CES/AC.61/81
FAO/ECE:ESS(97)-59

1 May 1997
ENGLISH

ENGLISH and FRENCH ONLY

ECONOMIC COMMISSION FOR EUROPE **FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**

CONFERENCE OF EUROPEAN STATISTICIANS

Study Group on Food and Agricultural Statistics in Europe
(Geneva, 30 June-3 July 1997)

Item 7 of the provisional agenda

TARGET METHODOLOGY FOR AGRICULTURAL LABOUR INPUT (ALI) STATISTICS

Document submitted by Eurostat

1.1 Introduction

1.1.1 This Chapter of the publication describes Eurostat's target methodology for the compilation of statistics on the volume of agricultural labour. It has been prepared as a guide to further harmonization of the concepts, methods and definitions used by the Member States. The contents of the target methodology were discussed by Eurostat and the Member States in various Working Party meetings of the Economic Accounts for Agriculture (EAA) and the Agricultural Statistics Committee (ASC) - see the references given later.

1.1.2 The release of this publication coincides with discussions that are taking place and near completion on revising the concepts and methods used in Eurostat's Economic Accounts for Agriculture. In part, this has been prompted by the revision to the System of National Accounts (SNA). With the main objective for collecting Agricultural Labour Input (ALI) statistics being to help derive Eurostat's EAA Income Indicators (see **Objectives** in Part A), so there are a number of elements in this revision to the EAA that are of consequence for ALI statistics. Among these, the most important are the coverage of the agricultural branch, the measurement of output, the choice of the basic unit and the definition of income.

1.1.3 In the case of the definitions of income per annual work unit being used, it is not only the numerators that will be revised, but also the labour input denominators. Thus far, the categories of labour input that have been gathered by the Member States have referred to **family** and **non-family** labour which have aggregated to a *total* figure. However, this classification of the labour force has become outdated, even for the present Income Indicators, because of the fact that many members of the family who work on the holding are now paid for doing so (a point that will be referred to later in greater detail). This means that the total wages bill for non-family members of the agricultural workforce is not synonymous with the item **compensation of employees** in the Economic Accounts for Agriculture (EAA).

1.1.4 Part of what is proposed for the future concerns the re-classification of agricultural labour input along the lines of **non-salaried** and **salaried** (employee) rather than **family** and **non-family** labour input, with an aggregate also being derived. This transition will be made at the same time as the revisions in the EAA. Quite when this will be implemented has yet to be decided.

1.1.5 However, to be clear, the target methodology presented here relates only to the agricultural labour input statistics for the **current EAA and the current Income Indicators**. Nevertheless, pointers to the way in which changes in the EAA, the Income Indicators and the target methodology will occur are also given. Future editions of this publication are, therefore, likely to feature a refined and updated target methodology for ALI statistics.

1.1.6 The target methodology for ALI statistics is presented in two parts. The first lays down the objectives behind compiling statistics on agricultural labour input and then summarises the requirements to which these statistics should adhere.

1.1.7 The second part builds on the summary of requirements and explains them in greater detail. This is done by presenting information about the Annual Working Unit (AWU) and about the various sources of data that can be used in the calculation of these statistics. The greatest emphasis is given to the Farm Structure Survey (FSS), because this is considered to provide the best backbone

of data for the annual series on agricultural labour input statistics. This FSS source is considered in relation to the Economic Accounts for Agriculture and in relation to revisions stemming from the System of National Accounts (SNA).

Part A: Objectives and requirements

1.2 Objectives

1.2.1 The objectives of Agricultural Labour Input (ALI) statistics stem from the Treaty of Rome and Article 39 regarding the Common Agricultural Policy (CAP).

a) Productivity analysis

1.2.2 The first objective of the CAP in Article 39 as stated in Point a) is **to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilization of the factors of production, in particular labour;**

1.2.3 A first objective for Agricultural Labour Input statistics is therefore general macro-economic productivity analyses.

b) Income analysis

1.2.4 The second and consequent objective of the CAP as stated in Point b) **is thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture.**

1.2.5 With the considerable degree of part-time work in agriculture, analysis of income trends and income levels on the basis of the number of persons engaged in agriculture is, however, less precise than basing it on the volume of work carried out by those engaged in agricultural production. The **main** purpose of calculating agricultural labour input statistics is therefore to express trends in and levels of agricultural branch income (one of the basic *objectives* underlying the Economic Accounts for Agriculture) in relation to the trends in agricultural labour input.

1.2.6 Eurostat's Economic Accounts for Agriculture define three Income Indicators, the results and analyses of which are published in the annual **Agricultural Income** report (e.g. Eurostat, 1995). For the moment, these three Income Indicators are defined as follows:

- real net value added at factor cost in agriculture, **per annual work unit (AWU) of total labour input** (Indicator 1);
- real net value added at factor cost in **agriculture, less interest payments and rents, per annual work unit (AWU) of total labour input** (Indicator 2);
- real net value added at factor cost in agriculture, less interest payments and rents, and the compensation of employees, **per annual work unit (AWU) of family labour input** (Indicator 3).

1.2.7 As was mentioned in the Introduction, however, it has been agreed that changes in the Income Indicators will be implemented at a **to be agreed** point in the future. Further details are given under point 2.4 **New and potential developments. 1.3**

Requirements

1.3.1 The requirements and methods to be used for meeting the objectives of Agricultural Labour Input (ALI) statistics are laid down in greater detail in Part B of the Manual, but a summary form of the main points is given here. They refer to a set of conditions that are necessary for the current concepts and methods in the Economic Accounts for Agriculture and particularly the current Income Indicators. However, these conditions will be updated in future editions of the target methodology of ALI statistics when the revisions to the Economic Accounts for Agriculture are implemented. The current list of target criteria concern:

1.3.2 **The definition of work**

(a) agricultural labour input should include all work **actually performed** in connection with the production of agricultural produce, including produce which is used (again) within the branch of agriculture.

1.3.3 **Unit of measurement**[ii]

(b) agricultural labour input must be expressed in Annual Work Units (AWUs). The number of hours comprising an AWU should correspond to the number of hours actually worked in a full-time job within agriculture.

