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CHAPTER 13 AND ANNEXES 6 AND 7

OF THE HANDBOOK ON RURAL HOUSEHOLD, LIVELIHOOD AND WELL-BEING: STATISTICS ON RURAL DEVELOPMENT AND AGRICULTURE HOUSEHOLD INCOME.

Paper submitted by the Task Force
on Statistics for Rural Development and Agriculture Household Income*

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* The Task Force is comprised of experts from the following national agencies, universities and international organizations: Statistics Canada, Hungarian Central Statistical Office, National Statistical Institute of Italy (ISTAT), Swedish Board of Agriculture, Dept. for Environment, Food and Rural Affairs (United Kingdom), Economic Research Service (United States), Imperial College (United Kingdom), University of Verona (Italy), University of Pescara (Italy), Food and Agriculture Organization of United Nations (FAO), World Bank, Statistical Office of the European Communities (Eurostat), Organization for Economic Co-operation and Development (OECD) and the United Nations Economic Commission for Europe (UNECE).

XIII INVENTORY OF AGRICULTURE INCOME STATISTICS

XIII.1 Data sources for agricultural income statistics – generic sources

The lack of basic data has for long been a problem in establishing statistics on the economic situation of agricultural households. In 1964 the OECD examined the issue of low incomes in agriculture. An important piece of information it attempted to collect from the twenty-two countries that took part concerned the incomes that farmers received from other sources and which might compensate for low earning from farming. To its concern it found that:

> *...In most countries, the information available does not give a precise indication of the farm income situation. Farm families cannot be accurately classified according to their level of income; data on income received from non-farm sources are particularly deficient. These limitations are a serious handicap in devising suitable policies and in assessing the results of measures taken; attention should be given to improving the situation (OECD, 1964, p.7.)*[1]

Although scraps of information about off-farm activities could be found for most, sets of microeconomic income data that permitted the identification of farms with low total incomes were only encountered in the Scandinavian countries, Austria, Germany, Canada and United States.

Slattery (1966)[2] reviewed what was known on the relative income of farmers up to the mid-1960s in seven countries where data on personal incomes could be found (Denmark, Germany, Sweden, United States, Canada, Australia, and New Zealand – the latter two not covered by the OECD work above). Tax records formed the prime source except for Germany where farm accounts were used. Slattery's analysis related to the average incomes of farmer and non-farmer sectors and did not explore the distributional issues for which such data are particularly suited. In 1989 Hill[3] noted that in the European Union, despite the passing of three decades during which the CAP with its increasingly important income objective had come to dominate the agricultural policies of Western Europe, the list of Member States with satisfactory micro-data on the overall income of their farming households was almost unchanged from that found by the OECD in the 1960s; only Ireland and

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[1] OECD (1964), *Low incomes in agriculture: problems and policies,* Organisation for Economic Co-operation and Development, Paris.

[2] Slattery, M. (1966), 'Relative Income of Farmers: Some International Comparisons, *Quarterly Rev. agric. Econ*., 115-127.

[3] Hill, B. (1989) *Farm Incomes, Wealth and Agricultural Policy. First edition.* For latest edition see Hill (2000).

the Netherlands had been added to Slattery's list. The absence of countries of such major importance to the CAP as France, Italy and United Kingdom was particularly regrettable.

By 2000 virtually no progress had been made in putting what patchy data existed at national level on to a common methodological basis that would permit comparison and aggregation (Hill 2000).[4]

A review of the current situation concerning data sources on a country-by-country basis is given in the next section. First it is useful to describe the main types of source and their various strengths and weaknesses. It must be remembered, however, that while the existence of data is a prerequisite for the creation of statistics, it does not necessarily mean that they can be used in this way. There may be practical or legal impediments that must be overcome and, even when these can be circumvented, resources costs are involved.

XIII.1.1 Types of data sources

Microeconomic information on the personal incomes of farmers and their households in industrialised countries comes from data gathered in three main ways - from surveys of farm accounts, from household budget surveys in which farmers form one of several socio-professional groups, and from taxation records where self-employed farmers can be identified as a trade group within the industrial classification. In addition, there are various other sources, regular as in the case of the annual micro-census in Germany and claims for income support under welfare programmes in Ireland and France, or occasional like the investigation of Luxembourg's farming households in 1978 by CEPS (Hill, 1988[5])(Brangeon, Jégouzo and Roze, 1991[6])(Jégouzo, Brangeon and Roze, 1998[7]). Occasional data also come from special studies that involve looking at the incomes of farmers, such as surveys of farm business structure, of part-time farmers and the large-scale multi-country study of farm household adjustment in Europe undertaken by the Arkleton Trust (Bryden et al., 1992[8]) and its national offshoots. Here emphasis is given to the regular sources.

Farm accounts surveys take place in all EU Member States and many other OECD countries, covering not only the costs and revenues that lead to various

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4 Hill, B. (2000) *Farm Incomes, Wealth and Agricultural Policy. 3rd edition.* Ashgate Publishing, Aldershot, pp375. ISBN 0-7546-1132-9.

5 Hill, B. (1988), *Total Incomes of Agricultural Households,* Theme 5 Series D, Eurostat, Luxembourg.

6 Brangeon, J.-L., Jégouzo, and Roze, B. (1991), *Une contribution à la connaissance des revenus totaux des familles d'agriculteurs; résultats d'un dépouillement particulier d'une enquête CERC sur les revenus de l'année 1978,* INRA, Station d'Economie et Sociologie Rurales, Rennes.

7 Jégouzo, G., Brangeon, J-L., Roze, B. (1998), *Richesse et pauvreté en agriculture*" Collection économie agricole et agro-alimentaire, INRA, Paris, ISBN-INRA 2-7380-0832-1.

8 Bryden, J., Hawkins, E., Gilliatt, J., MacKinnon, N., and Bell, C. (1992). *Farm Household Adjustment in Western Europe 1987-1991, Final Report on the Research Programme on Farm Structure and Pluriactivity, Vol. 1,* Arkleton Trust, Nethy Bridge.

indicators of income but also capital balance sheets (assets and liabilities of various types and net worths). Accounts surveys are important for policy purposes because they are undertaken either by or for governments and form part of the official data set on agriculture. In the EU each country has at least one survey that contributes to the European Commission's Farm Accountancy Data Network (FADN) using a harmonised methodology. The quality of the information is generally high because of the way in which the sample is selected and data are collected. However, as suppliers of data on the total income of farm households they are of limited potential. First, the sample is designed to be representative of agricultural activity, not of farming households. Hence there may be a concentration on the larger "commercial" producers and relatively poor coverage of small "non-commercial" farms, even if the occupiers of such holdings are mainly dependent on the farm for their livelihood. A minimum size of farm may be used that cuts off a substantial proportion of farm operators[9]; this has led to criticism of FADN for exploring issues that relate to people engaged in agriculture (see views reported in Hill 1988).

Second, farm accounting is often restricted to inputs and outputs to agricultural activity. For example, FADN does not require from its contributing national surveys information beyond that related to the farm business. A few national surveys go beyond these narrow limits and regularly collect data on the farm household's non-farm income; among the EUR 15 countries this only applies to Denmark, Germany, Netherlands, Austria, Finland and, since 1989, United Kingdom (though in the latter's case using a banding system rather than precisely determined and verified figures). This suggests that there may be a problem in achieving high quality across each of the sources of income. The Scandinavian countries have for some time adopted a broader approach though in Sweden questions on non-farm income were dropped for the survey in 1990, a change associated with reforms in agricultural policy towards a less regulated approach (only to be reversed shortly on joining the EU and adopting the CAP).

Where farm accounts surveys take a narrow perspective, whatever their relevance to the problems of farming at the time they were set up, they are now of limited capability in providing answers to many of the policy questions of the 1980s. Nevertheless farm accounts surveys appear to be the most likely option for further development by the addition of questions related to off-farm income and other aspects of the household that are of increasing relevance to explaining their farming decisions and of establishing their economic well-being. Third, by virtue of being surveys only of farms, they do not generate data on other socio-professional groups with which comparisons of the economic situation of farm household can be drawn. This means that alternative data sets may have to be used to provide results for the population in general or subsets of it (such as households headed by other self-employed persons), with the possibility that full comparability may not be achievable.

Family (household) budget surveys are a second potential source of data. These take place in OECD countries, including all EU Member States. These cover all households, so agricultural households are included and comparisons should be possible between them and other types of household. There have been moves towards

[9] In the FADN, coverage is achieved of about 98% of activity but only about 50% of operators.

a common methodology both within the EU and more internationally (Canberra Group 2001; Eurostat 1993[10]). One of their prime purposes is to provide information for the weighting of price indices, and emphasis has traditionally fallen on the expenditure side. The amount of information collected on incomes has gradually been expanding, though there is variation in the amount of detail between countries. This flows from the fact that income data are collected primarily to obtain a classifier for the study of patterns of consumption rather than to study income in its own right (Eurostat, 1993). Nevertheless, in countries with a substantial proportion of their population still engaged in agriculture these surveys are a potentially valuable source of information on the total income of farmer households.

The main disadvantages of household budget surveys are, first, that there are usually few agricultural cases, often insufficient for any statistical significance to be attached, because this group is a small proportion of the population in most OECD countries. Second, they are expensive to carry out, with the result that they are conducted only occasionally - typically at 5 to 7 year-intervals. This creates the problem of how their findings should be updated in non-survey years. Analysis of the mass of data also tends to be rather dated when it is published. These surveys are therefore best at providing detailed information when time is not of the essence.

Third, the reliability of data on incomes is not high (see, for example, the case of Greece in (Sarris, 1996[11])), not all items leading to income may be collected (such as imputed items and rental values of owned dwellings) and there may be no coverage of assets, liabilities and net worth. The problem with the quality of income estimates comes from the under-representation of self-employed households in voluntary surveys (there may be difficulty in making contact and a high non-co-operation rate), and also the understatement of real income levels from self-employment. This may not be deliberate but arises from the uncertainty which households have about the amounts they are earning, even of what constitutes income (Martin et al, 1996[12]; van der Laan, 1999[13]). In agriculture the problems may be exacerbated by systems of national taxation that, in many countries, still do not require farmers to keep accounts. In the Commission's Agricultural Situation in the Community report of 1980 only 15 per cent of EUR 9 holdings kept accounts, with book-keeping being the norm only in Netherlands, Denmark and United Kingdom[14]. In an attempt to circumvent the

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[10] Eurostat (1993), *Family Budget Surveys in the EC: Methodology and Recommendations for Harmonisation,* Theme 3 Series E, Eurostat, Luxembourg (see also under Verma and Gabilondo, 1993).

[11] Sarris, H. a. Z., S. (1996), 'Agricultural income statistics and policy: a view from southern Europe', in *Income Statistics for the Agricultural Household Sector*, (B. Hill, ed.). Eurostat, Luxembourg.

[12] Martin, J., Cheesbrough, S., Dodd, T., Farrant, G. and McKernan, A. (1996), 'Asking the Self-employed about their Income', *Survey Methodology Bulletin* 39, (July 1996), 11-15.

[13] van der Laan, P. (1999), 'The Problematic Measurement of Income from Self-Employment', paper to the *Eurostat Seminar on Income Methodology for Statistics on Households*, Luxembourg 13014 December 1999, Statistics Netherlands, Voorburg, the Netherlands.

[14] The percentages were Germany 9, France 5, Italy 8, Netherlands 98, Belgium 8, Luxembourg 11, United Kingdom 83, Ireland n.a., Denmark 70).

problem of unreliable survey income information for farmers, in Ireland since the 1987 the household budget survey has used as agricultural household cases holdings that were already co-operating in the Irish farm accounts survey (Hill, 1988). In Germany, incomes are estimated indirectly by summing consumption spending with the level of savings.

Box: The European Community Household Panel

The *European Community Household Panel (ECHP)* was initiated in 1993 with the intention of establishing a European database of comparable statistical information for all Member States (EUR 12) on the income and living conditions of households. The first main survey took place in 1994, with a sample of some 60,500 cases. It was anticipated that about 3,300 would turn out to be agricultural; in the United Kingdom the sample of 5,000 households was expected to yield about 100 farm households. In reality, the first round of the ECHP threw up fewer than 2,661 cases in which the head of household (or the reference person) was returned as self-employed and had agriculture as their broad industry group. In Germany there were 25 households with such a reference person and in United Kingdom 61 cases; only in Greece, Ireland and Portugal were there more than 300 (Eurostat, personal correspondence). The number of cases corresponded to less than 1 per cent of agricultural households estimated in the IAHS statistics, and less than 0.5 per cent in countries other than Ireland and Luxembourg. Over time the numbers were expected to become even smaller. By way of contrast, the EU's Farm Structure Survey aims for a minimum sample of 10 per cent in order to catch the diversity found in this industry, although in practice this sometimes falls to 3 per cent. As well as the number of agricultural cases in the ECHP sample being too small to be usable, it may be expected to suffer from the same well-known problems as household budget surveys in its attempts to gather reliable its income data from self-employed people, especially those in agriculture.

Taxation records form the third main potential data source on the total personal incomes of farmers and their households. Advantages are that taxes are not voluntary, so records of the income on which tax is based should exist for all taxpayers; data may be drawn from the universe or samples from it depending on the number of cases and degree of disaggregation required. Because there are usually penalties to illegal tax avoidance, some degree of quality assurance is built in, though there may be some bias towards under-reporting of income. Assuming that taxpayers are identified by trade group, of which agriculture could be one, it should be possible to compare the situation of farmers with other classes of taxpayer.

However, there are many substantial disadvantages. Firstly, tax records relate to concepts of income (and assets in some situations) used by tax authorities, and these may differ from those used by economic statisticians. For example, some forms of income may be deemed to be exempt from tax and are thus likely not to appear in income registers, or rules on matters like capital allowances, offsetting losses and so on may not accord with the treatment appropriate for assessing personal incomes in the context of agricultural policy.

Second, low income farmers may fall below the tax net and thus not be represented in statistics based on them (Ireland is a case in point – see Hill 1988). This will complicate comparisons of income with other socio-professional groups.

Third, the system of taxation of agriculture may be exceptional to the national system, so that income data may not be available. For example in many OECD countries (including at least seven of the EU 15) at least some farmers (typically the smaller ones) are not taxed on their actual incomes but according to some standard – usually dependent on farm area or numbers of animals.[15] Assessment on an actual income basis can only happen if the farmers keep accounts for their businesses and, at least in the EU as a whole, this seems to be still very much the exception.

Fourth, there may be a problem of timing. Where tax is assessed on the basis of an accounting profit this is often done in arrears, unlike other forms of income that are taxed in the year in which they are earned. Consequently there are problems of aligning information on self-employment income with statistics on other income.

Fifth, there may be implications of the institutional form the farm business takes; arranging a business as a company rather than as a partnership or sole-trader will have implications for the way that income is reported and taxed.

Sixth, there may be practical or legal reasons why tax data are not available or appropriate, ranging from a technical difficulty in matching up individual income declarations to form data for households to an outright ban from even statistical authorities have access to tax data for non-taxation purposes.

Nevertheless, in situations in which it is possible to bring together tax data for individuals and to combine it with other administrative and survey data, as is done by some Scandinavian countries to form their Income Statistics Registers, the outcome is a valuable and powerful tool for studying socio-economic problems and monitoring the performance of policy directed at solving problems.

[15] OECD 2005 forthcoming.

XIII.2 Survey on definitions and measurement issues in selected countries

XIII.2.1 Predominately developed countries (UNECE and OECD countries)

XIII.2.1.1 Background

In March 2004, the UNECE wrote UNECE member countries as well as to those OECD countries that are not UNECE member countries to ask for information on definitions, data sources and other information on the collection of statistics on the agricultural household income.

Since Eurostat have already collected information for EU countries the latter countries were only asked to update the information held and provide any information on changes that have taken place since the 2001 IAHS report[1] (Eurostat, 2002) was put together. Non-EU countries were sent a questionnaire (see annex A at the end of the present section) and were asked to provide any further information available concerning agricultural household income. Replies have been received from 20 EU countries and 25 Non-EU countries (see annex B at the end of the present section).

The replies vary in the amount of information supplied. The Czech Republic and Malta indicated that there is no information available yet. The reply from Switzerland pointed out that the activity 'agricultural households economic accounts' was removed from their statistical programme in autumn 2003 without giving any information on the activities before 2003. Luxembourg also indicated that there is no information available and that there is no intention to collect data on agricultural household income. Luxembourg is nevertheless included in the tables since some information is available in the 2001 IAHS report. For the same reason, Austria, Greece, Netherlands and Spain are included in the tables even though no reply has yet been received. Malta and the Czech Republic are not included in the tables of this report.

This report gives a short summary of the areas covered in the questionnaire. The questionnaire and tables with more detailed information of the survey can be found in annex 6 at the end of the Handbook.

[1] An inventories of Income of the Agricultural Households Sector (IAHS) statistics covering EU Member States was first undertaken in 1990 (Eurostat working paper F/LG/187) and s second (in two stages) in 1996 (F/LG/320, 324, 350 and 366). The consolidated inventory drawn covering all the main elements of the methodology was published as part of the Income of the Agricultural Households Sector 2001 Report (Eurostat, 2002).

XIII.2.1.2 Definition of Household

How the household is defined is important because it influences the survey's coverage of the population and the analysis of the data, in particular when cross-country comparisons are made (*see chapter IX in this handbook*). The most commonly used criteria in the definition of a household are that of co-residence (living together in the same dwelling unit), that of pooling of income and resources, that of sharing of expenditures, including joint provision of essentials of living such as food and, finally, that of the existence of family or emotional ties.

EU countries

Table 1 shows that 11 out of the 22 EU countries for which data are available use the definition of a household as used in the IAHS and originally stated in the European System of Integrated Economic Accounts (ESA). This definition refers to people living in the same accommodation, with a shared budget and who consume certain types of goods and services such as food collectively. People do not have to have a family link. Four other countries (Estonia, Latvia, Slovenia and Sweden) provided a definition very close to the one stated in the ESA.

Table 1

Defintion of household in EU countries.

Country	Reference to				
	common dwelling	shared budget	shared food/meals	family link necessary	students/temporarily absent
Austria	yes	no	yes	yes	not mentioned
Belgium	(yes)	no	no	yes	not mentioned
Denmark	yes	no	no	yes	not mentioned
Estonia	yes	yes	yes	no	not mentioned
Finland	yes	yes	yes	no	not mentioned
France	yes	yes	yes	no	not mentioned
Germany	yes	yes	yes	no	not mentioned
Greece	yes	yes	yes	no	not mentioned
Hungary	yes	yes	yes	no	not mentioned
Ireland	yes	yes	yes	no	not mentioned
Italy	yes	yes	yes	no	not mentioned
Latvia	yes	yes	no	no	not mentioned
Lithuania	yes	yes	yes	no	not mentioned
Luxembourg	yes	yes	yes	no	not mentioned
Netherlands	yes	yes	yes	no	not mentioned
Poland	yes but seamen and workers abroad included	yes	yes	no	no
Portugal	yes	yes	yes	no	not mentioned
Slovakia	n/a	n/a	n/a	n/a	n/a
Slovenia	yes	yes	yes	no	not mentioned
Spain	yes	yes	yes	no	not mentioned
Sweden	yes	no	no	no	not mentioned
United Kingdom	not applicable since based on tax returns of individuals				

Source: UNECE survey on agricultural household income statistics.

The definitions used deviate to different degrees from the target definition. The definition in use in the UK is the one that most deviates from the IAHS one and this is due to the fact that in this country the statistics are based on tax records of individuals.

Finally, the family link criterion is used only in Austria, Belgium and Denmark.

Non-EU countries

Out of the 25 non-EU countries that replied to the questionnaire, 18 provided a definition of household (see table 2). The co-residence criterion is used by all the countries with the only exception of Andorra that is also the only country to require members of the household to be part of the same family.

The definitions used in Canada, Norway and the United States do not refer to shared budgets but only refer to sharing a dwelling unit. The wording of the definition of household provided by the Republic of Korea does not refer to sharing a dwelling unit but it seems to be implied. Reference to shared meals and/or common provision of food are can be found in the definition of household in seven countries.

Table 2

Defintion of household in non-EU countries.

Country	Reference to				
	common dwelling	shared budget	shared food/meals	family link necessary	students/temporarily absent
Albania	n/a	n/a	n/a	n/a	n/a
Andorra	no	yes	yes	yes	not mentioned
Armenia	yes	yes	no	no	not mentioned
Australia	n/a	n/a	n/a	n/a	n/a
Azerbaijan	yes	yes	yes	no	not mentioned
Belarus	yes	Yes	no	no	not mentioned
Bulgaria	yes	yes	yes	no	included
Canada	yes	no	no	no	included
Croatia	yes	yes	yes	no	not mentioned
Georgia	yes	yes	no	no	not mentioned
Japan	n/a	n/a	n/a	n/a	n/a
Kazakhstan	yes	yes	yes	no	not mentioned
Kyrgyzstan	yes	yes	no	no	not mentioned
Mexico	yes	no	yes	no	not mentioned
New Zealand	yes	yes	yes	no	not mentioned
Norway	yes	no	no	no	not mentioned
Republic of Korea	n/a	yes	yes	no	not mentioned
Republic of Moldova	yes	yes	no	no	not mentioned
Romania	yes	yes	no	no but definition is 'generally relatives'	not mentioned
Switzerland	yes	yes	yes	no	not mentioned
The former Yugoslav Republic of Macedonia	yes	yes	yes	Not necessary but non-family members need to **work**, eat and reside in	students always included, other people absent for more than 45 days in last three
Turkey	n/a	n/a	n/a	n/a	n/a
Turkmenistan	yes	yes	no	no	not mentioned
Ukraine	yes	yes	no	no	not mentioned
United States of America	yes	no	no	no	not mentioned

Source: UNECE survey on agricultural household income statistics.

XIII.2.1.3 Definition of agricultural household

EU countries

The two definitions of agricultural household most commonly applied in the EU countries are the 'narrow' and the "broad" ones (see table 3). According to the first one 'agricultural households are those where the income from independent agricultural activity, net of capital consumption, constitutes the *main source* of the total income of the reference person' (TIAH Manual, Rev.1, paragraph 2.7.3). According to the so-called 'broad' definition 'agricultural households, in the "broad" sense, are those that derive *some income* from independent activity in agriculture (other than income solely in kind). This income can arise from activity of the head of household or any other member" (TIAH Manual, Rev.1, paragraph 2.10.1).

Table 3

Defintion of agricultural household (narrow or broad) and inclusion of fishery/forestry in EU

Contries	narrow/broad	fishery/forestry
Austria	Narrower than IAHS target.	included
Belgium	No information on definition used	not included
Denmark	Narrow	not included
Estonia	Not in use	included
Finland	Broad	not included
France	Not in use	not included
Germany	Narrow	not included
Greece	Narrow	included
Hungary	Narrow	not included
Ireland	Narrow	not included
Italy	Narrow	not included
Latvia	Not in use	
Lithuania	Narrow	not included
Luxembourg	Not in use	
Netherlands	Narrow	not included
Poland	Narrow	not included
Portugal	Not in use	
Slovakia	Not in use	
Slovenia	Broad	not included
Spain	Between the IAHS "narrow" and "broad" definitions	not included
Sweden	Narrow	not included
United	Between the IAHS "narrow" and "broad" definitions	

Source: UNECE survey on agricultural household income statistics.

Ten countries (Denmark, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Netherlands, Poland and Sweden) use the narrow definition of agricultural households. Five countries stated explicitly that no definition of agricultural household is used (Estonia, Latvia, Luxembourg, Portugal, Slovakia).

Definition in the remaining countries deviates in different respects. In Austria the definition is based on size criteria. In Finland and Slovenia a 'broad' definition is used. In Spain agriculture has to be the main income source of at least one member of the household, not necessarily the household head.

Following the indications given in the TIAH Manual, forestry and fishery are usually excluded from agricultural households.

In the EU countries there is usually no shortage of data on farm income, these data are collected by the RICA-FADN survey. More problems arise when the farm household global income has to be calculated. The main statistical sources that can be used are farm account surveys, administrative data (taxation), national Household Budget Surveys and the Statistics on Income and Living Conditions (EU-SILC). The first source has in some countries been expanded in order to collect data on non-agricultural incomes of farm households. The taxation source is not always exploitable and in addition, such as in the case of France, the available information do not allow to reconstruct the agricultural household income, due to the special taxation regime applied to small farms (estimated agricultural income). Similar problems are reported for Hungary. Household Budget Surveys and EU-SILC survey do contain data on global income of agricultural households, the problem is that the coverage of farm households is too low to produce a statistically significant sample. This is, for instance, the case of the Belgium SILC survey that contains data on only about 90 agricultural households, which accounts for 0.15 % of the total number of farm households. Similar problems are reported for Hungary and France. For example, the French Family Budget survey collects data on only 237 agricultural farm households and the number lowers to about 150 in the Income and living conditions survey (ERCV). INSEE is presently working on a project based on the joint utilization of the RICA data and those collected by the survey on taxable income.

Non-EU countries

Out of the 23 countries 12 gave a definition of agricultural household (see table 4).

The majority of the 13 countries gave a definition closer to the broad target definition in the IAHS Manual, than to the narrow definition in the sense that reference is made to the household or any household member rather than to the reference person being involved in agricultural activities. It then depends on the size of the thresholds whether the activity is likely to give rise to a large share of the household's income or not. No reference is usually made to the share of income coming from agricultural activities. In the former Yugoslav Republic of Macedonia, a household is only classified as agricultural if all members of the household are engaged on the agricultural holding. If one or more members receive income from other sources then the household is classed as 'mixed'. In the Republic of Korea it is also necessary that all member are mainly engaged in farm work to be classified as full-time farm households.

Table 4

Defintion of agricultural household (narrow or broad) and inclusion of fishery/forestry in non-EU countries.

Contries	narrow/broad	fishery/forestry
Albania	n/a	n/a
Andorra	No definition provided. However, in the survey of family budgets the category 'worker in agriculture' is one of the ten socio-professional groups	n/a
Armenia	n/a	n/a
Australia	n/a	n/a
Azerbaijan	No information on definition provided. However, the Household Budget Survey has information on main source of income of household head of	not applicable
Belarus	Not in use.	not applicable
Bulgaria	Broad.	excluded
Canada	Broad. 1/	excluded, unless household is also involved in agricultural
Croatia	Broad. 2/	included
Georgia	n/a	n/a
Japan	Household having cultivated land of 30 ares or over, or whose annual sales of agricultural products amounts to 500,000 Yen and over.	excluded
Kazakhstan	n/a	n/a
Kyrgyzstan	An agricultural household is a household in a rural area (according to the Territorial Classification of the Kyrgyz Republic SAOTO) and produce	excluded
Mexico	Households in which agriculture is the main income source.	excluded
New Zealand	Not currently applied	not applicable
Norway	Households having agricultural land or livestock. An agricultural household may have zero or negative income from agricultural activity	Households solely engaged in forestry and/or fisheries are not
Republic of Korea	Households with 10 acres or more, or which raises livestock and sells	excluded
Republic of Moldova	Household category 'farmers': households whose heads have their main source of income from individual agricultural activity. Household category 'Employees in agricultural sector': households whose heads have their	n/a
Romania	A farmer household is a household where the head of household has the occupational status of being self-employed in agriculture or is a member	n/a
Switzerland	n/a	n/a
The former Yugoslav Rep. of Macedonia	A household with its own agricultural holding and all its members able to work are engaged on the holding as agricultural workers. Non of the household members is officially employed outside the holding, none of them owns a store for trade and non of them is a pensioner, but one or more of its members can occasionally work outside the holding in order to earn some additional income. It also includes agricultural workers with no land who work regularly on the holdings of other private agricultural workers; agricultural households with elderly members who own a holding, but are not capable of working, regardless of whether they pay for	included
Turkey	not in use	n/a
Turkmenistan	not in use	n/a
Ukraine	Not in use. But information on types of activities is available so that households with income from agriculture, fisheries, forestry could be	n/a
United States of America	A subset of households engaged in the operation of a farm business establishment (land under operating arrangement on which there are or could be sales of at least $1,000 annual worth of agricultural products). For purposes of the U.S. Department of Agriculture's Agricultural Resource Management Survey (ARMS), the defintion refers to a	excluded.

Source: UNECE survey on agricultural household income statistics.

Notes:

1/ One of the residents of the household must be a farm operator, as

2/ An agricultural household is every household that has an agricultural estate (over 10 a) and whose members are involved in agricultural

Of the remaining countries, 4 explicitly stated that a definition for agricultural household did not exist (Albania, Belarus, New Zealand, Ukraine). Of the countries that did not provide a definition, but did not state explicitly that no definition of agricultural household was used, most probably do not use an official definition of agricultural household. Three countries that did not provide a definition gave detailed information on the socio-economic classification of households according to the main source of income of the reference person and one of the

categories used is 'agricultural workers' (Andorra, Azerbaijan, Republic of Moldova). However, only the Republic of Moldova also has a separate category for income from independent agricultural activity.

XIII.2.1.4 Definition of rural household

EU countries and non-EU countries

The survey also asked for information on the definition of rural households. The information provided is sketchy. For some countries, more information is available from the UNECE survey on rural development statistics, see chapter III.

XIII.2.1.5 Treatment of special institutions

EU countries

All the EU countries that provided information on this point follow the intention of the TIAH Manual and exclude religious houses, farming co-operatives and similar institutions from the agricultural households sector.

Non-EU countries

With the exception of Belarus the thirteen countries that provided information on this point declared that they do not include special institutions in the agricultural households sector.

XIII.2.1.6 Classification into socio-economic groups

EU Countries

'The basis for classifying households into socio-professional groups within the TIAH is the main source of income of the household's reference person.' (TIAH Manual, Rev.1, paragraph 2.7.3.). Most EU countries have a classification that is close to the target. In the Netherlands and Poland the income of the whole household is considered. In France and Italy the classification is based on what the reference persons declare to be their main activity, taking different factors into account. In the answers to the questionnaire by Finland and Sweden reference is made to the main activity of the reference person without any details how to decide what the main activity is. Luxembourg and Belgium base their classification on both income and time spent by the reference person.

Non-EU countries

Six countries explicitly stated that they do not use socio-professional classification of households. A further nine countries did not provide any information on socio-professional classifications. Of the remaining, Andorra and Croatia use the main source of income of the reference person/head of the households to classify households into socio-professional groups. Belarus and the United States of America also use income in the classification but from the information provided it is not evident if it is income of the household or of the reference person. In the Republic of Korea the main source of income of (all?) household members is used.

XIII.2.1.7 Short-term stability mechanism

EU countries and non-EU countries

Four EU countries make use of smoothing for granting the stability of the number of households deemed to be agricultural. None of the non-UE countries make use of short-term stability mechanisms.

XIII.2.1.8 Equivalence scales

EU countries

Sixteen countries use equivalence scales to convert the number of household members into consumer unit equivalent (see table 5).

With the exception of Luxembourg, the same coefficients are used for adult men and adult women. The coefficient for the head of household is in general 1.0 in all countries for which data are available. In Hungary, a smaller coefficient (0.9) is used if the head of household is a pensioner. In Luxembourg, the coefficient depends on whether the head of household is male or female and, if the head of household is male, also on whether he is 60 and over. Coefficients for additional adults vary between 0.8 and 0.65. The coefficient for additional adults used in the majority of countries is 0.7.

Table 5

Equivalence scale used to give consumer units in EU countries

	First adult/head of household		Other adults		Children	Threshold age child/adult
Country	male	female	male	female		
Austria						
Belgium						
Denmark	1.0	1.0	0.7	0.7	0.5	17
Estonia	1.0	1.0	0.8	0.8	0.8	
Finland	1.0	1.0	0.7	0.7	0.5	
France	1.0	1.0	0.7	0.7	0.5	14
Germany	1.0	1.0	0.7	0.7	0.5	14
Greece	1.0	1.0	0.7	0.7	0.5	14
Hungary	1.0 ; 0.9 if pensioner household	1.0; 0.9 if pensioner household	0.75; 0.65 if pensioner household	0.75; 0.65 if pensioner household	0.65; 0.5; 0.4	
Ireland	1.0	1.0	0.7	0.7	0.5	14
Italy	1.0	1.0	0.7	0.7	0.5	15
Latvia						
Lithuania						
Luxembourg	1.0; 0.8 if 60 and over	0.8	1.0; 0.8 if 60 and over	0.8	seven age dependent	14
Netherlands						
Poland	1.0	1.0	0.7	0.7	0.5	14
Portugal	1.0	1.0	1.0; 0.8 if aged 60 and over	0.8	seven age dependent	14
Slovakia						
Slovenia						
Spain	1.0	1.0	0.7	0.7	0.5	14
Sweden						
United Kingdom						

Source: UNECE survey on agricultural household

In nine countries, the coefficient for children is 0.5 regardless of the age of the children. In Hungary, Portugal and Luxembourg the coefficient for children is age dependent, ranging from 0.2 to 0.8 in Luxembourg and Portugal and from 0.4 to 0.65 in Hungary.

In most countries persons of age 14 and above are classified as adults. The exceptions are Denmark (17 years) and Italy (15 years).

Non-EU countries

Eight of the countries that replied to the questionnaire gave details on the equivalence scales used (see table 6).

Table 6

Equivalence scale used to give consumer units in non EU countries

	First adult/head of household		Other adults		Children	Threshold age child/adult
Country	male	female	male	female		
Albania						
Andorra						
Armenia	1.0	0.8	1.0	0.8	0.5	15
Australia						
Azerbaijan	1.0	1.0	0.7	0.7	0.5	14
Belarus	1.0	1.0	0.8	0.8	0.5	14
Bulgaria						
Canada						
Croatia	1.0	1.0	0.5	0.5	0.3	
Georgia	1.0 if between 16 and 60; 0.88 if over 60	0.84 if between 16 and 60; 0.0.76 if over 60	1.0 if between 16 and 60; 0.88 if over 60	0.84 if between 16 and 60; 0.0.76 if over 60	1.0 if between 7 and 16; 0.64 if 0 to 7	16
Japan						
Kazakhstan	1.0	1.0	0.8	0.8	0.8	
Kyrgyzstan						
Mexico						
New Zealand						
Norway						
Republic of Korea						
Republic of Moldova	1.0	1.0	0.7	0.7	0.5	16
Romania						
Switzerland						
The former Yugoslav Republic of Macedonia						
Turkey						
Turkmenistan						
Ukraine	1.0	1.0	0.7	0.7	0.7	
United States of America						

Source: UNECE survey on agricultural household

In general, a coefficient of 1.0 is used for the first adult. In Armenia, the coefficient for the first adult is 1.0 if male and 0.8 if female. In Georgia the coefficient depends both on the sex of the first adult and the age with people over 60 getting a lower coefficient. The coefficient used for additional adults varies between 0.5 in Croatia and 0.8 in Armenia, Belarus and Kazakhstan. With the exception of Georgia, there is only one coefficient for children. In most countries the coefficient for children is 0.5. Exceptions are Croatia (0.3), Kazakhstan (0.8) and Ukraine (0.7). Only 5 countries provided information on the age from which onwards persons are classified as adult. Two use the threshold of 14, one of 15 and two of 16 years.

XIII.2.1.9 Own consumption

EU countries

The TIAH Manual (3.4.2) states that own consumption should be valued "at the basic price of similar goods sold on the market". Almost all of the EU countries estimate own consumption, the only exception is Finland that stopped producing such estimate in year 2000. In Estonia and Lithuania the value is a self-reported estimation by survey respondents at markets prices. Most of the countries declared that own consumption is valued at market price without specifying exactly what kind of price is used. Germany, Greece and Ireland make use of producer/farm gate price, while in Spain the retail price is used.

Non-EU countries

Bulgaria, Canada and Kyrgyzstan do not provide any estimation of the own consumption value. The United States and Norway make use of self-reported estimations made by survey respondents. With the exception of Japan, that uses farm gate prices, in the twelve countries the value of own consumption is usually obtained by making use of market price.

XIII.2.1.10 Imputed rent

EU countries

Out of the 19 countries that replied to this question, 4 countries do not calculate an imputed rental value of dwellings. Of the remaining 15 countries the imputed rental value of owned dwellings is usually measured on the basis of the value of actual rents of similar dwellings. In Estonia, Greece, Lithuania and Slovenia the value is a self-reported estimation by survey respondents.

Non-EU countries

Six countries, out of the seventeen that replied to this question, do not impute the rental value of owned dwellings.

USDA measures the rental value of operator dwelling by using direct reported values of the operator dwelling and rent to value ratios obtained from the U.S. Department of Commerce. The product of these two items gives a measure of gross space rent. Survey respondents report expenses on their dwellings except for depreciation, which is imputed. Gross rents and expenses are used to calculate an estimate of net rent for operator. In Japan the imputed rent is valued on the basis of the present value of purchase value of own dwellings less depreciation. In Norway the value is included in the tax return data, though the stipulated taxation value of own dwelling is much lower than the real market value.

XIII.2.1.11 Calculation of net disposable income of agriculture households

Countries were asked to define the method they use to calculate net disposable income of agricultural household by recording a "maximum" list of items.

Disposable income can be interpreted as measuring the maximum value of the final consumption of goods and services that an household can afford to consume - the use for the satisfaction of the needs or wants of its members - in the current period without having to reduce its cash, dispose of other assets or increase its liabilities for the purpose.

Households' consumption possibilities are determined not only by the maximum amount it can afford to spend on consumption of goods and services (its disposable income), but also by the value of consumption goods and services from government units as social transfers in kind. When theses latter items are taken in consideration we refer to the adjusted disposable income.

EU countries

Nearly all EU countries calculate the net disposable income of agricultural households, the only exceptions are Hungary, Latvia, Slovakia, Slovenia and United Kingdom. Conversely, only three countries (Lithuania, Spain and Estonia) reported that they calculate the adjusted disposable income.

