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**Paper 1, second part: OECD's revision work on
Economic Accounts for Agriculture**

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Introduction

This paper describes developments in OECD's work on Economic Accounts for Agriculture (EAA). It highlights the current uses of the data, and indicates the ways in which this key set of agricultural economic statistics is likely to evolve at the OECD.

Driven by policy demand, the OECD has since the early 90s complete and comparable EAA statistics, which now cover all but one of the 29 Member countries (the missing country is Iceland). This data-set, the "Economic Accounts for Agriculture" is published yearly around mid-year as paper and as electronic publication.

During the past four years, the EAA have received increased attention by policy makers and international organisations. The reasons for this are two-fold: First, the EAA are acknowledged to be key economic statistics of agriculture, providing a fairly complete and unique range of needed indicators. Second, methodological developments driven by the SNA 1993 revision have triggered comprehensive methodological review by Eurostat and the FAO and conducted OECD to do the same for its Member countries. These two issues will be briefly summarised below.

I. The Economic Accounts for Agriculture and their uses

. The EAA provides a set of macro-economic indicators regularly used by governments, university institutes and the private sector. The EAA express in value terms fundamental production characteristics of the agricultural sectors in OECD countries in an **internationally comparable** manner. Comparability in this context also means both with other economic activities within a country and among country groups belonging to different geographical zones. The EAA fulfils the role as a provider of standardised indicators which are "locators" helping to identify overall structure and trends in the economic functioning of agricultural activities. Thus the EAA allows - *inter alia* - to :

- ⇒ determine the contribution of agriculture to a country's generation of wealth
- ⇒ identify differences in production patterns, and changes/trends in the composition of output by commodities and commodity groups

- ⇒ determine absolute and relative trends in the input mix¹
- ⇒ calculate productivity of intermediate consumption²
- ⇒ calculate the terms of trade (ratio of price of output to price of inputs)³
- ⇒ estimate the remuneration of productive factors
- ⇒ derive aggregate income measures⁴

The (non-exhaustive) above list shows that the EAA provide a range of indicators for identifying broad, macro-characteristics and trends for agriculture. Some of these are published regularly in the annual **Monitoring and Evaluation** reports of the OECD and in the **OECD Observer** (yearly supplement “**OECD in Figures**”). In recent years, EAA information has been analysed and published in a number of **OECD working documents and publications**⁵ as well. In addition, the place of the EAA within the agricultural statistics system was described in more detail in presentations made to international seminars⁶

II. The Revision of the Economic Accounts for Agriculture

Statistical systems need periodic review in order to avoid conceptual obsolescence and to reflect developments and changes in economic patterns and structures. A review of a statistical system offers also the opportunity to assess the degree of adequacy of the existing system and to design changes which would further enhance the usefulness of data.

II.I Consequences of the 1993 revision of the System of National Accounts

The 1993 SNA revision marked an important step in enhancing the usefulness of economic accounts data. With respect to agriculture, it introduced a number of distinctions, which take better into account current conditions. These are of direct relevance to the compilation of OECD's EAA.

¹ Of particular interest is the on-farm/off-farm split. The relative importance of purchased inputs can give some indication on “upstream leakages” and hence provide an indicator of the transfer efficiency of agricultural support.

² Volume index of final output/volume index of intermediate consumption.

³ Implicit price index of final output/implicit price index of intermediate consumption.

⁴ The most widely known amongst these is the annual percentage change in real net value added per annual work unit (so-called indicator 1), which is regularly published by Eurostat in press releases and statistical publications.

⁵ EAA data provided a significant input for a number of OECD studies, such as OECD (1995), *Technological Change and Structural Adjustment in OECD Agriculture*, and OECD (1996), *Factors conditioning the transfer efficiency of agricultural support* [AGR/CA(96)24].

⁶ See A. Lindner: *Monetary agricultural statistics at OECD, in particular the EAA, and work with the CEECs/NIS*, paper presented at the 5th IWG.AGRI Seminar *Agricultural Statistics for Central European Countries*, Budapest, Hungary, 12-14 November 1997.

See also A. Lindner: *Future Perspectives for Agricultural Statistics: Issues and Concerns for Developed Countries*, paper presented at the *Agricultural Statistics 2000 International Conference*, Washington, United States, 18-20 March 1998

See also A. Lindner: *The review of agricultural accounting at the OECD*, paper presented at the 6th IWG.AGRI Seminar on *Agricultural Statistics*, St Petersburg, Russian Federation, 29 June -3 July 1998.