1.3.4 **Method of measurement**

(c) the working time of an AWU is partly determined by the social factors at play in the country concerned and could perhaps vary from one Member State to another. In the same way, the working time of an AWU will inevitably vary over time with the changing nature of national provisions governing contracts of employment. However, sudden and large changes in the working time of an AWU are either to be avoided or taken into account when compiling this statistical series so that there is no definitional discontinuity in the series and no consequent distortion of the trends in agricultural income per AWU.

(d) no single agricultural worker can be counted as more than one AWU, despite the fact that the number of hours actually worked might be known to be higher than is usual for full-time agricultural employment. Therefore, a maximum of 1 AWU is imposed per worker, by way of constraint.

(e) the number of hours worked by a person should not be adjusted by a coefficient because of age or sex.

(f) agricultural labour input by non-family workers should be congruous with the item **compensation of employees** as recorded in the EAA.

1.3.5 **Coverage of these statistics**

(g) in order to establish the correct level of the income indicators, the volume of agricultural labour input (the denominator) should correspond to that carried out in order to generate the agricultural income (the numerator) recorded for a particular year. In this respect, agricultural labour input must be linked to the value of output, intermediate consumption and value added as recorded in the Economic Accounts for Agricultural (EAA).

1.3.6 **Timing of the supply of these statistics**

(h) annual series on agricultural labour input for total, family and non-family members of the workforce are required. Est imates for the current year should be supplied at the end of the current year so that the Income Indicators can be calculated.

Part B: The measurement of agricultural labour input, statistical sources and new developments

2.1 The measurement of the volume of agricultural labour: the definition and calculation of a Annual Work Unit

a) The definition

2.1.1 The total number of hours worked in agriculture provides the best measurement of the volume of work performed, although for practical reasons - the total number of hours actually worked is often not known - labour input is expressed in Annual Work Units (AWUs).

2.1.2 The description of an AWU in the System of National Accounts (SNA) is as follows:

Full-time equivalent employment in country X, (.....), is its total hours worked divided by the average annual hours worked in full-time jobs within its economic territory. (.....). (SNA , 1993, p. 412).

(A number of labour-related terms used in the compilation of National Accounts are presented in Annex 1).

2.1.3 Taking this definition of an AWU implies that the number of hours comprising an AWU can change over time, that it is not necessarily the same for all sectors of the economy within any given country and that it is likely to vary from one country to another. This is because the number of hours comprising an Annual Work Unit is in one sense determined by social forces and therefore subject to permanent change.

b) The calculation

2.1.4 One person cannot represent more than one AWU. The agricultural labour input of persons who do not have a full-time job is calculated as the quotient of the number of hours actually worked (per week or per year) and the number of hours actually worked (per week or per year) in a full-time job. The number of hours actually worked in a full-time job is not necessarily the same for all categories of labour. It is possible that the number of hours comprising a 'full-time job' used for self-employed persons is greater than that used for employees. For in the latter case, the maximum number of hours to be worked are laid down in a contract.

2.1.5 The number of hours worked by a person is not to be adjusted, *a priori*, by some coefficient because of age (i.e. under 16 or over 65) or sex on the basis of some assumed lower productivity.

2.1.6 Over time, it is inevitable that social developments affecting the working week will occur, even in agriculture. In practice, this has corresponded to a downward revision in the number of hours defining an Annual Work Unit. In those Member States where changes in the definition of an AWU have occurred, they have generally been introduced in an abrupt manner. This has created discontinuities in the series and an underestimate of the rate of change in the volume of labour input for the given year, with the associated impact on the estimates of agricultural income per AWU.

2.1.7 However, if the impact of a definitional change is introduced in small steps, there is no discontinuity in the development of the agricultural labour input or for example in the income aggregates expressed per AWU.

2.1.8 It is suggested, therefore, that for years in which the definition of an AWU is adjusted abruptly and to a large degree, it is preferable to express labour input in terms of both the "old" and the "new" AWU.

2.1.9 Suppose, in a Member State the following situation arises:

- 1970 to 1978: 1 AWU is 2 250 working hours;
- 1979 to 1989: 1 AWU is 2 000 working hours;
- 1990 to 1994: 1 AWU is 1 900 working hours;

In this example, labour input for 1978 should be calculated both in AWUs defined according to 2 250 hours and AWUs defined as 2 000 hours, and labour input for 1989 should be calculated in AWUs of 2 000 and 1 900 hours. This would make it possible to insulate the income indicators from the effects of large, sudden changes in the definition of an AWU.

2.1.10 Time series for the agricultural labour input statistics and the related income indicators could be presented in two ways:

a) by an index-number, without any adjustment for the periodic and abrupt changes of the number of working hours of an AWU; but most preferably
b) by a chain-index, where the periodic and abrupt changes in the definition of an AWU are insulated. The annual rates of change in agricultural labour input, expressed in current AWUs (with exception of the years in which the definition of an AWU is changed (see point 2.2.7)), are joined and presented as a chain-index. Implicitly, a

time series is being presented, based on the number of working hours of an AWU in a base-period.

2.1.11 A practical example of the points made under 2.1.6 to 2.1.9 is presented in Annex 2. A more general example of how to calculate and convert AWUs is presented in Annex 3.

2.2 Statistical sources

2.2.1 Every two to four years, the Member States of the EU are required to carry out a survey on the structure of agricultural holdings (EU Farm Structure Survey). In some Member States, this is a census on natural persons and legal persons (incorporated enterprises) who produce agricultural products (agricultural holdings), in others a sample survey. A part of this survey concerns questions on labour input [iii].

2.2.2 In years when this EU Farm Structure Survey is not carried out, there is often some part of the structure survey on agricultural holdings carried out for national purposes (for example, often specific to labour). In some Member States these are sample-surveys, in others exhaustive surveys. The scope and the substance of these (national) surveys are (partly) the same as for the EU Farm Structure Survey.

2.2.3 There are other statistics which also present information on agricultural labour input. These concern, generally, statistics on the development and the composition of the labour force and employment in agriculture (number of employees) and wages. Results from these (national) statistics are periodically provided to Eurostat. These statistics, however, are often based on a breakdown of the economy into industries, where units are classified according to their main (economic) activity. The agricultural sector is defined as a group of units whose main economic activity - whether or not in combination with other economic activities - is the production of agricultural products. However, this often means that agriculture includes some forestry and fishery activities.