Non-EU countries

Only 9 non-EU countries reported that they calculate the net disposable income of agricultural households. Japan, Mexico and Republic of Moldavia calculate the adjusted disposable income by deducting social transfers in kind to the net disposable income. Australia reported to deduct *imputed* social transfers in kind. In addition, Albania reported that implied data are covered elsewhere and Bulgaria that they are covered in part.

XIII.2.1.12 Conclusions

The results of the survey on agricultural household income statistics undertaken by UNECE show that there are many differences in the concepts, definitions and coverage used by countries in defining the income of agricultural households. It might be argued that such flexibility of detail is needed to reflect differing socio-economic conditions, although these differences make cross-country comparisons very difficult.

Annex A

Questionnaire concerning income of agriculture households

Please provide notes for your country concerning the issues below.

1. Definition of a household, agriculture household and rural household
2. Criteria for classification of households into socio-professional groups ("narrow" target definition), e.g. based on the main source of income of the household's reference person.
3. Mechanism used to introduce short-term stability in numbers of agricultural households, e.g., the use of average incomes over several years.
4. Treatment of forestry and/or fishery households. Are they included agriculture households?
5. "Broad"definition of an agricultural household, e.g. households that derive some income from independent activity in agriculture. If such a definition is used please indicate thresholds.
6. Treatment of non-personal form of institution in the household sector (religious houses, farming co-operatives and similar institutions)
7. Treatment of holdings operated as corporate institutions but de facto run as family businesses
8. The equivalence scale used to give consumer units. There are differences in the age at which the coefficient for children or elderly persons is replaced by that for additional adults. Please give details on the equivalence scale used to estimate numbers of consumer units.
9. The basis of estimating the value of own-consumption (of agricultural and non-agricultural goods and services), e.g. valued at the basic price of similar goods sold on the market.
10. The basis of calculating the imputed rental value of own dwellings, e.g. the estimated value of rental that a tenant would pay for the same accommodation.

11. Calculation of Net Disposable Income of Agriculture Households: Indication of items covered

Please indicate in the table below with the following symbols.

y = yes, explicit data * = implied data covered elsewhere

(y) and (*) = covered in part @ = gross of capital consumption

		Please indicate with symbols above
No. households		
No. persons		
No. consumer units		
1	FROM INDEPENDENT ACTIVITY	
1a	From independent agricultural activity	
	Net Operating Surplus	
	Income	
1b	From independent non-agricultural activity	
	Net Operating Surplus	
	Income	
1c	Net Operating Surplus from imputed rental value of owner-wellings	
2	DEPENDENT ACTIVITY of which	
2a	Wages and salaries	
2b	Employers' actual social contributions	
2c	Imputed social contributions	
3	PROPERTY INCOME RECEIVED of which	
3a	Interest	
3b	Dividends	
3c	Withdrawals from quasi-corporations	
3d	Property income attributed to insurance policy holders	
3e	Rents on land and subsoil assets	
4	NON-LIFE INSURANCE CLAIMS	
4a	Claims on capital items	
4b	claims on personal accident	
5	SOCIAL BENEFITS received (other than social transfers in kind)	
6	MISCELLANEOUS INWARD CURRENT TRANSFERS	

7	CURRENT RECEIPTS Sum of 1-6	
8	PROPERTY INCOME PAID of which	
8a	Interest on loans for	
	(i) farming purposes	
	(ii) purchase of agr. Land and buildings	
	(iii) other business purposes	
	(iv) private and other credit	
8b	Rents on	
	(i) agricultural land and buildings	
	(ii) other business land and buildings	
9	NET NON-LIFE INSURANCE PREMIUMS	
10	CURRENT TAXES ON INCOMES AND WEALTH of which	
10a	on income	
10b	on capital gains	
10c	on capital or wealth	
10d	on private use of vehicles etc.	
11	SOCIAL CONTRIBUTIONS of which	
11a	Actual	
	(i) employers' actual social contributions	
	(ii) employees' social contributions	
	(iii) by self-employed and non-employed persons	
11b	Imputed	
12 which	MISCELLANEOUS OUTGOING CURRENT TRANSFERS of	
12a	to NPISHs	
12b	between households	
12c	other	
13	NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT	
14	SOCIAL TRANSFERS IN KIND	
15	NET ADJUSTED DISPOSABLE INCOME	

Annex B

The following EU countries have replied:

Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, Slovenia, Sweden, United Kingdom

Replies have not yet been received from the following EU countries:

Austria, Cyprus, Greece, Netherlands and Spain.

The following countries that are member states of the UNECE and/or OECD but not of the EU have replied:

Albania, Andorra, Armenia, Australia, Azerbaijan, Belarus, Bulgaria, Canada, Croatia, Georgia, Japan, Kazakhstan, Kyrgyzstan, Mexico, New Zealand, Norway, Republic of Korea, Republic of Moldova, Romania, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United States of America

Replies have not yet been received from:

Bosnia and Herzegovina, Iceland, Israel, Russian Federation, Serbia and Montenegro, Tajikistan, Uzbekistan

References

An inventories of Income of the Agricultural Households Sector (IAHS) statistics covering EU Member States undertaken by Eurostat as part of its IAHS statistics project. The first was in 1990 (Eurostat working paper F/LG/187) and the second (in two stages) in 1996 (F/LG/320, 324, 350 and 366). The consolidated inventory drawn from these papers and covering all the main elements of the methodology was published as part of the Income of the Agricultural Households Sector 2001 Report (issued in CD form in 2002).

XIII.2 Survey on definitions and measurement issues in selected countries

XIII.2.2 Selected Developing Countries

XIII.2.1.1 Background

The survey exercise mentioned in the preceding section (XIII.2.1) was repeated in March 2005, when the UNECE yet again send out exactly the same survey questionnaire but this time to a selected group of developing countries. This group of countries were selected based upon mainly two criteria: The country should have conducted at least one Living Standards Measurement Study (LSMS) household survey and/or conducted a census of agriculture within FAO's decennial World Census of Agriculture Programmes (WCAP); and the government in question should have a data access policy, which preferably requires no prior permission from government to use the data.[1] Whereas the first criteria was purely methodologically motivated, the second criteria was rooted in the realization that a lot of the needed information had to be extracted from online internet resources, due to the low response rate amongst the survey recipients.

According to the 1996 UN population projections (UN, 1997), many poorer countries - especially in Sub-Saharan Africa and South Asia - will retain their predominantly rural character well into the twenty-first century. In view of the unprecedented magnitude of rural population problems in certain parts of the world, thorough statistical data on agricultural populations in developing countries appears to be more needed at present than ever before.

A series of over 60 Living Standards Measurement Study (LSMS) surveys has been carried out under the aegis of the World Bank in **over 40 countries**. The methodology of the LSMS, which gather data on many aspects of household welfare, was developed by the World Bank in order to provide policy relevant data on household level for evaluating the effect of a variety of government policies on the living conditions of the population. Because of the substantial variation in the contents of the surveys the LSMS Information Table was scrutinized. The Basic Information Documents contain information on the purpose of the survey, sample design, organization of the survey team, names of original and constructed data files, and codes not contained in the questionnaires.

It was only after World War II that international standards became more widely used in national agricultural censuses. Since 1950, FAO has been assisting countries in planning and conducting censuses of agriculture. Each of the decennial WCAP promoted first by the International Institute of Agriculture and then prepared by FAO provide methodological guidelines for organizing national agricultural censuses. The six

[1] Many countries have alternative sources for some of the information they need on persons working in or dependent on agriculture (for instance, population census or sample survey evidence) and therefore may be inclined to collect only selected data instead of conducting a full agricultural census.

decennial Programmes - centred on 1950, 1960, 1970, 1980, 1990 and 2000 - gradually expanded the census scope while keeping structural aspects of the agricultural production sector as the central theme (Stloukal, 1999).[2] Today, there are **more than 100 countries** participating in the world census of agriculture at set periods.[3]

The WCAP is aimed at encouraging countries to carry out an agricultural census during every decade and provides for the basic **concepts, definitions and methodological issues.** In this regard, the publication "Programme for the World Census of Agriculture 2000," (Vol. 5), is intended to assist countries by providing definitions, concepts, standards and guidelines for censuses in the decade 1996-2005.[4]

FAO's Statistics Division is currently developing the Programme for the 2010 round of agricultural censuses, covering the period from 2005 to 2014 (see chapter ….). The programme is expected to be finalized in 2005.[5]

After World War II modern surveys methods based upon statistical theory were gradually established in developing countries. In 1950 India's annual National Sample Survey began.

Since 1970, several major international programmes have been organized to support the collection of household survey data in developing countries. Among the largest such programmes have been e.g. the United Nations Household Survey Capability Programme (United Nations, 2005a),[6] and the World Bank's Living Standards Measurement Study (LSMS). The LSMS is a multi-topic survey.

World Bank statistics on the extent of poverty in 1985 were based on data from only 22 of 86 developing countries. Similar calculations are currently based upon data from about 70 of 100 developing and transition countries, covering about 88 percent of the total population of the countries. Data for more than one point in time are now available for 50 countries. The coverage has grown the most in the region where it was

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[2] From a strictly statistical viewpoint, the census data represents one of the most important components of the information system in a country and can serve as the basis for many other statistical activities related to food and agriculture, such as conducting various agricultural sample surveys. The agricultural census is of particular importance to countries in which significant segments of the population depend on agriculture for their livelihood http://www.fao.org/sd/wpdirect/wpan0041.htm

[3] http://www.stats.gov.cn/english/specialtopics/agcensus/t20020520_19971.htm

[4] http://www.fao.org/es/ess/census/default.asp

[5] http://www.fao.org/es/ess/census/wca2010/default.asp

[6] **The concept of household** is based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living. According to UN (1998:65), a household is classified as either

(a) **a one-person household**, defined as an arrangement in which one person makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multiperson household or

(b) **a multiperson household**, defined as a group of two or more persons living together who make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to a greater or lesser extent; they may be related or unrelated persons or a combination of persons both related and unrelated.

lowest, Sub-Saharan Africa, from a coverage of only 6 percent in 1985 to 66 percent in 1998 (Grosh and Glewwe, 2000a).

LSMS surveys have several characteristics that distinguish them from other surveys. One of the most important is that they use several questionnaires to collect information about different aspects of household welfare and behavior.

Another characteristic of LSMS surveys is that they typically have nationally representative, but relatively small, samples – usually between 2,000 and 5,000 households. This will only yield fairly accurate descriptive statistics for the country as a whole and for large sub-areas (such as rural and urban areas) (Grosh and Glewwe, 2000a).

Because of the complexity of most LSMS surveys, these surveys have rigorous quality control procedures to ensure that the data they gather are of high quality. These procedures, which are generally difficult to implement on larger samples, usually include several key elements (Grosh and Glewwe, 2000a).

By the late 1990s, LSMS surveys had been carried out in a wide range of low-and middle-income countries, with the involvement of many different national agencies and international organizations. Over time LSMS surveys have become increasingly customized to fit specific country circumstances, including policy issues, social and economic characteristics, and local household survey traditions (Grosh and Glewwe, 2000a).

Since the first LSMS survey in 1985, LSMS surveys have been implemented in **about 30 developing countries**. In some of these countries the original LSMS survey prototype was implemented in its entirety. In other countries this prototype was significantly altered to suit local circumstances. In still other countries it was used as a guide to redesign surveys that already existed (Grosh and Glewwe, 2000a).

Despite the success of the LSMS programme, several challenges remain for LSMS surveys and other multi-topic household surveys. First and most obviously, many developing countries still have inadequate household survey data. This is true even for some of the countries that have recently fielded new surveys. Ideally, all governments should collect data on a regular, ongoing basis in order to monitor poverty trends over time. However, survey efforts are still sporadic in many developing countries today, and many surveys have serious deficiencies such as limited questionnaires, samples that exclude rural areas, and long delays in processing the data after completing the fieldwork.

Second, improvements are needed in the process of adapting the LSMS approach to countries that have not yet implemented LSMS-type surveys.

Third, the data gathered from some parts of LSMS survey questionnaires have been disappointing. Two particularly difficult problems are how to measure household

income from agriculture and nonagricultural self-employment and how to measure savings and financial assets (cf. chapter XII).

Fourth, new issues have emerged since the first LSMS surveys were implemented. The economics profession has increasingly discounted the notion of the household as a unified decision making body, trying instead to understand how goods, services, and power are allocated among the different members of a given household (Grosh and Glewwe, 2000a).

XIII.2.1.2 Definition of Household

There is no uniformity in definitions of the household across different surveys, although all are concerned with living together and eating together, and sometimes with the pooling of funds. Different criteria are often in conflict, and household arrangements are often not constant over time. Many of the problems are associated with the complex structure of living arrangements in developing countries, and the fact that households are often production as well as consumption units so that a definition that is sensible for one may be inappropriate for the others. When men have several wives, each wife often runs what is effectively a separate household within a larger compound presided over by the husband. Even without polyandry, several generations of the families of siblings may live in a single compound, sometimes eating together and sometimes not, and with the group breaking up and reforming in response to economic conditions. In some countries, there are lineages to which groups of households belong, and the head of the lineage may have power to command labour, to order migration, to tax and reward individuals, and to control conmmunal assets. Even so, members of the lineage will typically live in separate households, which will nevertheless not be the appropriate units for the analysis of at least some decisions (Deaton, 1997).

A decision to separate previously pooled households should not affect estimates of average consumption or income per head, but will increase measures of inequality, since the previous single estimate for the pooled household is replaced by multiple estimates for each of the sub-households, estimates are not necessarily the same. Splitting households has the same effect on the distribution of income or consumption as an increase in dispersion with no change in mean, and so must increase measures of inequality (Deaton, 1997).

From table XIII.2.1 it appears that all the (non-randomly) selected developing countries in the sample use common dwelling as the main criteria in their definition of household, while deemphasizing the necessity of a family link.

Moreover, most of the sampled developing countries do make reference either explicitly or implicitly to shared budget and food / meals in their definition of a household within the framework of the Living Conditions Surveys.

Table XIII.2.1

Definition of household in a selected group of developing countries

Country	Definition of 'household'
Brazil	**A household** is defined as the person or collection of persons, whether related or not, that habitually live in the same private dwelling, occupying it in part or in whole, and that tend to their life needs together.
China	**Household members** were defined to include "all the people who normally live and eat their meals together in this dwelling." Those who were absent more than nine of the last twelve months were excluded, except for the head of household.
Ghana	**A household** was defined as a group of people who have usually slept in the same dwelling and taken their meals together for at least 9 of the 12 months preceding the interview.
India	**A household** is defined as a group of people who normally live and eat their meals together. For the purposes of this survey, "normally" is taken to mean that the person concerned has lived in the household for at least 3 of the past 12 months.
Jamaica	**A household** consists of one person who lives alone or a group of persons, who, as a unit, jointly occupy the whole or part of a dwelling unit, who have common arrangements for housekeeping, and who generally share at least one meal. The household may be composed of related persons only, of unrelated persons, or of a combination of both.
Morocco	**A household** is defined to include all those individuals for whom the household is their primary residence, and who are economically dependent on the household. Household members also include: individuals who are not physically present but whose absence has been for less than one month.
Peru	**The household** is defined as the person or collection of persons, whether related or not, that habitually live in the same private dwelling, occupying it in part or in whole, and that tend to their life needs together.
South Africa	**The first definition of the household** comprises individuals who: (I) Live under this 'roof' or within the same compound/homestead/stand at least 15 days out of the past year, and (II) When they are together they share food from a common source (i.e. they cook and eat together); and (III) Contribute to or share in, a common resource pool (i.e. they contribute to the household through wages and salaries or other cash and in-kind income or they may be benefiting from this income but not contributing to it, e.g. children, and other non-economically active people in the household. Visitors were excluded from this definition. **The second definition of the household** includes only those members who had lived "under this roof for more than 15 days of the last 30 days". This definition was derived to eliminate double-counting of individuals.
Vietnam	**Household members** were defined generally to include "all people who normally live and eat their meals together in this house and have done so for 6 or more months out of the past year" which is the same as in 1992-93. However, specific cases to include as members or exclude as non-members differ slightly from 1992-93 and are listed in the questionnaire.
Zambia	provision for food or other essential living, and they have only one person whom they all regard as the head of household. A household may comprise several members and in some cases may have only one member. **Usual Member of the household--** The de jure approach was adopted for collecting data on household composition. It relies on the concept of usual residence. A usual member of household was considered to be one who had been living with a household for at least 6 months. Newly married couples were regarded as usual members of the household even if one or both of them had been in the household for less than 6 months. Newly born babies of usual members were also considered as usual members of the household. Members of the household who were at boarding schools or temporarily away from the household, e.g. away on seasonal work, in hospital, away to give birth, visiting relatives of friends, but who normally live and eat together, were included in the list of usual members of the household.

Source: UNECE (2005) Survey.

In certain provinces of **Zambia** households are characterized by being polygamous, e.g. a man living in a village with several wives each living with her children in a separate hut or group of huts should be regarded as separate households if each wife cooks and eats meals separately. In this case, even if they sometimes eat together, the fact remains that the wives are running separate households. Therefore, they are treated as different households. On the other hand, a man living in a village with several wives each living with her children in a separate hut or group of huts are regarded as one household if all those wives cook and eat together.

The Zambian Living Conditions Monitoring Survey use the de jure ('usual') system of enumeration as opposed to de facto ('as of previous night') system. A usual **member of household** is defined as one who has been living with a household for at least six months. He/she may or may not be related to the other household members by blood or marriage, and may be a house helper or labourer. A usual household member normally lives together with other household members in one house or closely related premises and takes his/her meals from the same kitchen . Newly married couples are to be regarded as usual members of the households even if one of them has been in the household for less than six months.

Members of the household who are at boarding schools or any other persons temporarily away from the household who normally live and eat there such as persons temporarily away for seasonal work, because of illness, giving birth, visiting relatives or friends have to be included in the list of usual members of the household. Any other

persons such as visitors who have spent at least six months with the household have to be included as usual members of the household. Other persons such as servants and lodgers who are part of this household must be taken as usual members (CSO, 1996d).

In **Ghana**'s Living Standards Survey IV **a household** is defined as a group of people who have usually slept in the same dwelling and taken their meals together for at least 9 of the 12 months preceding the interview. All listed persons who have been away from the household for more than three months are not considered to be household members except, (1) the person identified as the head of household even if he has not been with the household for 9 months or more; (2) newly born children; (3) students and seasonal workers who have not been living in or as part of another household.[7]

In the **South African** "Baseline Household Statistics" methodological report, the **household concept definition** was drawn up in such as away as to avoid double counting of individuals who may live in more than one place. Hence, two definitions were used. The first definition was used only in the first section of the questionnaire, i.e. the Household Roster and the second was used for the rest of the questionnaire. The first definition of the household comprised all individuals who: (i) live under this roof or within the same compound/homestead/stand at least 15 days out of the past year; and (ii) when they are together they share food from a common source; (iii) contribute to or share in, a common resource pool. Visitors were excluded from this definition.[8]

The second definition of the household only included those members who had lived "under this roof for more than 15 days of the last 30 days." This definition was derived to avoid double-counting of individuals (Saldru, 1994).

The **Brazilian** LSMS survey, 1996-1997, defines **a resident** as a person for whom the dwelling unit is his / her place of habitual residence. The following are also considered as **residents of the dwelling unit**: the person present on the date of the interview and who does not have another place of habitual residence; the person for whom the dwelling is his / her place of habitual residence but who is temporarily absent on the date of the interview for a period of not more than 12 months, as a result of e.g. boarding at a school.[9]

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[7] All the persons not present but who normally live, sleep and eat together with the household, i.e. those who are temporarily away for schooling, temporarily left for marriage, vacation, seasonal work, illness, giving birth, military training, prisons etc.

[8] The South Africa Integrated Household Survey is a nationally representative, multi-purpose household survey, which was undertaken in the nine months prior to the country's first democratic elections in April 1994.

[9] The following criteria are applied to define the dwelling in which a person is to be considered a resident when more than one dwelling is occupied by that person. The first criterion found to be applicable will determined the dwelling: (1) the person is considered a resident of the dwelling unit in which that person's family resides; (2) the person is considered a resident at the dwelling unit in which that person spend the major part of the year; (3) the person is considered a resident of the dwelling unit in which that person has resided for the longest period of time.

The **China** Living Standards Survey (CLSS), which consists of one household survey and one community (village) survey, was conducted in Hebei and Liaoning Provinces (Northern and Northeast China) in July 1995 and July 1997 respectively. In this CLSS **household members** were defined to include "all the people who normally live and eat their meals together in this dwelling." Those who were absent more than nine of the last twelve months were excluded, except for the head of household.

The **India** Survey of Living Conditions in Uttar Pradesh and Bihar, 1997-1998, defines a **household** as a group of people who normally live and eat their meals together. For the purposes of that survey, "normally" is taken to mean that the person concerned has lived in the household for at least 3 of the past 12 months.[10] People who live in the same dwelling, but do not share food expenses or eat meals together, are not members of the same household. For example, if two brothers, each having his own family, live in the same house but maintain separate food budgets and cooking facilities, they would constitute two separate households. Likewise, people who eat together but do not sleep in the same dwelling are not members of the same household. However, exception to this rule may be made in the case of those persons who normally take their meals together and for all purposes live together, but may sometimes sleep in other places for security reasons (e.g. with livestock, or in shop or other place of business).

For the 1982 **Jamaica** Population Census the following definition of **household** was adopted and has been used for all household surveys conducted since then in Jamaica: **a household** consists of one person who lives alone or a group of persons, who, as a unit, jointly occupy the whole or part of a dwelling unit, who have common arrangements for housekeeping, and who generally share at least one meal. The household may be composed of related persons only, of unrelated persons, or of a combination of both. The same definition was adopted for the 1991 Population Census.[11]

The first **Moroccan** Living Standards Survey (MLSS) was conducted between October 1990 and October 1991 and provides data for a sample of 3,323 households and 19,577 individuals.[12] The MLSS 1990/91 survey covers all **household members**, defined to include all those individuals for whom the household is their primary residence, and who are economically dependent on the household. Household members also include: individuals who are not physically present but whose absence has been for less than one

[10] The only exceptions to be made to this rule should be for (i) persons who are the main provider for the household, (ii) infants who are less than 3 months old, and (iii) newly weds who have been living together for less than 3 months. Servants, lodgers, farm-workers, and other such individuals who live and take meals with the household are to be counted as household members, even though they may have no blood relation to the household head.

[11] The Jamaica Survey of Living Conditions (JSLC) was first conducted in 1988. The JSLC was originally conceived to be a semi-annual survey. In 1990, an annual survey was deemed to be sufficient and an annual schedule was adopted. Fourteen rounds of the survey were completed from August 1988 to July 2000. The JSLC differs from others LSMS surveys in its relatively narrow focus and greater emphasis on immediate policy impact. The JSLC is linked to the ongoing quarterly Labour Force Survey.

[12] Survey fieldwork began on October 15, 1990, and ended on October 30, 1991. Fieldwork was organized into 10 four-week periods (survey "months"), but there were some breaks during this time so that the survey itself took about 54 weeks to complete.

month (or in the case of those hospitalized, less than six months), lodgers who share at least one meal with the household, and servants who reside at and share meals with the household.

The first **Vietnam** Living Standards Survey (VLSS) was conducted in 1992-93 by the State Planning Committee (now Ministry of Planning and Investment) along with the General Statistical Office. The second round of the Vietnam Living Standards Survey and the data-sets resulting from this nation-wide household survey was conducted between December 1997 and December 1998.[13]

The **Vietnam** Living Standards Survey, 1997-1998, defines the **household members** to generally include "all people who normally live and eat their meals together in this house and have done so for 6 or more months out of the past year," which is the same as in 1992-93. However, specific cases to include as members or exclude as non-members differ slightly from 1992-93.[14]

Table XIII.2.2. Definition of Household in Selected Developing Countries

Country	Definition of household				
	Reference to				
	common dwelling	shared budget	shared food/meals	family link necessary	students/temporarily absent
Target definition (from TIAH Manual, Rev.1, para 2.4.1)	yes	yes	yes	no	not mentioned
Brazil	yes	(yes)	(yes)	no	not more than 12 months
China	yes	(yes)	yes	no	not more than 9 of the last 12 months
Ghana	yes	(yes)	yes	no	not more than 3 of the 12 months
India	yes	(yes)	yes	no	not more than 9 of the last 12 months
Jamaica	yes	yes	yes	no	not mentioned
Morocco	yes	(yes)	yes	no	absent for less than one month
Peru	yes	(yes)	(yes)	no	at least 3 of the last 12 months
South Africa	yes	yes	yes	no	at least 15 days out of the past year or more than 15 days of the past 30 days
Vietnam	yes	(yes)	yes	no	less than 6 of the past 12 months
Zambia	yes	yes	yes	no	at least six months

Source: UNECE (2005) Survey on Agricultural Household Income Statistics.
Note: Information extracted from official websites.

[13] The second round of the VLSS used 5 questionnaires: commune, price, school, clinic, and household, of which the latter household questionnaire contains 15 sections each of which covered a separate aspect of household activity.
[14] See Table 2.2: Categories of household members and Non-members.
http://www.worldbank.org/html/prdph/lsms/country/vn98/vn98bif.pdf

XIII.2.1.3 Definition of agricultural household

The primary unit of enumeration is **the agricultural holding**, which may be briefly defined as a techno-economic unit comprising all land and livestock used for agricultural purposes and operated under a single management, without regard to title or legal form.[15] The census should, in principle, cover all holdings in the country. For practical reasons, however, the census enumeration is usually limited to those holdings, which conform to certain recognized criteria:

- fall above prescribed limits of size,
- do not comprise land solely used for communal grazing, etc.

The collection of demographic information in the agricultural census is guided by two basic principles, each having important implications for data utilization:

- Although agricultural holding is the recommended unit of analysis, demographic information is in fact obtained through investigating another unit: the holders' household. In reality,
    - **one agricultural holding** can include several agricultural households, and
    - **one agricultural household** can operate on several agricultural holdings.

In developing countries, **a one-to-one correspondence between a household and a holding** is quite usual, but it is certainly not universal. When using agricultural census data, one has to remember that in some contexts it is common that,

- members of one household operate separate holdings, or
- holdings are operated by two or more persons belonging to different households.

[15] **An agricultural holding** is an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form, or size. Single management may be exercised by an individual or household, jointly by two or more individual or households, by a clan or tribe, or by a juridical person such as a corporation, cooperative or government agency. The holding's land may consist of one or more parcels, located in one or more separate areas or in one or more territorial or administrative division, provided the parcels share the same production means utilized by the holding, such as labour, farm buildings, machinery or draught animals. The requirement of sharing the same production means utilized by the holding is necessary if the various parcels are to be considered as components of one economic unit. Economic units engaged solely in the following economic activities are not considered agricultural holdings and are therefore excluded from the census: hunting, trapping and game propagation; forestry and logging; fishing; and agricultural services (FAO, 1995:25). This also means that demographic data produced by agricultural censuses are, as a rule, inconsistent with the concept of rural population as applied in population censuses (Stloukal, 1999).

- The demographic data collected in a census of agriculture refers only to persons attached to agricultural holdings. Demographically speaking, a holding may consist of:

  - the holder (defined as the person who makes major decisions regarding resource use and operation management),
  - other persons belonging to the holders' household, and hired workers who either permanently or occasionally work on the holding.

One essential implication of this **'holding-based' approach** is that other categories of the agricultural population - members of landless hired workers' households, persons engaged in hunting, forestry and fishery activities or agricultural services - are, by definition, excluded. Thus, agricultural censuses do not cover all persons associated with agriculture (Stloukal, 1999).[16]

Each FAO WCAP attempted, in one way or another, to cover some of the basic demographic and economic characteristics of persons belonging to the **population of the holders' households**. FAO recommendations have typically been decided on the basis of extensive consultations with statistical offices in individual countries. Their evolution thus mirrors the collective experience of national and international organizations with the collection of agricultural information.

Recognizing that countries differ in their capacity to carry out a census of agriculture, FAO WCAPs have always included a recommendation that countries should tailor the agricultural census to their unique situation. Countries with poor statistical systems have been advised to restrict the scope to essential items, whereas statistically more developed countries have been invited to broaden their census objectives. Ultimately, however, it is up to the national authorities to choose the statistical topics to be monitored, and the classifications to be used, in the agricultural census in their country (Stloukal, 1999).[17]

Generally the terminology used is that of the Programme for the WCA, unless it was found necessary to use the one adopted by the country. In addition to the data, explanatory notes about the census methodology of each country is provided.[18]

[16] http://www.fao.org/sd/wpdirect/wpan0041.htm
[17] http://www.fao.org/sd/wpdirect/wpan0041.htm
[18] The country data, as presented here, are the principal findings of the census; more detailed information could be found in the national census reports; specific questions can be addressed to the National Statistical Offices responsible for census taking and data publication whose addresses and web-site pages are reported.
http://www.fao.org/es/ess/census/wcares/default.asp

Sample of Developing Countries conducting Agriculture Census

Countries	On Web	1980 round	1990 round	2000 Round
Brazil	Yes	1980/1985		1996
China	Yes			1997
Ghana				
India	No	1976-1977 / 1980-1981	1985-1986 / 1990-1991	1995-1996 / 2000-2001
Jamaica	No	1978-1979		
Peru	Yes		1994	
South Africa	Yes		1993	2002
Vietnam	No		1994	2001
Zambia	Yes		1990	(2000)

Source: http://www.fao.org/es/ess/census/wcares/default.asp

Brazilian Agricultural Census 1996 collected data during the period August to half October 1996 (about 80 days). The definition of **holding** matches with the one suggested in the FAO Programme for the World Census of Agriculture (WCA) 2000.[19]

The **Chinese** Agricultural Census, which was carried out during the period 1 – 31 January 1997 refers to a **rural household** as a households living in rural areas for a long time and engaged in production and operational activities. **An agricultural household** refers to rural household whose members are either engaged in purely agricultural activities, or in a combination of agricultural and non-agricultural activities. Agricultural households could be: **Purely agricultural,** if their household members are fully engaged in agricultural activities. **Mainly agricultural**, if their household members are engaged mainly in agricultural activities. **Mainly non-agricultural,** if their household members are engaged mainly in non-agricultural activities. If the household members are engaged 50% in agricultural and 50% in non-agricultural activities, the category is defined by the household's income. **Non-agricultural household** refers to a rural household whose household members are fully engaged in non-agricultural activities.[20]

The **India** - Agricultural Census 1995/96 conducted in July 1995 to June 1996, and the Livestock Census conducted in 15 October 1997.[21] According to the this census an **operational holding** (the statistical unit for census) is defined as all land wholly or partly used for agricultural production and operated as one technical unit by one person, alone or with others, without regard to title, legal form, size or location. **Operational holder** is the person who takes all managerial decisions regarding cultivation of land. He may be the legal owner or a leaser or a tenant farmer.

[19] **Frame:** The Municipalities were divided into Enumeration Areas (EAs) defined using an adequate cartography. Each EA included an average of 200 households (or 75 agricultural holdings) in rural areas.

[20] **Frame:** The frame consisted of the list of households as obtained from the Population Census. An Enumeration Area includes about 50 households.

[21] In this series six agricultural censuses have been undertaken at five-yearly intervals, with reference years 1976-77, 1980-81, 1985-86, 1990-91, and 1995-96, the one reported here. Data on livestock presented here refer to the 16th Livestock Census conducted in 1997.

The 1943 **Jamaican** census of population showed that 45 percent of the working population earned their living from agriculture. The proportion of the labour force in agriculture has significantly decreased since then to 24.36 percent in 1994 (Planning Institute of Jamaica 1991 and 1994).

The **Jamaica** Survey of Living Conditions differs from other LSMS surveys in its relatively narrow focus and contains no data on agricultural activities, non-agricultural household activities.

The **Morocco -** Agricultural Census 1996, which started on 29 October 1996 and continued for six months defines an **agricultural holding** as an economic unit of agricultural production under single management, comprising all livestock kept and all land used for agricultural production purposes, regardless to title or legal form.

The **Peru** Agricultural Census 1994, which was conducted between 15 October and 14 November 1994, defines the selected statistical agricultural Unit (UA) as any piece of land consisting of one or more parcels, totally or partially used for agricultural production, carried out as a technical-economic unit by the agricultural holder, without regard to size, tenure or legal status.

South Africa's Census of Commercial Agriculture in 2002 enumerated commercial farming units. **A farming unit** consists of one or more farms, smallholdings or pieces of land, whether adjacent or not, operated as a single unit and situated within the same province. A farming unit means any unit on which one or more of the following farming operations are carried out for commercial purposes: the cultivation in the open air or under cover of field crops, fruit, grapes, nuts, seed bulbs, vegetable plants or flowers; the operation of a tea, coffee, sugar; the breeding of livestock, poultry, game or other animals, including freshwater fish, furred animals and trade in livestock; and the production of milk, wool, fur, eggs or honey. **Forestry**, e.g. timber, wattle, wood and other plantations, ocean fishing and agricultural services were not included in the census.

From 1st October 2001 each item of **Vietnam** Agricultural Census 2001 were collected on site within 30 days of census date and completed by 30th October 2001. The Vietnam Agricultural Census 2001 surveyed 13,906,477 households, of which 77% (10,689,753) were **agricultural households**, less than 0.2% (26,606) were forestry households; and 3.7% (512,342) were fishery households.

According to the Vietnam Agricultural Census 2001, **agriculture, forestry, fishery households** are households with all or most of labourers regularly participating, directly or indirectly, in agricultural, forestry or fishery production and these activities are the principal source of their income. **Farms** are those agriculture, forestry or fishery households meeting the two quantitative criteria of: a certain output value of goods and services per year; a certain size of production.

Zambia first participated in the World Census of Agriculture Programme in 1971/72 agricultural season when a National Census of Agriculture was organized and

successfully executed. Another census was carried out during the period 1990-92 to underpin the national information system on food security. The census was carried out in two parts.

Part I was "piggybacked" onto the Census of Population and Housing in August/September, 1990 primarily to collect data to be used in planning for Part II of the Census. It was, therefore, implemented on a complete enumeration basis. Part II of the Census was carried out as a stand-alone statistical activity during the 1991/92 agricultural season to collect detailed data on the structure and organization of the agricultural sector of the economy. It was implemented on a sample enumerated basis and was staggered over four phases. The reference period was the 1991/92 agricultural season, which started on 1st October, 1991 and ended on 30th of September, 1992.

The 1990 Census covered all categories of holders, namely small scale, medium scale and large scale holders.

The Zambia Agricultural Census 1990 defines **an agricultural holding** as all land wholly or partly operated for agricultural purposes i.e. growing of crops and/or raising of livestock and/or raising of poulty, and/or fish farming under a single technical management. A holding may consist of one of more parcels located in one or more separated areas, provided the parcels share the same means of production, e.g., labour. The agricultural holding was the statistical unit for the Census, i.e. the entity for which the required data items were collected.

A **holder is defined** as a person who exercises management control over the operations of the agricultural holding. Usually there is one holder in an agricultural household who may or may not be the head of the household. There may also be more than one holder in a household. In that case, all agricultural operations carried out and commodities produced by different holders in the household were pooled so that there is only one holder.

Table XIII.2.3

Definition of agricultural household and treatment of fishery/forestry in Developing countries

Country	Definition of agriculture households
Brazil	The definition of **holding** matches with the one suggested in the FAO Programme for the World Census of Agriculture (WCA) 2000.
China	**Agricultural household:** refers to rural household whose members are either engaged in purely agricultural activities, or in a combination of agricultural and non-agricultural activities.
India	**Operational Holding** (the statistical unit for census) is defined as all land wholly or partly used for agricultural production and operated as one technical unit by one person, alone or with others, without regard to title, legal form, size or location. **Operational Holder** is the person who takes all managerial decisions regarding cultivation of land. He may be the legal owner or a leaser or a tenant farmer.
Jamaica	**Farmers** that possessed a total area of under 25 acres (the definition of small farmer used by ACB).
Morocco	**Agricultural holding** was defined as an economic unit of agricultural production under single management, comprising all livestock kept and all land used for agricultural production purposes, regardless to title or legal form.
Peru	The selected statistical unit is the **Agricultural Unit**, defined as any piece of land consisting of one or more parcels, totally or partially used for agricultural production, carried out as a technical-economic unit by the agricultural holder, without regard to size, tenure or legal status.
South Africa	If the household members are engaged 50% in agricultural and 50% in non-agricultural activities, the category is defined by the household's income.
Vietnam	**Agriculture, forestry, fishery households:** are households with all or most of labourers regularly participating, directly or indirectly, in agricultural, forestry or fishery production and these activities are the principal source of their income.
Zambia	**Agricultural Household:** Is a household in which at least one member is carrying out some agricultural activity on the holding belonging to the household (excluding the growing of vegetables meant for home consumption). Preliminary testing showed that there was almost one-to-one relationship between the agricultural household and holding. The terms holding and agricultural household are therefore used interchangeably.

Source: UNECE (2005) Survey.

An **agricultural household** is defined as a household in which at least one member is carrying out some agricultural activitiy on the holding belonging to the household (excluding the growing of vegetables meant for home consumption). Preliminary testing showed that there was an almost one-to-one relationship between agricultural household and holding. The terms of holding and agricultural household are used interchangeably in the Zambian Census report.

The 2000 Zambia census questionnaire included a question on whether the household engaged in the agricultural activities (crop growing, livestock and poultry raising, and fish farming), as well as check items to identify the specific crops grown and animals raised by the household (Megill, 2004).[22]

[22] During the listing operation, the households will be asked the following questions: Was the household engaged in any of the following activities during (reference period): a. Crop production? b. Livestock production? c. Poultry production? d. Fish farming?