The overhaul of the SNA concepts led to the revision in 1995 of the *European System of Accounts* of the European Union⁷ and in turn to a revision of the *Manual on Economic Accounts for Agriculture and Forestry* in 1996.⁸ The FAO also published a revised Handbook on Economic Accounts for Food and Agriculture in 1996⁹.

II.2 OECD's response

The revisions mentioned above have clear implications for the basis on which OECD collects data from its Member countries and for the publication of harmonised results. Consequently, the Secretariat has been actively involved in discussions and consultations with the other international organisations on the EAA revision process. As an international body with a membership in-between those of the FAO and the European Union there is a need for OECD data to remain consistent with international conventions developed by these two organisations while acknowledging the fact that OECD's 29 Member countries belong to four distinct geographical zones with very different climates, production structures and policy concerns.

OECD has to assess carefully what measurement standards and conventions can be adopted, when these apply only to a sub-set of its membership. A redefinition of OECD's EAA should, ideally, be based upon a consensus among all OECD Member countries as to its detailed features and characteristics, while ensuring that the revision remains consistent with SNA definitions. This may imply a deviation in some respects from current practice.

Target methodologies could include items not collected currently but thought relevant in an OECD context. These could be used to produce "satellite" accounts. However, it is essential that basic concepts and definitions remain compatible across the three international bodies. This is all the more important since a number of new and likely future OECD Member countries are seeking accession to the European Union, too.

In order to address the issues and to launch the revision of the EAA, the OECD prepared with the help of a consultant a report to identify possible directions for future work. The resulting consultant's report was the main discussion item at the **2nd Expert Meeting on Statistics and Information Systems**, held on 23-24 January 1997 at OECD.¹⁰

⁷ Eurostat (1995), *European System of Accounts - ESA 1995*. Luxembourg: Eurostat.

⁸ The draft version of this Manual was presented at the meeting of the Working Party on Economic Accounts for Agriculture of the Agricultural Statistics Committee in December 1996 ("Consequences of the ESA revision on the EAA/EAF methodology: Manual on Economic Accounts for Agriculture and Forestry", Doc. F/LG/345, Luxembourg, November 1996). The final new manual (EAA97) will be published in 2000 in several languages

⁹ FAO Statistical Development Series 8: *A System of Economic Accounts for Food and Agriculture*, Rome, Italy 1996

¹⁰ OECD (1997a), *Future Development of Economic Accounts Statistics: Issues and Directions*, [AGR/CA/APM(97)10] and [AGR/CA/APM(97)10/ANN]. This is the revised Consultant report prepared by B. Hill. The original version of this report was discussed at the 2nd Expert meeting on Statistics and Information Systems at OECD, 23-24 January 1997 [AGR/STAT(97)3] and [AGR/STAT(97)3/ANN].

The report discusses in detail five main issues:

- The need to **modify the production account of agriculture to comply with the SNA 1993**.
- The provision of accounts for the agricultural households sector with particular emphasis on **aggregate income measures**.
- The use of **microeconomic** (household-level and farm-level) **data** to complement the accounts data.
- A broadening of the treatment of agricultural activity and its rewards by considering **capital accumulation accounts** and the measurement of **capital stock and net worth**.
- **How environmental issues** could be **integrated** into economic accounts.

. As a direct consequence, and following the recommendations made by the Experts¹¹, the OECD set up **two working groups** to follow up on issues identified as priorities, to elaborate **target methodologies** suitable for OECD countries and also major Non-OECD countries:

- The **first working group** concentrated on the practical development of a revised OECD questionnaire, specific to OECD's needs, but taking into account the SNA revisions and Eurostat's new EAA97 methodology.
- The **second working group** investigated possibilities for adding capital stock measures to the database to facilitate the assessment of net worth.

The conclusions of both working groups have been discussed at a **special OECD meeting “Expert group Meeting Economic Accounts for Agriculture”**, which was held **3- 4 February 2000** at OECD.

OECD's response to the revision of the EAA involves four components:

- ⇒ Close **co-ordination with parallel developments** taking place at both Eurostat and the FAO
- ⇒ Comprehensive **assessment by an Expert** of the implications for OECD work
- ⇒ **Putting into effect a process** to work out the approach with Member countries (working groups)
- ⇒ **Consultation with member countries at the February 2000 EAA Expert meeting.**

¹¹ A provisional summary of the outcome of the Experts meeting was presented to the Working Party on Agricultural Policies and Markets at its meeting of 27-29 January 1997. A more comprehensive version of this report, including the terms of reference of the two working groups to be created, was presented to Delegates of the 124th Session of the Committee for Agriculture at their meeting on 21-24 April 1997 in a document entitled “*Outcome of the Second Meeting of the Expert Group on Statistics and Information Systems* [AGR/CA(97)5].