2.3 Eurostat's Farm Structure Survey (FSS) and the Economic Accounts for Agriculture (EAA)

2.3.1 Agricultural labour input should cover all those agricultural activities that are carried out by units constituting the agricultural branch of the Economic Accounts for Agriculture (EAA).

2.3.2 The **current** EAA are compiled using the so-called branch-approach. The agricultural branch is considered as including all units that produce, either exclusively or in conjunction with other economic activities, agricultural products. When compiling the EAA, the final output of all agricultural products should be taken into account, but only from these products.

2.3.3 Contractors' work for a third party, which contributes to the production of agricultural products is attributed to the agricultural branch, irrespective of whether the contractor is a specialized enterprise. Contractors' use of labour and capital is therefore part of the agricultural production process and hence a component of final value added [iv].

2.3.4 Besides the branch approach, the **current** EAA are based on the concept of the 'national farm'. This means that only transactions between agriculture and the rest of the economy are quantified. Transactions within agriculture are not described.

2.3.5 However, statistics on agricu ltural labour should of course cover work performed in connection with intra-branch transactions (in fact, it would be impossible to distinguish them from transactions with other branches). This does not give rise to any inconsistency however, because the work in question was, in any case, necessary as a means of achieving final value added and the net effect of intra-branch transactions on final value added is zero.

2.3.6 Labour input must be defined in a manner consistent with the EAA, i.e. covering all work which contributes to agricultural production, including contractors' work, irrespective of the identity of the party performing the work. The periodic FSS, therefore, provides the best estimate of this agricultural labour input.

2.3.7 Achieving consistency between the FSS and the EAA is not without difficulty, however. The main complications are the following:

a. Coverage of the agricultural branch

i) A number of products attributed to agriculture in the Agricultural Accounts are not included in the Farm Structure Survey (FSS).

2.3.8 Both sets of statistics are based around the Nomenclature of Agricultural Products established by Eurostat, which itself is founded on the 'class 01, nomenclature for general industrial classification of economic activities in the European Communities - classification and nomenclature of input-output branches (NACE/CLIO)'. However, a number of products are excluded explicitly from the FSS. The following products are excluded during the period 1988-97 (whilst being included in the EAA):

Christmas trees
Products gathered in the wild
By-products (from cultivation of cereals, rice, pulses, fodder, roots and brassicas, industrial crops, fresh vegetables, fruit and citrus fruits, grapes and olives and other crops)
Must and wine
Olive oil, unrefined
Other animals (silkworms, animals reared for fur, snails, animals n.e.c.)
Game and game meat
Honey
Silkworm cocoons
By-products of animal rearing
Animal products n.e.c.
Agricultural services

2.3.9 This does not mean that these products are not attributed to agriculture. It is simply that it is not very meaningful (or not very practical) to include most of these products in the Farm Structure Survey. In some cases, the main product is included somewhere else in the Survey: for example, the area under cereals, rice, pulses etc. is surveyed, and it is therefore superfluous to survey

the area under straw. In other cases, the primary product is already included: for example, the area under grapes and olives or the number of animals are surveyed, and this makes it superfluous to survey the volume of wine, olive oil, manure or honey. Nevertheless, with the production of straw, wine, olive oil, manure and honey being attributed to agriculture, it is therefore assumed that the work performed in order to produce these products is included under the total working hours devoted to agricultural activities, as surveyed in the Farm Structure Survey. However, it is important, particularly for major products such as wine and olive oil, to establish that the work which has gone into their preparation is actually included in the FSS and that it is consistent with the output value of the product in question, as recorded in the EAA.

2.3.10 Units which (only) perform agricultural services on a contract basis are not covered by the Farm Structure Survey or, at least, not by virtue of those services. However, it is necessary to include an estimate of the work that these contractors carry out on agricultural holdings. Therefore, the respondents to the Survey are asked to estimate the labour input carried out for them by contractors, in order to obtain some indication of the total labour input that was required to provide their final output.

2.3.11 As the Survey does not cover all the agricultural products included in the EAA - there is, for example, no heading covering "animal products n.e.c." - there may be some under-reporting of the labour input on the holding in the Survey. As a general rule of thumb, therefore, if the output value of a product is included in the EAA calculations, then the corresponding labour input performed in providing this value of output should also be calculated. Where there is no coverage of a product in the FSS, but there is in the EAA, the associated labour input should be (re)estimated.

ii) A lower limit applies to units for inclusion in the EU Farm Structure Survey (FSS)

2.3.12 Units are included in the FSS if their agricultural activities are of a certain minimum size. The lower limit varies from one Member State to another. In principle, if the Member States do not apply a minimum size of one hectare or a certain ESU size, they should exclude only the smallest holdings that together contribute no more than 1% of the total standard gross margin. In reality, if the value of final agricultural output as recorded in the EAA is more comprehensive than that recorded in the Survey, the relevant labour input should be (re)estimated.

b. The labour force

ii) The category "non-family workers" in the EU Farm Structure Survey does not fully match the category "employees" used in the National Accounts.

2.3.13 In the FSS, family ties with the head of the holding determine whether workers are classified as family or non-family workers. Family members who are "normally" in paid employment on the holding are treated as family workers. The same is true of the holding manager. In the National Accounts, these family workers and holding managers are treated as employees and their wages included in the total wage bill (compensation of employees).

2.3.14 A holding with legal personality (incorporated enterprise) cannot have workers classified as family labour input. Strictly speaking all the workers of these incorporated enterprises are employees and their remuneration for work actually performed is included in the compensation of employees of agriculture. These incorporated enterprises in agriculture, however, are very often run by one or only a few persons who are also the sole-owner(s) of the enterprise. These sole-owners do not always see themselves as employees of the enterprise. The remuneration which they assign themselves is a mixture of remuneration for work actually performed and for providing the financial capital for running the enterprise. This distinction is often difficult to make. If, in practice, the remuneration of these sole-owners of incorporated enterprises is not included in the compensation of employees as distinguished in the EAA, then the labour input of this category should also not be included in the non-family labour ('employees') of agriculture.