XIII.2.1.4 Classification into socio-economic groups

The **China** Living Standards Survey (CLSS), 1995-1997, ask all individuals age thirteen and above to respond to **the employment activity questions**. CLSS collects general information on farm and non-farm employment, such as e.g. whether or not the household member worked on a household owned farm in 1994, work days and hours during busy season, **occupation and sector codes** of the major, second, and the third non-farm jobs, work days and total income of these non-farm jobs. Furthermore detailed information on the major and the second non-farm job is collected.

The **Ghana** Living Standards Survey round four (GLSS 4) 1998/99 was designed to gather information on **employment**, time use and the different sources of income for household members aged 7 years and over.[23] GLSS 4 provides information on the characteristics of main occupation for the past 12 months by dealing with the kind of work or industry a respondent is mainly engaged in.

Individuals in **Jamaica**'s Survey of Living Conditions (JSLC) can be linked to the data from the **Jamaican** Labor Force Survey. Each member of the household older than 14 years of age is asked questions regarding his or her employment status.[24] In the 1997 JSLC, a module was included to get an in-depth picture of earnings in the country. This module is drafted based on the employment and earnings portion of the 1993 Time Use module that was found to be much better in its response for earnings data than other attempts including the Labour Force Surveys. The information collected includes details on **the main occupation**, allowances received in addition to or as part of salary, income, additional employment, information on the unemployed, and household enterprises.

The **Moroccan** Living Standard Survey, 1990-1991, provides e.g. information on current principal employment for individuals aged 7 or more; characteristics of salaried employees; current secondary employment; principal employment- past 12 months; salary earnings; and secondary employment in the past 12 months.

The **Peruvian** Living Standards Survey ask questions on economic activity of those 6 years and older and provides a description and code of occupation and a description and code of establishment.[25] The Peruvian LSS also provides a description and code of secondary occupation at which most hours were spent in last 7 days and a description and code of Establishment.

The **South Africa**'s Integrated Household Survey, 1994, ask questions about what job the household members do and in which sector they are employed, which are repeated in on second casual or temporary job.

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[23] The definition of main occupation: This is the work to which most time is devoted when a respondent has several jobs. For instance, the main occupation for the past 12 months of a respondent who farms mostly but often goes fishing during the dry season is farming.
[24] The LFS contains much less detail than the standard LSMS employment and job search modules and that the LFS income data are of dubious quality.
[25] Principal Economic Activity defined as activity in which spent Most Hours (NOT earned most income).

The **Vietnam**'s Living Standards Survey ask all individuals age six and older to respond to the economic activity questions beginning with questions on the nature of their work in the last seven days. For work in the last seven days, information was collected on e.g. length of employment; type of employer, money and in kind compensation and benefits. Similar questions were asked on the secondary job in the last seven days. If main work in the past twelve months was different from the main or secondary job in the past seven days, the complete set of questions was answered for that work as well. For those in self-employed agricultural work, a different series of questions was asked on hours worked in peak and non-peak weeks in the past 12 months for six different agricultural-related work activities. **Occupation and industry of employment** codes are printed directly in the household questionnaire.

Vietnam's Living Standards Survey, 1997-1998, gathers data on household businesses for up to the 4 most important enterprises operated by the household.

XIII.2.1.5 Short-term stability mechanism

None of the surveyed developing countries make use of short-term stability mechanisms.

XIII.2.1.6 Equivalence Scale

The WHO recommends 3000 calories a day for men aged 18-30 engaged in moderate work. Energy requirements differ by age and sex. **The equivalence scale** for a person of a given age and sex category is set equal to the ratio of the recommended intake for a male of the relevant age divided by 3000, the requirements for the reference category of men aged 18-30. A woman aged 18-30 would have 0.7 of the weight of man using calorific equivalence scales (Appleton et al., 1999).[26]

There is extensive literature that proposes a variety of alternative **equivalence scales** (rules for allocating household expenditure to household members of different gender and ages) but there exists little guidance for choosing among them. A specification of the different "needs" of different family members, which is what equivalence scales attempt to summarize, can be based on (at least) two different

[26] Given that the equivalence scales are to be used to assess people's relative needs, the authors are uncomfortable in making such a large adjustment for sex differences, even in terms of calories, the WHO standards are questionable. As a result of this misgiving, they do not allow for sex differences when calculating calorific equivalence scales and simply use the WHO calorie requirements for males to derive equivalence scales, which they apply to both males and females.
It should be noted that the **equivalence scales assume that non-food requirements** vary by age in the same way that food requirements vary. Nor do the scales allow for the economies of scale that are likely to arise with larger households. Estimating non-food requirements by age or household economies of scale is a difficult exercise, seldom attempted in assessments of poverty.

methodologies: fixing the nutritional requirements of different types of people, or examining household consumption behavior. Both of these have their drawbacks.

Table XIII.2.4. Nutrition (calorie) based adult equivalence scales

Age (years)	Male Weight	Female Weight
0	0.33	0.33
1	0.46	0.46
2	0.54	0.54
3-4	0.62	0.62
5-6	0.74	0.70
7-9	0.84	0.72
10-11	0.88	0.78
12-13	0.96	0.84
14-15	1.06	0.86
16-17	1.14	0.86
18-29	1.04	0.80
30-59	1.00	0.82
60+	0.84	0.74

Source: Dercon(1998).
Note: Calculated from World Health Organisation data

How to account for **families of different size** is the equivalent scale question. There are two major approaches to the equivalence scale issue. The first, based on expert opinion, is embodied in the U.S. poverty statistics. The second one is the subjective method, based on personal assessment using survey data. The survey approach attempts to measure a minimum standard of living for alternative family structures. Garner and Short (2003; 2004) survey the **literature on subjective poverty equivalence scales** (Pan et al., 2004).

Jane Xi Pan et al.(2004) use the subjective-qualitative method to **estimate household equivalence scales**. However, to avoid the problem that persons in rich regions tend to have higher perceived needs they use objectively determined cost of living indices to adjust for regional differences in purchasing power. Pan et al.(2004) specifies two models for estimation of subjective equivalence scales, produces poverty thresholds and equivalence scales, and applies alternative equivalence scales to study overall urban Chinese poverty in 1988 and 1995.

Panel B: Equivalence scales-- Model 1[27]

D1	D2_60+	D2_60-	D3_NK	D3_K	D4+_NK	D4+_K
1.00	1.54	1.59	1.99	1.77	2.38	2.00

In Panel B of Tables 6 and 7 Pan et al.(2004) convert the thresholds into equivalence scales. They find that a two-person family composed of two adults with the age of the household's head greater than or equal to 60 years old (D2_60+) would need 1.54 times as much as a single adult, and three-person family without children (D3_NK) would need 1.99 times as much as a single person. Three persons with one child (D3_K) would need a little less, 1.77 times that of a single person. Finally, four or more person households with children (D4+_K) and without children (D4+_NK) have equivalence factors of 2.00 and 2.38.

Panel B: Equivalence scales by region-- Model 2[28]

	D1	D2_60+	D2_60-	D3_NK	D3_K	D4+_NK	D4+_K
	1.00	1.48	1.56	1.87	1.72	2.22	1.97

Panel B of Table 7 presents the equivalence scales implicit in the thresholds from Model (2). The household size equivalence scales are very similar to Model 1. They note that families without children have slightly smaller equivalence scales (greater economies of scale) than to those in Model 1.

In addition to **the subjective equivalence scales** there are two other common approaches, the use of per capita income (no economies of scale in a household) and **"expert-based" equivalence scales**. Gustafsson and Li (2001) provide a set of expert based equivalence scales, which they use to measure the inequality in Chinese incomes.[29]

An interesting observation is drawn from Burgess(2001). In **China** the land equivalence scales for children 0-14, are 0.567 and 0.507 in Sichuan and Jiangsu respectively which are almost directly in line with the **calorie equivalence scales**, 0.576 and 0.522. This according to Burgess (2001) serves as preliminary evidence that land is being allocated in line with nutritional needs. If the nutritional hypothesis holds then land allocation should be done mainly on the basis of the number of adult equivalents in a given household as determined by the calorie share method.[30]

[27] Pan et al.(2004) use the regression results of Tables 4 and 5 in their paper to construct minimum needs thresholds for seven family types (Model 1).
[28] Pan et al.(2004) use the regression results of Tables 4 and 5 to construct minimum needs thresholds for four regions (Model 2).
[29] Gustafsson and Li (2001) indicate that one person = 1.0, two persons = 1.88, three persons = 2.66, four persons = 3.54 and five-plus persons = 5.0.
[30] Calorie based equivalence scales are thus closer to the notion of physiological or nutritional welfare which motivated the earliest work on equivalence scales though the method is not prescriptive and behavioural responses are taken into account (see Engel, 1895).

XIII.2.5. Equivalence scales and daily calorific requirements

Age	Male			Female			Equivalence scale
1	820			820			0.273
1-2	1150			1150			0.383
2-3	1350			1350			0.450
3-5	1550			1550			0.517
5-7	1850			1750			0.617
7-10	2100			1800			0.700
10-12	2200			1950			0.733
12-14	2400			2100			0.800
14-16	2650			2150			0.883
16-18	2850			2150			0.950
				Type of work			
	Light	Medium	Heavy	Light	Medium	Heavy	
18-30	2600	3000	3550	2000	2100	2350	1
30-60	2500	2900	3400	2050	2150	2400	0.977
>60	2100	2450	2850	1850	1950	2150	0.845
				+285 if pregnant (last 3 months)			
				+500 if breast-feeding (first 6 months)			

Source: WHO(1985) referred to in (Appleton et al., 1999).
Note: equivalence scales are gained by dividing male calorific requirements by 3000

XIII.2.1.7 Own consumption

Although income and wealth are what enable people to obtain goods and services, it is those goods and services themselves that directly generate economic well-being. The consumption module of the LSMS survey is designed to measure the consumption of these items in some detail and in the aggregate (with the aggregate being the total value of consumption at suitable prices). At its simplest, the module collects data on how much people spend on various goods and services (Deaton and Grosh, 2000).

Experience from past LSMS surveys. Past LSMS surveys have used a range of recall periods for consumption items, depending on both the item and the survey. For food purchases the ongoing **Jamaican** survey uses 7-day and 30-day recall periods. In **South Africa** in 1993 respondents were asked whether they bought each food item on a weekly or monthly basis, and were then asked to report their purchases during the last such period. The recall period was two weeks in **Brazil** in 1996. In **China** (1994; Hebei and Liaiong provinces only) the period was specified simply as "1994." In many surveys

Based on a 0-4, 5-9, 10-14, 15-55+ age breakdown there are 138 household types in Sichuan and 117 household types in Jiangsu each of which was assigned a unique equivalence scale. A 0001 household containing one adult was set as the numeraire and had a scale equal to unity. Scales calculated for other households are thus interpretable as adult equivalents.

nonfood items have often been separated into two categories: high-frequency or "daily" items and "occasional" items. Daily items have a short recall period—perhaps a week or two— whereas occasional items may have recall periods of one month, three months, six months, or a year. For nonfood items, some surveys have two recall periods; the **Jamaica** survey uses a month and a year.

One design is frequently thought of as an LSMS standard, in part because it was used in several of the earliest and most widely analyzed LSMS surveys. In this protocol, respondents are asked whether the household has consumed a particular food item during the past year. Each respondent who answers "yes" is asked a series of follow-up questions. Data on **the value of home-produced food** are collected in a separate set of questions that ask how often the home-produced food is consumed; the recall period for these questions has varied from country to country in previous surveys, ranging from "each time the home-produced food is consumed" to each day to a typical month (Deaton and Grosh, 2000).

Imputing Values. In nearly all LSMS surveys, calculating a comprehensive measure of consumption will require at least some imputations. Not all consumption is obtained through market purchases; if analysts want to calculate consumption in monetary units, they must find some way of **pricing its unmarketed components**. In many of the poorest countries, and especially for the poorest people, a large share of food comes from **home production** or from hunting, fishing, or collecting wild foodstuffs. These imputations for food are likely to be those that are most important for the totals (Deaton and Grosh, 2000).

It should first be noted that imputation is an inherently difficult and error-ridden process. Imputation is likely to work best where there is relatively little need for it—when the economy is highly monetized but there is a relatively small amount of **own-production** (such as vegetable gardens) involving goods that have clear market equivalents. Imputation works badly in economies in which a large share of transactions do not pass through the market.

LSMS procedures for estimating welfare stem from a theory of a consumer with well-defined preferences operating in a market where prices are well defined and unaffected by the agent's behavior. Where these markets do not exist, analysts are in effect imposing an accounting framework on the physical data, a framework of dubious relevance to the lives of the people being studied.

Food that is either **home-produced** or received as gifts or payment in kind has been the most important imputed item in LSMS surveys to date. In principle, the calculations are straightforward. The respondent is asked to report the values of any home-produced food items consumed by the household during the reference period, and the sum of these values is added to the consumption total. Given the seasonality of production, the recall period probably has to be a year, or at least a typical month over the last year. It may be possible to do better than this when there is a multiple-visit agricultural module in the survey. However, the major difficulties are with valuation,

since the respondent is being asked a purely hypothetical question about the sale or purchase of an item that is rarely traded or that may have been traded some time ago (Deaton and Grosh, 2000).

The value or price of the physical quantities of goods consumed observed by the respondent can be obtained in several ways. **Farm-gate prices**, defined as what the household could get for its production, set a lower bound on valuation, since it is usually presumed that consumption is evidence that the good is valued beyond what it would fetch. **Market prices**, by contrast, are likely to be too high because they include transport and distribution margins and because the commodity traded is often of higher quality than its home-grown counterpart. However, once the quantity has been obtained, the respondent could be asked to report one or both of these two prices or simply to estimate the value of the commodity directly. Some degree of cross-checking is possible from the quantities and prices of purchases reported in the agricultural module or from the prices gathered in the community questionnaire (Deaton and Grosh, 2000).

The **China** Living Standards Survey (CLSS), 1995-1997, provides information on **household consumption expenditure**. CLSS collects detailed expenditure information on thirty-four items of market purchased food (including expenditure in restaurants) in past one year. Besides market purchases (including barter), CLSS gathers information on **consumption from home produced food** (total thirty-two items) in past one year.

The **India** Survey of Living Conditions Uttar Pradesh and Bihar, 1997-1998, on **food expenses and home production,** collects information on the household's total expenditure on food of various types, including an estimate of the value of **home produced or home-grown food** consumed by the household. It also is used to estimate food consumed that was received as payment in-kind, i.e. as remuneration for work done on someone else's farm, as gifts, or as presents from relatives and/or friends.

The **Jamaica**'s Survey of Living Conditions ask the respondent if there was any expenditure in the previous twelve months on 43 categories of food items. For each item that had been purchased in the last year, the amounts spent during the past seven days and the amount spent during the past 30 days / 4 weeks was recorded. In 1992 through 2000, **the value of home production and gift food** was integrated into the food expense module. Thus the number of items for which this information was collected was expanded from 43 to 55.

In the JSLC surveys done from 1988 through 1991, for sixteen food items, the respondent was asked if the household had eaten any food that was **home-produced** or that was received as a gift. The respondent was asked how much it would cost to buy the amount of home-produced food consumed during the past seven days and the amount consumed during the past 30 days/4 weeks, and the amount it would cost to buy the amount received as gift during the past 30 days/4 weeks. Starting in 1992, the value of **home production and gift food** was integrated into the food expense module.

The **Moroccan** Living Standards Survey provides information on individual expenditures in the past 30 days; individual expenditures, past 7 days; daily (over 4 days)

expenditures on food and household items; and **home production and consumption of food**.

The **Peru**'s Living Standards Survey ask questions such as: Does the household **produce any food for business or home use**; did the household purchase or use self-produced products in past 15 days; how food item was obtained e.g. self-supplied; and total amount of purchase or self-production in past 15 days.

The **South Africa** Integrated Household Survey looks at the patterns of food consumption for all the people in the household. It seeks to know whether any of those foods were received in the form of a gift or as payment for work that any member of the household did. It elicits information about whether the household was able to **consume any of the foods listed as a result of its being produced by the household**. It ask the about what crops, if any, the household was harvesting in the past year.

The **Vietnam**'s Living Standards Survey, 1997-1998, collects detailed information on market purchases and consumption from **home production for 45 food items**. Thus, besides market purchases (including barter), information is also collected on consumption from home production. Again data are obtained on the number of months each item was consumed, but unlike market purchases, the information of the quantity and value of consumption is obtained by asking a single question on the total amount for the last 12 months (as opposed to asking how often purchased each month, quantity purchased each time).

The **Zambia** Living Conditions Monitoring Survey I (1996) asked about how much was spend on and consumed from **own produce** from a list of food items during the last two weeks.

XIII.2.1.8 Imputed rent

For **housing**, the largest of the durable goods, the imputation approach again starts from the rental equivalent. Unlike the value of most other durable goods, **rents** can sometimes be observed directly, and these are the correct numbers to add into the consumption aggregate. For households that do not report rents, the standard procedure is **to impute a rent** based on the characteristics of the house, as reported in the housing module. One approach is through **"hedonic" regressions** in which reported rent is regressed on the house's characteristics (such as size, number of rooms, construction material, and location) and the results are used to calculate rents for other properties where rents are not reported.

The credibility of these regressions is compromised if only a small fraction of the sample reports rents and, more generally, if those who report rents are unrepresentative of the population as a whole. While it is possible to make mechanical corrections for the selection, these corrections usually require arbitrary and un-testable assumptions that further compromise the credibility of the process. This is a difficult area. In general,

survey analysts should make sure that indefensible imputations are not dominating welfare comparisons. The data required for rent imputations are gathered in the LSMS housing module (and to some extent in the community questionnaire) (Deaton and Grosh, 2000).

The **China** Living Standards Survey (CLSS), 1995-1997, contains basic information on housing from all the 880 farm households interviewed and selected from total thirty-one sample villages for the household survey. However, no information was collected on **housing rent**.[31]

The **Ghana** Living Standards Survey round four (GLSS 4) 1998/99 seeks information on the type of dwelling, occupancy status, number of rooms and room space, **expenditures**, utilities and amenities as well as the physical characteristics of the dwelling. GLSS 4 seeks information on **rent payment(s)** either cash or in-kind.

The **India** Survey of Living Conditions Uttar Pradesh and Bihar, 1997-1998, on **housing and access to facilities** collects information in three areas: the type of dwelling occupied by the household, access to basic services (water, sanitation, and electricity), and access to various facilities providing services. However, no information is collected on rent, despite the fact that certain questions are for renters only.

The **Jamaica**'s Survey of Living Conditions, on housing are designed to characterize the type of dwelling occupied by the household and to determine **the amount spent on housing**, including **rent**, water, electricity, and other expenses. Expenses include the amount paid for water and electricity. Information on ownership, **rent**, mortgage and taxes is also collected.

The **Moroccan** Living Standard Survey, 1990-1991, collects information on the status of ownership or **rental arrangement**; physical characteristics of dwelling; services (water, sewage, etc.); and **expenditures on housing**.

[31] For households who rent their dwelling, rental expenditures for the year are clearly their housing expenses. For households who live in dwellings they own, the true cost of living in the owned dwelling is not zero, but the opportunity cost of living in that dwelling. If there is a competitive rental market for dwellings, then the rental amount paid by households who rent their dwelling is likely to be an accurate measure of the opportunity cost of living in similar dwellings, and this information can be utilized to impute a rent for those who live in dwellings they own. The usual procedure, in such cases, is to run a regression of rental values on housing characteristics and then use the coefficients from such a regression to impute rental values for those who do not rent their dwellings.

Unfortunately, in rural China is not possible to use this procedure because there is no competitive rental market for housing. Several rounds pilot survey for preparing questionnaire for CLSS showed that there is almost no households live in dwellings they do not own. Therefore, in housing section of formal questionnaire, there are even no questions about house renting activities. To see which method was used To get the house depreciation rate and eventually to obtain the "use value" of dwellings see Appendix D: Household Expenditure Calculation, section 2.3.
http://www.worldbank.org/lsms/country/china/docs/chnbinfo.pdf

The **Peru**'s National Survey of Households Living Standards Measurement May - July 1994 provides information on **Ownership Status of Dwelling** e.g. rented in exchange for in-kind, services or money; and ask follow-up question such as "if rented, from whom rented; if you had to rent, estimated rental value in Soles per month?"

The **Vietnam**'s Living Standards Survey, 1997-1998, contains information on the type of dwelling, housing expenses, and housing characteristics for all households interviewed. Information was collected on ownership status and **rental cost** if rented.

The **Zambia** Living Conditions Monitoring Survey I (1996) ask about on what basis the household occupy the dwelling; how the rent is paid; and how much the household pays for rent per month.

XIII.2.1.9 Calculation of net disposable income of agriculture households

There are both theoretical and practical considerations that affect the choice of income or consumption, and the balance in favor of one or the other may be different in different circumstances. Income and consumption are different concepts, not just two different ways of measuring the same concept.

Some economists prefer **income** as a measure of living standards because they follow a "rights" approach. According to this approach, income, together with assets, measures the potential claims on the economy of a person or family.

Other economists prefer to use **consumption** because they consider the level of living a measure of economic input, and consumption data show the level of living by measuring what people acquire.

Both can be defended as approximations to utility. The "indirect" utility function expresses welfare in terms of resources (positively) and prices (negatively). In practice this usually means income or resources deflated by a price index: real consumption or income, not money consumption or income. Whether consumption or income is measured, measures of prices are needed whenever analysts wish to compare people who face different prices, which will be whenever they make comparisons over time or space (Deaton and Grosh, 2000).

Another consideration about whether to use income (including income from assets) or consumption is the time period over which living standards are to be measured. At one extreme is a lifetime living standard, measured either by average consumption over a person's lifetime or by the person's total lifetime resources; apart from any bequests, these two concepts are the same. The issue here is that some poverty is only temporary (for example, students are poor in the short term but not over their lifetimes, while the elderly may be poor but have not been poor throughout their lives) so short-term measures of inequality can overstate lifetime inequality.

One influential theory of consumption and saving is the "life-cycle hypothesis," which asserts that a person's consumption at any age is proportional to his or her lifetime resources. If this is true, measuring consumption is not only useful in its own right but also provides an indication of lifetime resources. However, the evidence for this hypothesis is controversial to say the least; for many people, the promise of resources in the future will do little to pay bills today.

If a lifetime is too long a reference period, a day, a week, and a month are all clearly too short. Arguments can be made in favor of using a season as a reference period; there is a substantial literature on seasonal poverty (see, for example, Sahn 1989). However, there seems to be a general consensus that a year is a sensible reference period over which to judge people's living standards, even if this is inevitably a compromise that is too long for some purposes and too short for others (Deaton and Grosh, 2000).

There is also a good deal of empirical evidence that even people in poor agricultural societies and people without the ability to borrow much can smooth their incomes within a particular year and perhaps over a series of years, so that consumption will reflect living standards at least throughout one year and perhaps over a series of years. (For a review see Bhalla 1979 and 1980, Musgrove 1978 and 1979, Paxson 1992 and 1993, Wolpin 1982, and Deaton 1997, chapter 4.)

If a year is chosen as the standard for assessing living standards but the survey in question can only hope to measure flows over a shorter period, consumption data will yield a more accurate estimate of living standards than will income data. Most people do not receive income every day, and many do not receive income every season—or at least not an equal amount every season. So while consumption over a week, two weeks, or a month is likely to be a reasonable indicator of living standards over a year or over a few years, income will not be. If analysts are interested in measuring averages, income variation will not matter much if the survey itself is spread over a year, since some people's zero incomes will balance out others' high seasonal incomes. However, analysts are usually interested not only in means—LSMS surveys are rarely the instrument of choice for estimating mean income or consumption—but also in inequality and poverty, which are sensitive to the tails of the distribution, especially the lower tail. Gathering data on the previous month's income will overestimate inequality in annual living standards and, provided the poverty line is below the mode of the distribution, will overstate the fraction of people below the line. Although there are also random irregularities and seasonal patterns in consumption, they are typically smaller than those in income, because consumption is less tied to seasonal and weather-related patterns in agriculture than is income. Even so, consumption measured over a reference period of less than a year is likely to overstate poverty and inequality. In addition, the overstatement may not be constant over time if seasonal patterns change with time, because one year is different from another—or over the long run, because agriculture accounts for a shrinking share of household income as economies become richer (Deaton and Grosh, 2000).

These arguments provide a persuasive case that, given the choice, (perfectly measured) consumption is a more useful and accurate measure of living standards than is

(perfectly measured) income. These theoretical advantages of consumption are likely to decrease as the period over which it is feasible to gather data gets longer. If it is feasible to visit households on many occasions throughout the year this will clearly capture any seasonality in the household's income. Moreover, if the survey has a panel element so that income can be averaged over a series of years, it makes little difference whether income or consumption is measured, if one can be measured as accurately and as cheaply as the other (Deaton and Grosh, 2000).

The income of many households—particularly but not exclusively agricultural households—varies seasonally throughout the year. In these circumstances, measuring households' annual income (which is the minimum amount of data needed to adequately determine poverty and distribution) would require many visits to the household or reliance on the ability of household respondents to remember their income from many months earlier. However, if consumption is smoothed over the seasons—and much of the literature already cited suggests that this is done in most households— consumption will vary less by season than income does. It may also be possible to collect useful data on annual consumption without making multiple visits (Deaton and Grosh, 2000).

For own-account workers in agriculture and small businesses, their personal and business accounts are often hopelessly entangled. Thus, in agriculture and elsewhere, the only practical way to estimate income is to gather data on all transactions—business as well as personal— and to impose an accounting framework on the resulting information. This process is extraordinarily time consuming, and the results are subject to large margins of error.

It is generally thought that respondents are more reluctant to share information about their income and (to an even greater degree) their assets than about their consumption. Thus they are more likely to lie about their income than about their consumption. In many countries income is taxable, at least in principle, and it may be hard for the survey interviewers to persuade respondents that the information they give will not be passed on to tax authorities.

Rich households may refuse to grant interviews to the survey team and, if a rich family does grant an interview, the respondent, who may be a family member or a servant, will frequently be more knowledgeable about the household's consumption than about its sources and levels of income.

Income from assets is likely to be particularly hard to capture because the ownership of assets is highly unequal, and the wealthy—who own the most assets—are typically thought to be the least likely to cooperate. Given that most of the survey interviews in developing countries must be conducted in a semipublic place, respondents are often reluctant to state their wealth in the presence of relatives and friends. These problems of measuring assets and asset income are likely more severe for measuring inequality than for measuring poverty, since households below the poverty line typically have few assets (Deaton and Grosh, 2000).

The **Ghana** Living Standards Survey round four (GLSS 4) 1998/99 collects data on the household's agricultural activities. It provides data on agricultural production, technology, processing, marketing, **income** and consumption patterns. GLSS 4 was also designed to obtain information on **income for the household** specifically from non-farm enterprises. It identifiers which household members are responsible for each non-farm enterprise in terms of decision making and the allocation of income it generates. Non-farm enterprises that are currently operating and those that were operational some time in the past 12 months but currently not operating are considered.

GLSS 4 1998/99 obtains information on income transfers, that is all incomes of members of the household other than that from paid employment. Transfers to the household are considered as **income** where as transfers from the household constitute expenditures, thereby completing **the income and expenditure current accounts of the household**.[32] Furthermore, the GLSS 4 1998/99 is designed to collect information on loans, assets and savings.

The **India** Survey of Living Conditions Uttar Pradesh and Bihar, 1997-1998, aims to capture the flow of remittances and transfers into the household.[33]

According to the **Jamaican** Living Standards Measurement Survey, theoretically, all the elements of a household provides the following equation:

Household income = household consumption expenditure + non-consumption expenditure + savings – net debt (net repayments of principal and interest on debts contracted by the household – net repayments of principal and interest on money lent by the household).

The **Jamaica**'s Survey of Living Conditions notes the value of all miscellaneous income received by household members during the past twelve months. Income sources include: remittances from relatives or friends that live abroad, rental payments for land or property, social security and other pensions, interest from loans.

The **Moroccan** Living Standards Survey, 1990-1991, asked questions to identify home enterprises.

The **Peruvian** Living Standards Survey, 1994-1995, ask: Whether household received non-labor income in past 12 months and about the source of other income received; whether household took loan or other source of credit.

[32] Remittances are regular or irregular contributions in terms of money or goods and food made to person(s) living abroad or elsewhere. For example, any money, food or goods sent out or received by the household to/from a household member or relative staying abroad or elsewhere is a remittance.

[33] Do not include payments for work or purchases of goods or services in this section, and do not include transactions, which are clearly loans. Also, do not include transfers between household members. However, payments received from any person not considered to be a household member according to our survey definition should be included here.

The **South Africa** Integrated Household Survey solicits information about income received from absent members of the household or from any other person from the list of people who make contributions to the household. It also talks about any money or any form of assistance that members of the household may have received from sources, which do not involve employment of some kind. There are many ways in which the household can receive money without being employed. For example, pension payments, charity, unemployment insurance fund, government disability grants, and other forms like that.

The **Vietnam**'s Living Standards Survey, 1997-1998, collects data on money and goods that come into the household as remittances or from other sources unrelated to employment such as social security, pension, poverty alleviation funds, interest on savings or investments, insurance payments, gifts, inheritance, lottery, renting out equipment or buildings, sale of vehicles or durable goods.

XIII.2.1.10 Conclusions

Household surveys are an important source of socio-economic data. Important indicators to inform and monitor development policies are often derived from such surveys. In developing countries, they have become a dominant form of data collection, supplementing or sometimes even replacing other data collection programmes and civil registration systems (United Nations, 2005a).

The United Nations Department of Economic and Social Affairs/Statistics Division (DESA/UNSD) has previously undertaken initiatives to improve the quality of survey methodology and strengthen the capacity of national statistical systems. The most comprehensive of these initiatives over the last two decades has been the National Household Survey Capability Programme (NHSCP). The aim of the NHSCP was to assist developing countries to obtain critical demographic and socio-economic data through an integrated system of household surveys, in order to support development planning, policy formulation, and programme implementation. This programme largely contributed to the statistical development of many developing countries, especially in Africa, which benefited from a significant increase in the number and variety of surveys completed in the 1980s. Furthermore, the NHSCP supported methodological work leading to the publication of several technical studies and handbooks (United Nations, 2005a).

The goal of the LSMS survey is to explore the linkages among the various assets and characteristics of the household on the one hand, and the actions of government on the other, and, thus to understand the forces affecting each sector, set of behaviours or outcomes. While based on **a core set of concepts**, each LSMS survey questionnaire is substantially **customized** to meet the specific needs of the individual Governments at a given point in time. The principal implementing agency is usually the national statistical office (NSO) which takes the lead in questionnaire design, sample design, and fieldwork methodology using the techniques found by the LSMS to be most effective (Scott et al., 2005).

To be able to provide poverty information at smaller levels of aggregation requires a data set with a sample size several orders of magnitude larger than that of an LSMS. The largest data set in any country is, of course, **the population census** (e.g. the Agricultural Census). However, because it covers the whole population, a census collects very limited information from each household and is usually conducted only once every 10 years. Thus, it is not possible to construct an adequate poverty measure from the census. An innovative vein of work that allows survey data and census data to be linked is being tested. This technique takes advantage of **the LSMS-provided welfare measure and the census-provided coverage**. The method entails estimating poverty in the LSMS survey data by using a vector of variables found in both the census and the survey. The parameters estimated from this are then used with the census data to predict the probability of being poor for each household and creating headcount ratios for small areas using the census data. **The resulting poverty maps** provide a tool for government in the allocation of resources. Examples of such poverty maps can be found in Ecuador, Guatemala, Madagascar, Nicaragua, Panama and South Africa (Scott et al., 2005).

Unfortunately hitherto, the LSMS program has been remised by not more strongly supporting investigations into survey methodology. Even while maintaining its principal focus on data production, the LSMS could make useful contributions to survey methodology (Deaton and Grosh, 2000).

Annex

Table XIII.A.1. Content of Viet Nam household questionnaire, 1997-1998

First visit	Second visit
Household roster	Fertility
Education	Agriculture, forestry and fishing
Health	Non-farm self-employment
Labor	Food expenses and production
Migration	Non-food and durable goods
Housing and utilities	Income from remittances
	Borrowing, lending and savings
	Anthropometrics

Source: (Scott et al., 2005).

Table XIII.A.2. A Sample LSMS Surveys

Country	Year	Household count	Questionnaire	Additional Metadata Documentation on the web	Access Policy
Brazil	1996-1997	4,940	Portuguese PDF / English PDF	Additional Documentation for the 1996-97 Brazil Survey of Living Conditions http://www.worldbank.org/lsms/country/brazil/br96docs.html	No prior permission from government is required to use the data.
China (Heibei Liaoning Province)	1995 & 1997	780	Household Chinese Household English Village Chinese Village English	Documentation for the China - Heibei and Liaoning Living Standards Survey http://www.worldbank.org/lsms/country/china/chndocs.html	No prior permission from government is required to use the data.
Ghana	1987/88 1988/89 1991/92 1998/99	3,200 3,200 4,565 5,998	Household Questionnaire Part A PDF (97 KB) Household Questionnaire Part B PDF (117 KB) Community, PDF - (73 KB) Price, PDF - (89 KB)	Documentation for the 1998/99 Ghana Living Standards Survey http://www.worldbank.org/lsms/country/gh/gh989doc.html	Prior government permission is required, but the track record for a timely, positive response is good.
India (Uttar Pradesh and Bihar)	1997-98	2,250	Household Questionnaire, PDF (266 KB) Village Questionnaire, PDF (132KB)	Documentation for the 1997-98 Uttar Pradesh and Bihar Survey of Living Conditions http://www.worldbank.org/lsms/country/india/upbhdocs.html	No prior permission from government is required to use the data.
Jamaica	1988-2000 (annual)	2,000-7,300	Questionnaires for all years: Survey of Living Conditions Labour Force Survey	Documentation for the Jamaica Survey of Living Conditions 1988-2001 http://www.worldbank.org/html/prdph/lsms/country/jm/jmdocs.html	Prior government permission is required, but the track record for a timely, positive response is good.
Peru	1985 1991 1994	5,120 2,200 3,500	Household questionnaire; Community questionnaire	Basic Information Peru: Living Standards Measurement Survey (PLSS) 1991 http://www.worldbank.org/lsms/country/pe91/docs/pe91_e.pdf	No prior permission from government is required to use the data.
South Africa	1993	9,000	Household questionnaire, Community questionnaire	Documentation for the South Africa Integrated Household Survey http://www.worldbank.org/lsms/country/za94/za94docs.html	No prior permission from government is required to use the data.
Viet Nam	1992/1993 1997/1998	4,800 5,994	Household Commune School Price	Documentation for the 1997/98 Viet Nam Living Standards Survey http://www.worldbank.org/lsms/country/vn98/vn98docs.html	Prior government permission is required, but the track record for a timely, positive response is good.
Zambia	1991* 1993* 1996 1998 2002	9,886 (PS I) 10,121 (PS II) 11,752 (LCMS I) 16,710 (LCMS II)	Household	The 1996 Zambia Living Conditions and Monitoring Survey (LCMS) http://www4.worldbank.org/afr/poverty/measuring/Indicators/ZMB_96.PDF	Contact ZAMSIF

Notes: * Priority survey I (1991) and Priority Survey II (1993), which subsequently were replaced by LCMSI-III. During 1985-99 the following countries implemented full-size LSMS surveys: Algeria, Brazil, Côte d'Ivoire, Ecuador, Ghana, the Kyrgyz Republic, Mauritania, Morocco, Nepal, Pakistan, Panama, Peru (1985-86, 1991, and 1994), Turkmenistan, and Vietnam.
Scaled-down LSMS Surveys have been carried out, with World Bank support in Albania, Azerbaijan, Bolivia, Bulgaria, Pakistan (1995/96 and 1996/97), Peru (1990), and Tanzania (Grosh and Glewwe, 2000b).

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XIII.3 Income statistics for selected countries and case studies of best practice in applied methodologies

XIII.3.1 United States - The Agricultural Resource Management Survey (ARMS)

The Agricultural Resource Management Survey (ARMS) is essential to the research and analysis mission of the Economic Research Service, and is a key input to economic statistics produced by the U. S. Department of Agriculture and other agencies. It provides the information base for sector estimates of value added, income for farms by type of commodity specialization, costs of producing major crop and livestock commodities, indices of prices paid by farmers for production inputs, and a report on the status of family farms. The ARMS also supports the Department's estimates of household income and wealth, and is used in a variety of applied farm production, management, technology adoption, resource use, and household well-being research applications. While the ARMS became a stand-alone survey beginning with the 1996 calendar year survey, it retained and built upon features of survey activities that date to the 1970's. This paper provides a synopsis of events that contributed to the development of the ARMS, gives an overview of purposes served by the survey, discusses survey design and content, highlights research program activities, and closes by giving a perspective about the ARMS as an evolving survey instrument.

(i) Origin of the ARMS as a Principal USDA Survey

In 1974, the U.S. Congress wrote legislation that required USDA to "conduct a study of the costs of producing wheat, feed grains, cotton, and milk and to produce annual estimates of costs that were representative of the sizes and types of farms engaged in production, and the range of technologies in use." The requirement to produce cost estimates was followed by funding to conduct commodity surveys.

Meanwhile, funding was also provided in the mid-1970's to survey farm business establishments about production expenses, capital expenditure, and other general economic information. This survey became the Farm Production Expenditure Survey, which the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS) shared jointly in developing and funding. This collaborative effort was facilitated since both the research agency and statistical agency were in the same mission area of the Department.