II.3 Moving to the new EAA-concepts: main implications, potential uses and issues to be explored by OECD

The discussion at the OECD EAA Expert meeting in February 2000 confirmed that countries which are not member of the EU rely on the SNA as guideline.

The revision of the EAA will have to strike a balance between the necessary degree of conformity with the universal concepts provided by the SNA 1993 framework and the more sector-specific target methodologies worked out by Eurostat (and to a lesser extend the FAO, since the latter's recommendations are more general in nature).

Some of the direct implications are as follows:

1. Change in the basic unit from “Unit of Homogeneous Production (**UHP**)” to “Local Kind of Activity Unit (**LKAU**)”:¹²

⇒ The LKAU includes secondary non-agricultural activities previously excluded in the ”pure” branch concept.

It is obvious that the term LKAU is less well understood outside the EU-15. OECD has to take into account that a common (and understandable) denominator is needed which would help to avoid a methodological drifting apart of EU and Non-EU member countries of OECD. Only the SNA provides this yardstick.

⇒ The LKAU approach corresponds to a broadening of coverage of included activities in the agricultural sector. There is, however, the possibility of a small narrowing if units, whose sole purpose of production is for own consumption, are excluded.¹³ Another narrowing could be the exclusion by convention of agricultural secondary activities of non-agricultural units. All but one OECD country had problems with the assumption that agricultural production is always a separable activity so that no agricultural activity can be a secondary activity of a non - agricultural LKAU (establishment).

The exclusion of family gardens and allotments might be problematic for some OECD Member countries where such units contribute a significant share of output. Poland and Hungary are examples as well as Japan and Korea. The **new OECD questionnaire will include a satellite summary account for small units**. Similarly, and for the first time, a **Forestry summary account** will be introduced (see Annex 2).

¹² See OECD (1997a), page 11.

¹³ The EAA97 manual is somewhat ambiguous on this point (inclusion/exclusion depending on share in production). According to latest information (June 2000), also small units may be included in the EAA97

2. Dropping of the national farm concept and use of total output instead of final output:¹⁴

There are clear advantages to move towards the concept of total output instead of the final output concept although measurement may become more complicated and the risk of double-counting increase.

Some of these advantages are:

- ⇒ **Sales between farms** (intra-branch consumption) will no longer be ignored.
- ⇒ **Eliminates bias** in technical coefficients and value-added measures (distributive transactions relate to total output, not final output), thus improving inter-sectoral and international comparability.
- ⇒ **Economic analysis is facilitated** since technical coefficients and value added will take into account better the use of factors used in the production process (for instance, fertilizers).
- ⇒ **Improves internal consistency** between the production account and the generation of income and income accounts, which now relate to total output, by taking into account intra-branch intermediate consumption.
- ⇒ Through the measurement of different levels of intra-branch consumption allows **more consistent** and homogeneous **comparisons** within the agricultural sector, with other branches of the economy, and across OECD countries.¹⁵

The list of commodities has been amended to reflect the

3. Valuation at basic prices:

This change is in conformity with both the SNA 1993 and ESA 1995. Instead of “ex-farm” prices, output is to be valued at “basic” prices, that is:

The **value of agricultural production** at producer prices (excluding VAT) **minus taxes** on products (other than VAT) **plus** the **value of subsidies** on products.

- ⇒ The attribution of subsidies to specific commodities or commodity groups or to “production” may be difficult for countries outside the EU (= no CAP in common) context. In the specific case of agriculture the switch to basic prices considerably affects agricultural output because of product-specific subsidies. Other subsidies, eventually, could be added (e.g. cost relief, payroll etc.). Valuation is on an accrual basis.¹⁶

¹⁴ Eurostat (1995), *Consequences of the ESA revision on the EAA/EAF methodology: Measurement of output*. Working paper Doc. F/LG/310, November 1995, Luxembourg. See also OECD (1997a), Annex [AGR/CA/APM(97)10/ANN], page 14.

¹⁵ There are, nevertheless, a number of theoretical and practical problems associated with this concept, which will need to be addressed by the working groups. It seems likely that a number of “facilitating” measurement rules will be necessary to reflect the degree of feasibility of the application of the concept across OECD countries. Suffice to say that the specific characteristics of agriculture can not always be adequately met by SNA/ESA provisions. A case in point is the current proposal by Eurostat to deviate from the SNA/ESA by including that part of intra-LKAU intermediate consumption where the output concerns two different basic activities (such as products used for animal feed). One major reason for this proposal is to improve consistency with the Farm Accounting Data Network (**FADN**). See OECD (1997a), pages 9ff for an in-depth discussion.