2.3.15 It appears that the category 'non-family labour input' somewhat underestimates the number of employees as defined in the National Accounts. The category 'non-family labour input' is therefore not fully consistent with the total compensation of employees as recorded in the EAA. Assuming that the compensation of employees conforms with definitions, the level of Indicator 3 (currently defined as real net value added at factor cost less interest payments and rents, and the compensation of employees, per AWU of family labour input) may be underestimated.

2.3.16 The extent to which the category 'non-family labour input' understates the number of employees as defined in the National Accounts can be estimated by comparing the wages bill calculated per AWU of non-family workers (the quotient of the wages bill, including social charges, and the number of AWUs of non-family workers) with the average wage costs of agricultural workers, obtained from wage cost statistics. If, for example, the average wage cost per agricultural employee is 10% lower than that as calculated for one AWU of non-family labour, and assuming that the wages bill as stated in the EAA is correct, the number of AWUs of employees has been underestimated by 10%. In this example, the corresponding overestimate of family labour input means that the discrepancy between the denominator and numerator of Indicator 3 is rather wide.

2.3.17 In conclusion, Member States should consider treating that part of family labour employed on the holding as non-family labour, so that the total wage bill for non-family workers in agriculture is synonymous with the item *compensation of employees* in the EAA.

ii) The period covered by the Farm Structure Survey does not coincide with a calendar year.

2.3.18 The questions about the labour force in the FSS refer to work performed in the 12-month period preceding the Survey date. This is usually the period from April/June of one year to March/May of the next. It does of course cover a complete agricultural production cycle (necessary for crop production in particular).

c. Periodicity and timeliness of the EU Farm Structure Survey (FSS)

iii) The EU Farm Structure Survey is not carried out every year

2.3.19 As has already been pointed out, the FSS is not conducted on an annual basis. If the FSS is used as starting-point for calculating agricultural labour input, then, for years in which the FSS is not conducted, extrapolated and interpolated (provisional) estimates of the development of the agricultural labour input should be made. Clearly, for this purpose, other statistics concerning agricultural labour input should be used.

2.3.20 There are two possibilities in this respect:

a) during years that the FSS is not conducted, there is some kind of (national) structure survey on agricultural holdings for some Member States (see point 2.2.2).

Sometimes information on agricultural labour input is available and sometimes only information on the number of persons working on an (agricultural) holding. Results of these national structure surveys present sufficient possibilities, with a few supplementary assumptions, to estimate the development of agricultural labour input in years for which there is no FSS. Important assumptions concern for example the distribution of the number of persons over the classes of working hours and the different categories of labour as distinguished in the FSS but not in the national structure survey.

b) there are also a number of Member States where no such national structure surveys are conducted in non-FSS years. In these Member States, (provisional) estimates indicating the development of agricultural labour input could be made, for example, using rates of change in numbers of persons working in agriculture from labour force statistics or statistics on employment (see point 2.2.3).

Nevertheless, with agriculture in these statistics being defined differently and questions on labour corresponding less well to the periodic FSS, the number of assumptions required when estimating agricultural labour input is therefore greater. One way of making (provisional) estimates is by using the changes from other statistics on labour and declaring these changes vali d for the latest results of the EU Farm Structure Survey and thus the related agricultural labour input series.

ii) The timeliness of the EU Farm Structure Survey

2.3.21 Results from the FSS generally become available some time after the survey year. This delay means that the estimated development in the volume of agricultural labour at the end of the current year, for the current year, cannot be drawn directly from the FSS. Provisional estimates for the current year should therefore be drawn from the same mix of sources and methods as mentioned under c1.

2.3.22 Annex 6 shows how the results of the FSS and the related agricultural labour input are matched with the *current* EAA.

2.4 New and potential developments

a) The implications of a revised EAA

2.4.1 The Working Party on the Economic Accounts for Agriculture of the Agricultural Statistics Committee has agreed to a number of changes in the methodology used for compiling the EAA. Many of these changes are in response to the revised System of National Accounts (SNA) and related ESA. The changes are detailed in the various stages of proposals, discussions and outcomes in papers for this Working Party (i.e. Doc. F/LG/294 to 298, Doc. F/LG/309 to 314 and Doc. F/LG/323 to 329).

2.4.2 The most important changes concern:
(i) the coverage of agriculture;
(ii) the definition of incom e;
(iii) the measurement of output;
(iv) the choice of the basic unit.

2.4.3 These changes are of direct consequence, since Agricultural Labour Input statistics must be linked to the value of output, intermediate consumption and value added as recorded in the Economic Accounts for Agricultural (EAA) (see 1.3.1). As the EAA changes then so must the methodology used for calculating agricultural labour input. The main changes to the EAA are, therefore, given in greater detail below.

(i) The coverage of the agricultural branch (described in detail in Doc. F\LG\298)

2.4.4 Changes in the following elements of the coverage of the agricultural branch have been decided:

- the **activities** characteristics of agriculture
- the **units** characteristic of this branch

2.4.5 More specifically, in the future, the *activities* characteristic of the EAA will come from the following groups of the NACE Rev.1:

Group 01.1: Growing of crops; market gardening; horticulture:

as regards seeds production, **only the activity of reproduction** ("multiplication");

as regards wine/olive oil production, *only* the production from self-produced grapes/olives and the production activity of the **producers group (co-operatives);**

Group 01.2: Farming of animals;
Group 01.3: Growing of crops combined with farming of animals;
Group 01.4: Agricultural and animal husbandry service activities, except veterinary services; only the agricultural services which are contract work in the sense of the current EAA;
Group 01.5: Hunting, trapping and game propagation including related service activities.

2.4.6 The agricultural branch will include all those **units** engaged in the activities characteristic of the EAA as listed above. However, units producing only for own-consumption will be excluded [v].

2.4.7 The feeling is that this coverage of agriculture corresponds well to the scope of the EU Farm Structure Survey.

(ii) The definition of income (described in detail in Doc. F\LG\327)

2.4.8 Three new Income Indicators have been discussed:

Ind. A: **Net entrepreneurial income of the agricultural branch** This includes the same elements as the previous measure entitled "net income from agricultural activity of the family labour unit". However, the title is now more accurate as the measure includes agricultural production from corporations whose *labour* sources are not unpaid family members.