This survey contained detailed questions about production practices and input use in crop and livestock production, and about expenditures for the business as an establishment. Information for sales, inventories, assets, or liabilities of the business was incomplete or non-existent in surveys conducted during the late 1970's and into the early 1980's. Inadequate survey content prevented analysts from developing estimates of income for business establishments, producing firm-level balance sheets, or putting into context costs incurred in the production of crop or livestock commodities.

Extending Survey Activity for Farms and Households of Farm Operators

Three events provided motivation to change the survey content and sample design of the Costs of Production and Farm Production Expenditure Surveys. One involved ERS efforts to re-examine economic information produced for the U.S. farm sector, and a growing recognition of the inadequacy of the "one farm, one farmer, and one farm household concept". Second, was recognition of the need to collect data that more accurately reflected the relationship of households to their farm businesses. The third major event that crystallized need for improved business-household income and finance data was the farm financial crisis that spanned the U.S. in the 1980's. ERS and NASS were responsible for measuring the extent of financial difficulty in U.S. farming, rural communities, and financial institutions, but existing survey instruments were not suited to this task.

Economic accounts and estimation systems built in the early part of the twentieth century were not very effective in providing information about different groups of farms or households that made up the farm sector a half century later. The agricultural economic and finance literature was evolving to present a case for thinking about farming in terms of households as well as business establishments (Schertz). Key questions raised by this work included: To what extent was resource ownership and use separated in farm production? What was the distribution of farms among different household models, ranging from those that owned all resources and retained earnings to those that provided entrepreneurial resources, but only some of other resources used in production? What was the distribution of income and wealth among different household groups? To what extent did households that provided resources to farming also provide resources to other activities? A system of data that included information on both farms as business establishments and on households offered a solution to address these questions (Schertz). Microeconomic indicators were needed to test economic hypotheses and to extend the knowledge base for farms and farm households, especially with regard to analyses of income and wealth (Johnson 1984, Johnson & Baum, Baum & Johnson, Gardner, Ahearn 1986). These articles pointed to conceptual shortcomings in farm and farm household data and made recommendations for improvement in survey content.

Meanwhile, farm financial difficulties had become an agenda item for the U.S. farm sector at the beginning of the 1980's. The USDA and the public had incomplete information and antidotal evidence with which to assess the scope, intensity, and nature of the problem. ERS analysts had started to revise content of farm business surveys to support estimates of business establishment cash operating margins and to fortify revised farm sector accounts. However, these actions by themselves were insufficient to address debt levels, farm business solvency, and the debt service capability of institutions that operated farms, including farm households. Moreover, the data were not sufficient to address whether household sources of income and equity altered the perspective about farm business vulnerability.

ERS and NASS concluded that a new survey design was needed, while recognizing that the agencies faced time and funding constraints. The solution was to merge the independent Costs of Production and Farm Production Expenditure surveys into an integrated survey of farm businesses. The goal was to meet data needs for specific farm enterprises, farms as business establishments, and for farm operator

households, from the perspective of a rudimentary measure of "non-farm" income. These objectives were achieved by developing a new enterprise-farm-household based survey. The integrated survey established for 1984, called the Farm Costs and Returns Survey (FCRS), consisted of a sample drawn from a list frame of medium to large farms and a complimentary area frame for completeness that covered new entrants and smaller farms. The FCRS used multiple questionnaire versions in a modular design. Each questionnaire version contained common, global questions that permitted collection of data items for farms and households across the entire survey sample.

Improvements in survey design and content resulting from the 1984 merger enabled USDA to generate estimates of net cash income for business establishments, a measure of net cash income for operator households, and measures of business solvency and debt repayment ability. Information for farms, including debt owed to specific lender groups, allowed ERS analysts to assess the extent of potential loan losses of farmers and lenders and to examine how potential financial problems varied among farms and households by size of business operation, location of farm, and by lender group (Hanson 1987, Hanson 1991, Jolly et al., Johnson et al. 1985, Johnson et al. 1987). The collaborative nature of work needed to develop the FCRS under tight time constraints and using available resources drew heavily on ERS and NASS being in the same mission area of USDA.

Extending Data to Support Farm Financial Statements

Recognizing that cash based measures of financial indicators were incomplete, survey questionnaires were revised to enable more complete specification of the income statement and balance sheets prepared for farm businesses. New questions measured depreciation and changes in inventory value, providing the basis to move from cash based measures of income to an accrual basis. Other important data improvements also occurred during the mid-1980s. For example, the use of contract arrangements in commodity production was explicitly measured. This was important because it allowed assignment of income and expenses to the appropriate entity. We could say that both the income statement and balance sheet produced for a farm not only reflected economic and accounting standards and concepts, but that their components were partitioned among farms, landlords, and contractors.

Expanding the Scope of Household Income, Wealth, and Demographic Data

Surveys conducted for 1986 and 1987 were the first attempts to collect more substantial information for farm operator households. Information was collected for four components of off-farm income: non-farm related business income, wages and salaries, interest and dividends, and all other non-farm sources of income. Demographic and other information, such as primary occupation, operator age, and education level, which put farm and household income into a broader context that extended beyond the association with a business, were also collected. Off-farm income data collected during this period provided the first opportunity to develop a perspective about the ability of households to service debt out of total income. Moving to this level of analysis raised issues for further refinement, such as the existence of non-farm assets and liabilities and the level of household consumption

expenditures. This set the stage for modifying the FCRS, to have a more explicit focus on the household.

The survey developed for the 1988 calendar year marked the first extensive collection of data for the operator's household. Innovations that focused on the household included information on household sharing of income with other entities enabling us to say what portion of the farm business net income was earned by the farm operator household. The survey also gathered information necessary to prepare farm operator household balance sheets. Information on household assets by component of asset, such as cash, checking, money market account, corporate stock, surrender value of life insurance and other financial assets, trucks, cars, and other assets was gathered. Detailed information on household assets was accompanied by questions focused on household debt and more explicit accounting of off-farm income. Hours of off-farm work by the farm operator and spouse were also enumerated along with their on-farm work hours. The survey also collected data on consumption expenditures, and goals and attitudes about the farm operation.

While the 1988 survey could be characterized as the first concerted household data collection, the instrument developed for 1991 was designed to enable estimation of a household model while supporting the development and reporting of estimates of household income and wealth. This was accomplished by extending questions pertaining to household economics to include questions related to operator and spouse labor allocation and employment decisions. The specific types of information included: the number of household members, age and education, commuting distance, years worked at a particular job, how long the household had operated a farm, whether the operator or spouse were raised on a farm, years worked at any off-farm job, benefits from off-farm work, consumption expenditures, and household assets and liabilities. The 1991 survey also contained questions needed to support estimation of farm business and household income and wealth, to establish a relationship between the household and the farm it controlled, and to support assessments of the financial status of farm households drawing on both income and wealth attributes.

> Collection of household-farm linked data was enhanced by adding modules of questions focused on the business as an establishment, the household as an institutional unit, and members of the household to an existing survey that was national in scope. While the content and sample design of the on-going survey were changed, existing funds were used for data collection.

Agricultural Resource Management Survey (ARMS) Emerges from On-going Survey Activity

In 1996, ERS and NASS undertook a second merger of independent survey activities. This merger combined the FCRS and Cropping Practices surveys conducted by USDA. The Cropping Practices survey focused on collection of yield, production practices, and input use data at a field level. Advantages of this merger were to link household and farm economic data to field-level chemical use and production practice

data and to expand information available for assessing cost distributions and technology and practice adoption.

Merger of independent surveys into the ARMS set the stage for further integration of the ARMS into NASS' on-going Census and national survey programs. Integration with the Census of Agriculture was accomplished in 1997 by including questions in the ARMS survey instrument that were needed to complete a Census questionnaire. The practical result of the Census-ARMS integration was to strengthen the ARMS sample, edit, and summary programs and procedures by drawing from routines created for the Census. Even beyond this, the integration of ARMS and Census provides a direct link from the ARMS to the Census.

(ii) ARMS Design Characteristics

ARMS is designed as a multiple phase, multiple version survey. The first phase of the survey is a screening sample to identify operations that are "eligible" or "in-scope" business operations for the ARMS (figure 1). The second and third phases of the ARMS collect information to underpin USDA estimation and research responsibilities. The ARMS supports estimation of household income and wealth, business income and performance measures, sector farm income and value-added, production costs for crop and livestock enterprises, and chemical use by farmers in the production of crop and livestock commodities. The survey is personally enumerated over several months (from July to April) using multiple survey forms (figure 1). Samples qualified in the Phase I screening activities for a cost and return survey are contacted in late fall to obtain field-level information about practices and inputs used in the production of the commodity of interest. Those that respond in Phase II are contacted again for a follow up interview as part of Phase III, to obtain information about their farms and households. This link enables analysts to not only establish estimates of costs of producing commodities, but to examine adoption and uses of technology, use of conservation and environmental practices, and participation in government programs.

The largest portion of the total sample is focused on farms and households, not commodity production. This portion of the survey is conducted during the winter to collect information from operators about their farm operation and the economic and financial status of their households, along with socio-economic and demographic information used in classification and analysis. Questions are asked about the prior calendar year. Given the sample design, Phase III interviews for commodity producers can be combined with general purpose phase III farm-household interviews to achieve greater statistical reliability associated with the larger sample.

ARMS samples are stratified by size of operation, type of industry classification, and commodity acres. For the farm-household phase III version of the survey, strata size groups for each state include farms over $1,000,000 in sales, farms with $500,000 to $1,000,000, farms with $250,000 to $500,000, farms with $100,000 to $250,000, and farms with $1,000 to $100,000 in farm value of sales. Farms are further stratified to reflect industry groups such as oilseeds, grains, beans, cotton, milk, or cattle and calves. The farm type classification follows major industry groups classified in the North American Industry Classification System.

The phase II sample reflects the presence and level of targeted commodity production activities for the reference year. Since USDA is charged with reporting production costs and returns and chemical use for selected commodities (principally those for which farm programs have traditionally been developed), a portion of the sample has to reflect acreage of major crops. Thus, the sample is stratified to ensure representation of a range of acreage classes. For example in 2004, the sample strata included producers of cotton that had over 1,500 acres, from 1,000 to 1,499 acres, from 500 to 999 acres, from 200 to 499 acres, and from 1 to 200 acres.

(iii) Content of Current ARMS Survey Questionnaires

The ARMS uses a modular questionnaire design, much like the overall design of the survey itself. All but a few modules are oriented toward collecting information needed to implement the sector-household income links illustrated in figure 2. Remaining modules collect information required to estimate business and household wealth, to measure household labor allocation and sources of off-farm income, to classify farms and households by structure and demographic attribute, and to support analyses of performance and well-being.

Production Characteristics of the Farm

The initial section of the questionnaire obtains information about rents paid and received that are used in construction of the farm income account and asks the respondent to identify the type of farm operation based on which commodity (or group) represents the largest portion of gross income. The remainder of the first section contains questions that establish the amount of acreage operated, land ownership, and the commodities produced by the farm (Figure 3). While focused largely on physical attributes of the farm, information is collected to account for the physical quantities of crops produced, the amount owed a share-rent landlord, and the quantity used on farms as an input in further production activities.

Business Income Sources

Information needed to estimate a farm's gross revenue is gathered prior to collecting input expenditures (figure 4). This follows the organization of typical income statements. Use of contract arrangements is fairly common among larger farm businesses. It is important to establish the presence of and collect information on production contracts, since the farm typically does not own the commodity produced under such contracts. As a result, only a fee for service is counted as part of farm earnings. Marketing contracts are different since farms own the commodity. Payment for commodities delivered under a marketing contract may stretch over multiple years. Thus, the presence of contracts affects accounting for income. This is particularly the case at the farm and household level and is a major reason why we cannot assume that operator households earn all of the income generated by farm businesses.

The income account is completed by collecting cash sales and earnings of the farm from other sources. These other earnings generally arise from government payments or from income earned from use of the farm's resources in gainful activity

other than production of crops or livestock. Insurance payments that arise from weather damage or some other source, which may vary over time and among farms, are also included in other farm related income.

Purchased Inputs

The ARMS accounts for the operating and capital expenditures of operators, their landlords, and any contracting entities that may be participating in the business. All major input categories are covered and are set up to enable development of both a standard business income statement and an estimate of a farm's value added (Figure 5). ARMS accounts for employee compensation, real estate and non real estate interest, and capital consumption. These items are needed to move from an estimate of gross value added to net value added and from net value added to net income. Employee compensation is of special interest to the measurement of household income. While wages paid to the operator or household members are expenses to the farm, they are sources of income to the household. Questioning is set up to support this farm and household difference.

Measurement of Household Income from Farming

Household income from farming draws on output, revenue, and expense data collected to provide estimates of value-added, net farm income, and net cash income for the farm (Figure 6). Cash income for the business is derived by eliminating measures of non-cash income and expenses from estimates of net farm income. This is achieved by collecting information on change in the market value of inventory for crops, livestock, production inputs, and accounts receivable. In addition to depreciation, data are also collected for non-cash expenses and income items such as unpaid benefits to labor, home consumption of farm produced goods, and imputed rents for operator occupied housing owned by the farm operation. These rents, like other non-cash items, are excluded from net farm income to arrive at a cash-based estimate of income from farming.

In U.S. farming, about 300,000 households, in addition to farm operator households, share in the net income of farm businesses. ARMS explicitly accounts for income accruing to the operator's household by collecting data on the share of farm income received by the operator. To go from this correctly portioned farm business net cash income to an estimate of household income from farming, other sources of farm-related earnings such as wages paid to household members by the farm are added. This last measurement step illustrates that, as self-employed farm operators, households may decide to pay themselves a wage, increase farm expenses, and reduce farm income, but when the household is viewed as the measurement unit, farm wages are earned income.

Measurement of Household Income from Farm and Off-farm Sources

Estimates of household income consist of a household's earnings from its farming activities and from its off-farm sources. Based on experience, ERS collects off-farm income data in a series of questions focused on how the household may choose to allocate its resources (labor, entrepreneurial capabilities, financial assets, and physical capital) outside the farm business (Figure 7). The household may be

entrepreneurial and operate another business or a second farm. Or, household members may work off-farm for a wage or salary. For all income except wages and salaries, data are usually collected as a total for the household from each source. For wages and salaries we ask about wages earned by the operator and for the spouse which, when combined with information on the allocation of labor hours, helps support estimation of household models. In addition to earned income from wages, salaries or self-employment and property income such as interest, dividends or rents, ARMS asks for transfer income along with any other cash sources of income earned by the household.

Measurement of Business and Household Net Worth

Data are collected to develop a current market value basis balance sheet at a point in time, which for ARMS is the last day of the calendar year. ARMS' treatment of the balance sheet has made collection of data to improve measurement at all levels of aggregation from sector to farm and household more explicit. For example, we ask for each component of land and building assets (operator's dwelling, other dwellings, other farm buildings and structure, orchards, trees and vines and land) and sum to reach a total land and building value (figure 8). This approach provides information that supports the income account as well as the balance sheet. Remaining questions for farm assets focus on establishing value levels for crops stored, livestock (including separate estimates for breeding and non-breeding livestock), production inputs (including separate estimates for inputs on hand and inputs used for crops not yet livestock), trucks, cars, machinery, tools, equipment, stock in farm cooperatives (which may be required to contain business loans, purchase inputs, or sale outputs), money owed the operation for sale or production of agricultural commodities or products, and other assets owned by the operation. For crops, livestock, production inputs and money owed the farm for sales of production, beginning and end of year values are collected. Year-over year change in the value of inventory for these items is used in developing farm-level estimates of net income and value-added. In contrast with the approach used in the sector accounts, physical quantities of crops and livestock on hand at points in time are not collected so that they could be valued with an average price. A more general approach is used to lessen respondent burden.

Information about farm debt is collected to support calculation of net worth, with net worth being equal to total value of assets minus total debt. Specific information for up to the five largest loans is obtained along with the total for any debt owed on additional loans. For each loan we ask about the balance at year-end, interest rate, year it was obtained, portion for farm purposes, purpose of the loan (such as refinancing) and whether or not the loan was guaranteed by some government entity. These data are used to produce an estimate of the farm's debt service commitment.

In addition to debt repayment capacity measures, ARMS business balance sheets are used with farm-level income statements to produce indicator's of profitability, solvency, liquidity, and financial efficiency for the farm.

Moving beyond the farm business to the household, the ARMS explicitly measures sources of household non-farm assets and debts on a more frequent basis (figure 9). Annual estimates of household assets and liabilities are obtained to

combine with detailed farm business asset and debt measures. Detailed components of non-farm assets and debt are collected periodically in the ARMS. These data are used to gauge household participation in a variety of financial markets and to examine savings and investment behavior in the context of a portfolio that reflects households' goals and objectives, and to compute extended measures of well-being that incorporate both income and wealth measures into the analysis.

Classification and Analysis

The ARMS is developed to recognize a long-standing interest in characterizing farms and households using a variety of size, organization, vocation, work status, and income dimensions. This work recognizes farm and household diversity. Recently, emphasis on households and individuals that operate farms has expanded. This expansion has resulted from dual career, multiple job-holding experiences becoming more common among farm households and from farms being organized or re-organized so that, in some cases, the operator's household and its members neither provide all assets nor earn all farm income.

Placing these changes into context along with traditional information needs requires data for firms, households, and individuals engaged in farming. ARMS has been designed to collect data at each level of measurement—farm, household, and individual. For the farm we focus on identifying the number of operators engaged in the business, structure of the farm's management team, the legal status of the business, number of households sharing in business income, and the number and types of claimants on farm income. These farm business data help measure how total income produced by the farm is shared among a variety of stakeholders and to provide a perspective about the diverse nature of U.S. farms.

Operator, spouse, and household data are intermingled. From an individual perspective data that traditionally have been collected for operators such as age, education, gender, race, occupation, and off-farm work hours have been extended to the primary operator's spouse and for most items, excluding off-farm work, to a second or third operator if present on the farm. For each of these individuals we ask the respondent to provide a response to questions about who performs selected managerial or production tasks for the farm. Farm-based questions are expanded by asking respondents about their farm or off-farm occupation and their allocation of work time to off-farm jobs. In addition, ARMS collects information about years of experience with farm and off-farm jobs, reasons for off-farm work, timing of farm and off-farm work decisions, and type of work performed. These data help put on-farm, off-farm work decisions into perspective. To further characterize differences among households that operate farms, a variety of goal, attitude, managerial choice, and policy response questions are asked. For example, in recent years, we have asked about retirement and succession plans, timing of input purchases, and response to changes in input prices. Questions have also been asked to obtain information about how farmers generally allocate fixed direct payments received from government programs between farm and household uses.

Household questions are designed to provide information about the structure and economic situation of the household. Income, asset, and debt data are extended with a series of questions about the household's estimate of basic needs, living

expenditures, prior year levels of income and expenditures, and the size and composition of the household as measured by the number and age of household members.

(iv) ARMS: An Evolving Survey

The ARMS is an evolving survey instrument. ERS and NASS have made many substantive changes to help ensure that survey results more accurately align with official estimates from all parts of the U.S. farm economy. Likewise, we have paid close attention to survey content from several vantage points. One, we are careful to make sure that ARMS provides data to implement economic and accounting concepts ingrained in estimates of income and wealth. Second, ARMS is used to derive research focused on issues of importance to USDA and the farm sector. Issues change over time. Likewise, the organization of farms and the households that control them change and adjust to a variety of policy, economic, and personal stimuli. These adjustments in the various target populations (individuals, households, and farm businesses) indicate that ARMS will continue to adapt. New methods and ways of collecting data both to be more effective in reaching farmers and in reducing their burden will be tested. ERS and NASS will continue to examine content requirements to meet new data needs while ensuring that up to date concepts are used in the measurement of household, business, and sector income and wealth. Taken together these steps will refresh the ARMS and increase the likelihood that it will remain a valuable instrument that adequately represents U.S. farms and farm households.

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Figure 1. ARMS Has a Modular Design to Reflect Complex Farm-Household Production, Financial Structure and Organization

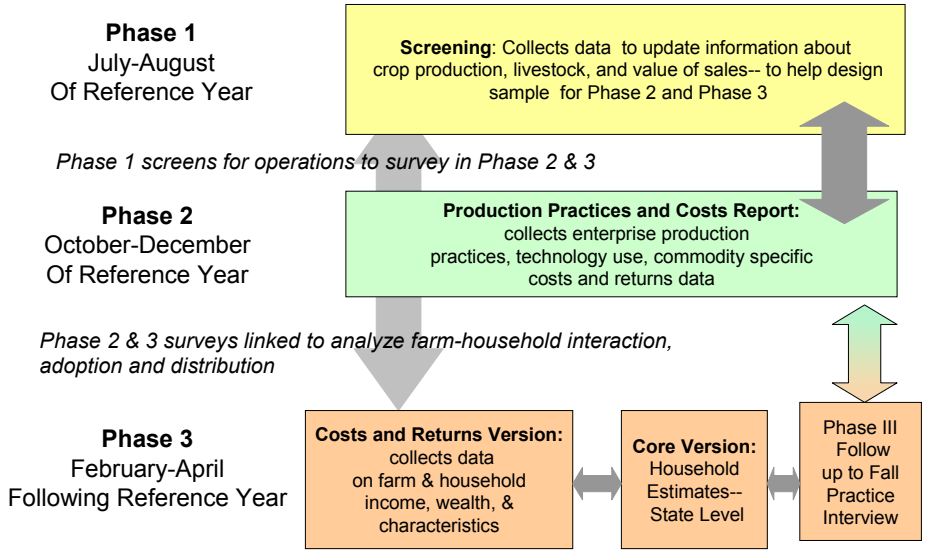


Figure 2. Farm Sector- Operator Household Link in Income Estimation

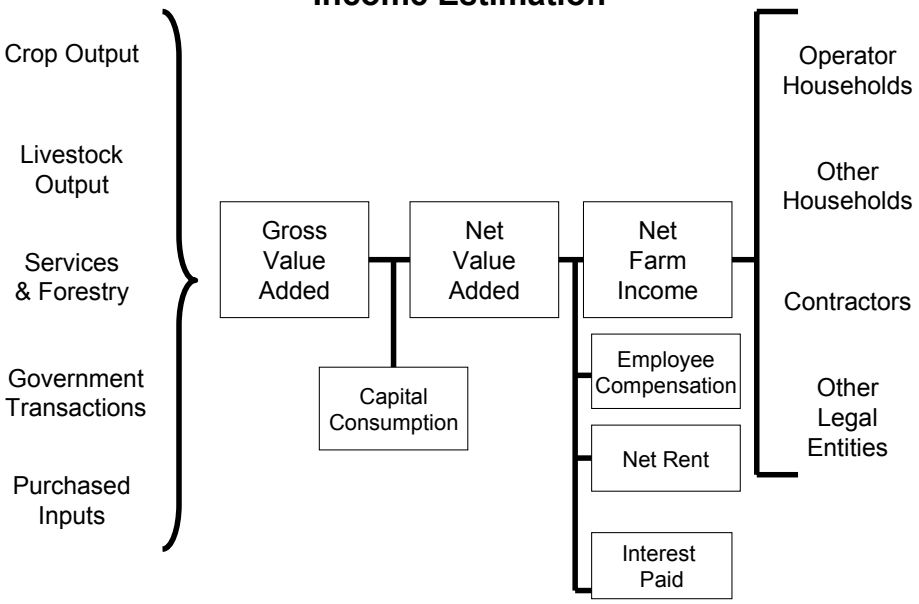


Figure 3. Land Use, Tenure, Crop and Livestock Production

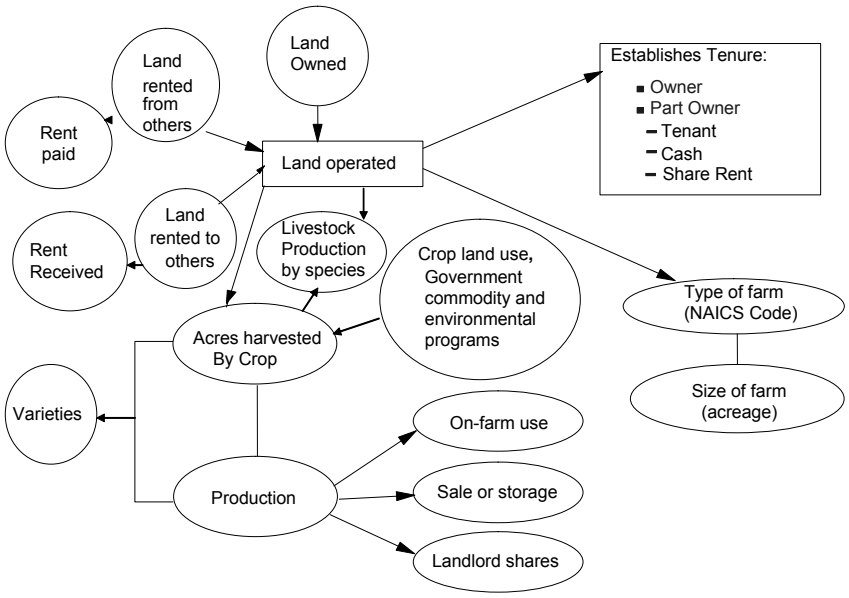


Figure 4. ARMS– Farm Business Income Sources

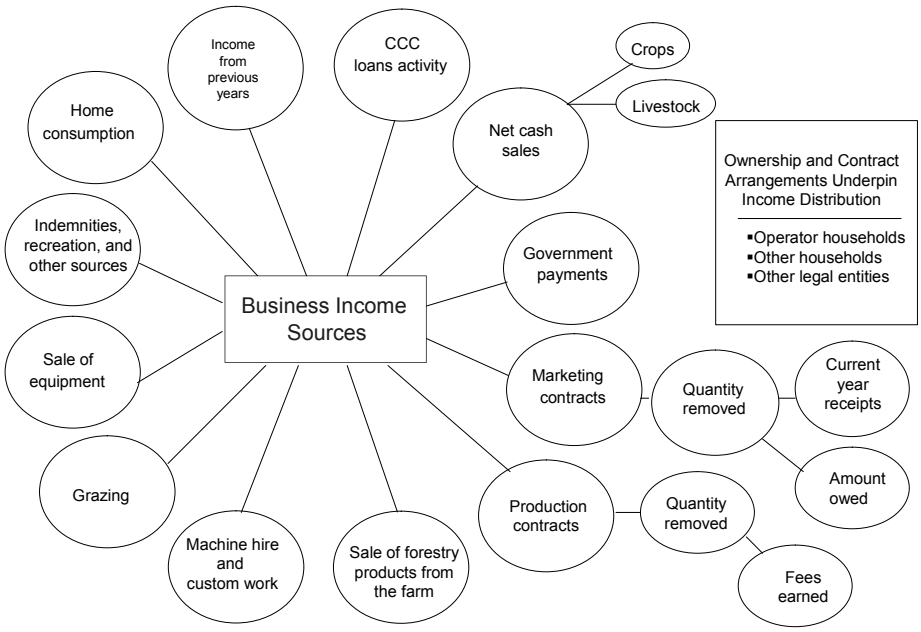


Figure 5. ARMS– Farm Business Expenses

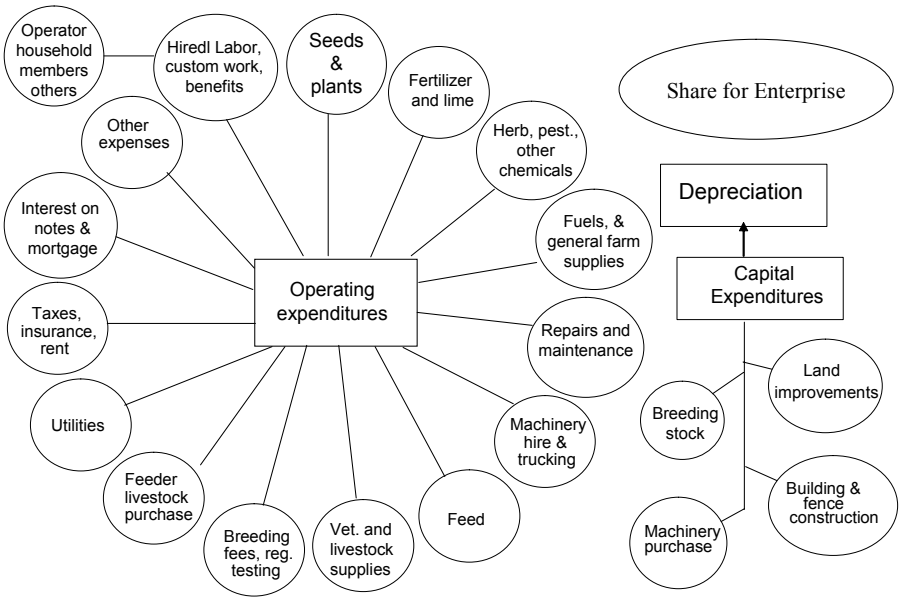


Figure 6. Measurement of Household Income From Farm Activity

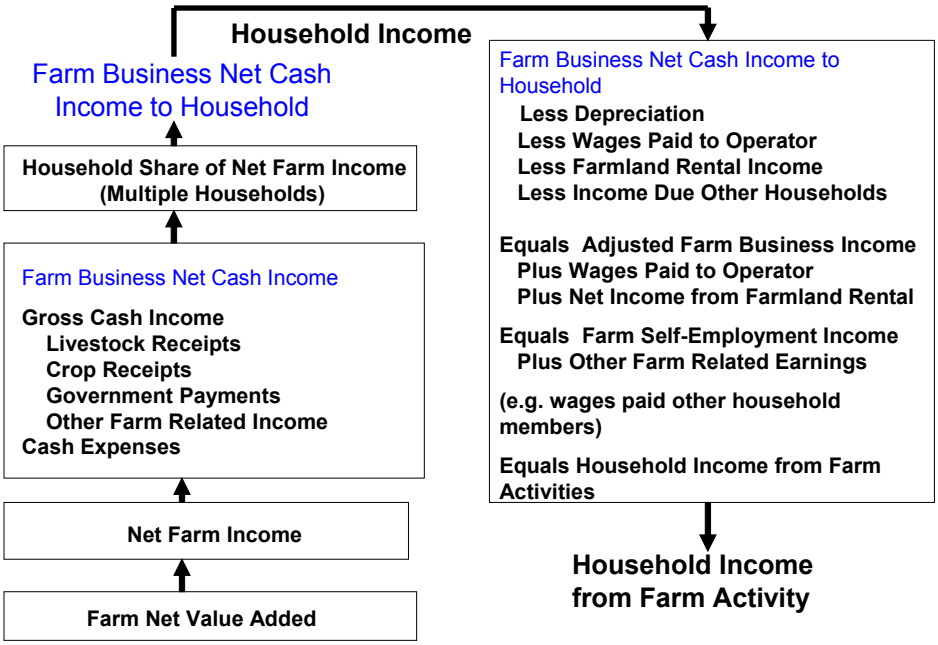


Figure 7. Measurement of Household Income From Farm and Off-Farm Sources

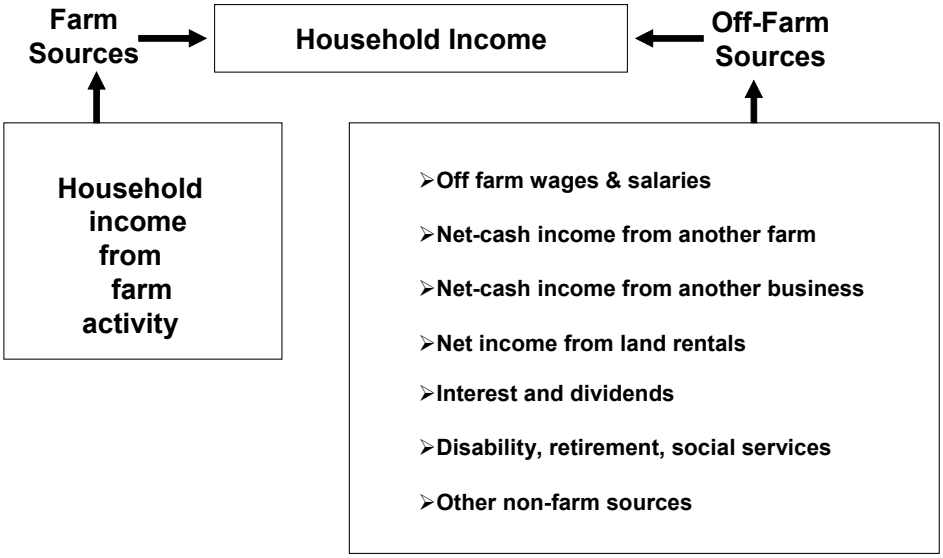


Figure 8. Net Worth of Farm Businesses Operated by Households

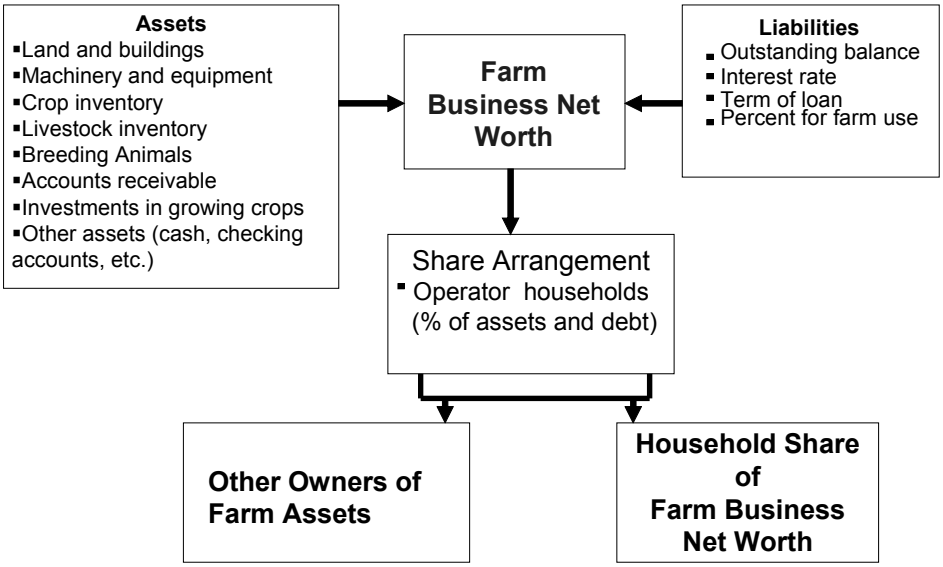
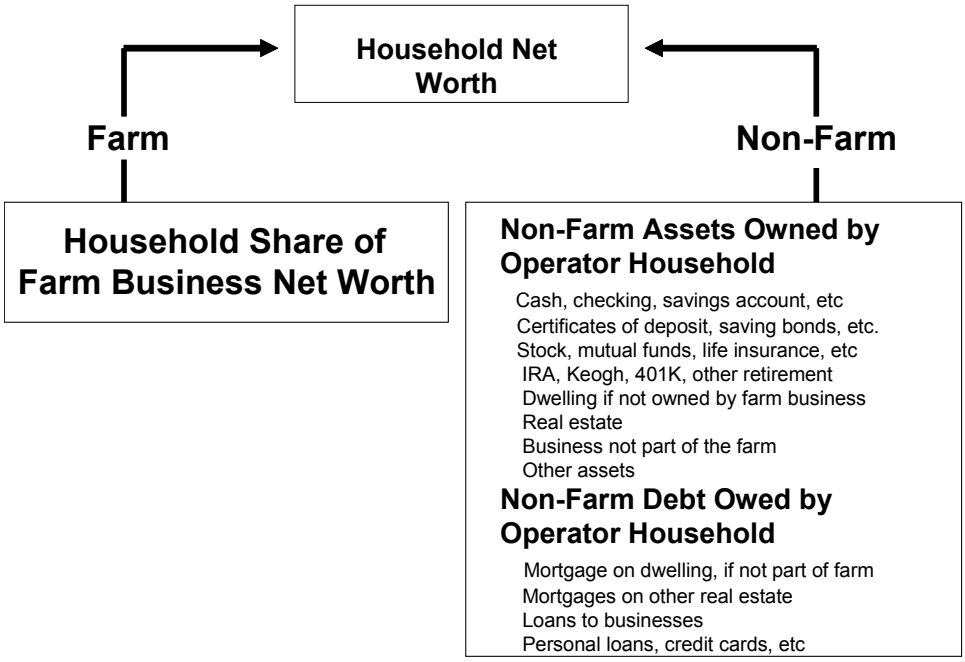


Figure 9. Household Assets, Debt, & Net Worth



XIII.3.1.2 United States: agriculture household income and wealth statistics

(i) Introduction

Income from the farm business is now shared among many parties, and farm household income from off-farm work, investment, and other sources has increased dramatically. Returns from farm production activities center on the farm business. But assessment of farm household well-being must focus on the household as the unit of analysis, or risk drawing incomplete or incorrect conclusions about farmers' income and households' economic well being. In addition, sector-wide income estimates can obscure structural changes that have occurred in farming and in household labor and investment decisions, and thereby provide incomplete information about the distribution of income among farm households. For these reasons, the farm household is used as the unit of analysis for considering both income and wealth relative to non-farm households, and for considering the distribution of income and wealth, including the ability of income to meet household consumption needs.

The data and analysis below are extracted from *Income, Wealth, and the Economic Well-Being of Farm Households* prepared by the Economic Research Service of US Department of Agriculture. The data for 1999 reported in this publication have been supplemented on a selected basis with data for 2003.