¹⁶ For a more detailed discussion of this issue see Eurostat (1996), *Presentation of the CAP reform subsidies in the revised EAA*, Working document Doc. F/LG/343, and *List of subsidies on products*, Working document Doc. F/LG/342, Luxembourg.

- ⇒ Valuation at basic prices will have a **direct impact on value added**, in particular on the standard measure, GVA at market prices, which becomes GVA at basic prices. According to the value of subsidies directly allocated to items or groups of the production account, the **GVA figure will be higher** than in the present format. Other value added/income aggregates are - in principle- not affected because the value of “other” subsidies will be lowered accordingly.
- ⇒ There are consequences for the **valuation of inventory changes**, which are to be valued at basic prices at the time of entry/withdrawal (similar to the perpetual inventory method).

A revised framework, extended to capture systematically resources and uses in value terms, but also in terms of volume (metric tons) where appropriate, would

- Provide a **more complete commodity database** than is currently the case¹⁷, both in terms of volume and value.
- Establish an **improved treatment of subsidies** and provide a **better “yardstick” for commodity values** and commodity aggregates/total output.
- Be more consistent with SNA-practice and, hence, enable **better inter-sectoral and international comparisons**.

4. Capital stocks and accumulation, net worth:

The economic viability of agriculture is determined by producers’ ability to ensure future productive activities. The consumption of fixed assets provides one pointer to this, but does not give any insight into the “economic health” of the sector or holding. Changes in fixed assets can be negative without endangering the production base, and vice versa. It is therefore of interest, not just because of **equity concerns**, to ascertain the order of magnitude of net worth of agricultural households. This is a complex issue, confronting the analyst/statistician with a range of conceptual and technical problems. Taking into account the level, structure and flows of assets and liabilities, capital gains and losses would help to broaden the notion of “income” and “wealth”. It would help to better capture the **potential spending power**, for consumption or investment. The development of a target methodology could *inter alia* lead to a broader notion of income, the **economic status**, that is the combined value of current income with annuitized net worth of farm households.¹⁸

At the OECD EAA Expert meeting this February, it became clear that a majority of OECD countries would like OECD to expand its data collection to include balance sheets, and, if possible and feasible, also data on micro-level¹⁹. A first draft questionnaire on accumulation accounts and balance sheets was presented and will be progressively implemented. Given conceptual and measurement difficulties, some work needs to be done to find broad agreement on the measurement of capital

¹⁷ This would enable OECD to meet the requests made by some OECD Member countries to find a way to cover, at least to a limited extent, some of the commodities formerly included in the “Food Consumption Statistics” publication. That publication was discontinued because of a lack of resources.

¹⁸ See OECD (1997a), Section IV: *Capital accumulation accounts and measurement of capital stocks and of net worths*

¹⁹ See also *First summary analysis and synopsis of country replies* to the OECD background and issues paper on capital stock and net worth (STD/NA/AGR(2000)16 and 2), discussed at the OECD EAA Expert meeting 3 - 4 February 2000.

consumption items, assumed asset lives, and -possibly- work out estimates for balance sheets for agricultural assets and liabilities. The need for conceptual consistency with the rest of the EAA has to be stressed.

III. Conclusion

The EAA provide for multitudes of uses to better understand the functioning of agricultural sectors. OECD is engaged in a dynamic and well-targeted revision /extension process to further enhance the usefulness of the account framework under review.

For OECD and its Member countries, the **main challenge** now is to

- **Maintain comparability** across countries and to avoid that one half of countries conform to one set of guidelines and the other half to another one. If necessary, at least bridge accounts or reconciliation accounts should be elaborated.
- Respond to **a new SNA-compatible EAA questionnaire from OECD** and test the feasibility of extensions (small units, Forestry summary accounts, balance sheets, eventually micro-level data extensions).
- **Further develop the analytical relevance** of OECD's EAA by investigating into identified lines of desirable research (for instance, as proposed in the context of the OECD EAA meeting: agricultural PPPs, land values, consistent micro and macro data, depreciation schemes for agriculture, etc.)