Ind. B: **Index of net entrepreneurial income of the agricultural branch per non-salaried annual work unit** This index will present changes over time in the income per non-salaried annual work unit. It will be most useful in countries where agriculture is organised in uncorporated holdings.

Ind. C: **Index of factor income in agriculture per total annual work unit**. This measure is the same as the current Indicator 1 and represents net value added at factor cost of agriculture, deflated by total annual work units.

(iii) The measurement of output (described in detail in Doc. F\LG\328)

2.4.9 Concerning the measurement of agricultural output, the concept of the "national farm" will be dropped. Transactions within the agricultural branch will be (partly) included in the output and intermediate consumption of the agricultural branch.

2.4.10 Again, this new approach would corre spond better to the perception of agriculture in the FSS, since it is impossible for a holder to distinguish his labour for transactions within the agricultural branch from his labour for transactions with the rest of the economy.

(iv) The choice of the basic unit (also described in detail in Doc. F\LG\328)

2.4.11 The basic unit in the revised EAA is the so called 'local-kind-of-activity unit' (LKAU). The agricultural branch is the grouping of all LKAUs which have agricultural activity as their main activity. In reality, because agricultural activity is thought to be separately identifiable from other activities, it will, by convention, always form its own LKAU and never be an inseparable secondary activity to a non-agricultural LKAU. The output of the agricultural branch is the sum of the output of these agricultural LKAUs. The output of these agricultural LKAUs result from their agricultural activities and from the non-agricultural secondary activities which are connected with the agricultural activity but which cannot be separately identified from available information i.e. accounting information.

Examples of such non-agricultural secondary activities are those that represent a continuation of the agricultural activity and use agricultural products (processing of butter and cheese on the farm) and those that use the holding and the available means of agricultural production (agro-tourism).

2.4.12 In this way, it is felt that the new approach is closer to the reality of agriculture. If the FSS is to remain coherent with the EAA, then the labour input on non-separable non-agricultural activities of agricultural LKAUs will have to be incorporated.

b) The EU Farm Structure Survey (FSS)

2.4.13 The usefulness of the EU Farm Structure Survey for the purpose of calculating agricultural labour input would increase if questions were included and shown separately regarding the category of employees as defined in other labour statistics and in the National Accounts. The key classification criterion would be whether or not a worker is employed by the holding or holding manager, rather than whether he or she has family ties with the holder (see under 2.3.b1.).

2.4.14 It would also be helpful if priority could be given to distinguishing the sole-owner(s) of incorporated enterprises separately. This would make it easier to take this category of labour into consideration and decide whether their remuneration should be included in the compensation of employees or not and whether they should therefore be treated as employees or not (see also under 2.3.b1.)).

2.4.15 These suggestions have been forwarded to the Unit of Eurostat responsible for the Farm Structure Survey as they start to consider the list of characteristics for the FSS in the year 2000. These suggestions as well as other implications of the revised ESA for the FSS are being looked at currently. Nevertheless, any changes in the questionnaire will have to weigh up the pros and cons, such as farmers' attitudes to new questions, costs and competing user demands among other things.

c) Outcome

2.4.16 In summary, the changes to the EAA methodology should improve the possibilities for a better coherence with the scope and substance of the periodic EU Farm Structure Survey. This is partly a consequence of changes to the EAA itself (coverage of agriculture, measurement of output and the basic unit that will become statistically observable) and partly changes to the EU Farm Structure Survey that **could be made** (inclusion of non-agricultural secondary activities when they cannot been separated from the main agricultural activity).

References

(1) Eurostat, 1996, "Agricultural Income 1995". Theme 5a, Luxembourg. 1996.
(2) Eurostat, 1989, "Manual of Agricultural and Forestry Accounts" Theme 5e, Luxembourg, 1989.
(3) Eurostat, 1992, "Manual of Agricu ltural and Forestry Accounts, addendum". Theme 5e, Luxembourg, 1992.
(4) UN et al, 1994, "System of National Accounts 1993". New York et al, 1993.
(5) Eurostat, 1994, "European System of National and Regional Accounts in the European Community", latest version, May 1996.
(6) Council Regulation (EEC) No 571/88 of 29 February 1988 on the organization of Community surveys on the structure of agricultural holdings between 1988 and 1997. OJ No L 56 of 2 March 1988, pp. 1-14.
(7) Commission Decision of 29 Oct ober 1989 relating to the definitions of the characteristics and to the list of agricultural products for the surveys on the structure of agricultural holdings during the period 1988 to 1997 (89/651/EEC). OJ No L 391 of 30 December 1989, pp. 1-41.
(8) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 2-3 December 1993, Doc. F/LG/260: “Statistics on Agricultural Labour Input - Methodology and data sources”.
(9) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 30 November - 1 December 1994, Doc. F/LG/283: “Statistics on Agricultural Labour Input - Progress report”.
(10) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 3-4 July 1995, Doc. F/LG/295 “Consequences of the ESA revision on the EAA/EAF methodology - Choice of the Basic unit”.
(11) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 3-4 July 1995, Doc. F/LG/296 “Consequences of the ESA revision on the EAA/EAF methodology - Measurement of output”.
(12) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 3-4 July 1995, Doc. F/LG/298 “Consequences of the ESA revision on the EAA/EAF methodology - Coverage of the EAA”.
(13) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 9-10 July 1996, Doc. F/LG/327 “Consequences of the ESA revision on the EAA/EAF methodology - Concept of income and definition of income indicators”.
(14) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 3-4 July 1995, Doc. F/LG/328 “Consequences of the ESA revision on the EAA/EAF methodology - Measurement of output and secondary non-agricultural activities of LKAU”.
(15) Working document for the meeting of the Working Party on the Economic Accounts for Agriculture on 12-13 December 1995, Doc. F/LG/341 “Consequences of the ESA revision on the EAA/EAF methodology - Measurement of output (modified method 3)”.