(ii) Income and well-Being of farm households

Off farm work by farm operators and their spouses has increased steadily since the mid 1960s. In 1969, total net income earned by farm households from farming and off farm earned income was roughly comparable at $15 billion, with off-farm wages and salaries providing $9 billion of the total. By 1999, total off-farm income in the agriculture sector had increased to $120 billion, compared to $44.3 billion in net income earned from farming (see figure 1). In 2003, off-farm earnings totalled $122.6 billion and net farm income was $59.2 billion, which continues to underscore the importance of off-farm earnings to the total incomes of farm households.

(iii) Income and expenditures by household size

Figure 2 gives details about income and expenditures by three size classes of households in 1999 and 2003. Total expenditures were highest in farm households with five or more people in 2003. This group spent an average of $43,000, compared with $34,000 for households of one or two members. This is expected since households with two or fewer persons have lower average household income, whether farm or non-farm. It is interesting to note that while income rose only marginally between 1999 and 2003, expenditures increased substantially for each size class of households. This implied that the non-consumed part of income (income less expenditure as a percentage of income) fell. For households with five or more members the share was almost halved, reaching 36%. For households with three or more members it fell from 56% to 41% and for households with one or two members from 63% to 47%.

As a figure for comparison, in 1999 the average expenditures of all American households amounted to about $37,000.

(iv) Farm households working more off the farm and accumulating wealth

The average money income of U.S. farm households first exceeded that of all U.S. households starting in 1972. Incomes of farm households periodically exceeded the incomes of all U.S. household from that time until the mid 1990's. Incomes of farm households has consistently been higher since the mid 1990's (see figure 3). Average farm household income in 2003 was about $68,500, compared with $59,100 for the average non-farm household. Median income for farm households has also been roughly on par with the median income of all U.S. households in recent years.

What accounts for the closing of the income gap for farm households? Since 1964, earnings from off-farm sources have grown from about $10 billion to $123 billion (in nominal terms). Meanwhile, sectorwide net cash farm income has only increased by a factor of five (see figure 4). Thus, the increase in farm household earnings has been driven by the increase in off-farm earnings. In fact, net cash farm income has fallen as a percentage of total income from farm and non-farm sources, from 58% in 1964 to 36% in 2003.

Wages and salaries make up a significant proportion of off-farm earnings, even though they declined from 65% in 1964 to about 56% in 2003.

(v) Largest farms have most income, wealth and debt

Over 90% of U.S. farms are classified as small farms. However, large and very large family farms, which made up only 8% of all farms in 1999, accounted for 57% of production. Households operating very large farms had the highest average household income, $201,000, about four times the average for all U.S. households. These farms received only 18% of their income from off-farm sources. In 2003, the income for this group of households had risen to $227,000 (see figures 5 and 6).

Households operating residential/lifestyle farms or large family farms also had average income above the U.S. average, but the sources of income differed between the two groups. Residential/lifestyle households received virtually all of their income from off-farm sources, while large farms received just 40% from off the farm. Households operating higher sales small farms had an average income very near the U.S. average, and half came from off-farm sources.

Limited-resource, retirement, and lower sales farm households had average household incomes below the U.S. average and relied heavily on off-farm income. In fact, income from farming was negative (see figures 5 and 6). The 2003 income of households with retirement farms also had a negative contribution from farming. In 1999, the Conservation Reserve Program (CRP) was the primary source of farm income for 21% of retirement farms,.

Farm size and wealth are positively related. In 1999, the value of farm assets increases from about $77,000 for limited resource farms to about $1,431,000 for very large farms. Limited-resource, retirement, and residential/ lifestyle farms have farm assets below the level of the average farm household (about $389,000).

Farm debt follows a similar pattern, increasing from about $6,600 for limited-resource farms to about $368,000 for very large farms. Households operating very large farms had the highest wealth, both farm and non-farm. Interestingly, the wealth of residential/lifestyle farm households is equally divided into farm and non-farm sources, reflecting the importance of non-farm assets to these households.

(vi) Location influences household income and wealth

Since off-farm income is a major source of income to farm households, location of the farm relative to off-farm employment opportunities is vital. Many studies have investigated the potential effects of the availability and accessibility of off-farm jobs. Farmers near urban areas likely have access to more active labor markets, and would be expected to supply more labor hours off the farm all else equal.

Two-thirds of all U.S. farms are located in non-metro counties. About three-fourths of small farms (farming-occupation) and large family farms are in non-metro counties. In addition, about two-fifths of higher sales (small) farms and large family farms are in rural counties not adjacent to a metro area, compared with one-third of all farms.

On average, about one-fifth of the total income of farm households located in rural areas (both adjacent and nonadjacent) came from farming in 2003, indicating a high level of dependence (85%) on off-farm work even here (see figure 7). The total household incomes of these farms are on par with all U.S. households. It is also interesting to note that between 1999 and 2003 the increase of $10,000 in total average income was attributed to off-farm sources of income.

Farm households in metro areas (central city, fringe, medium metro, and small metro) have the highest level of income ($74,000) among farms by location, and 89 % of this income is derived through off-farm sources (mostly wages and salaries). In these households, both the farm operator and the spouse tend to work off-farm.

Farm households located in urban (adjacent and nonadjacent) areas tend to be similar – they have some income from farming, and off-farm income again is the major contributor to total household income (see figure 7). These results reaffirm that location and composition of income in a farm household are related. Still, farm households in remote rural areas depend heavily on off-farm employment.

Wealth for farm households in different locations follows the same pattern as income. Farm households in or near a metro area had the highest level of wealth (a net worth of $650,120 in 1999), one-third from non-farm sources. These farm households also had the highest farm assets and lowest farm debt. This suggests they may be full-owners renting land and machinery to part-owners and tenants. At the other extreme, farm households in rural areas have one-fourth of their net worth in off-farm assets. Rural farm households had the highest farm debt and considerable farm assets ($378,665) in 1999.

(vii) Comparing farm and non-farm income and wealth

In general, farm and non-farm household income are similar at several points within the overall distribution. Average incomes are similar for non-farm and farm households, though farm household income is more dispersed – larger shares of farm households have negative income and have incomes above $200,000. On the other hand, average wealth for farm households is substantially greater than for non-farm households, and is less dispersed. .

(viii) Farm households save more, spend less than non-farm households

Expenditure levels represent an alternative indicator of economic well-being. While household income and wealth measured in any particular year are affected by contemporaneous economic conditions, the level of household expenditures is affected by the household's beliefs about total income and wealth over a lifetime. Household spending can exceed income by borrowing or liquidating financial capital. One would expect this to occur most at very low levels of income.

For both farm and non-farm households, spending tended to increase with income level, over much of the income distribution. However, the data show that farm household expenditures tend to be lower than non-farm household expenditures, even when controlling for differences in income, age, location, and size of population. The exception was at low levels of income (below $15,000), where farm households tended to consume more than non-farm households (see table 1). Many farms in this category likely had particularly low incomes due to weather or other factors, and used their assets to support consumptions at their "normal", higher level.

Expenditures for farm and non-farm households increase with age through the age group 45-54, and then decline, tracking the earnings profile among farm household. Income exceeds expenditures by the most for the 45-54 age group.

Farm and non-farm households had comparable expenditure profiles across the different household sizes. In general, households with more members had greater expenditures, although a plateau was reached at about four members for non-farm households and was still rising at five members for farm households.

The trend for farm household expenditures to be lower than non-farm household expenditures is sustained by simple summary analysis. For example, farm households may more readily categorize their expenses as business versus personal household expenses. As such, non-farm households may be required to assume more transportation and work-related expenses directly relative to farm households, whose expenses are often commingled with the business. Farm households may also be able to spend less by providing a portion of their own consumption from their farm. Although food is the most obvious savings, in some parts of the country a farm's oil and gas expenses are waived in return for resource extraction agreements with utilities. Or perhaps farm households choose to save, rather than consume, a greater portion of their income as a form of self-insurance against greater income variability, to service their debt, or for inter-generational transfers to help their son or daughter get

a start in farming. The greater savings may be invested into the farm or some other business, or saved in more liquid accounts.

(ix) Main findings and policy implications

The data above draw a picture of farmers' well-being in the context of income, wealth, and consumption at the household level. They also compare the economic status and well-being of farm operator households within the farm sector and relative to all U.S. households. The main findings of this analysis are:

- Farm households are no different than other households in pursuing two careers and diversifying earnings.
- The farm business as a source of income has become increasingly less important to farm households, especially among farms with sales of less than $250,000 per year, which make up over 90% of all farms.
- For most non-farm proprietorship households, the business is the main source of income; in contrast, for most farm proprietorship households, the farm detracts from total household income.
- While farm income exhibits considerable variability, farm **household** income is more stable.
- The average wealth of farm households has increased, and farm households have broadened their investment portfolio to include more non-farm components.
- While the life cycle is a dominant influence on differences in the level and source of household income and wealth, other contributing factors include farm type and size, operator education, farm tenure, and household size.
- Average incomes are similar for farm and non-farm households, but farm household income is more dispersed.
- Farm household wealth is considerably greater on average than non-farm household wealth, and is less dispersed.
- The conventional wisdom that farm households are financially disadvantaged compared with other U.S. households does not hold.

Results of the joint income and wealth analyses, comparing farm households compared to median of all US households, revealed that in 1999:

2.6% had higher incomes and lesser wealth

6.0% had both lower income and wealth

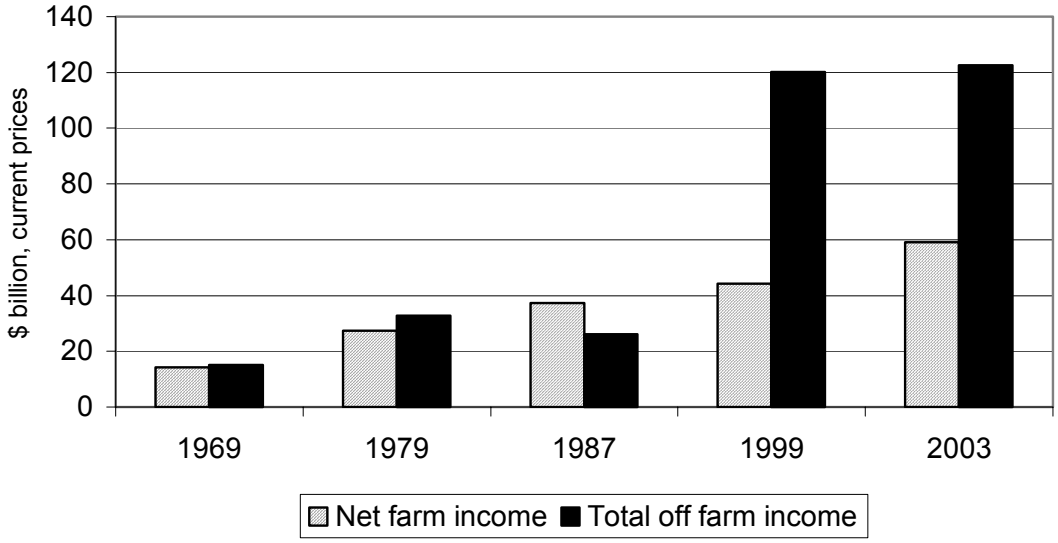
42,6% had lower income but higher wealth

48.7% had both higher income and wealth

On average, farm households have higher incomes, greater wealth, and lower consumption expenditures than all U.S. households. Incomes of farm households are, on average, sufficient to support a standard of living (defined as meeting consumption and basic household needs) that either is comparable to or exceeds that for all U.S. households. No longer do farm households inhabit one all-defining group that is considered either disadvantaged or without problems.

Figure 1

Sources of income in the agriculture sector

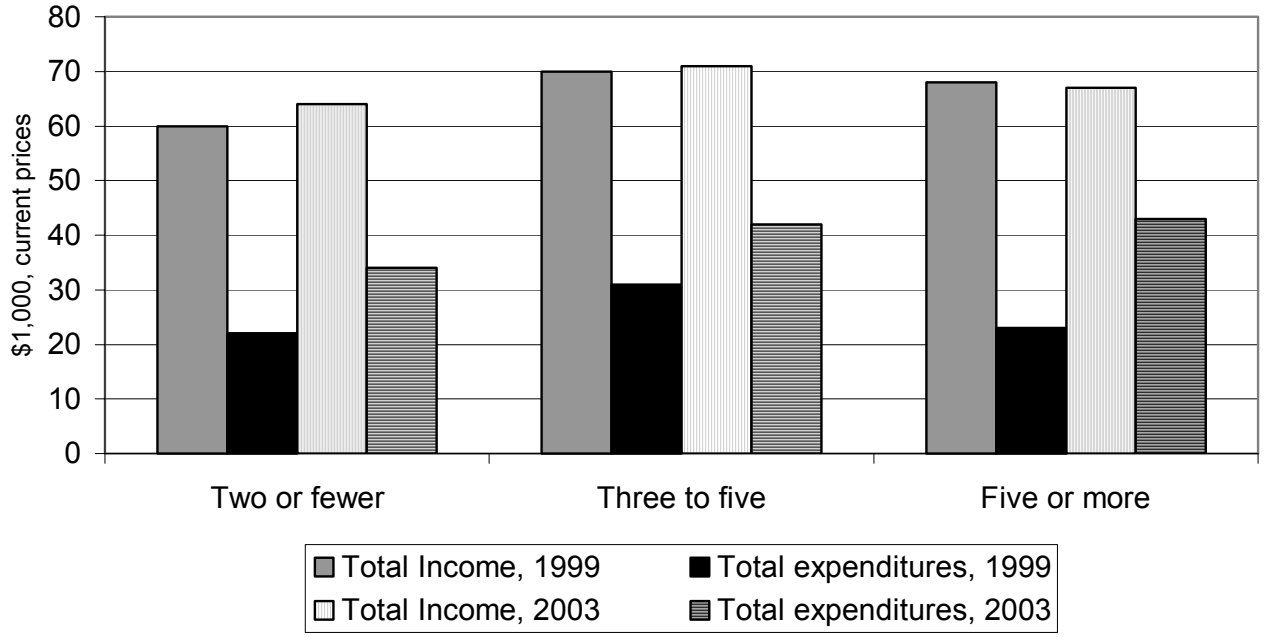


Source: Economic Research Service of US Dept.of Agriculture.

	Net farm income	Total off farm income	Net farm income as a percentage of total income
	$ billion, current prices		
1969	14.3	15.1	48.6
1979	27.4	32.8	45.5
1987	37.4	26.2	58.8
1999	44.3	120.1	26.9
2003	59.2	122.6	32.6

Figure 2

Total income and expenditures per operator household, by household size, 1999 and 2003

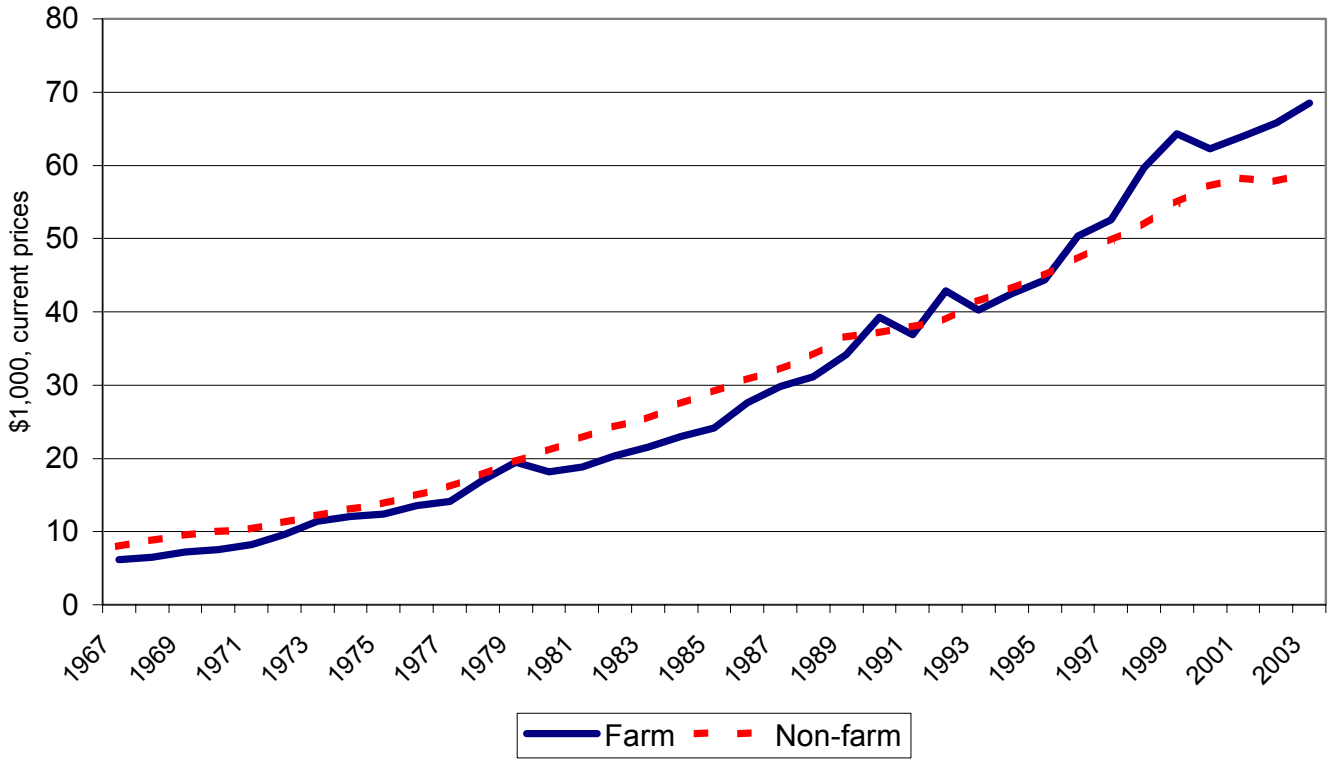


Source: Economic Research Service of US Dept.of Agriculture.

Household size	Total Income, 1999 $1,000	Total expenditures, 1999 $1,000	Total Income, 2003 $1,000	Total expenditures, 2003 $1,000	Net diff. 1999 $1,000	**% of income 1999**	Net diff. 2003 $1,000	**% of income 2003**
Two or fewer	60	22	64	34	38	**63.3**	30	**46.9**
Three to five	70	31	71	42	39	**55.7**	29	**40.8**
Five or more	68	23	67	43	45	**66.2**	24	**35.8**

Figure 3

Average income of farm and nonfarm households, 1967-2003, in $1,000 current prices



Source: Economic Research Service of US Dept.of Agriculture.

these data are not the same as in farm income briefing room: farm > non-farm in 1972

$1,000 current prices

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Farm	6.191	6.526	7.244	7.519	8.206	9.629	11.442	12.041	12.408	13.539
Non-farm	7.989	8.76	9.544	10.001	10.383	11.286	12.157	13.094	13.779	14.922

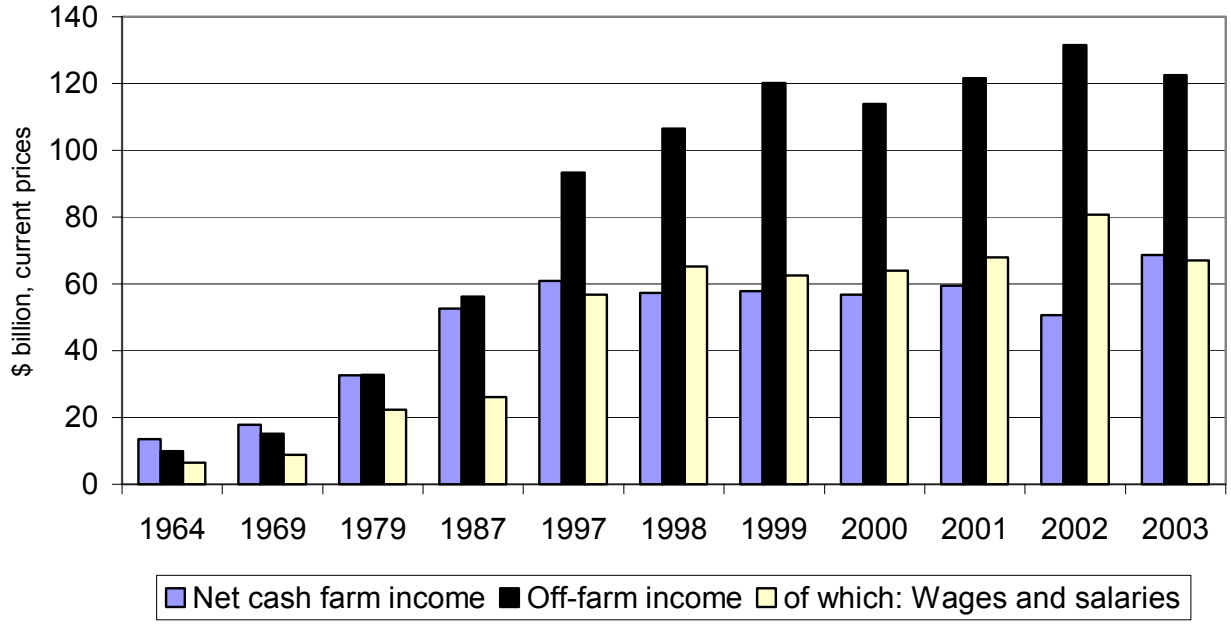
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Farm	14.111	17.016	19.499	18.123	18.842	20.382	21.534	23.013	24.119	27.56
Non-farm	16.1	17.73	19.554	21.063	22.787	24.309	25.401	27.464	29.066	30.759

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Farm	29.822	31.155	34.156	39.269	36.839	42.911	40.223	42.469	44.392	50.361
Non-farm	32.144	34.017	36.52	37.103	37.922	38.84	41.428	43.133	44.938	47.123

	1997	1998	1999	2000	2001	2002	2003
Farm	52.562	59.734	64.347	62.223	63.983	65.761	68.506
Non-farm	49.693	51.855	54.842	57.135	58.208	57.852	59.067

Figure 4

Farm sector net cash income and income of farm households from off-farm sources, 1964-2003, in $ billion, current prices

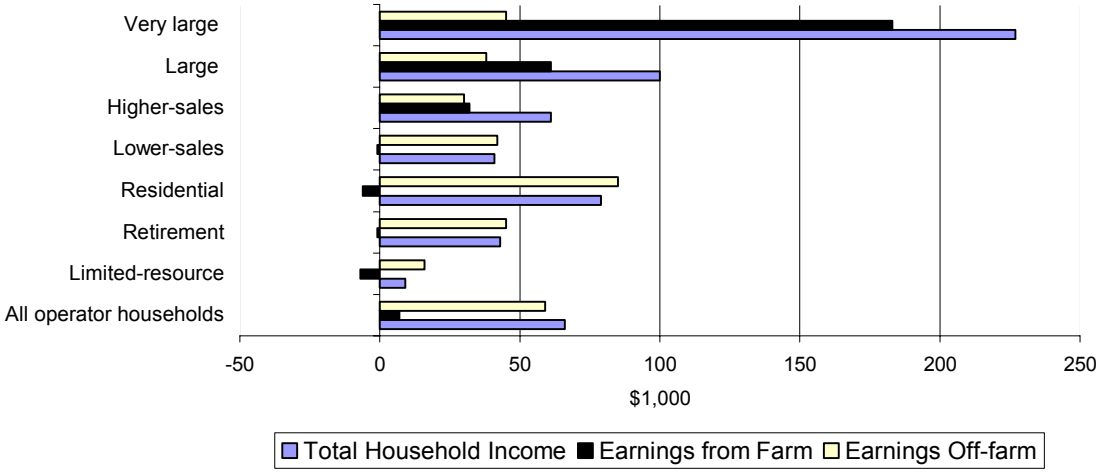


Source: Economic Research Service of US Dept.of Agriculture.

$ billion, current prices	1	2	3	4	5
	Net cash farm income	Off-farm income	of which: Wages and salaries	1 in % of (1+2)	3 in % of 2
1964	13.6	10.0	6.5	57.6	65.0
1969	17.8	15.1	8.8	54.1	58.3
1979	32.6	32.8	22.3	49.8	68.0
1987	52.6	56.3	26.2	48.3	46.5
1997	60.9	93.3	56.7	39.5	60.8
1998	57.3	106.4	65.2	35.0	61.3
1999	57.8	120.1	62.5	32.5	52.0
2000	56.7	113.9	63.9	33.2	56.1
2001	59.5	121.7	68.0	32.8	55.9
2002	50.7	131.6	80.8	27.8	61.4
2003	68.6	122.6	67.0	35.9	54.6

Figure 5

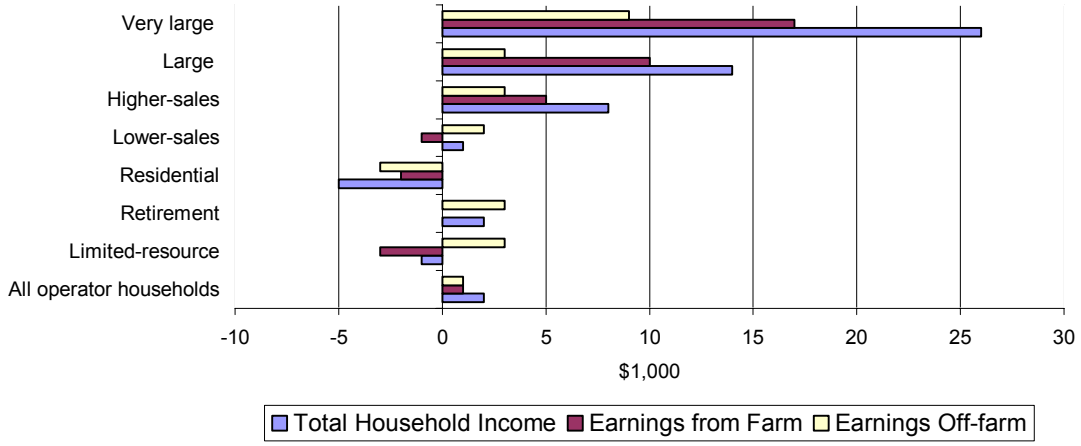
Total, farm-related and off-farm income per household, by farm typology group, 2003, in $1,000



Source: Economic Research Service of US Dept.of Agriculture.

Figure 6

Total, farm-related and off-farm income per household, by farm typology group, difference between 2003 and 1999, in $1,000

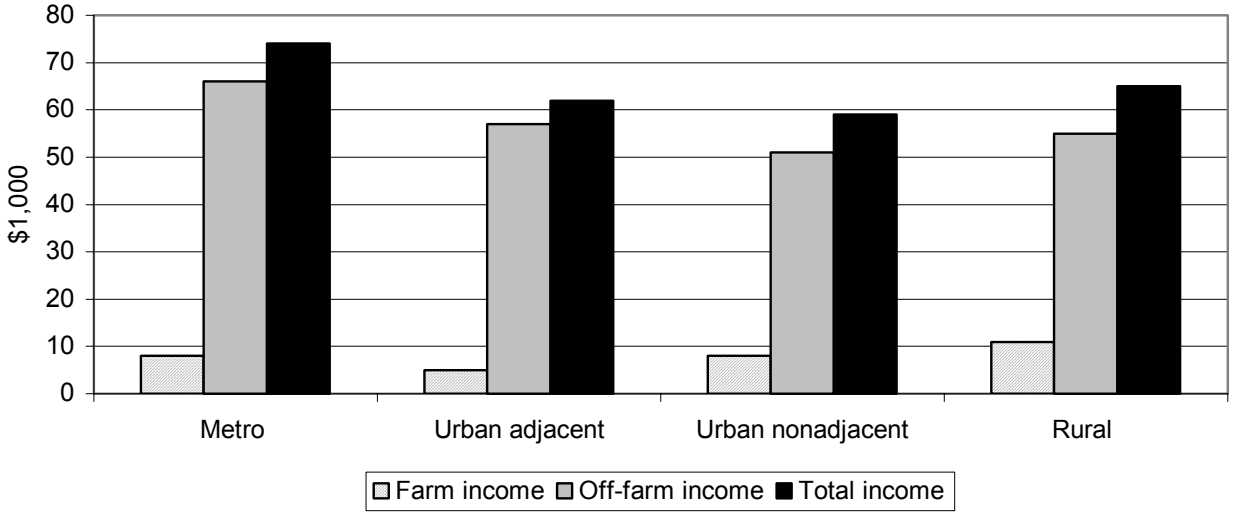


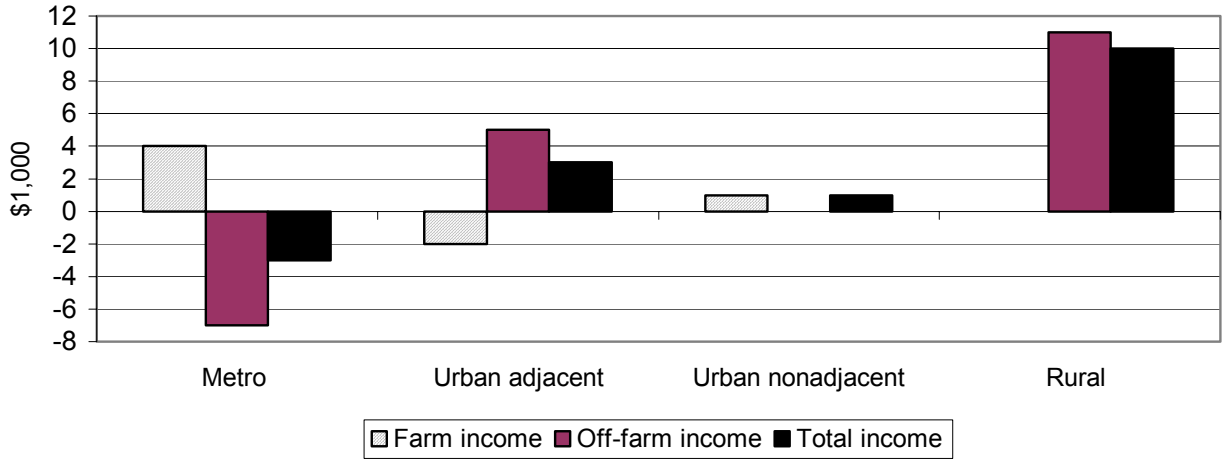
Source: Economic Research Service of US Dept.of Agriculture.

$1,000	2003			Difference 2003 - 1999		
	Total Household Income	Earnings from Farm	Earnings Off-farm	Total Household Income	Earnings from Farm	Earnings Off-farm
All operator households	66	7	59	2	1	1
Limited-resource	9	-7	16	-1	-3	3
Retirement	43	-1	45	2	0	3
Residential	79	-6	85	-5	-2	-3
Lower-sales	41	-1	42	1	-1	2
Higher-sales	61	32	30	8	5	3
Large	100	61	38	14	10	3
Very large	227	183	45	26	17	9

Figure 7

Total, farm-related and off-farm income per household, by farm location, 2003 and increase 1999-2003, in $1,000





Source: Economic Research Service of US Dept.of Agriculture.

	2003			Difference 2003 - 1999		
$1,000	Farm income	Off-farm income	Total income	Farm income	Off-farm income	Total income
Metro	8	66	74	4	-7	-3
Urban adjacent	5	57	62	-2	5	3
Urban nonadjacent	8	51	59	1	0	1
Rural	11	55	65	0	11	10

Table 1

Income and expenditures for farm and non-farm households by income class, 1999 and 2003, $

	Less than $5,000	$5,000 to $9,999	$10,000 to $14,999	$15,000 to $19.999	$20,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	More than $70,000
1999									
Farm household expenditures	20,611	13,345	13,294	15,215	19,093	20,781	21,930	24,464	35,178
Farm household income	-30,316	7,578	12,518	17,408	24,810	35,105	44,823	59,122	158,036
Income less expenditures	*-50,927*	*-5,767*	*-776*	*2,193*	*5,717*	*14,324*	*22,893*	*34,658*	*122,858*
Nonfarm household expenditures	1,633	7,631	12,338	17,311	24,467	34,353	44,321	58,473	113,441
Nonfarm household income	17,983	14,921	19,710	24,367	28,916	35,048	40,826	49,606	76,742
Income minus expenditures	16,350	7,290	7,372	7,056	4,449	695	-3,495	-8,867	-36,699
2003									
Farm household expenditures	25,534	20,781	22,467	22,610	25,991	31,223	31,844	37,428	54,827
Farm household income	-30,142	7,703	12,578	17,398	25,048	35,177	44,514	59,111	155,319
Income less expenditures	*-55,676*	*-13,078*	*-9,889*	*-5,212*	*-943*	*3,954*	*12,670*	*21,683*	*100,492*
Nonfarm household expenditures									
Nonfarm household income									
Difference 2003 - 1999									
Farm household expenditures	4,923	7,436	9,173	7,395	6,898	10,442	9,914	12,964	19,649
Farm household income	174	125	60	-10	238	72	-309	-11	-2,717

Source: Economic Research Service of US Dept.of Agriculture.

Non-farm income less expenditure line looks wrong.

Table 2

Income and expenditures for farm and non-farm households by age class, 1999 and 2003, $

1999	Under 35	35 to 44	45 to 54	55 to 64	65 and over
Farm household expenditures	21,965	25,864	28,112	24,744	18,895
Farm household income	74,831	64,826	86,194	63,784	39,625
Income less expenditures	*52,866*	*38,962*	*58,082*	*39,040*	*20,730*
Nonfarm household expenditures	31,866	42,792	46,511	39,394	26,521
Nonfarm household income	35.286	53.579	59.822	49.436	26.581
Income less expenditures	*-31,831*	*-42,738*	*-46,451*	*-39,345*	*-26,494*

2003	Under 35	35 - 44	45 - 54	55 - 64	65 and over	65 - 74	75 and over
Farm household expenditures	32,945	39,979	42,541	42,057	26,180		
Farm household income	46,003	73,681	74,824	76,541	48,101		
Income less expenditures	*13,058*	*33,702*	*32,283*	*34,484*	*21,921*		
Nonfarm household expenditures							
Nonfarm household income	44,177	77,035	97,266	89,439		57,787	36,668
Difference 2003-1999							
Farm household expenditures	10,980	14,115	14,429	17,313	7,285		
Farm household income	-28,828	8,855	-11,370	12,757	8,476		
Income less expenditures	*-39,808*	*-5,260*	*-25,799*	*-4,556*	*1,191*		

Source: Economic Research Service of US Dept.of Agriculture.

XIII.3.2 Italy

XIII.3.2.1 The ISMEA survey

(i) Overview

The Ismea survey is the only Italian survey that not only provides data on production practices and resource use in agriculture, but it also provides the information needed to model farm households' behaviour.

The survey was sponsored by the Institute for studies on agricultural markets (Ismea[1]) and it was designed and analyzed in collaboration with the *Microsimulation-Unit* of the University of Verona[2]. The survey fulfills the mandate that Ismea builds the agri-food I/O table. In addition, the collected data are critical to the policy analysis mission of Ismea in this way providing the essential information to policymakers (either at the regional, national and Communitarian level) and agricultural organizations when weighing alternative policies and programs that touch the farm sector or affect farm families.

The survey has been undertaken in 1996 and has gathered data on 1881 farms, 1777 of which are household farms. The information related to the household collected in the survey depicts the socio-economic conditions, the structural characteristics and habits of the agricultural Italian households of the 1990s.

The aim of this chapter is to provide a detailed description of the Ismea survey in view of discussing the desirable characteristics of a prototypical survey devoted to collect the information needed to monitor the living conditions of rural and farm population.

(ii) The survey

The aim of the Ismea survey is to collect the statistical information on the behaviour of each member of the agricultural household and on the sharing of public and private resources within the household that would permit the empirical analysis of the household decision process. In general, the problems of production decisions, consumption decisions and labor supply decisions are usually analyzed separately in terms of the behaviour of producers, consumers, and workers respectively. Rural households integrate all these decision units in a single institution. Therefore, it is natural to analyze the linkage between full income, consumption and labour supply of rural households jointly.

The ISMEA survey has been designed on the basis of a reference theoretical model at the micro level, i.e. the farm household general equilibrium micro economy, which allows one to establish links between the micro and macro levels of the economic and policy analysis not previously explored. According to this model each household can be seen as a household-enterprise producing domestic public goods by

[1] Institute for services in agricultural and agro-food markets.

[2] http://pilar.univr.it/Microsimulation-Unit/progetti-in-corso/inchiesta-ismea95.htm

transforming factors which are in part non-market goods, and therefore not easily measurable. Unlike an urban family, the members of a rural household can allocate their working time with certainty between household and agricultural production activities. For both household types, the value of labor not employed outside the family is implicit. However, only in the case of agricultural activities the value of labor is objectively deducible from the value of the marginal product, since the prices of agricultural output and inputs are determined by the market, while the value of household production is unknown and the value of labor allocated must be implicitly determined.

(iii) The sample design

The Ismea survey is a probability weighted, stratified survey (by European Size Unit[3] and Farm Type[4]) that collected information from 1881 farms in 1995, 1777 of whom are household farms[5]. Appropriate sample weights (expansion factors) are available to prepare population estimates from the survey results.

The collection units are the farms, defined in official statistics as the economical-technical unit composed by land, even if not contiguous, plants and tools, in which agricultural, animal and forestry production is undertaken by a person or company or agency which bears the risks.

The sampling has been based on the Agricultural Census conducted in 1991 by the Italian National Statistical Institute (ISTAT), censored at the cut-off point of farms with an economic dimension greater of 4 ESU. This criterion has been adopted with the aim of excluding those enterprises where the agricultural activity is either marginal or dismissed. On the basis of the census results, the universe has been divided in 15 main farm types and 3 ESU classes.

The sample is statistically representative at macro-regional level (North, Center, South).

(iv) The questionnaire

The objectives of the Ismea survey were to gather data on the farm and on the household that could be used to asses either the structure and the behaviour of the

[3] The European Size Unit (ESU) is the indicator used by FADN to measure the economic dimension of a farm. It is based on the standard gross margins (SGM) attributed to the farm, that is on the potential gross margins producible in a farm with given structural characteristics. In 1995: 1ESU = 1200 ecu = 920.95 euro. (INEA, 2000).