Annex 1: The proposed integrated current transactions account questionnaire of OECD

(The list and breakdown of commodities remains compatible with Eurostat and is not shown below.
It is shorter and the order is slightly different from the EU)

Current transactions accounts

Table 1: Production account

Uses	Resources
Intermediate consumption at purchaser price	Production at basic price
Gross value added	
Consumption of fixed capital	
Net value added	

Table 2: Generation of income account

Uses	Resources
Compensation of employees	Net value added
Other taxes on production	
Other subsidies on production	
Net operating surplus / net mixed income	

Table 3: Entrepreneurial income account

Uses	Resources
Property income	Net operating surplus/ net mixed income
Interest	
Rent	
Net entrepreneurial income	

Distributed income of corporations
Reinvested earnings on direct foreign investment
Property income attributed to insurance policy holders
Rent

New OECD EAA questionnaire: example of commodity breakdown

<i>NEW OECD DRAFT QUESTIONNAIRE EAA</i>		<i>CHANGES FROM OLD EAA QUESTIONNAIRE</i>
AGRICULTURAL CURRENT ACCOUNT		
	PRODUCTION ACCOUNT	
A.IO	AGRICULTURAL 'INDUSTRY' OUTPUT	New aggregate
A.OU	AGRICULTURAL OUTPUT	
A.GO	AGRICULTURAL GOODS OUTPUT	New aggregate
A.CO	CROP OUTPUT	
A.CO.10	Cereals (including rice) <i>Value at producer prices</i> + subsidies on product - taxes on product = value at basic prices	This series now includes 'Rice'
A.CO.11	Wheat and spelt	
A.CO.12	Rye and meslin	Previously included in 'Other coarse grains'
A.CO.13	Barley	
A.CO.14	Oats and summer cereal mixtures	Previously included in 'Other coarse grains'
A.CO.15	Grain maize	
A.CO.16	Rice	Previously reported separately
A.CO.19	Other cereals	

Etc...

Annex 2: The proposed new supplementary small units and forestry account

NEW OECD DRAFT QUESTIONNAIRE EAA

*CHANGES FROM OLD EAA
QUESTIONNAIRE*

SUPPLEMENTARY ACCOUNTS		NEW TABLE
SMALL UNITS		
S.IO	AGRICULTURAL 'SMALL UNITS' OUTPUT	
S.GO	AGRICULTURAL GOODS OUTPUT	
S.CO	CROP OUTPUT	
S.CO.10	Crop item 1	
S.CO.20	Crop item 2	
S.CO.30	Crop item 3	
SAO	ANIMAL OUTPUT	
S.AO.10	Animal item 1	
S.AO.20	Animal item 2	
S.AO.30	Animal item 3	
S.MI	MISCELLANEOUS	
S.IC	TOTAL INTERMEDIATE CONSUMPTION	
S.GV	GROSS VALUE ADDED AT BASIC PRICES	
<i>S.NV.01</i>	<i>Fixed capital consumption</i>	
S.NV	NET VALUE ADDED AT BASIC PRICES	
<i>S.OS.03</i>	<i>Compensation of employees</i>	
<i>S.FI.03</i>	<i>Other taxes on production</i>	
<i>S.FI.06</i>	<i>Other subsidies on production</i>	
F.FI	FACTOR INCOME	
F.OS	OPERATING SURPLUS / MIXED INCOME	
<i>S.EI.03</i>	<i>Rents and other real estate rental charges to be paid</i>	
<i>S.EI.06</i>	<i>Interest paid</i>	
<i>S.EI.09</i>	<i>Interest received</i>	
F.EI	ENTREPRENEURIAL INCOME	

In table "Small Units", items in italic may be difficult to estimate and/or are inapplicable.

FORESTRY		NEW TABLE
F.IO	FORESTRY 'INDUSTRY' OUTPUT	
F.QU	FORESTRY OUTPUT	
F.GO	Forestry goods output	
F.SO	Forestry services output	
F.MI	Miscellaneous	
F.SA	SECONDARY ACTIVITIES (INSEPARABLE)	
F.IC	TOTAL INTERMEDIATE CONSUMPTION	
F.GV	GROSS VALUE ADDED AT BASIC PRICES	
<i>F.NV.05</i>	<i>Fixed capital consumption</i>	
F.NV	NET VALUE ADDED AT BASIC PRICES	
<i>F.OS.03</i>	<i>Compensation of employees</i>	
<i>F.FI.03</i>	<i>Other taxes on production</i>	
<i>F.FI.06</i>	<i>Other subsidies on production</i>	
F.FI	FACTOR INCOME	
F.OS	OPERATING SURPLUS / MIXED INCOME	
<i>F.EI.03</i>	<i>Rents and other real estate rental charges to be paid</i>	
<i>F.EI.06</i>	<i>Interest paid</i>	
<i>F.EI.09</i>	<i>Interest received</i>	
F.EI	ENTREPRENEURIAL INCOME	