ANNEX 1

Labour-related terms used in the compilation of National Accounts

Employees:

Employees are defined as all persons who, by agreement, work for another resident institutional unit and receive a remuneration (recorded as D1 compensation of employees).

Where persons are also in self-employment and this constitutes their principal activity, then they are classified as a self-employed person.

Self-employed persons:

Self-employed persons are defined as persons who are the sole-owners, or joint-owners, of the unincorporated enterprises in which they work, excluding those unincorporated enterprises that are classified as quasi-corporations.

Where persons are also in paid employment and this constitutes their principal activity, then they are classified as an employee.

Jobs:

A job is defined as an explicit or implicit contract between a person and a resident institutional unit to perform work in return for compensation for a defined period or until further notice.

Total hours worked:

Total hours worked represent the aggregate numbers of hours actually worked as an employee or a self-employed person during the accounting period, when their output is within the production boundary.

Total hours actually worked cover:

- hours actually worked during normal working hours;
- hours worked in addition to those worked during normal working hours, and generally paid at higher rates than normal rate (overtime);
- time that is spent at the place of work on tasks such as preparing the site, repair and maintenance work, the preparation and cleaning of tools, and the making-out of receipts, invoices, records of the length of time worked and other reports;
- idle time spent at the place of work waiting or standing by because, for example, of temporary lack of work, the breakdown of machinery or accidents, or time spent at the place of work during which no work is done but for which payment is made under a guaranteed employment contract;
- time corresponding to short periods of rest at the work place, including refreshment breaks.

Hours actually worked do not include:

- hours which are paid but not worked, such as paid annual holidays, public holidays, or sick-leave;
- breaks for meals;
- time spent for travelling between home and the place of work, even when paid (construction workers). However, such travel organized in employers' time is included in hours of work.

Full-time equivalence:

full-time equivalent employment, which equals the number of full-time equivalent jobs, is defined as total hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory;

ANNEX 2

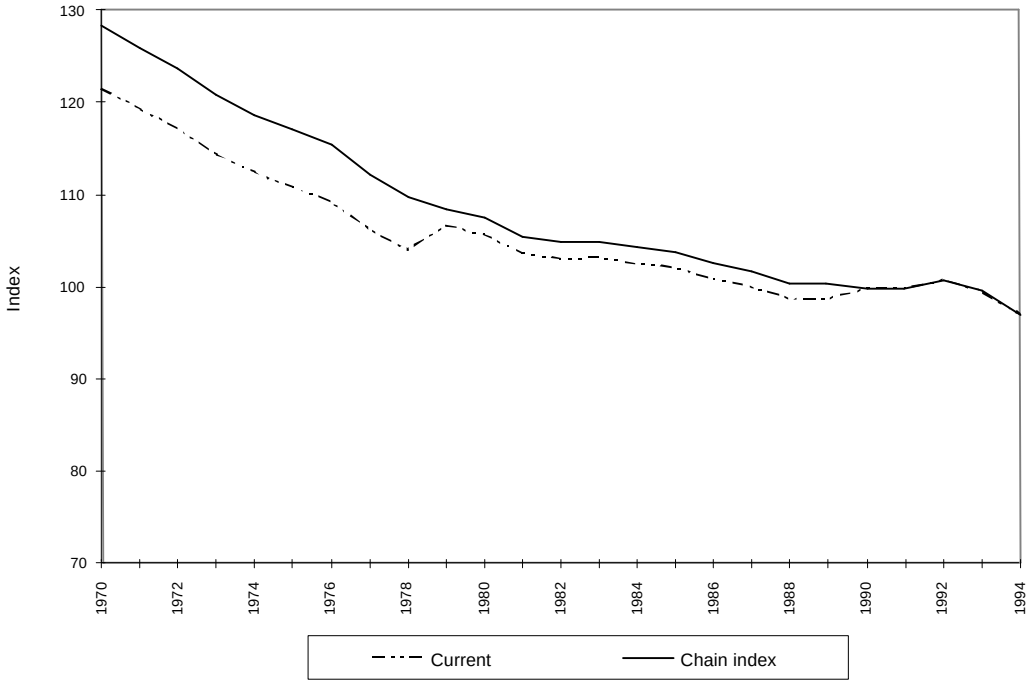
Development of agricultural labour input, an example

Agricultural labour input, total								
Current, 1 AWU = ...				**Current, 1 AWU=.....**			**Current**	**Chain index**
	2250 h	**2000 h**	**1900 h**	**2250 h**	**2000 h**	**1900 h**		
	1000 AWU			**Index**				
				('74-'76 = 100)	**('84-'86 = 100)**	**('89-'91 = 100)**		
1970	292.5			109.7			121.5	128.3
1971	287.2			107.7			119.3	126.0
1972	282.1			105.8			117.2	123.7
1973	275.4			103.3			114.4	120.8
1974	270.5			101.4			112.4	118.6
1975	266.7			100.0			110.8	117.0
1976	262.9			98.6			109.2	115.3
1977	255.6			95.8			106.2	112.1
1978	250.3	259.9		93.9	106.1		104.0	109.8
1979		256.5			104.7		106.6	108.4
1980		254.3			103.8		105.6	107.4
1981		249.3			101.8		103.6	105.3
1982		248.0			101.2		103.0	104.8
1983		248.3			101.4		103.2	104.9
1984		246.7			100.7		102.5	104.2
1985		245.4			100.2		102.0	103.7
1986		242.7			99.1		100.8	102.5
1987		240.5			98.2		99.9	101.6
1988		237.4			96.9		98.6	100.3
1989		237.5	241.5		97.0	100.3	98.7	100.3
1990			240.2			99.8	99.8	99.8
1991			240.3			99.8	99.8	99.8
1992			242.3			100.7	100.7	100.7
1993			239.6			99.5	99.5	99.5
1994			233.4			97.0	97.0	97.0