[4] "The classification of farms into types is based on the financial potential of the various agricultural activities of the farm and the combination of these activities" (INEA, 2000).

[5] The size of the Ismea survey is in line with the indications given by the LSMS of the World Bank. LSMS surveys tend to use small samples, often in the order of 1,600 to 3,200 households and rarely more than 5,000 households. Although larger samples would have smaller sampling error, it was judged by survey designers that non-sampling errors would increase more than concomitantly.

farm, and to understand household behaviour and welfare in view also to evaluate the effect of various agricultural and rural policies on the living conditions of the agricultural population by making use of a collective household approach[6]. Accordingly, a multi-topic questionnaire was designed to collect data on many dimensions of the farm and of the household well-being, including consumption at the individual level, income, savings, financial wealth, governmental and intra-household transfers, education and housing (see Table 1).

The design of the Ismea questionnaire was inspired by the questionnaires in use for the data collection of the farm production (for example that used by the RICA-FADN), those on the consumption of household members (such as the one used by ISTAT), by the EU time budget and by the questionnaire used by the Bank of Italy to collect data on household incomes. The final result is a set of questions very close to those suggested by the Living Standards Measurement Study[7] to assess the welfare of rural households.

(v) Production and factor use information are structured by activity

A peculiarity of the Ismea survey is that, differently from the questionnaire used by the RICA-FADN, both the sections on production and the one on factor use are structured by activity. This level of details of the data is needed when the information is gathered in order to build the input/output table of the agricultural sector.

(vi) From the farm operation to the farm household-firm unit perspective

Another important characteristic of the questionnaire is that the attention is shifted from the traditional farm operation perspective to the farm household-firm unit one. For examples, information on the social characteristics (gender, age, level of education, professional characteristics, etc.) not only of the farm operator but of all family members are collected. In addition, the questionnaire contains a stylized time sheet[8] describing how much time each family component is devoting to activities such as on and off-farm work, household work, child care and pure leisure time. This last kind of information is very useful when the work roles and off-farm labor participation of different members of the family are analyzed. In addition, the data

[6] That is, models that explicitly take into account the existence of differences in resource allocation decisions across the individuals of a same household.

[7] The Living Standards Measurement Study was established by the World Bank in 1980 see paragraph 3.1 for more details.

[8] Comparable to that used by ISTAT in the "Multiscopo survey" and in the Communitarian survey on time budget conducted by Eurisko.

gathered in the time budgets are also essential for estimating the full and extended household income.

(vii) An agricultural standard of living survey

The Ismea survey was designed in such a way to provide the information needed to assess not only the economic impact of policy programs at the farm level, but also the socio-economic impact at the farm household level, that is to assess the impact on the living standard and economic welfare of farm households. In order to allow the analyst to evaluate and measure such a socio-economic impact the Ismea survey contains a module of questions gathering information on the quality of life and on other characteristics of farm households.

There is a first group of questions on housing characteristics, the answers to this questions can be used to infer the standard of living of the agricultural household.

A second group of questions collects detailed information on the household consumption: the consumption of food, either bought from the market - recording both quantities and prices- and grown in the farm, and the consumption of both semi durables and durable goods -distinguishing between children and adult goods. Measurement of consumption is emphasized in the questionnaires because this kind of information allows the researcher to estimate household models and to measure household economic welfare.

The first part of the questionnaire is complemented by a module containing questions on the intra-household decision making process for both farm and household decisions, on the household goods (household header growths in farm, time spent in family, farm inheritance and farm legacy), on intra-household transfers, on subjective measures about the risk associated to future investments in agriculture and intentions about the future development of the farm. This is a set of information, usually not available in the traditional agricultural statistics, that proved to be very useful, for example, in order to tackle problems such as modelling the intergenerational succession of household farms, or the on- and off-farm labor decisions within the farm household.

The set of data on the household welfare is eventually completed by a group of questions on the household income (comparable to the survey on household income conducted by the Bank of Italy and by the European Community Household Panel), the savings and financial investments of the family.

The inspection of Table 1 shows that the Ismea survey contains a very large subset of the information on the household suggested by the Living Standards Measurement Study of the World Bank to analyze the quality of life of households. Annex 7 give further details about the coverage of various types of surveys. The information gathered by the Ismea survey make the analyst able to analyze the agricultural household living standard. It is easy to see that to make it possible to study the living standard not only of the agricultural but of all the rural household it is necessary to extend the data set collected by Ismea with information on non farm enterprises run by the household members and on the services access and use.

Table 1
Modules in the Ismea survey

Module	Respondent	Subject
Section I : «General information about the household»		
Tenure, legal status, structural and other characteristics of the farm	Best-informed farm member	Tenure, owned and rented land, physical size, altitude, etc.
Section II: «Characteristics of the households and labor organization:»		
Information on the family	Best-informed family member	Social characteristics (gender, age, level of education, professional characteristics, etc.) and hours of labor worked by the household members
Information on wage workers (fixed and temporary)	Best-informed farm member	Gender, hours of labor worked in high and low season, gross monthly wage by qualification???.
Section III: «Commercialization:»		
Purchase of inputs and sales of farm products	Best-informed farm member	Product marketing and institutional arrangements
Section IV: «Production:»		
Crops, livestock and products of livestock.	Best-informed farm member	Quantities produced, self-employed and processed products, stocks, sales and prices, premiums and subsidies.
Other farm revenues	Best-informed farm member	It collects information on farm revenues different from the sale of agric. products (machine hiring, custom work, land rents, production contracts, agriturism, insurance payments, etc.)
Section V: «Factor use:»		
Inputs and labor used for crops and livestock	Best-informed farm member	Cash expenditure for inputs (fertilizers, other chemicals, seeds, feeds, water, oil and insurances) by activity and number of hours worked by family members, waged workers and machines.
Labor cost	Best-informed farm member	Salaries payed
Other expenses	Best-informed farm member	Overheads, environmental, etc.
Section VI: «Investments and financial activities:»		
Land and investments	Best-informed farm member	Value of land capital and investments
Credits	Best-informed farm member	farm credits by type
Debts	Best-informed farm member	debts and loans by type

Section VII: «The Household:»		
Housing characteristics	Best-informed household member	Type of dwelling. Durable goods owned (cars, televisions, bicycles, sewing machines, etc.) and percentage of use in the farm and in the household.
Time use	Head of household / principal respondent	On and off farm labor time per member of the household and time spent to reach the workplace by means of transportation. Sector of activity and expected reserve wage in agriculture or in other sectors.
Household consumption	Best-informed household member	
Annual consumption		List (value of durable goods distinguishing between children and adult goods)
Monthly consumption		List (value of semi durables goods)
Weekly consumption		Food quantity and prices of bought food and self-consumption.
Responsibilities and intrahousehold decision	Best-informed household member	Who decide in farm, in family and out of farm. Separated Income between Wife and Husband.
Household goods	Best-informed household member	Hh header growths in farm. Time spent in family. Sons in Farm. Farm inheritance and farm legacy.
Intra-Household transfers	Best-informed household member	Gifts, inheritance, familiar loans.
Other information about the farm and the household	Best-informed farm member	Technology, bookkeeping. Subjective measures of risk, intentions about the future development of the farm.
Income and savings	Best-informed household member	Monthly global household income and wife's Income Contribution; number of pensions preceptors and range of perceived pension; annual savings and investment in accounts, bonds, shares, financial funds.

XIII.3.2.2 Italy – An example of Distributive Analysis Based on the Survey of Household Income and Wealth

The micro-data collected in national Surveys of Household Income and Wealth or in Household Budget Surveys can be of help to analyse the economic well-being or rural and agricultural households, as well as to identify those individuals or households groups, within the rural community, which have a too low standard of living and who are potential beneficiaries of income redistributive rural and agricultural policies.

In this chapter it is presented a distributive analysis of income, consumption and wealth of Italian agricultural and rural households.

(i) The data

The following analysis relies on data from the Historical Archive (HA) of the Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy, covering the years 1995, 1998, 2000 and 2002. The survey was originally aimed to collect data on incomes and savings. Over the time the range of collected data expanded to comprehend the wealth, real and financial, and other information that are relevant to analyse the economic and financial behaviour of Italian households. Presently the sample covers more then 8000 households and 21000 individuals.

The variables used to analyse the households' economic situation are: income, consumption and wealth. Household income comprises income from work (as employees or self-employed), pensions, public assistance, private transfers, income from real properties, the imputed rental income from owner-occupied dwellings, and interest on financial assets net of interest paid on mortgages. All components are recorded net of taxes and social security contributions. Household wealth is given by the sum of real (property, companies, and valuables) and financial assets (deposits, government securities, equity, etc.), net of financial liabilities (mortgages and other debts). Household consumption is given by the sum of expenditures on durables (transport equipment, furniture, etc.) and non-durables goods.

In the analysis all the economic variables are expressed at 2000 prices, after deflation by the consumer price index. Observations are weighted by the adjusted weights, available in the HA, obtained by post-stratifying the samples to re-establish the marginal distributions of components by sex, age group, type of job, geographical area and demographic size of the municipality of residence, as registered in population and labour force statistics. These weights should provide greater stability to intertemporal comparisons.

<u>Rural and agricultural households</u>

So far a common concept at the EU level of what constitutes a rural area has not been developed.

To collect statistics on the main economic, social and environmental features of rural areas, though, we need to have an approximation of the area potentially interested by rural policy. Following the example recently given by the Commission (Com, 2004), we applied the Oecd definition that identifies local areas (municipalities) as rural if the population density is below 150 inhabitants per square kilometre This definition has proven to be useful in making international comparisons of rural conditions and trends. Unfortunately, we have information on the population density of the municipality in which households in the SHIW reside only for year 2002.

In addition, two groups of agricultural households have been identified.

The first group is that of the *farm households* identified applying the so called "broad" definition (*see chapter IX for a discussion of the definition of agricultural household-firm*). As a consequence, farm households are those households that derive some income from *independent activity in agriculture* (other than income solely in kind). This income can arise from activity of the head of household or any other member.

In countries like Italy where the quota of salaried over the total work force in agriculture is high (around 40%) it is of interest to monitor not only the economic situation of the farm households but even that of the agricultural wage worker households[1]. As a consequence, a second group of agricultural households has been identified, it is composed by those households that derive some income from *salaried activity in agriculture*, that is the agricultural dependent households group.

(ii) Economic conditions of rural and agricultural households

The size of the sample and of the three groups of households (farm, agricultural wage worker and rural) is reported in table 1.

The 1995-2002 evolution of the mean household and individual equivalent income, consumption and wealth levels by household type (average Italian, self-employed, farm, agricultural and rural) are reported in graph 1.

Among agricultural households, those receiving some income from wage work show a relative disadvantage relative to the rest of households types either in terms of income, or consumption or wealth.

Conversely, farm households are better off than the Italian average household, this evidence confirming the results found in previous analysis (Istat, 1998; Eurostat, 2000). It is interesting to note that farm household appear to be better off even of the average of the Italian self-employed. An additional characteristic the farm households group is that the time profile of all the variables shows variability higher than in the rest of the population. This is mainly due to unpredictable weather and the biological

[1] On average the quota of salaried work on total agricultural work force in the EU25 is around 24%. Apart from Italy, EU countries in which salaried work is particularly important are Czech Republic (78%), Finland (78%) and Slovakia (55%), while in Denmark, Germany, Spain and Netherlands salaried work is more than one third of total labour input in agriculture.

risks inherent in agricultural production. An additional feature of farm households is that they show levels of wealth much higher than the rest of Italian households, this feature is mainly due to the physical farm assets owned.

The 2002 data of rural non agricultural household type nearly overlaps that referred to the average Italian household for all variables.

In order to perform inter-households comparisons,, as it is usually done when a poverty analysis is undertaken, we need to convert households differing in size and composition in adult equivalents (*see chapterX.3)*. This convertion has been done by applying the Oecd modified equivalence scale[2]. Distribution is thus measured across adult equivalents, attributing to each person the equivalent income and consumption of the household to which he or she belongs.

It is interesting to note that when the differences in household size and composition are taken into account, the differentials among income and consumption levels of the farm and non farm-household types tend to shrink.

The relative disadvantage of the agricultural wage work group observed at the household level is confirmed also at the individual level. Conversely, the relative position of the rural non agricultural household type worsens either in terms of equivalent income and consumption. Finally, it is interesting to note that either in terms of equivalent income and of consumption, farm households' are no longer better off than the non agricultural self-employed families.

Inequality and poverty

The Gini index is used to analyze the distribution of the economic variables under analysis. The data reported in graph 2 that the relative greater variability already observed in the *levels* of the indicators referred to farm households also reflects in the *equality* in the distribution of the variables. Due to this variability it is difficult to define the relative farm households' position in distributive terms. For example, income is more equally distributed than the rest of the population in central part of the period but not in the beginning and ending years. Apart from 1998, farm households' wealth concentration is much lower than in among the rest of the population. In converse, concentration of income and consumption is highest among farm households. Finally rural non agricultural households present a lower concentration of equivalent income and consumption relative to the rest of the population.

In order to measure the incidence of poverty we first set the poverty line, that is the minimum level of living before a person is no longer deemed to be "poor"[3].

[2] This scale assigns value 1 to the first adult, 0.5 to any other person aged 14 or older and 0.3 to any person younger than 14.

[3] The poverty line has been set at 50 percent of the median equivalent income

Graph 3 presents the poverty headcount, that is the proportion of households falling below the poverty line. Apart from the agricultural dependant households' group, the data show that the incidence of poverty is more or less the same over the household types and that it tends to decrease over the period. Overall the period, the headcount ratio of the dependant agricultural households group was more than two times higher than the rest of the groups under analysis. The effect of a relatively high income variability in income of farm households reflects even on this index. In year 2000, at the fall in farm households' income, mainly due to the fall in farm net income, the proportion of poor farm household increase reaching 23.4 percent.

(iii) Conclusions

This application has shown how the data collected in national Household Budget Surveys can be used to make distributive analysis of the rural and agricultural population. By making use of data on income, consumption and wealth the relative position in terms of economic well-being of different household groups can be assessed and possible presence of poverty or low income detected.

An advantage of Household Budget Surveys respect to activity specific data sets is that the economic situation of rural and agricultural dependent workers' household can be studied and monitored in addition to that of the farm households.

The most important limit posed by the use of Household Budget Surveys is that they do not provide information on the farm business run by the household, as a consequence the economic well-being of farm households can only be monitored while it is not possible to detect the farm business determinants, for example, of low income or poverty.

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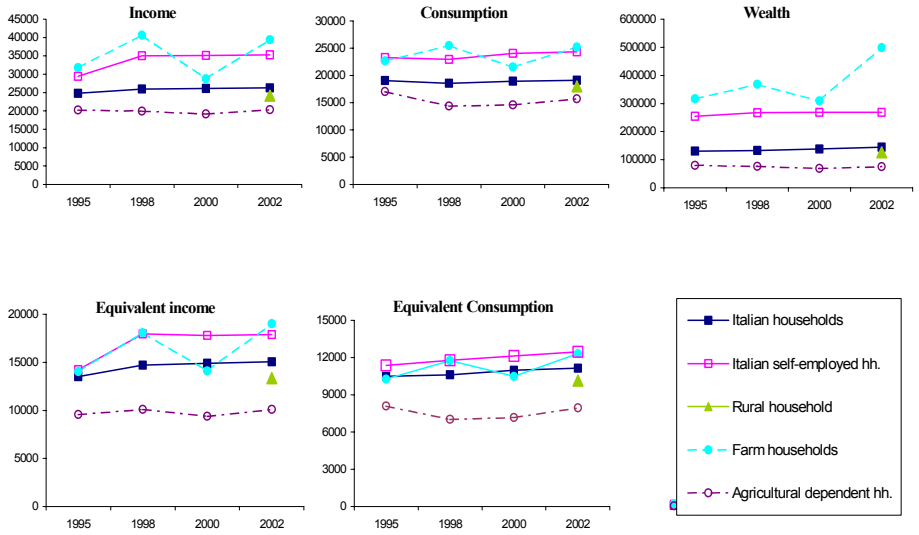
Salvioni C. and G. Colazilli (2005) "Redditi, consumi e ricchezza delle famiglie agricole e rurali italiane." In E. Basile e C. Cecchi (editors).Proceedings of the Conference "Diritto all'alimentazione, agricoltura e sviluppo", Rome (16-18 september 2004), Franco Angeli, Italy.

Table 1
Households and individuals by household type

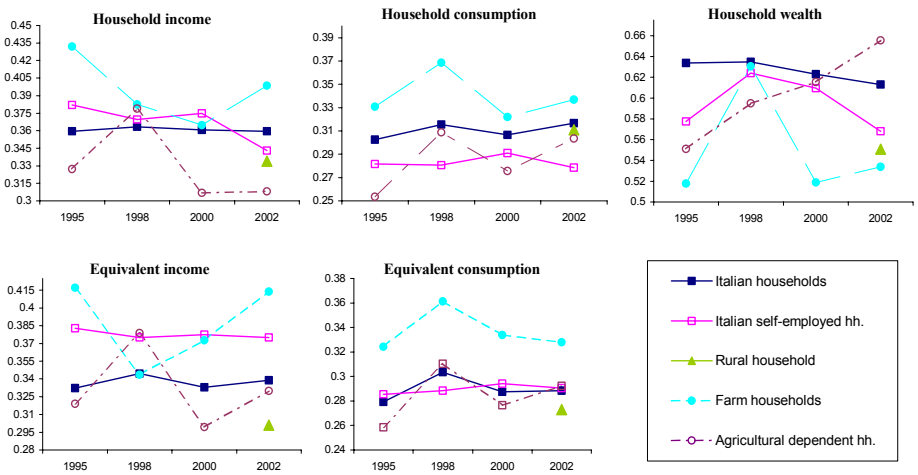
	1995			1998			2000			2002		
	Hholds	%	Individ.	Hholds	%	Individ.	Hholds	%	Individ.	Hholds	%	Individ.
Household type												
Farm	144	1.77	557	78	1.09	290	124	1.55	441	113	1.41	401
Agr. dependent	132	1.62	495	155	2.17	589	192	2.40	691	192	2.40	634
Rural non agricultural										1,111	13.9	3,049
Total population	8,135	100	23,924	7147	100	20901	8,001	100	22,268	8,011	100	21,148

Graph 1
Household and equivalent income, consumption and wealth



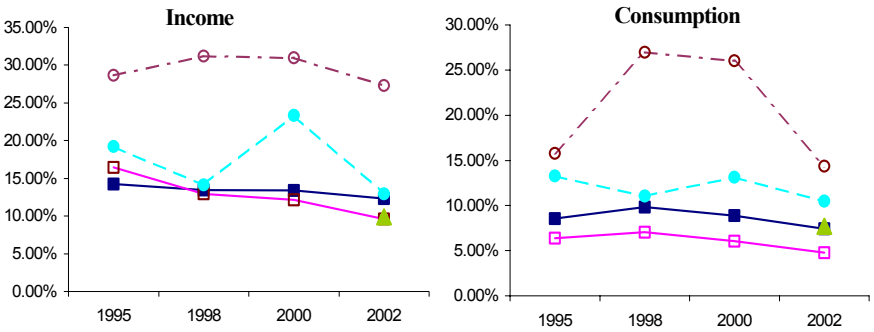
Graph 2

Gini index on household and equivalent income, consumption and wealth



Graph 3

Headcount ratio on household and equivalent income and consumption



XIII.3.3 Denmark – register based agricultural income statistics

(i) Introduction

Statistics Denmark has for many years compiled agricultural household income statistics, as well according to agreement with Eurostat as for domestic information. The main objective for the EU-statistics is to compare agricultural household income with the income at other households, while the main objective for the domestic statistics is to show differences between different types of farming

The household income statistics is based of a combination of registers of persons, households, income and agricultural holdings. The method is further described in section (ii).

The statistics in accordance with the EU-requests, where income from farm households is compared to the income in other socioeconomic groups is presented in section (iii).

In section (iv) the income situation for different types of agricultural holdings and other subgroups of farms is presented.

Finally the issue of wealth is touched, presenting figures from the Danish FADN-statistics (Farm Accountancy Data Network), which includes information on assets and debts for family farms.

(ii) Combining of registers and income information

The statistics is based on registers on agriculture, on households and on income. The income register is basically information from tax authorities, which have provided Statistics Denmark with data on different kind of income of all relevant inhabitants. Furthermore, there is information on tax, interests and social contributions. From these data a disposable income can be calculated.

The income register includes information on the kind of economic activity for the person, for example is the person is employer (broken down in line of business), employee, etc.

The next register is the household register where information on persons belonging to a household unit is recorded. From these data numbers of households and of consumer units (cu) can be calculated. The principal of the household unit counts for 1 cu, other adult for 0.7 cu and children for 0.5 cu. The key to the income register is the personal ID-number.

The agricultural register is the Farm Structure Survey register, which consist of the annual sample of farms to give the full picture of the app. 50.000 farms in Denmark with more than 5 hectares or similar economic size of production. The

register includes i.e. information of types of farming, standard labour hours, location and age of farmer, so several subgroups can be highlighted.

Almost all farms in the FSS (more than 98 per cent) are associated to a personal owner with an ID-number, which makes it easily to link to the other registers. Using the sample to represent the whole population of farm holdings, a specific income statistic on farmers can be compiled, also on subgroups.

In the full dataset, the following variables are used or compiled to show the income formation:

A. Income from agriculture (calculated according to tax-regulations)
B. Income from other enterprises (calculated according to tax-regulations)
C. Remuneration of own dwelling
D. Wages and salaries
E. Property income (incl. interests from financial assets)
F. Social benefits received (including pensions)
G. *Total income* (A+B+C+D+E+F)
H. Interest on loans
I. Tax on income and capital
J. Social contributions, including savings for retirement
K. *Disposal income* (G-H-I-J)

Concerning the profit from agriculture or other business activity, the allocation is based on the most import business in cases where farmers (known from the farm register) have other business than farming.

The remuneration from own dwelling, calculated as percentage of the value assessed by public authority, is not taken into account in the specific Danish statistics, while almost all farmers is owner of their dwelling. Therefore, the artificial calculation used to make comparability between owned and rented dwellings is not relevant.

It should be mentioned, that the variables don't include all wanted specifications listed in the questionnaire from Eurostat, but in generally covers the overall framework.

(iii) Comparison between farmers and other professional groups

A main reason for compiling agricultural household income statistics is to analyse the situation in the light of a targets in the common agricultural policy in the EU, namely to ensure a fair income among farmers and families. To make any assessment a comparison with other groups is necessary. In table 1, figures are shown for Denmark in this respect.

Table 1 Income and income composition by socio-professional group

	Farmers	Other Employers	All employers	Manual employees	Non-manual employees	All others	All except farmers	All Households
	1.000 DKK per household							
Profit, agriculture	481	0	65	0	0	0	0	3
Profit, other enterprises	3	420	364	3	6	1	18	18
Remuneration of own dwelling	11	18	17	7	16	2	7	7
Wages and salaries	123	122	122	321	516	8	232	231
Property income	18	15	15	3	7	7	6	6
Social benefits received	34	33	33	34	30	165	85	85
Gross income	669	608	616	368	576	182	349	351
Interest on loans	264	99	121	29	48	7	27	29
Taxes on income and capital	124	171	165	96	176	47	97	97
Social contributions	79	89	88	46	69	4	36	36
Net disposal income	202	248	242	197	283	125	189	189
	numbers, 1.000							
Households	15	95	109	857	547	988	2486	2501
Household members	39	225	263	1746	1309	1383	4663	4702
Consumer units	29	174	203	1399	1007	1246	3826	3855
	per household							
Household members	2,65	2,38	2,41	2,04	2,39	1,40	1,88	1,88
Consumer units	1,99	1,84	1,86	1,63	1,84	1,26	1,54	1,54

Source: Income of Agricultural Household Statistics 2002, delivery to Eurostat.

It is important to note, that the definitions of farmers in this context is according to the so-called *narrow definition*, where only families with main income from farming are included. This number (app. 15.000 in 2002) is only about 30 per cent of the total number of "farmers". It should be noted, that the numbers of farm defined as full-time farms in 2002 was app. 23.000. Therefore about one third of full-time farm could not fulfil the income criteria in the narrow definition this year.

Looking at the results, it can be difficult to compare the income composition on all variables, in particular because profit from agriculture and other business is without deduction for interest related to the business, and interest include interest from business. However, looking at the bottom line, the farmers net disposal income at 202,000 DKK per household in 2002 is among the lowest in the groups, in particular taking into consideration, that farmers has the highest consumer units per household.

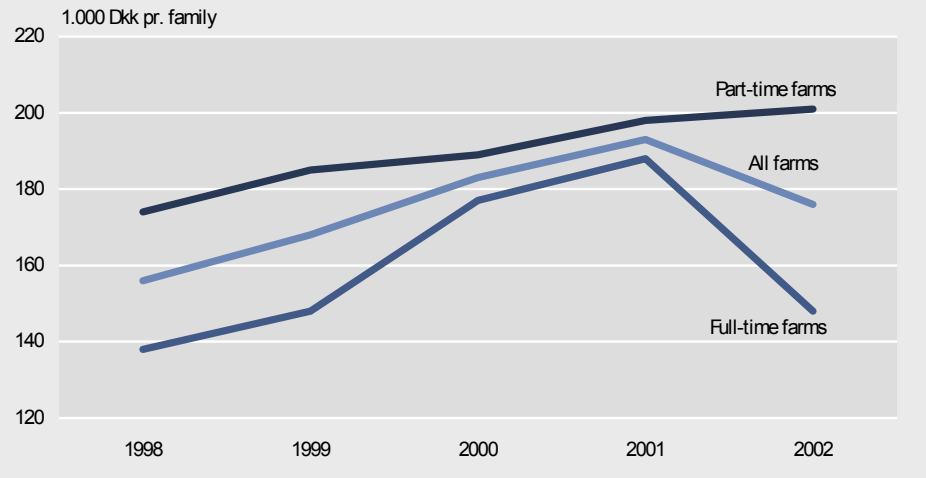
Looking at the composition of income, it can be seen, that household with employers as the main person to provide income also have a relative high income from wages and salaries, indicating that husband and wife often have different economic activities.

Furthermore, the figures shows, that farmers among all employers and own-account workers have the highest level of interest payments, indicating that debts (expectable related to high capital input) for agriculture is very high per farmer family.

(iv) Comparison between different types of farms

The compiling of income at agricultural household is in a Danish context seen as an important supplement to the Economic Accounts of Agriculture, because agricultural activity very rare is the only income generating activity for the family. In particular among part-time farmers (where the standard labour input to the farm is less than one work unit), covering more than the half of all farmers. In 2002 the part-time farm counts for 53 per cent of all farms in the Farm Structure Survey.

Figure 1. Disposal income for agricultural households, all farms

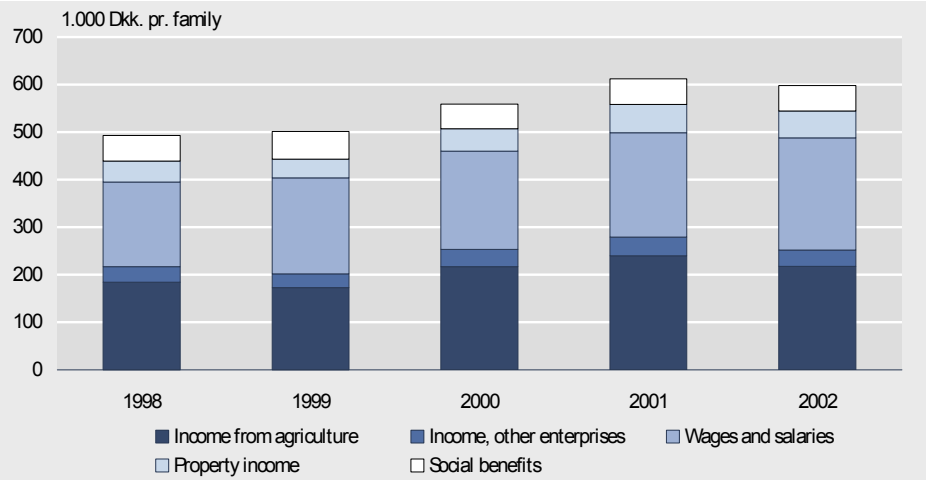


Source: Income of Agricultural Households Statistics in Denmark, Statistics Denmark, SE 2004:11

The disposal income broken down by full-time and part time farms are shown in figure 1, telling that part-time farmers in general have a higher disposal income that full-time farmers. Furthermore a steep decrease for full-time farm in 2002 compared to previous years can be noted. The figures are in the annex, table 1-3.

The disposal income for full-time farm in 2002 is calculated to 176,000 DKK. For farms in the narrow definition the income was, as shown in previous section, 202,000 DKK. Corrected for remuneration of own dwelling it means that result for farms in the narrow definition was 191,000 DKK, 15.000 DKK higher that for all full-time farms.

Figure 2. Composition of gross income at agricultural households, all farms



Source: Income of Agricultural Households Statistics in Denmark, Statistics Denmark, SE 2004:11

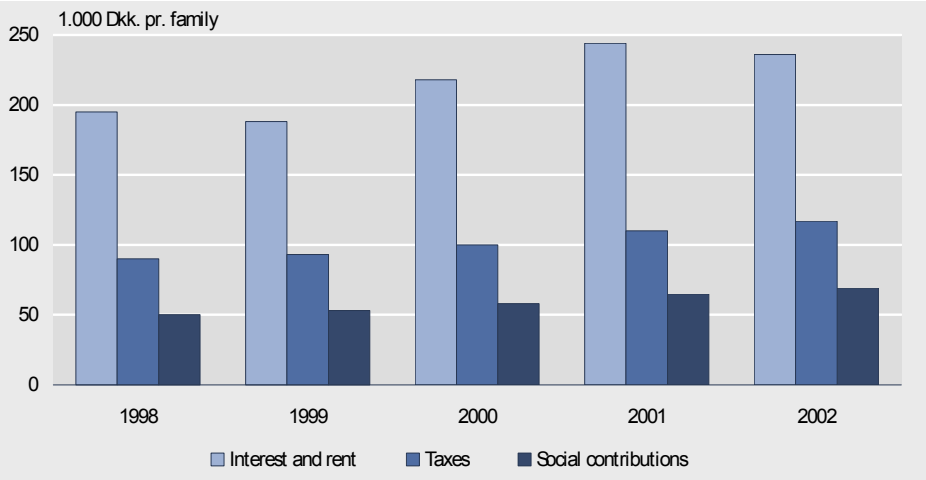
Looking at the composition of total income, shown in figure 2, it is a significant result, that less than the half of total income derive from agricultural activity, and that income from wages and salaries is as important as agriculture – even before agricultural income have been reduced by any interest related to the production.

However, it is very important to distinguish between full-time and part-time farm, when composition is described. At full-time farms, almost 60 per cent of total income in 2002 was from agricultural profit, when it only was 7 per cent on part-time farms. Opposite, the portion from wages and salaries were 21 per cent at full-time farms and 65 per cent at part time farms. Social benefits counted most at households at part-time farm, where the number of pensioners is relatively high.

The main cost to be paid by the total income is shown at figure 3, and it is obvious, that the interest is the most important element. In fact the interest is for all farms two times as high at the taxes. Looking at full time farms, however, the interest is 3.4 times the taxes, while the taxes on a part-time farm are 25 per cent higher than the interest. The explanation is considerable differences in taxes, but differences in debt, related to the farm capital input.

Looking at farm broken down by age of farmer (se tables 4-6 in the annex), there is a tendency that an elder users (up to 60 years) have a slightly decreasing part of total income from agriculture and increasing part income from wages and salaries and from property income. On the use of income it is significant that the interest payment is going down by growing age and the taxes is going up by age.

Figure 3. Interest, taxes and social contributions at agricultural households, all farm



Source: Income of Agricultural Households Statistics in Denmark, Statistics Denmark, SE 2004:11

Differentiating between full-time and part time farm, the picture for all farms can be found in both subgroups, but development is in particular clear among the full-time farms. However, when comparing income composition in the age groups, is should be noted, that the size of family in the youngest and eldest group is much smaller than in other groups.

In the presentation of Danish agricultural household statistics, also figures and development for main types are shown. Results can be found in the Danish Statbank, www.statbank.dk/LHUS from 1995 and onwards.

(v) Development of wealth in agricultural households

Statistics Denmark has no specific statistics on wealth among agricultural farms, even I could be relevant to present short term income with long time income possibilities, which to some extend is a question of wealth.

However, The Danish Institute of Food Economics is compiling FADN-statistics on Denmark. This Farm Account Data Network framework means in Denmark also a household approach, while including non-farm data, even it is not possible to get full information on all farms.

Table 2 Assets and liabilities: Age groups, full-time farms, 2003

	Farmer's age, years				
	- 34	35-44	45-54	55-64	65 -
	1.000 DKK per farm				
Balance in the end of the year					
Agricultural assets	11071	10984	10480	8890	9005
Other physical assets	1313	1654	1865	1588	1656
Financial assets	649	756	1060	971	1662
Assets Total	13033	13394	13405	11449	12322
Bond loans	7728	6872	5688	4310	3282
Bank loans	1944	1476	1402	1059	701
Other liabilities	873	738	620	504	518
Debt capital, total	10545	9086	7710	5873	4501
Net capital	2487	4308	5695	5576	7821
Ratio of debts	80,9	67,8	57,5	51,3	36,5

Source: Agricultural Account Statistics 2003, Danish Institute of Food Economics

As a part of the statistics, the assets and debts on full-time farms are shown for 5 age groups, as shown in table 2. The crucial point on assets, the possible marked value of the farm is based on the public assessment and can be over- or underestimated. Nevertheless, the figures in the table clearly indicates, that there is a gain of net capital during the time working with farming, with at increase in net capital from 2.5 million DKK for the young farmers to 7.8 million DKK in the eldest group, with almost the same level of assets. Looking from a lifetime income perspective, this substantial gain of capital is important, comparing income in the agricultural sector with the income in other groups.

References.
Income of Agricultural Households Statistics, Statistics Denmark, SE 204:11
Income of Agricultural Household Statistics 2002, delivery to Eurostat, Statistics Denmark
Agricultural Account Statistics 2003, Danish Institute of Food Economics

Annex:
Results from Income of Agricultural Households Statistics, Statistics Denmark.

[Tables in annex to be further analyzed and commented by Cristina]

Table 3 (1). Income for agricultural households, all farms

	1998	1999	2000	2001	2002
			1.000 Dkk.		
+ Income from agriculture	184	173	217	240	218
+ Income, other enterprises	33	29	36	39	34
+ Wages and salaries	178	202	207	220	236
+ Property income	44	39	47	59	56
+ Social benefits	54	58	52	54	54
= Total income	**492**	**501**	**560**	**612**	**598**
÷ Interest and rent	195	188	218	244	236
÷ Taxes	90	93	100	110	117
÷ Social contributions	50	53	58	65	69
= Net disposal income	**156**	**168**	**183**	**193**	**176**
			number		
Farms	59 166	57 314	53 904	52 815	49 769

Table 4. (2) Income for agricultural households, full-time farms

	1998	1999	2000	2001	2002
			1.000 Dkk.		
+ Income from agriculture	353	349	422	464	425
+ Income, other enterprises	34	30	46	47	44
+ Wages and salaries	118	139	145	153	158
+ Property income	55	47	56	80	70
+ Social benefits	38	42	38	41	42
= Total income	**599**	**606**	**707**	**785**	**739**
÷ Interest and rent	317	313	365	411	399
÷ Taxes	87	88	100	112	118
÷ Social contributions	56	58	65	75	74
= Net disposal income	**138**	**148**	**177**	**188**	**148**
			number		
Farms	28 292	26 173	25 235	24 839	23 360

Table 5. (3) Income for agricultural households, part-time farms

	1998	1999	2000	2001	2002
			1.000 kr.		
+ Income from agriculture	30	26	37	41	34
+ Income, other enterprises	33	29	28	31	25
+ Wages and salaries	231	255	262	280	306
+ Property income	35	32	40	41	43
+ Social benefits	67	71	65	66	65
= Total income	**395**	**413**	**431**	**459**	**473**
÷ Interest and rent	84	83	90	96	92
÷ Taxes	92	97	101	109	116
÷ Social contributions	45	48	53	56	64
= Net disposal income	**174**	**185**	**189**	**198**	**201**
			number		
Farms	30 874	31 141	28 669	27 976	26 410

Table 6 (10). Income for agricultural households, all farms by age of farmer

	Under 30 years	30-39 years	40-49 years	50-59 years	Over 60 years
	1.000 Dkk.				
+ Income from agriculture	260	265	246	237	129
+ Income, other enterprises	25	27	31	43	35
+ Wages and salaries	208	269	321	278	86
+ Property income	32	25	37	78	78
+ Social benefits	39	45	32	27	114
= Total income	**565**	**629**	**667**	**664**	**442**
÷ Interest and rent	356	314	282	240	114
÷ Taxes	70	97	119	145	106
÷ Social contributions	39	59	74	87	56
= Net disposal income	**100**	**160**	**192**	**191**	**166**
	number				
Farms	1 661	9 069	13 211	13 067	12 761

Table 7 (11). Income for agricultural households, all full-time farms by age of farmer

	Under 30 years	30-39 years	40-49 years	50-59 years	Over 60 years
	1.000 Dkk.				
+ Income from agriculture	405	477	462	435	296
+ Income, other enterprises	38	29	42	39	73
+ Wages and salaries	135	153	201	163	92
+ Property income	54	36	47	85	124
+ Social benefits	37	44	34	23	86
= Total income	**669**	**739**	**787**	**745**	**671**
÷ Interest and rent	526	486	447	365	254
÷ Taxes	61	85	111	134	153
÷ Social contributions	32	56	75	90	77
= Net disposal income	**50**	**112**	**154**	**156**	**188**
	number				
Farms	966	4 719	6 685	6 746	4 244

Table 8 (12). Income for agricultural households, all part-time farms by age of farmer

	Under 30 years	30-39 years	40-49 years	50-59 years	Over 60 years
	1.000 Dkk.				
+ Income from agriculture	57	34	25	26	45
+ Income, other enterprises	8	24	20	47	16
+ Wages and salaries	310	395	443	401	83
+ Property income	3	12	26	71	55
+ Social benefits	43	46	30	32	128
= Total income	**420**	**511**	**544**	**577**	**327**
÷ Interest and rent	119	127	113	106	45
÷ Taxes	83	109	127	158	82
÷ Social contributions	48	62	72	85	45
= Net disposal income	**170**	**212**	**232**	**228**	**155**
	number				
Farms	695	4 350	6 526	6 321	8 517

XIII.3.4 Sweden –another example of register-based statistics

(i) Introduction

Sweden is another example of how registers can be used for calculating agriculture household income. Data are extracted from the following three registers:

- **The Farm Register (LBR)** which changed somewhat in 2000, resulting in a slight reduction in the number of operators per farm and a sharp reduction in the number of old operators.

