateral and multilateral donors to the developing countries and countries in transition for the development of agriculture. The EAA consists of data on commitments from Development Assistance Committee (DAC located in Organization for Economic Cooperation and Development), OPEC (Organization of Petroleum Exporting Countries), the World Bank (International Bank for Reconstruction and Development and International Development Association), Asian and African Regional Development Banks, United Nations Development Programme (UNDP), FAO, Consultative Group on International Agricultural Research (CGIAR), International Fund for Agricultural Development (IFAD). The commitments made in the form of grants, grant-like and loans are only included. The data does not cover some of the donors like European Economic Community (EEC), Council for Mutual Economic Assistance (CMEA) and some of the regional banks due to availability of data. The assistance also does not cover food aid and other technical cooperation provided in kind. The term "Agriculture" is used in broad sense to cover agriculture, forestry, fisheries, land & water, agro-industries, environment, manufacturing of agricultural inputs & machineries, regional & river development and rural development.

## PRESSURE FOR AGRICULTURE AND FOOD PRODUCTION

Net Export of Agricultural and Food Products (Export Value less Import Value at Base Period Price): import value and export value are compiled multiplying the current quantity with the base period unit value (the 3-year weighted mean unit value of the period 1989-1991). This covers trade for agricultural products and food products. Food products include commodities that are considered edible and contain nutrients, except for animal feed products and alcoholic beverages. Coffee and tea are also excluded because, although edible, they have practically no nutritive value. Value represents the current values of export (f.o.b.) and of import (c.i.f.), all expressed in US dollars. If any country reports import values on f.o.b. basis, these are adjusted to approximate c.i.f. values.

Import and Export values at base year prices are not available (calculated) for Czechoslovak, Czech Rep and Slovakia; Yugoslavia SFR, Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro and Slovenia; USSR, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova Rep, Russian Fed, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Ethiopia PDR, Eritrea, Ethiopia. As a consequence, for these sets of indicators totals for World, Developed, Transition Markets and Developing countries exclude above mentioned countries