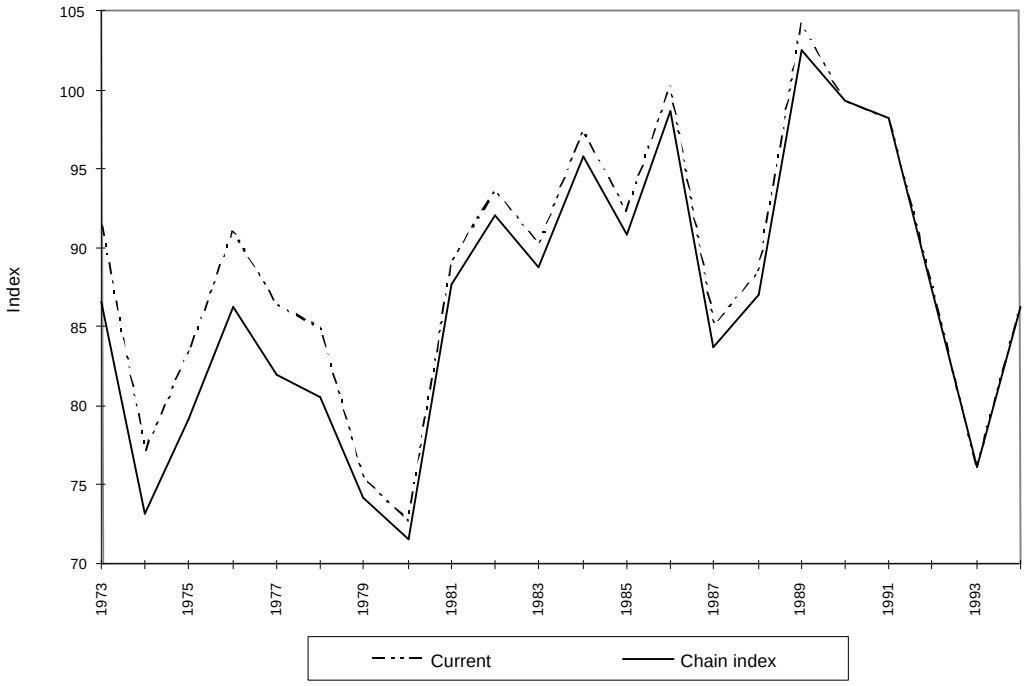
Development net value added per AWU (indicator 1), an example

	Real net value added at factor cost	Real net value added at factor cost per AWU				
		Current, 1 AWU =			Current	Chain index
		2250 h	2000 h	1900 h		
	Index-numbers (1989 - 1991=100)	Index				
		('74-'76 = 100)	('84-'86 = 100)	('89-'91 = 100)		
1970						
1971						
1972						
1973	104.6	108.9			91.4	86.6
1974	86.8	92.1			77.2	73.2
1975	92.5	99.5			83.5	79.1
1976	99.4	108.4			91.0	86.2
1977	91.8	103.1			86.5	81.9
1978	88.3	101.2	84.6		84.9	80.5
1979	80.4		78.0		75.4	74.2
1980	76.8		75.1		72.7	71.5
1981	92.4		92.2		89.2	87.7
1982	96.5		96.8		93.6	92.1
1983	93.2		93.4		90.3	88.8
1984	99.9		100.7		97.4	95.8
1985	94.2		95.6		92.4	90.9
1986	101.1		103.7		100.3	98.7
1987	85.1		88.1		85.2	83.8
1988	87.2		91.4		88.4	87.0
1989	102.9		107.8	102.5	104.2	102.5
1990	99.1			99.3	99.3	99.3
1991	98.1			98.2	98.2	98.2
1992	88.1			87.5	87.5	87.5
1993	75.8			76.1	76.1	76.1
1994	83.6			86.2	86.2	86.2

Volume of total agricultural labour input, during 1970-1994, with 1989-1991 = 100



Real net value added at factor cost, indicator 1, during 1973-1994, with 1989-1991 = 100


105
100
95
90
85
80
75
70
Index
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
Current
Chain index

ANNEX 3

Some examples of the calculation of labour input in AWUs

Example 1. Classification of the working time of 1 AWU, in % categories:

	0 - 25%	25 - 50 %	50 - 75%	75 - 100 %	>= 100 %
Persons	p1	p2	p3	p4	p5
AWUs	0.125 x p1	0.375 x p2	0.625 x p3	0.875 x p4	1 x p5

N.B. The number of working hours is not explicitly mentioned here. In the interest of clarity it should of course be mentioned in the questionnaire concerned.

Example 2. Classification by working hours per week:

	< 15 hours	15 - 22.5	22.5 - 45	>=45 hours
Persons	p1	p2	p3	p4
AWUs	$\frac{7.5}{45} \times p1$	$\frac{18.75}{45} \times p2$	$\frac{33.75}{45} \times p3$	1 x p4

N.B. 1 AWU in this example = 50 x 45 = 2 250 hours.

Example 3. Classification as shown in Example 2, converted into AWUs of 2 000 (= 50 x 40) hours.

	< 15 hours	15 - 22.5	22.5 - 40	40 - 45	>=45 hours
Persons	p1	p2	p3a	p3b	p4
AWUs	$\frac{7.5}{40} \times p1$	$\frac{18.75}{40} \times p2$	$\frac{31.25}{40} \times \frac{p3a}{p3a}$	1 x p3b	1 x p4

p3a = number of persons working 22.5 - 40 hours per week;

p3b = number of persons working 40 - 45 hours per week;
p3 = p3a + p3b.

Example 4. Classification by working hours per week:

	< 10 hours	10 - 20	20 - 30	30 - 38	>=38 hours
Persons	p1	p2	p3	p4	p5
AWUs	$\frac{5}{38} \times p1$	$\frac{15}{38} \times p2$	$\frac{25}{38} \times p3$	$\frac{34}{38} \times p4$	1 x p5

N.B. 1 AWU in this example = 50 x 38 = 1 900 hours.

Example 5. Classification as shown in Example 4, converted into AWUs of 2 000 (= 50 x 40) hours.

	< 10 hours	10 - 20	20 - 30	30 - 38	38 - 40	>=40 hours
Persons	p1	p2	p3	p4	p5a	p5b
AWUs	$\frac{5}{40} \times p1$	$\frac{15}{40} \times p2$	$\frac{25}{40} \times p3$	$\frac{34}{40} \times p4$	$\frac{39}{40} \times p5a$	1 x p5b

p5a = number of persons working 38 - 40 hours per week;

p5b = number of persons working 40 hours or more per week;

p5 = p5a + p5b.