- **The Register of Total Income Statistics (IoT)**, which contains information for the whole Swedish population, with unique personal identifiers, about income, deductions, taxes and social transfers.

- **The Register of the Total Population (RTB)**. As from 1999, the household concept was changed for the calculation of IAHS. Previously, only the operators and the spouse were included. In the new concept a maximum of two generations are included provided they are related to each other and are registered on the same address.[1]

(ii) Agriculture household income 1999-2002

In 2002, the average agriculture household income, before transfers, amounted to about 314,000 SEK, of which net income from self-employment (including Interest adjustment for self-employed) amounted to 23% (see table 1). This share was only slightly above the corresponding share in 2000 when the new family concept was adopted. While net disposable income increased by 18% in the period 1999-2002, the household income before transfers only rose by 11%. Wages and salaries rose by 14% while income from self-employment surged by 29%. This was partly offset by a fall of 35% in net capital income.

Average net disposable income for agriculture households amounted to just over 90% of average net disposable income for all households. Its share rose, however, with about three percentage points in the period 1999-2000.

(iii) Agriculture household income according to IAHS – comparison between socio-economic groups

IAHS data for Sweden are available for 1999 and 2000. Of a total population of 75,281 agriculture households (wide definition), or about 1.6% of all households in Sweden, 18,339, or 24% of all agriculture household and 0.4% of all households, fulfilled the IAHS criteria for narrow definition.

[1] There is no information about couples living together but not having common children. This results in an overestimation of single person households.

In 2000, the average agriculture household (narrow definition) net disposable income amounted to about 213,000 SEK, compared with 203,000 SEK for other self-employed, 233,000 for employees, 220,000 SEK for all farm households (wide definition) and 189,000 for all households (see table 1 and figure 1). Households with only employees thus had 23% higher net disposable income than the average of all households, the category all farm households were 16% better off, farmers (narrow definition) +13% and other self-employed +7%. On the other hand, the growth in net disposable income between 1999 and 2000 was, compared with all households, twice as large or more for farmers – both categories – and other self employed.

Of total resource received, net operating surplus from independent activity, but excluding owner-occupied housing, amounted to 60% for farmers with narrow definition, 62% for other self-employed and for 18% for all farmers.

Looking at distribution of average farm household (narrow definition) income by the three major regions of Sweden, there are rather marginal differences (see figure 2). When it concerns distribution by farm size it is a different story. Average household income for farms with 200 or more hectares is twice that of households with farm size of 5-10 hectare and of 10-20 hectare (see figure 3).

As could be expected average household income peak for operators in the age group 40-49 years and is the lowest in the age group 30-39 years (see figure 4).

Statistics Sweden and the Swedish Board of Agriculture have not published IAHS statistics for the years 2001 and 2002 as the calculations of owner-occupied housing, with the method applied, is considered to be misleading, mainly because of very different developments in the tax evaluations of houses on farms, compared with other houses.

Table 1

Agriculture household income after transfers, 1999-2002. Average per household in Swedish kronor

	2002	2001	2000	1999	%, 99-02
Wages and salaries	246,100	235,200	226,400	215,300	14.3
General deductions	4,300	4,300	4,200	3,600	
Net income from self-employment (including agriculture)	52,400	51,200	45,900	40,600	29.1
Changes in expansion capital	20	1,200	1,700	600	
Net capital income	19,700	22,900	29,000	30,400	-35.2
of which Net interest adjustment for self-employed */	19,700	19,700	18,600	16,300	
Household income before transfers	**313,920**	**306,200**	**298,800**	**283,300**	**10.8**
Net income from self-employment (incl Net interest adjustment for self-employed) as a percentage of household income before transfers	**23.0**	**23.2**	**21.6**	**20.1**	
Positive transfers	11,900	11,400	10,700	9,500	25.3
Negative transfers	100,300	101,600	104,000	102,400	-2.1
Net disposable income	**225,520**	**216,000**	**205,500**	**190,400**	**18.4**
Net disposable income for all household with members of 18 years and over	247,400	240,600	239,000	214,800	15.2
Farm households as a percentage of all households	91.2	89.8	86.0	88.6	

Source: Statistics Sweden and the Swedish Board of Agriculture: Statistiska Meddelanden, JO 42 SM 0401.

Note: Data for all households (source: Statistics Sweden: *Disponibel inkomst för samtliga hushåll 18-år, medelvärde, löpande priser, kr, efter hushållstyp, ålder och tid*) are calculated from a different survey than farm households. Only a rough comparison can be made between the two sets of data.

***/** Net interest adjustment can be used by farmers and other self-employed in order to get corresponding taxation as other enterprises.

Table 2

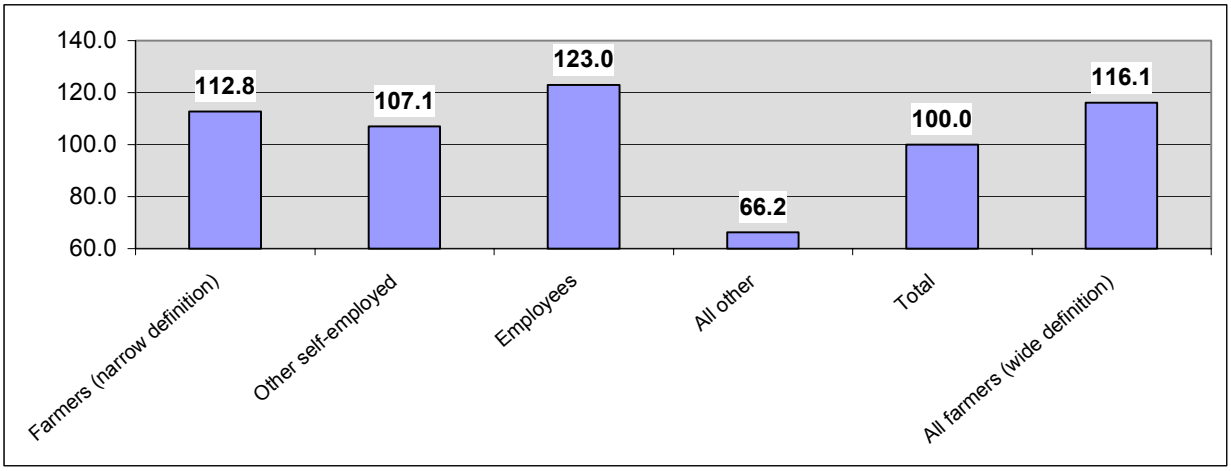
Income for socio economic groups in 2000 according to IAHS definitions. Average per household in Swedish kronor

		Farmers (narrow definition)	Other self-employed	Employees	All other	Total	**All farmers (wide definition)**
1a+ 1b	Net operating surplus (mixed income) from independent agricultural and non-agricultural activities	**227,500**	291,600	4,200	1,300	11,600	**79,100**
1c	From imputed rental value of owner-occupied dwellings	**26,900**	19,600	16,000	8,400	13,100	**26,300**
2a	Compensation to members of agricultural households as employees, from agricultural and non-agricultural activity, i.e. wages and salaries	**52,000**	67,600	315,800	10,400	186,900	**169,800**
2c	Imputed social contributions	**21,800**	28,500	132,800	4,200	78,500	**71,200**
3	Property income received (rent, interest, dividends etc.)	**10,400**	11,900	5,800	9,700	7,500	**10,300**
4	Non-life insurance claims (personal and material damage)						
5	Social benefits (other than Social benefits in kind)	**42,000**	53,600	45,700	158,900	90,800	**72,200**
6	Miscellaneous inward current transfers						
7	**Total resources (sum of 1 - 6)**	**380,600**	**472,900**	**520,200**	**192,900**	**388,400**	**428,900**
8	Property income paid	**8,900**	19,400	17,100	4,600	12,200	**13,300**
9	Net non-life insurance premiums						
10	Current taxes on income and wealth	**78,800**	150,000	106,300	53,600	86,400	**86,900**
11	Social contributions	**76,800**	95,700	161,300	7,700	98,200	**106,100**
12	Miscellaneous outgoing current transfers	**2,700**	5,200	2,700	1,800	2,400	**3,000**
13	**Net disposable income (7 minus 8 - 12)**	**213,400**	**202,600**	**232,800**	**125,300**	**189,200**	**219,600**
	Net disposable income in 1999	**195,000**	**182,700**	**222,000**	**125,000**	**181,500**	**203,800**
	Percentage change 1999/2000	**9.4**	**10.9**	**4.9**	**0.2**	**4.2**	**7.8**
	Number of:						
	persons in the households	**47,364**	272,925	5,845,825	2,705,462	8,871,576	**194,223**
	households	**18,339**	123,852	2,672,850	1,854,608	4,669,648	**75,281**
	persons per household	**2.58**	2.20	2.19	1.46	1.90	**2.58**

Source: Statistics Sweden and the Swedish Board of Agriculture: Statistiska Meddelanden, JO 42 SM 0201.

Figure 1

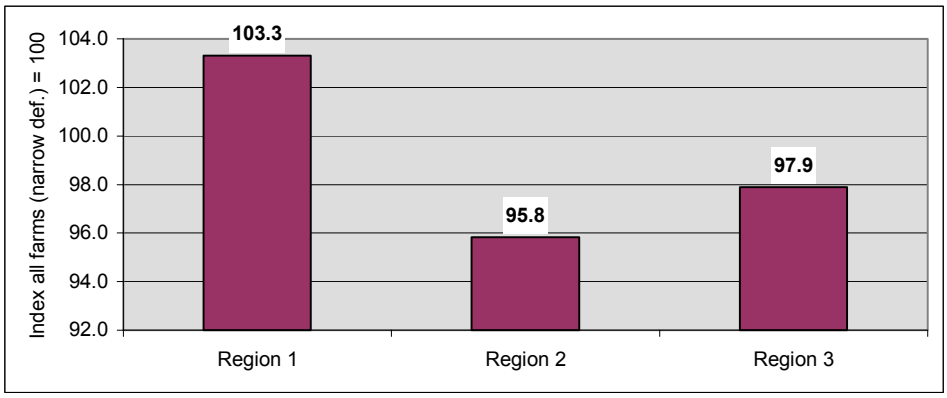
Index of net disposable household income 2000 by socio-economic groups, total households = 100.



Source: Statistics Sweden and the Swedish Board of Agriculture: Statistiska Meddelanden, JO 42 SM 0201.

Figure 2

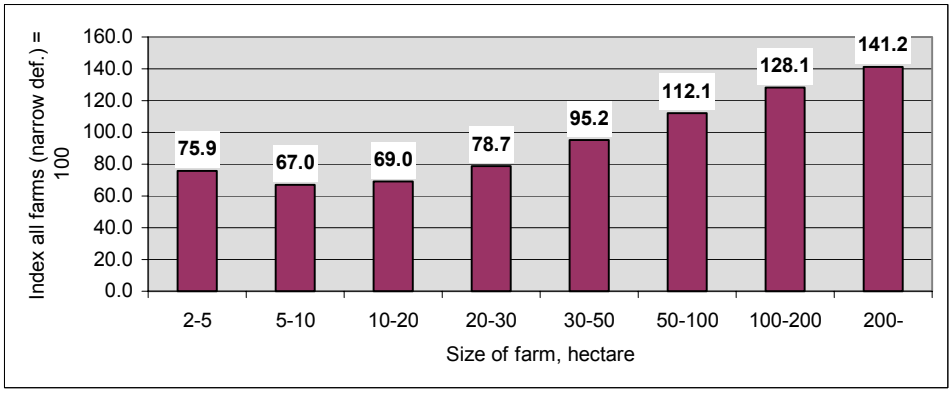
Index of average farm household net disposable income (narrow definition) by type of region in 2000. All farm households (narrow definition) = 100



Source: Ibid. Region 1: Mainly farm land areas.
Region 2: Mainly forest areas. Region 3: North Sweden.

Figure 3

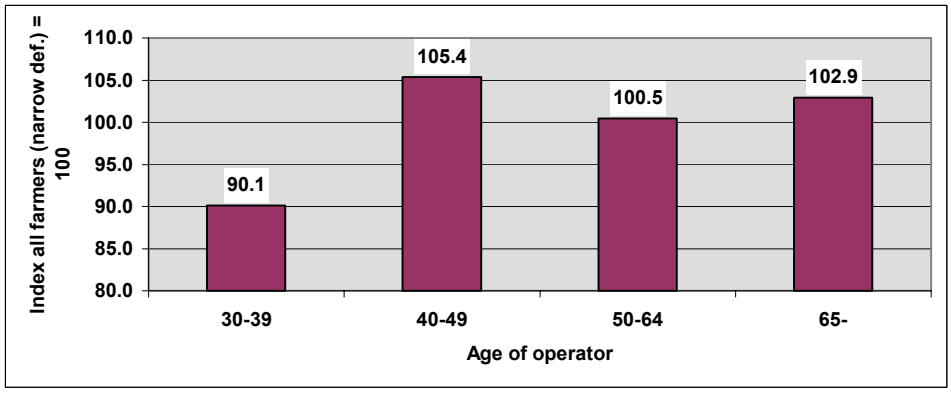
Index of average farm household net disposable income (narrow definition) by size of arable land in hectare in 2000. All farm households (narrow definition) = 100



Source: Ibid.

Figure 4

Index of average farm household net disposable income (narrow definition) by the age of the operator in 2000. All farm households (narrow definition) = 100



Source: Ibid.

XIII.3.5 Canada

(i) Gross and net revenues per farm – medium-sized farms have the highest operating margin

In 1996, almost half of all the farms[1] (234,390) reported net cash operating revenue of less than $10,000 and half of these reported losses (Statistics Canada, 1998, Table 2, p. 8). Table 1 and figure 1 show the distribution of the number of farms, gross farm revenues and net cash operating revenue by size class of gross revenue in 1996 and 2001. Here it is interesting to note that while farms in the gross revenue class of $10,000-$49,999 increased their average net operating income from $1,541 to $2,297, an increase of 49.0 percent, farms in all the other revenue classes saw their income increase only by between 1% and 3.1%.

Farms with gross revenues of $500,000 or more, which made up 6.5% of all farms, accounted in 2001 for almost 51% of aggregate gross revenues but accounted for only 37% of aggregate net cash operating revenue. It is also interesting to note that their operating margin is lower than farms in all other gross revenue classes, except for that of $10,000-$49,999. In fact, the highest operating margin, whether measured before or after capital cost allowance, is highest among medium sized farms, that is those with gross revenues of $100,000-$249,999.

(ii) Farm operators' off-farm income exceeds net cash farm operating revenue

In the period 1993-2001, average net cash operating revenue from the farm and average off-farm income per operator have steadily increased (see table 2 and figure 2). Between 1993 and 1999, off farm income for operators increased its share from 52% of total operator income (before capital cost allowance) to 58%. By 2001, however, it had dropped to just below 55%. While average off-farm income rose by almost 48% average net cash farm operating revenue increased by 34%, indicating that operators of farms with over $10,000 gross revenue are getting more and more dependent on off-farm income opportunities for their living.

Wages and salaries are the most important source of off-farm income

Wages and salaries are the most important source of off-farm income. In 2001 they accounted for 31% of total operator income (before capital cost allowance) (56% of off-farm income), followed by investment income and pension income 9% and 8% (16% and 14.5% of off-farm income), respectively, (see table 3).

[1] "Farms", as published in Statistics Canada. (1998) **Economic Overview of Farm Incomes: All Farms, 1996** (Ottawa: Statistics Canada, Catalogue no. 21-005) (www.statcan.ca:8096/bsolc/english/bsolc?catno=21-005-X&CHROPG=1) refers to unincorporated farms with gross revenues of $10,000 or more plus incorporated farms with gross revenues of $25,000 or more (if 51 percent of more of their sales are generated by agricultural activities) plus communal farming operations such as Hutterite colonies.

Off-farm income as a share of total operator income (before capital cost allowance) is smaller for operators of larger farms

In general, off-farm income as a share of total operator income (before depreciation) is smaller for operators of larger farms. Operators of the smallest farms tend to use off-farm income to cover losses from the farm or, equally likely, operators of the smallest farms started with an off-farm job and have started a small hobby farm on the side. In 2001, off-farm income represented about 94% of total operator income (before capital cost allowance) for operators of small farms with gross revenues of $10,000 to $49,999, compared with about 33% for the operators of larger farms (see table 3).

The highest dollar amount from wages and salaries was earned by operators of very large farms followed by the smallest farms

The highest dollar amount from wages and salaries – about $24,600 in 2001, or about 63% of their reported total off-farm income – was earned by operators of larger farms (see table 3 and figure 3). This high amount may be attributed to the fact that a high share of farms in this size class would be expected to be incorporated farms. Operators of incorporated farms receive the income from their farms in the form of wages and salaries or as dividends.. The salary expense reduces net operating revenue of the farm enterprise, while the wage and salary income increases the reported off-farm income for the farm operator. Note also (in table 3 and in figure 3) the high amount of investment income (which includes the dividends paid by the corporate farm) received by operators of larger farms.

Another category with high dollar amount of wages and salaries received by the operator is among the operators of the smallest farms – about $17,400, or 57% of their total off-farm income (see figure 3). The lowest average earned level of wages and salaries was recorded by operators of farm with gross revenues of $100,000 to $249,999 – about $8,200, or 48% of their total off-farm income. The farmers in this category spend relatively more effort on their farms than other categories, which, as was seen above, also results in the highest operating margin[2].

Investment income as a percentage of total off-farm income tend to increase by revenue size – for pension income it is the reverse

Investment income as a percentage of total off-farm income tends to be higher for operators of larger farms -- 12% for the smallest category and 22% for operators of farms with revenues of $500,000 or more (see figure 3). As noted above, investment income of operators of larger farms would be expected to be higher, in part due to the flow of dividends from an incorporated farm to the operator. For pension income it is the reverse. For the latter category they represent only 5% of total off-farm income while they constitute as much as 19% of the off-farm income for the operators of the smallest farm category.

[2] Note that the operating margins reported here are gross revenues minus cash expenses, including the wages paid to the operator and other family members. If these wages were classified as income, rather than an expense, then the calculated margins of the larger farms would be expected to be higher.

Non-farm self-employment income is fairly stable in the interval 5% to 7% for operators of all farm categories.

(iii) Total farm family income increases steadily as a result of increasing off-farm income

Between 1996 and 2000, the total number of families associated with unincorporated farms (with gross revenue of $10,000 or more) declined continuously by almost 9% to just below 148,000 (see table 4). While, on the one hand, in the same period, the average net cash farm operating revenue per farm family (for families associated with an unincorporated farm) fell by 0.4%, the average off-farm income, on the other hand, surged by over 24%, resulting in an increase of average total income per farm family of almost 17%, reaching about $66,300 ($54,500 after deduction for capital costs). Off-farm income per farm family increased its share of total income from 69% in 1996 to 73.5% in 2000.

Increased payments from farm aid programs as well as higher livestock and product revenues as a result of strong demand bolstered average net farm operating income. The rise in average off-farm income was largely driven by a surge in labour income.

Off-farm income exceeds 70% of total family income

On average, farm families received 26.5% of their total income from farming activities and 73.5% from off-farm income. Wages and salaries and non-farm self-employment income taken together accounted for 67% of total off-farm income (see table 5). Pension income represented 12.6% and investment income 10.5%.

Average total family income varied greatly

Average total family income varied greatly across the different farm typology groups, from about $16,500 for the families associated with unincorporated farms that are low-income non-business-oriented farms to $117,600 for families associated with unincorporated very large business-focused farms.

The contribution from off-farm income varied from 32% to 102% of total income

The contribution from off-farm income also varied considerably – from 32% for families associated with unincorporated very large business-focused farms to 47% for families on large farms, 82% for families with medium farms, 91% for families with small business-oriented farms to the record 102% for families classfied as operating lifestyle farms. For the families with the latter types of farms, off-farm income is thus used not only for the totality of the families' living but also the operation of a small hobby farm holding (see table 5 and figure 4).

For farms operated by an individual who is 65 years of age or older (i.e. the so-called "pension farms"), the share of off-farm income is 77% and of this source of

income the share for wages and salaries and non-farm self-employment income account for only 24%. Investment income and pension income – not surprisingly – accounted for 22% and 46.5%, respectively. The income of families with very large farms arrived to 32% from off-farm income and of this source about 68% originated from wages, salaries and non-farm self-employment income. Investment income had a share of 16%.

Families operating farms in the categories of small, medium and large farms as well as the lifestyle farms all had, in common, a very large share of wages, salaries and non-farm self-employment income as a share of total off-farm income – between 72% and 88%. Investment income and pension had shares of less than 10%.

(iv) Steady increase in wealth accumulation

The economic well-being of the farm family is not only dependent of total family income but also on their wealth. In the period 1995-2000, average total income per farm family operating an unincorporated farm increased by almost 17% (see table 4). In the same period, equity in the agriculture sector increased by almost 16%. For the period 1995-2003, the increase amounted to 30.5% (see table 6 and figure 5).

In 2003, farm real estate accounted for almost 60% of total farm sector assets, of which land accounted for 44 percentage points. Machinery had a share of 14% followed by "quota", which essentially is a licence to sell a certain amount of a specific product, with 10%. The value of this item increased by 119% in the period 1995-2003. The value of farm real estate increased by 37%, of which service buildings and homes had the highest growth, 42% and 48%, respectively.

As concerns the debt structure, figure 5 also shows that current liabilities in relation to total liabilities has increased from about 17% in 1997 to about 23% in 2003. Return of equity shows rather large fluctuations – almost halved between 1996 and 1997 after which it slowly increased or was flat until 2002. It immediately recovered in 2003 to the trend level of 1997-2001.

(v) Notes to the data and the data sources

- The average net income measures do not include any income in kind such as the value of goods produced for home consumption, less cost of inputs.

- The value of owner-occupied housing is not imputed for any of the data on total incomes for the "operator" or the "family" or the "household" associated with farms.

- Tables 1 and 2 and 3 relate to the operators of unincorporated and incorporated farms. Tables 4 and 5 are only for unincorporated farms.

- If nothing else is mentioned net operating income refers to income before capital cost allowance. When income is measured after capital cost allowance, the capital cost allowance is obtained from the income tax returns, which does not correspond to the economic depreciation used in the farm income accounts. (In aggregate, they are somewhat similar in magnitude, however.)

- Farm families refer to a married couple or a common-law couple with or without children at home; or a lone parent of any marital status, with at least one child living at home. There is no restriction on the age of the children. Children must report a marital status other than married or living common-law and have no children in the household. The concept of farm family thus differs somewhat from the concept of household.

- Within Statistics Canada, the division responsible for generating statistical data from the income tax records of individuals (the Small Area and Administrative Data Division (SAADD)) assembles a "family file" (for families as defined above) using the information on the individual income tax records that indicate the Social Insurance Number of the spouse and the number of dependent children. For the total income of "farming families", the detailed information on farm revenues by item and farm expenses by item from the farm taxation record is linked, via the Social Insurance Number of the operator, to the SAADD "family file".

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Table 1

Operating revenues and expenses by revenue classes in Canada, 1996 and 2001

	Revenue classes					
	$10,000 - $49,999	$50,000 - $99,999	$100,000 $249,999	$10,000 - $49,999	$500,000 - and over	All
1996						
Number of farms	103,475	45,770	55,045	20,310	9,805	234,390
Average total revenues per farm, C$	25,036	72,330	158,704	341,451	1,285,967	145,837
Average net operating income per farm, C$	**1,541**	**13,818**	**34,031**	**67,835**	**160,801**	**23,977**
2001						
Number of farms	97,220	40,010	49,590	23,310	14,545	224,670
Average total revenues per farm, C$	25,322	72,167	160,633	344,071	1,519,559	193,329
Average net operating income per farm, C$	**2,297**	**14,043**	**34,713**	**68,544**	**165,751**	**28,998**
Percentage change 1996-2001	**49.0**	**1.6**	**2.0**	**1.0**	**3.1**	**20.9**
Average net operating income per farm after capital cost allowance, C$	**-1,438**	**5,097**	**16,282**	**31,832**	**70,177**	**11,725**
Operating margin	0.09	0.19	0.22	0.20	0.11	0.15
Operating margin after capital cost allowance	-0.06	0.07	0.10	0.09	0.05	0.06

Sources: Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.
Statistics Canada, Economic Overview of Farm Incomes, 1996, Vol. 1, No. 1, Oct 1998

Figure 1

Percentage distribution of revenues, operating income and number of farms by revenue classes in Canada in 2001

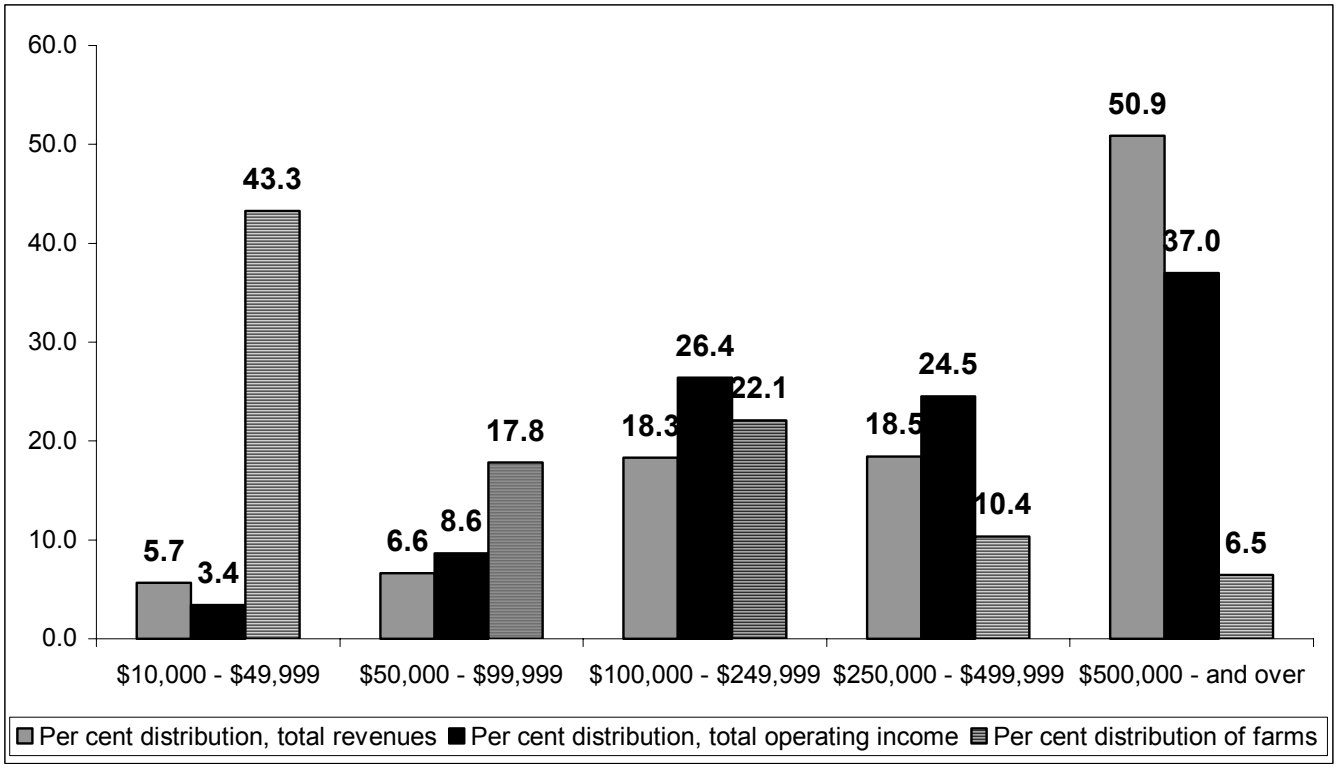


Table 2

Average total income per operator in Canada, 1993-2001, current C$

	1993	1995	1999	1999	2000	2001	% change 1993-2001
Average total income per operator, C$ */	**33,334**	**37,220**	**39,976**	**40,009**	**43,558**	**46,998**	**41.0**
Average off-farm income per operator, C$ **/	17,434	19,206	22,220	23,210	24,455	25,729	47.6
Average net operating income per operator, C$ ***/	15,900	18,014	17,757	16,800	19,103	21,269	33.8
Off-farm income per operator. % **/	52.3	51.6	55.6	58.0	56.1	54.7	
Net operating income per operator ***/	47.7	48.4	44.4	42.0	43.9	45.3	

Sources: Statistics Canada, Economic Overview of Farm Incomes, Vol. 2, No. 1, Dec. 2001.
Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.
*/ Excludes communal farming operations. **/ Excludes taxable capital gains. ***/ Before capital cost allowance.

Figure 2

Percentage share of net farm income and off-farm income per operator in Canada, 1993-2001

Table 3

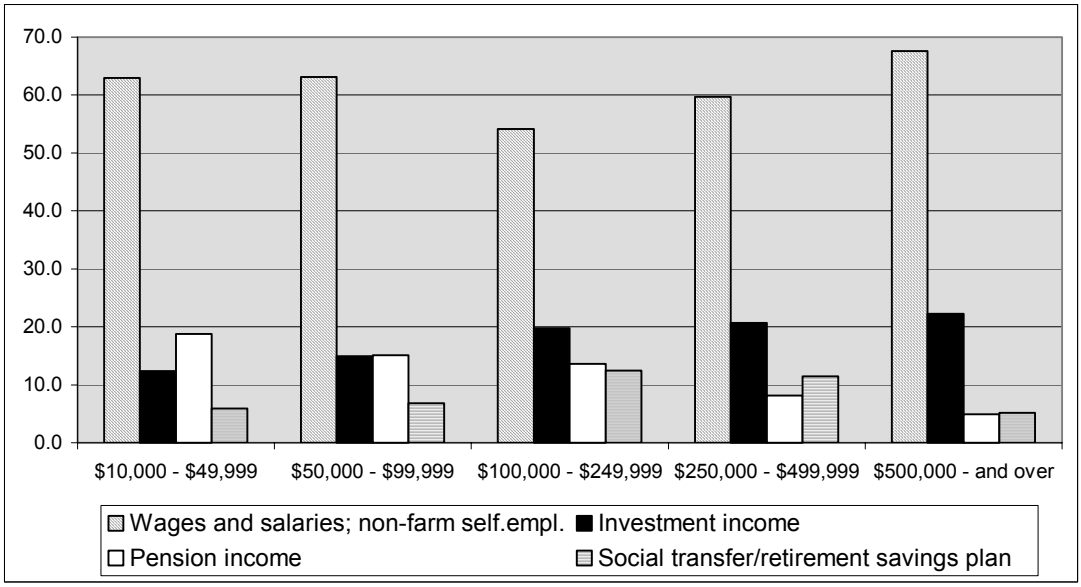
Total income of farm operators by revenues classes, unincorporated and incorporated sectors, Canada, 1998 and 2001.
Average per operator, C$

	Revenue classes						
	$10,000 - $49,999	$50,000 - $99,999	$100,000 $249,999	$250,000 $499,999	$500,000 and over	All	%
1998							
Number of operators	118,150	54,330	71,670	33,720	18,890	296,760	
Number of farms	101,480	45,140	52,650	20,310	10,390	229,970	
FARM INCOME							
Total revenues	21,594	59,807	117,497	206,114	717,126	116,962	
Total expenses	20,107	48,057	92,591	166,618	646,205	99,205	
Net operating income	**1,487**	**11,750**	**24,906**	**39,496**	**70,921**	**17,757**	**44.4**
OFF-FARM INCOME							
Wages and salaries	15,881	10,760	6,671	9,834	22,282	12,426	31.1
Net non-farm self-employment income	1,847	1,182	1,056	1,033	1,611	1,427	3.6
Investment income	3,212	2,853	2,745	4,749	7,691	3,494	8.7
Pension income	4,593	3,238	1,685	1,308	1,621	3,080	7.7
Government social transfer	715	503	465	468	386	567	1.4
Other off-farm income	700	1,027	1,012	1,083	1,026	899	2.2
Retirement savings plan income	420	330	318	354	371	368	0.9
Total off-farm income (excluding taxable capital gains)	**27,366**	**19,882**	**13,845**	**18,687**	**34,828**	**22,220**	**55.6**
Total operator income	**28,853**	**31,632**	**38,751**	**58,183**	**105,749**	**39,977**	**100.0**
Off-farm income as a share of total income (%)	**94.8**	**62.9**	**35.7**	**32.1**	**32.9**	**55.6**	
2001							
Number of operators	114,020	49,060	66,380	37,910	26,630	293,990	
Number of farms	97,215	40,005	49,590	23,310	14,265	224,380	
FARM INCOME							
Total revenues							
Total expenses							
Net operating income	**1,958**	**11,451**	**25,934**	**42,164**	**80,673**	**21,269**	**45.3**
OFF-FARM INCOME							
Wages and salaries	17,389	13,720	8,217	10,213	24,563	14,431	30.7
Net non-farm self-employment income	1,679	1,677	1,154	1,157	1,926	1,515	3.2
Investment income	3,756	3,657	3,414	3,936	8,734	4,137	8.8
Pension income	5,673	3,680	2,357	1,551	1,929	3,721	7.9
Government social transfer	691	546	524	595	512	601	1.3
Retirement savings plan income	1,099	1,125	1,635	1,585	1,516	1,325	2.8
Total off-farm income (excluding taxable capital gains)	**30,287**	**24,405**	**17,301**	**19,037**	**39,180**	**25,730**	**54.7**
Total operator income	**32,245**	**35,856**	**43,235**	**61,201**	**119,853**	**46,999**	**100.0**
Off-farm income as a share of total income (%)	**93.9**	**68.1**	**40.0**	**31.1**	**32.7**	**54.7**	
% change 1998-2001							
Number of operators	-3.5	-9.7	-7.4	12.4	41.0	-0.9	
Number of farms	-4.2	-11.4	-5.8	14.8	37.3	-2.4	
FARM INCOME							
Total revenues							
Total expenses							
Net operating income	**31.7**	**-2.5**	**4.1**	**6.8**	**13.8**	**19.8**	
OFF-FARM INCOME							
Wages and salaries	9.5	27.5	23.2	3.9	10.2	16.1	
Net non-farm self-employment income	-9.1	41.9	9.3	12.0	19.6	6.2	
Investment income	16.9	28.2	24.4	-17.1	13.6	18.4	
Pension income	23.5	13.7	39.9	18.6	19.0	20.8	
Government social transfer	-3.4	8.5	12.7	27.1	32.6	6.0	
Retirement savings plan income	161.5	240.9	414.2	347.7	308.6	260.1	
Total off-farm income (excluding taxable capital gains)	**10.7**	**22.7**	**25.0**	**1.9**	**12.5**	**15.8**	
Total operator income	**11.8**	**13.4**	**11.6**	**5.2**	**13.3**	**17.6**	

Sources: Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.
Statistics Canada, Economic Overview of Farm Incomes, Vol. 2, No. 1, Dec. 2001.

Figure 3

Sources of off-farm income as a percentage of total off-farm income



	$10,000 - $49,999	$50,000 - $99,999	$100,000 $249,999	$250,000 $499,999	$500,000 and over	All
Wages and salaries	57.4	56.2	47.5	53.6	62.7	**56.1**
Net non-farm self-employment income	5.5	6.9	6.7	6.1	4.9	**5.9**
Investment income	12.4	15.0	19.7	20.7	22.3	**16.1**
Pension income	18.7	15.1	13.6	8.1	4.9	**14.5**
Government social transfer	2.3	2.2	3.0	3.1	1.3	**2.3**
Retirement savings plan income	3.6	4.6	9.5	8.3	3.9	**5.1**
	100.0	100.0	100.0	100.0	100.0	**100.0**

Sources: Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.
Statistics Canada, Economic Overview of Farm Incomes, Vol. 2, No. 1, Dec. 2001.

Table 4

Off-farm and net operating income per farm family, unincorporated sector, Canada, 1996-2000

	1996	1997	1998	1999	2000	%, 1996/2000
Number of farm families	161,580	162,450	154,970	151,840	147,680	-8.6
Number of farms	157,810	159,060	152,980	150,500	146,400	-7.2
Average off-farm income per farm family	39,131	41,165	43,677	45,419	48,682	24.4
Average operating income per farm family	17,658	18,029	17,432	16,803	17,588	-0.4
Average total income per farm family	56,789	59,194	61,109	62,222	66,270	16.7
Off-farm income as a percentage of total income	**68.9**	**69.5**	**71.5**	**73.0**	**73.5**	
Average total income per farm family after capital cost allowance	46,290	48,178	49,586	50,328	54,545	17.8

Source: Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.