ANNEX 4

Scope of the EU Farm Structure Survey (FSS) during the period 1988-1997[1]

Article 6 of Council Regulation (EEC) No 571/88 of 29 February 1988 on the organization of Community surveys on the structure of agricultural holdings between 1988 and 1997 (OJ No L56 of 2 March 1988, pp. 1-14) states that the surveys cover:

(Article 6, pp. 6/7)

- agricultural holdings where the agricultural area utilized for farming is one hectare or more;
- agricultural holdings where the agricultural area utilized for farming is less than one hectare, if they produce a certain proportion for sale or if their production unit exceeds certain physical thresholds.

Member States using a different threshold must fix it at a level which excludes only the smallest holdings which together contribute no more than 1% of the total standard gross margin (SGM), within the meaning of Decision 85/377/EEC, for the country concerned.

ANNEX 5

Glossary of the labour-related terms used in the EU Farm Structure Surveys (FSS) during the period 1988-1997[1]

Farm labour force of the holding All persons having completed their compulsory education who carried out agricultural work for the holding under survey during the 12 months up to the survey day.

Work which contributes to production includes, *inter alia*, the following tasks:

- organization and management (buying and selling , accounting, etc.);
- field-labour (ploughing, hay-making, harvesting, etc.);
- raising of animals (preparation and distribution of feed, milking, care of animals, etc.);
- all work carried out on the holding in respect of storage, processing and market-preparation (ensiling, butter-making, packing, etc.);
- maintenance work (on buildings, machinery, installations, etc.);
- own-account transport, in as far as this is carried out by the holding's own labour force.

Labour workin g on the holding but employed by a third party or under mutual-aid arrangements (e.g. labour of agricultural contractors or co-operatives) is not included.

Also excluded from "agricultural work for the holding" are:

- work for the private household of the holder or the manager and their families;
- any forestry, hunting, fishery or fish farming operation (whether or not carried out on the holding), however a limited amount of such work carried out by an agricultural worker is not exclud ed if it is impossible to measure it separately;
- work in respect of any non-agricultural activity carried on by the holder.

All persons of retiring age who continue to work on the holding are included in the farm labour force.

Agricultural holding:
A single unit, both technically and economically, which has a single management and which produces agricultural products (a limited summary of these products is given in an annex to the document in question).

Agricultural activities:
All activities carried out on the holding under survey and which contribute to the production of agricultural products;

Holder:
The natural or legal person in whose name the holding is operated. The holder may have delegated all or part of power of decision to a manager.

Manager of the holding:
The person responsible for the normal daily running of the holding.

Non-family labour:
All persons doing agricultural work for and paid by the agricultural holding, other than the holder and members of his family.

Non-family labour regularly employed:
Persons who worked every week on the holding under survey during the 12 months preceding the survey, irrespective of the length of the working week.

Non-family labour not regularly employed:
Persons who did not work every week on the holding under survey during the 12 months preceding the survey (certain special cases excepted). The working time of non-family labour not regularly employed is the number of complete days during the 12 months preceding the survey day. The number of persons concerned does not have to be stated. The working time of family labour not regularly employed should be converted to give an average weekly working time over a period of 50 weeks and expressed as the appropriate hours class of family labour (regularly employed).

Time worked on the holding:
The working time actually devoted to agricultural work on the holding, excluding work in the households of the holder or manager. "Full-time" means the minimum hours required by the national provisions governing contracts of employment. If these do not indicate the number of actual hours, 1 800 is to be taken as the minimum figure (225 working days of 8 hours per day). (In the period from 1979-1987, the figure was 2 200 hours). Days of leave and sickness do not count as working days.

The EU Farm Structure Survey also asks for the total number of (.....) unstated complete days of (agricultural) work carried out by persons not directly employed by the holding (e.g. contractors' employees).

ANNEX 6

Schematic presentation of the calculation of agricultural labour input

Year:
Country:

Results of EU Farm Structure Survey:

1 000 AWU

Agricultural labour input:
- family labour
- non-family labour
- total

Agricultural contract work:
- family labour
- non-family labour
- total

Estimate due to agricultural products excluded from the survey:
- family labour
- non-family labour
- total

Estimate due to minimum threshold used:
- family labour
- non-family labour
- total

_____+

Total agricultural labour input:
- family labour
- non-family labour
- total

1 annual work unit (AWU) = ... working hours per year.

(Annex 7 will be available as a Room document only)

ENDNOTES

1 Therefore, agricultural labour input should not represent the time available for work.

2 The reader is referred to Council Regulation (EEC) No 571/88 of 29 February 1988 for a description of the scope of the Farm Structure Survey (parts of this Regulation are attached as Annex 4).

The reader is referred to the Commission Decision of 26 October 1989 (89/651/EEC) for the substance of the Farm Structure Survey and the concepts and definitions laid down for the period 1988 to 1997 (parts of this decision are attached as Annex 5).

3 For a detailed descri ption of the manner in which the EAA are (or should be) compiled, the reader is referred to the Manual/Handbook for Agricultural and Forestry Accounts (Eurostat, 1989), and the addendum thereto (Eurostat, 1992).

4 In practice, this means that units such as family gardens or farm allotments will be excluded, their distinction being left to Member States depending on the structure of agriculture in their country.

5 For an exhaustive list of definitions and concepts used in the compilation of National Accounts, see the 'System of National Accounts 1993' (UN et al, 1993) and the 'European System of National and Regional Accounts in the European Community' (Eurostat, latest version, May 1996).

6 For an exhaustive description of the organization and the scope of the EU Structure Survey, see Council Regulation (EEC) No 571/88 of 29 February 1988 on the organization of Community surveys on the structure of agricultural holdings between 1988 and 1997. OJ No. L56 of 2 March 1988, pp. 1-14.

7 For an exhaustive list o f the definitions as used in the EU Structure Survey, see Commission Decision of 26 October 1989 relating to the definitions of the characteristics and to the list of agricultural products for the surveys on the structure of agricultural holdings during the period 1988 to 1997 (89/651/EEC). OJ No L 391 of 30 December 1989, pp. 1-41.