Table 5

Average off-farm income by source and average net operating income of farm families by farm typology group, unincorporated sector, in Canada in 2000, C$

	Business-focused farms				Non-business focused farms			
	Small farms	Medium farms	Large farms	Very large farms	Small farms	Medium farms	Large farms	**Total**
Number of farm families	13,970	17,340	40,220	3,590	35,140	24,780	12,640	147,680
Number of farms	14,020	17,550	39,340	3,070	35,140	24,500	12,770	146,400
OFF-FARM INCOME								
Wages and salaries	23,837	42,210	22,680	22,942	9,677	78,904	7,522	30,133
Net non-farm self-employment income	2,401	3,731	2,459	2,950	1,118	5,408	1,328	2,694
Investment income	2,121	4,198	3,395	6,012	10,054	4,975	1,390	5,110
Pension income	2,040	1,809	751	406	21,183	2,192	1,071	6,120
Government social transfer	3,317	2,382	2,536	2,731	615	2,003	2,707	2,065
Other off-farm income	1,046	2,522	3,213	2,861	2,861	2,474	814	2,561
Total off-farm income	**34,762**	**56,852**	**35,034**	**37,902**	**45,508**	**95,956**	**14,832**	**48,683**
Net program income	1,616	5,073	10,627	25,389	4,148	1,583	3,003	5,770
Market income	2,052	7,288	29,071	54,306	9,611	-3,812	-1,353	11,818
Net operating income	**3,668**	**12,361**	**39,698**	**79,695**	**13,759**	**-2,229**	**1,650**	**17,588**
Total income of farm families	**38,430**	**69,213**	**74,732**	**117,597**	**59,267**	**93,727**	**16,482**	**66,271**
Percentage share off-farm income	***90.5***	***82.1***	***46.9***	***32.2***	***76.8***	***102.4***	***90.0***	***73.5***
Percentage of total off-farm income:								
Wages and salaries + non-farm self empl.	75.5	80.8	71.8	68.3	23.7	87.9	59.7	67.4
Investment income	6.1	7.4	9.7	15.9	22.1	5.2	9.4	10.5
Pension income	5.9	3.2	2.1	1.1	46.5	2.3	7.2	12.6
Other	12.6	8.6	16.4	14.8	7.6	4.7	23.7	9.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistics Canada, Farm and Off-Farm Income Statistics 2001, Catalogue no. 21-019-XIE, May 2004.

Figure 4

Average off-farm income and net operating income per farm family by farm typology in Canada in 2000, C$

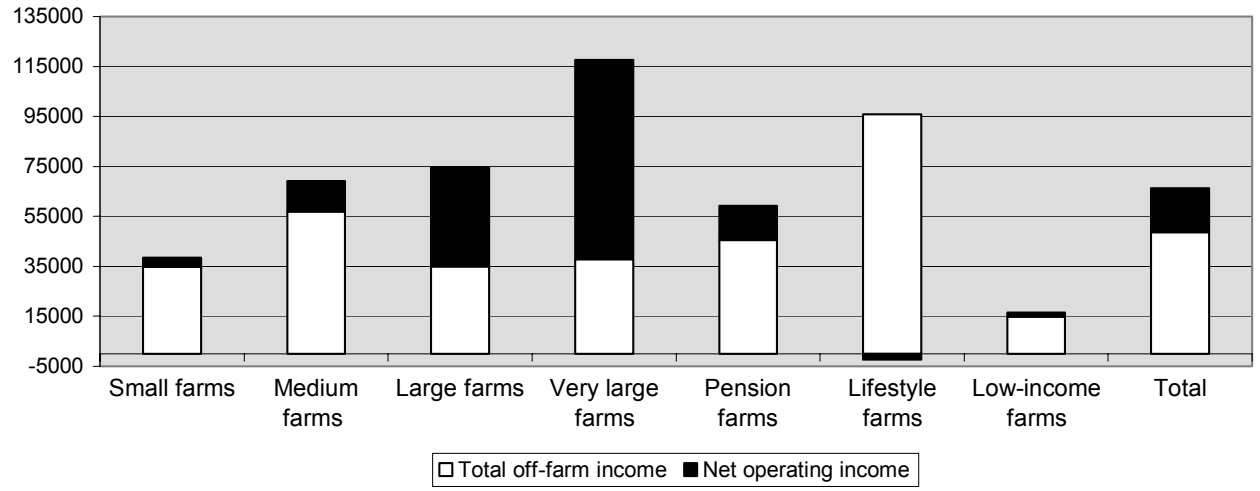


Table 6

Balance sheet of the agriculture sector, including non-operator landlords and excluding personal shares of households, current C$ million

	1995	2000	2001	2002	2003	% 95-03	% share 2003
Current assets (CA)	17,100	19,200	19,800	20,100	21,100	23.4	9.1
of which:							
Inventories	14,300	16,200	16,400	16,400	17,100	19.6	
Quota	10,500	18,200	18,800	22,100	23,000	119.0	10.0
Breading livestock	7,600	9,800	9,900	9,600	9,900	30.3	4.3
Machinery	25,600	30,900	31,600	31,700	31,900	24.6	13.8
Farm real estate	100,200	126,700	130,400	134,300	137,600	37.3	59.6
of which:							
Land	75,500	95,000	97,600	99,900	102,400	35.6	44.3
Service buildings	18,500	24,000	24,900	25,600	26,200	41.6	11.3
Homes	6,100	7,700	7,900	8,800	9,000	47.5	3.9
Other long-term assets	5,800	6,600	6,400	7,600	7,400	27.6	3.2
Total assets (TA)	166,900	211,400	217,000	225,400	230,900	38.3	100.0
Current liabilities (CL)	4,300	7,500	8,200	8,500	9,900	130.2	
Long-term liabilities	19,200	28,300	29,300	32,300	34,000	77.1	
Total liabilities (TL)	23,500	35,700	37,600	40,800	43,900	86.8	
Equity (E)	**143,400**	**175,700**	**179,400**	**184,600**	**187,100**	**30.5**	
Current liquidity ratio (CA/CL)	3.991	2.569	2.404	2.368	2.133		
Debt structure (CL/TL)	0.182	0.209	0.219	0.208	0.226		
Return on equity	0.029	0.021	0.022	0.014	0.020		

Source: Statistics Canada. Balance sheet of the agriculture sector, May 2004. Catalogue No. 21-016-XIE, Vol. 3, No.1.

Table 7

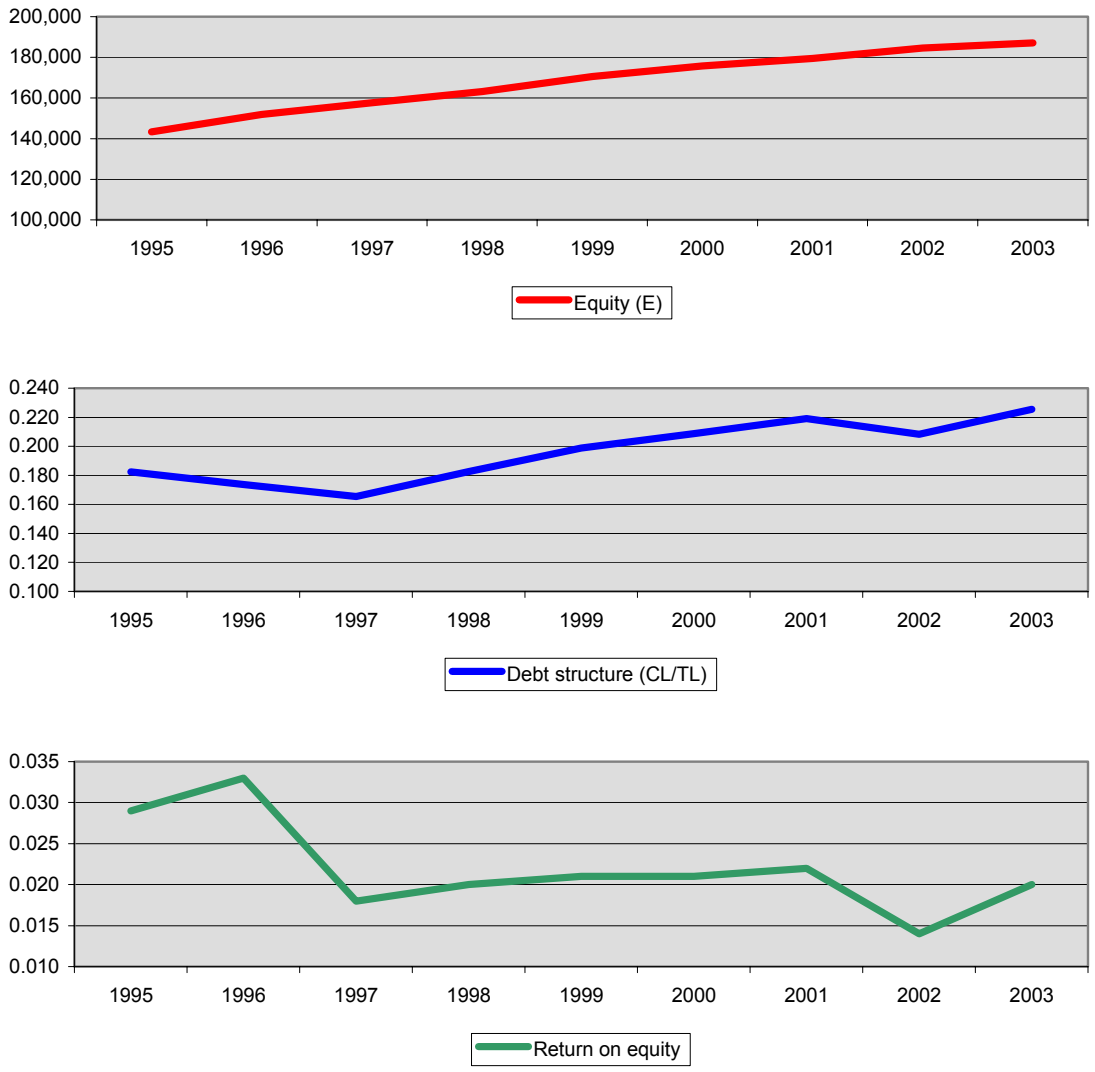
Net farm income in Canada, 1995- 2003, current C$ million

	1995	2000	2001	2002	2003
Net cash income */	5,590	6,360	8,090	7,290	4,440
Depreciation charges	3,460	4,330	4,460	4,520	4,590
Value of inventory change	710	280	-1,030	-1,580	2,660
Total net income **	**2,990**	**2,460**	**2,720**	**1,330**	**2,630**

Source: Statistics Canada. Net farm income, November 2004. Catalogue No. 21-010-XIE, Vol. 3, No.2.
*/ Net cash income = total cash receipts - operating expenses after rebates
**/ Total net income = net cash income + income in kind - depreciation charges + value of inventory change

Figure 5

Equity, debt structure (current liabilities in relation to total liabilities) and return on equity in Canada, 1995-2003



XIII.3.6 European Union

(i) Introduction

In the European Union Eurostat, besides measuring income from agriculture production, has set up a methodology for measuring the income of agricultural households. These Income from Agriculture Household Sector (IAHS) statistics were established with the objectives of

- monitoring the year-on-year changes in the total income of agricultural households at aggregate level in Member States;
- monitoring the changing composition of income, especially the proportions of income from the agricultural holding and from other gainful activities, from property and from welfare transfers;
- comparing the trends in the total income of agricultural households per unit (household, household member, consumer unit) with that of other socio-professional groups;
- comparing the absolute income of farmers with that of other socio-professional groups, on a per unit basis.

The main concepts in the IAHS methodology are described in the box below.

The main aggregate income concept used in the IAHS project is **Net disposable income,** adapted from national accounts methodology (see also chapter IX). This concept includes not only income from farming and from other gainful activities, but also from pensions and other forms of transfer. The value of farm-produced goods consumed by agricultural households and the rental value of the farmhouse are treated as positive components of income. Elements deducted include current taxes and social contributions. Provision exists within the methodology to use **Adjusted net disposable income** that also takes into account social benefits received in kind (such as state-provided education and health care); this has advantages in terms of drawing comparisons between countries and over time but is not yet a practical measure in most Member States.

Income: the main concept is household **net disposable income**, that includes all income from independent activity (self-employment), dependent activity (employment), property, social and other transfers, and is after the deduction of items such as current taxes, social contributions and other payments. It is expressed in aggregate, per household, per household member and per consumer unit.
Household: the household includes all members living together (this varies in detail between Member States), and includes, in agricultural households, both those who work on the agricultural holding and those who do not.
An agricultural household ("narrow" definition) is one where the main income of the household reference person (typically the head of household) is from independent activity in agriculture (farming). A range of other socio-professional groups can be established on the same basis for the purpose of comparison. A second, supplementary, "broad" definition of an agricultural household includes all households where any member has some income from independent activity in agriculture.

For the purpose of measuring Net disposable income, the most appropriate institutional unit is the **household**, so the aggregate income relates to that received by a sector made up of households. The logic for preferring the household as the basic unit rather than the individual is that members of households, and especially married couples and their dependent children, usually pool their incomes and spend on behalf of the members jointly. This is not to deny that there may be some differentiation and individual control of personal incomes. However, in general it makes much more sense to measure across the whole household. In the IAHS methodology, a household is defined as in national Family Budget Surveys; though there are small differences between Member States these definitions typically include all members who live under the same roof and share meals. Consideration has also been given to an alternative household concept – the single budget household – that excludes persons who are financially independent, such as grown-up children of the farmer and spouse who still live at home but who work full-time off the farm. However, it has not yet been possible to make income estimates on this basis because of data problems in many Member States.

In order that households of different sizes and compositions can be brought together for income analysis purposes, it is convenient to express incomes per household member and per consumer unit. While the former is simply the result of a count of the number of persons in households, the latter uses coefficients (in the form of an equivalence scale) to express children and additional adults in terms of consumer units. Small variations in the scales used are found between Member States (which may reflect real differences in socio-economic conditions between countries), but in practice most Member States adopt a standard set of coefficients; typically the head of the household counts as 1 unit, additional adults 0.7 units, and children as 0.5 units. It is important to note that households of farmers, defined in this way, may include persons who contribute no labour input to the agricultural holding.

The most significant part of the IAHS methodology, and one which can have a substantial effect on the results, is the system used for **classifying households as agricultural or belonging to some other socio-professional group**. Reflecting both theoretical and practical considerations, for the purpose of classification in IAHS statistics households are allocated to socio-professional groups on the basis of the main source of income of the reference person (typically the head of household or the largest contributor to the household budget). This system allows a complete and consistent allocation of households to occupation groups. Thus an agricultural household is one in which the main source of income of the reference person is from independent activity in agriculture.[1] Some Member States, that cannot at present use an income criterion, substitute the main declared occupation of the reference person.

In the context of the IAHS statistics this definition of an agricultural household is sometimes labelled "**narrow**" since it excludes those households which operate a holding but where farming is not the main income of the reference person (or the person's main occupation). Of course, when measuring household income the

[1] Where possible the group of agricultural households should nor include forestry or fishing households.

incomes of all members are summed, but these additional incomes are not considered at the classification stage.

It should be noted that households headed by hired workers in the agricultural industry are not included within the agricultural household group when defined in this way. In practice, only farmer-households are covered in the IAHS results. This situation may need to be revised on a future occasion to allow for the coverage of households found on the large-scale agricultural units of some of the new Member States.

(ii) An overview of results

Summary of selected IAHS findings

1. The number of agricultural households (where the main income of the reference person comes from farming) is substantially smaller than the number of households where there is some income from farming, and generally smaller than the number of agricultural holdings.

2. Where data exist over time, absolute numbers of agricultural households have been falling, in some instances very rapidly. The fact that results do not relate to a constant set of households must be borne in mind when interpreting changes in incomes per household over time.

3. Agricultural households (defined as above) in all countries are recipients of substantial amounts of income from outside agriculture. Though typically about a half to two thirds of the total comes from farming, there are large differences between Member States and some between years.

4. The total income of agricultural households is more stable than their income from farming alone. Non-agricultural income (taken together) is less variable from year to year than is farming income. Disposable income seems to be less stable than total income, but the relationship between the two depends on a variety of factors, including the way that taxation is levied.

5. Agricultural households have average disposable incomes per household that are typically similar to or higher than the all-household average, although the relative position is eroded or reversed when income per household member or per consumer unit is examined.

6. On average, households with an agricultural holding but where farming is not the main income source of the reference person appear to derive little income from farming; their average disposable income can be greater or smaller than incomes of agricultural households, depending on the country in question.

The IAHS statistics are not at the same level of development throughout the European Union. Any consideration must, at this stage, bear in mind that full harmonization in the methodology has not yet been achieved and that gaps in the data exist. Results should therefore be regarded as indicative and, in the case of some countries, experimental.

(iii) Availability of results

IAHS results are available for all Member States of EU-15 using a "narrow" definition of an agricultural household. However, countries differ widely in the

number of years covered, the most recent year for which results are available, the degree of disaggregation of the households sector and the extent to which results are integrated with national accounts. In terms of length of series, at one extreme is Germany, where annual figures for the period 1972-1993 are held in Eurostat's IAHS database, broken down within the framework of national accounts into socio-professional groups, of which agricultural households form one. At the other are countries for which only a single year is currently represented in the database, such as Ireland (1987 – though data from later surveys should be available soon) and Luxembourg (1989), or a larger number where comparable figures for non-agricultural households are not broken down into their constituent socio-professional groups.

There is a commitment by all Member States to (i) expand the number of years for which results are available, carrying the series forward to year t-2, (ii) to apply universally the "minimum" list of socio-professional groups, thereby enabling a more detailed comparison of the incomes of agricultural households, and (iii) to make other improvements in the methodology and quality of results. However, difficulties in providing resources for IAHS work in the face of competing priorities means that progress since the 2001 IAHS report was published has been limited, with only a minority of countries generating annual results. Furthermore, IAHS statistics, which are at sector level, cannot throw light onto the distributional issues that may be important (such as the numbers of low income farm households). Data may not be readily available for the calculation of Net disposable income as defined in IAHS statistics, which corresponds to National Accounts methodology. Furthermore, the definition adopted for household surveys is (arguably) more relevant to the objectives for which IAHS results were intended. This has led to pressure to develop statistics on a microeconomic basis to set aside, and perhaps replace, the sector level IAHS ones.

(iv) Main findings

Despite the lack of complete harmonization in IAHS statistics, gaps in the years covered and the general criticisms of their sector-level approach, some preliminary general findings can be drawn from them that are of general interest to decision-making under the CAP and other EU policies. A summary was given in the box above; some are based on results from all Member States while others depend on the greater quantity of information available in a minority of countries but which, nevertheless, are likely to be found throughout the EU.

This over-view concentrates on four of the possible areas of analysis - the implications of applying the IAHS definition of what constitutes an agricultural household on the numbers of households covered, the composition of the total income of these agricultural households, the relative stability over time of the income from farming and total income, and comparisons of average disposable income between agricultural households and the entire households sector.

(v) Numbers of agricultural households

The number of households that satisfy the IAHS definition of an agricultural household is much smaller, in most countries, than the number of holdings shown in the Community survey on the structure of agricultural holdings. In 1987, the number of agricultural households for the European Union as a whole (EU-12) appeared to be less than half the number of holdings. In some countries (notably Italy, Spain, Portugal and Denmark) the number of agricultural households was particularly low in relation to the number of holdings, implying that on two-thirds or more of holdings there were no households whose reference person (head) had farming as the main income source (or occupation). However, on some (typically large) holdings there could be more than one agricultural household. This and other technical factors helped explain why in the United Kingdom the numbers of holdings and agricultural households were almost the same, despite the known existence of many smaller holdings where there was no household that satisfied the definition of being an agricultural one.

Due to the non-correspondence between agricultural holdings and households, a preferable approach is to compare the numbers of households that satisfy the target "narrow" definition with those of households where at least one member of the household has some income from farming (that is, the target "broad" definition). This also throws some light onto the households that are outside the former definition but inside the latter, which might be called "marginal" agricultural households. Only seven countries can provide such information at present[2] (Denmark, Germany, Greece, Ireland, Netherlands, Finland and Sweden), and mostly for only one year, so caution must be exercised in interpreting the findings. In each country, whilst the use of the "narrow" definition reduced the number of agricultural households compared with the numbers which qualified under the "broad" definition, the extent varied substantially; the number of "narrow" households as a percentage of "broad" households ranged (in ascending order) from 33% in Denmark (1996), 41% in Ireland (1987), 53% in Finland (1992), 57% in Sweden (1992), 58% in Germany (1983), 60% in the Netherlands (1988), and 65% in Greece (1994). Further consideration of the "marginal" agricultural households is given later in this section. (Figures for later years may now be available for the Scandinavian countries and Ireland, but these are unlikely to change the general picture).

In countries where IAHS results are available for a run of years on a comparable basis, it is clear that the number of agricultural households has been in decline. In Germany (as constituted before 03.10.1990) the fall was from 349,000 households in 1984 to 261,000 in 1993 (-25%, or an annual average change of 3.2%) against an overall rise (+13%) in the total number of private households. In France, farm household numbers fell even faster, with a fall of more than a quarter (-27%, or 3.9% annually) in the number of agricultural households in the seven-year period 1984-90 against a background of a 7% increase in the total number of households. In the following five years, the disparities were even greater; the number of agricultural households fell by another 25% (or –5.5% annually) whilst the number of households as a whole increased 7%. In Portugal the fall in agricultural household numbers between 1980 and 1989 was 37% (or an average -4.9% per year). Interpretations of

[2] Some other countries (Spain and Austria) do have definitions for the household that are broader than the “narrow” definition but are not the target “broad” definition.

income movements over time must recognise that the agricultural households group is not of a constant composition but is changing and contracting.

(vi) Composition of income of agricultural households, and deductions

IAHS statistics show that, in all countries, agricultural households ("narrow" definition) are recipients of substantial amounts of income from outside agriculture. Typically only about a half to two-thirds of the households' total income comes from farming, though there are substantial differences between Member States (see figure 1) and for individual countries over time. In the periods shown (three-year averages ending in the latest available year or, where this is not possible, single years), countries in which substantially less than half of the total household income came from farming were Germany, Finland and, most notably, Sweden (where only a quarter of total income came from farming in the three years centred on 1996). At the other end of the spectrum, with more than three-quarters (78%) coming from farming but still with a substantial minority of their income coming from other sources, was the Netherlands. There is substantial variation between years for some countries, reflecting in particular changes in the income from farming. For example, in Germany the share of the total coming from farming declined from 43% in 1991 through 39% in 1992 to 30% in 1993, a change clearly linked to the drop in earnings from farming. On the other hand, a fall in Finland from 41% in 1993 to 33% in 1994 was largely explained by an almost three-fold increase in income from other independent activity (largely forestry); in subsequent years this fell back somewhat and income from farming increased (the share coming from farming stabilizing around 34%). Such sharp short-term changes, however, do not significantly affect the validity of the general conclusion.

The second most important source of income of agricultural households was usually wages or social receipts; in the United Kingdom it was property income. Income from other forms of independent (self-employed) activity, such as operating other (non-agricultural) businesses, was generally unimportant, except in Finland where farm forestry appears to provide the explanation. However, there may have been some under-representation of other forms of independent activity because data sources (such as taxation statistics) may not reflect the extent to which they are carried out within the framework of what is primarily a farm business.

Countries also differed in the amounts of household income taken in taxation and other deductions, so that the same average total income figure can imply different levels of disposable income in different Member States. At one extreme were Denmark, Germany and Sweden where a quarter or more (on average) of an agricultural households' income was taken as taxes and social contributions in the latest period for which results are available. At the other were Portugal and Greece, where less than 5% was taken.

Of course, these differences reflect national policies on taxation for which there may be a counter-provision of goods and services provided in the form of social benefits. Only some of these are at present captured in the measurement of Net Disposable Income. For example, the provision of individual non-market goods or services (such as education and health services) are not currently covered (though

they are in the concept of Net Adjusted Disposable Income). Consequently the net effect on consumption is impossible to assess without more detailed information.

Another general finding was that, in many countries, the proportion of total income taken by current taxes and social contributions was lower (often much lower) among agricultural households than among households in general. Denmark, Germany and Sweden are the exceptions, where agricultural households have shares taken which are above or very close to the national averages. However, no conclusions can be drawn as to the relative burdens of taxation without much more information on the levels and distributions of income, and details of the tax regimes applied to income from self-employment in general and agriculture in particular vis-à-vis income from employment and other sources.

(viii) Stability of income of agricultural households

There is evidence from several Member States that the total household income for agricultural households is more stable than their income from farming alone. Non-agricultural income (taken all together) is less variable from year to year than is farming income (though this is not a necessary condition for total income to be more stable). Disposable income seems to be less stable than total income; a variety of factors seem to be operating here, including the way that taxation is levied. The implication is that the year-to-year movements in indicators of the income from agricultural activity should not be taken to imply movements of the same proportion in the total income of agricultural households. These are likely to be smaller

Figure 2 shows the change in income (from farming and total income) between the beginning and end of similar periods. For all countries other than Finland and Sweden, the percentage change in total income was smaller than the percentage change in income from farming alone, irrespective of the sign. For the latter two Member States, the falls in farming income were more than offset by rises in other sources, so total income rose. This pattern is consistent with the above observation, and again illustrates the point that changes in farming income are not necessarily a good guide to changes in overall household income.

(ix) Comparisons of the income of agricultural households with the all-households average

The latest available IAHS results, taking three-year averages where possible (see figure 3), indicate that, for most Member States, the average net disposable income of agricultural households was close to or higher than the all-households average (comparisons are not possible for all countries). The main exception was Portugal, where it was much less (less than half). Somewhat lower levels were also found in Greece (86%) and Italy (90%). The relative position was eroded when income per household member or per consumer unit was examined. Nevertheless, on all three measures (per household, per household member and per consumer unit) agricultural households had incomes at or above the national averages in France, Ireland, Luxembourg[3] and (most notably) the Netherlands. However, agricultural

[3] Income per household member not available.

households on average usually had incomes lower than households headed by other self-employed reference persons in the same Member State.

Again, some large short-term fluctuations can be observed. The relatively low income position of agricultural households in Germany (not including the area of the former GDR) in 1993 reflected a sharp decline in incomes from farming compared to 1992 (when the disposable income per household had been 99% of the all-households average); 1992 was itself the end of a four-year period in which agricultural households had disposable incomes substantially above the national all-households average. Finland, in contrast, saw a rise in the relative position of agricultural households (from 131% of the all-households average in 1992 to 170% in 1994), the result of a growth in income not from agriculture but, in this case, from other forms of self-employment. In subsequent years this has fallen back somewhat (to between 141% and 152%). Only in Greece, Italy and, in particular, Portugal were farmer households consistently and substantially below the all-households average.

These results do not suggest that agricultural households are a particularly disadvantaged group in terms of their average disposable incomes, a major finding in the light of the objectives of agricultural policy in the European Union. In investigating whether there is a low-income problem, other factors need to be considered, including the distribution of incomes around the group mean. And it should be recalled that, despite the stabilising influence of income from sources other than farming, the relative position of agricultural households can be subject to quite large short-term variations.

(x) Comparison with other socio-economic groups

Table 1 shows that although farm households, in some countries, have net disposable income that exceeds that of the average household in general, they trail quire substantially in all countries, except the Netherlands, the group "other self-employed". They have also in all countries, except Finland and the Netherlands, a lower average disposable income than employee households.

The extraordinary level of disposable income among farm households in the Netherlands should be noted – more than three times that of the average households and 2.6 times that of all other self-employed households. This is likely to reflect the fact that agricultural and horticultural businesses in the Netherlands are typically large and represents very substantial capital sums. Hence, the income received will be hybrid of rewards to the farmer's entrepreneurial and physical labour and to the capital and land that he owns. Therefore it is not surprising that, where net worths are high, the total income generated by the business is also high. It is not unreasonable to measure such income, as it will be at the disposal of the farm household to spend on consumption, or to save and invest in the business or in other ways.

Another result to be noted is that of Finland whose farmer households have 50% higher disposable income than the average household and almost at the same level as other self-employed households. When comparing with neighbouring countries like Denmark and Sweden the result in Finland is striking. There may be fundamental differences that help explain the differences, including the rather unusual

(by international standards) practice in Denmark of transferring farms between generations by means of sales using credit facilities set up with this in mind. The exceptionally high interest charges faced by younger farmers has for long been a feature in Denmark, and this may feed though to lower disposable incomes.

However, there are also likely to be small but by accumulation significant differences in definitions. For example, the definition of a household used in Sweden relates only to the core of couple and dependent children, whereas in Finland it covers all persons resident at the same dwelling, and therefore greater amounts of income per household. In countries where single-person households may be significant in determining the national average household income, these differences in the definition of household when applied to the agricultural sector may result in the sorts of situation described. Clearly there is a need to exercise caution when using any statistics and not to beyond their capacity to inform. This is particularly the case in drawing international comparisons where harmonisation is less than complete. .

(xi) Income situation of "marginal" households

Reference has already been made to the numbers of households where some member has an income from independent activity in agriculture (that is, from farming) but where farming is not the main income source of the household reference person. In IAHS statistics, among the Member States where information is available such "marginal" households accounted for more than a half of all the households with some farming income in Denmark and Ireland (72% in 1999 and 59% in 1987 respectively), about 40% to 50% in Germany, Greece, the Netherlands, Finland and Sweden (42% in 1983, 46% in 1994, 40% in 1988, 47% in 1992 and 43% in 1992 respectively). Despite their numerical importance, they accounted for only a relatively small proportion of the aggregate income derived from farming by the households sector (see figure 4). For most countries only between a fifth and a tenth of the entire sector's income from independent activity was generated by "marginal" households, even less in Germany (8% in 1983) but rather more under the unique circumstances found in Denmark (26% in 1999). Perhaps of even greater importance are the income characteristics of these "marginal" households and the impacts that they have on average income levels when a "broad" definition of an agricultural household is adopted (see table 2).

In Denmark, Ireland, the Netherlands and Finland the average incomes per household of the "marginal" households were smaller than those of the agricultural households defined in the IAHS "narrow" way. In the first two countries they appeared to be a relatively low-income group, with incomes below the all-households average; in the Netherlands and Finland they were above it. However, in Germany and Greece the "marginal" households appeared to be a relatively high-income group. They had an average disposable income per household that was not only larger than that of agricultural households defined in the "narrow" way but was also substantially above the all-households average. In Sweden there was little difference between the various agricultural groups on a per household basis but they were all below the national all-households average.

When incomes were expressed per household member and per consumer, the income position of the "marginal" households deteriorated relative to the all-households average in Denmark, Greece, the Netherlands and Finland, though only for comparisons per household member in the case of Ireland (data on this basis are not available for Germany and Sweden). In Finland the somewhat smaller sizes of the “marginal” households improved their incomes per household member and per consumer unit compared with the “narrow” group.

Such diversity among only seven countries points to the need for sets of income results to be available for both "narrow" and "broad" (and "marginal") agricultural household groups in each Member State. The differing social, economic and agricultural structures seem likely to require countries to be considered individually and quick generalisations are to be avoided, at least until more comprehensive information is available.

However, a characteristic shared by all the countries from which evidence is available so far is that only a small proportion of the total income of these "marginal" households comes from farming. In Germany only 5% of their income came from farming, in the Netherlands 8% (not updated since the special study of 1988) Finland 11%, in Ireland 14%, in Greece 17% and 12% in Denmark (1999). It follows that changes in the income from independent agricultural activity are of relatively small significance to the total income of these households; their overall position is more likely to be affected by changes in the economy in general (as these impact on wages, often the major source of income) and policy on social benefits (another major source). Support of farming incomes through instruments such as raising the market prices of agricultural commodities is therefore not likely to be an appropriate way of improving the income situation of these households

(xii) Farm households “broad” definition compared to all households

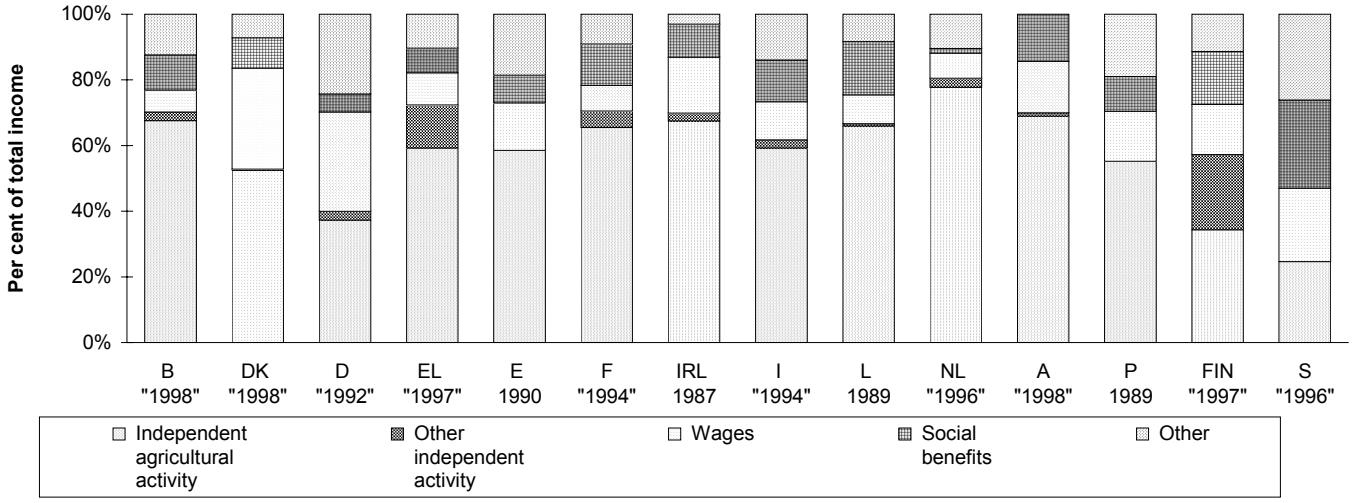
In figure 5 the average disposable income per farm household, according to the “broad” definition (that is, all those with some non-zero income from farming), and per household member is compared with the income of the average household and household member. Unfortunately, the year for comparison is not only somewhat outdated but differs also among countries.

In all countries, except Sweden, the net disposable income per farm household was either on the same level (Denmark) or higher than the average for all households. In Sweden the farm household had an income of about 90% of the average household. Again, the Netherlands and Finland showed that farm households were much better off than the average household.

The picture changes when looking at disposable income per household member. Only in the Netherlands did the average farm household member have a disposable income that was higher than the average member of all households. In Greece and Ireland the two groups of household members had more or less the same income level.

Figure 1

Composition of the total income of agricultural households by source, for selected Member States. Per cent.



Source: Income of the agriculture houshold sector, 2001 report. Eurostat.

Notes: (i) In Spain, Portugal and Sweden there is no subdivision of income from independent activity in agriculture and elsewhere.

(ii) Results for the Netherlands are based on the household as the unit of classification (rather than the reference person).

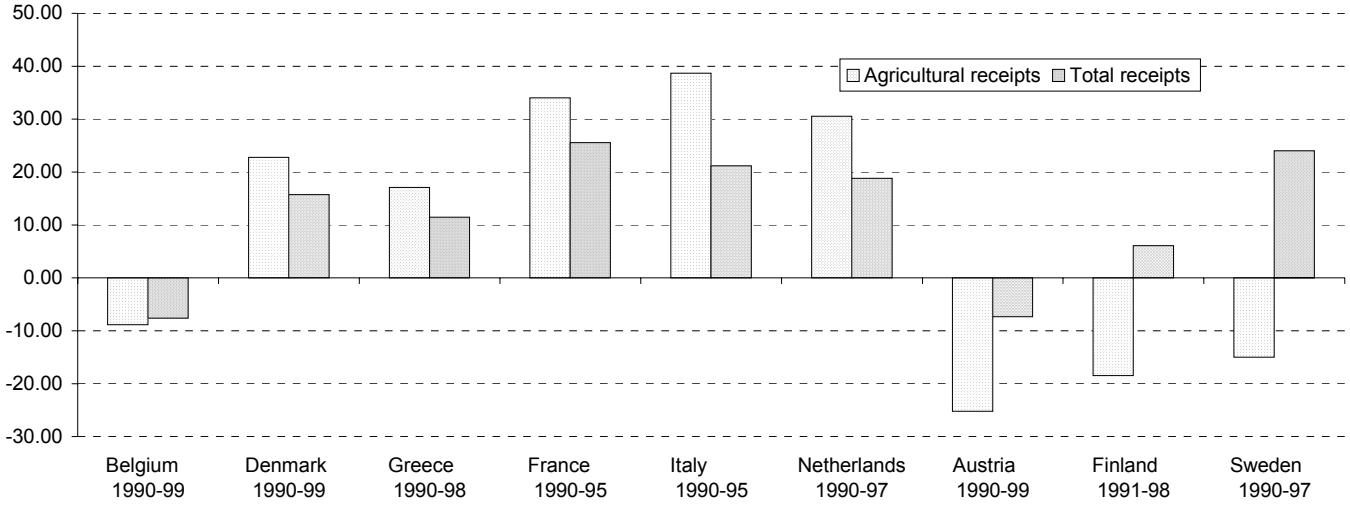
(iii) In France problems of comparability arise because of the way in which social contributions are treated.

(iv) In the UK the current data source does not cover households with holdings arranged as corporate businesses, and there are other statistical problems that should preclude direct comparisons with other Member States.

(v) "Other" includes income from property, imputed value of domestic dwelling, and other miscellaneous current transfers.

Figure 2

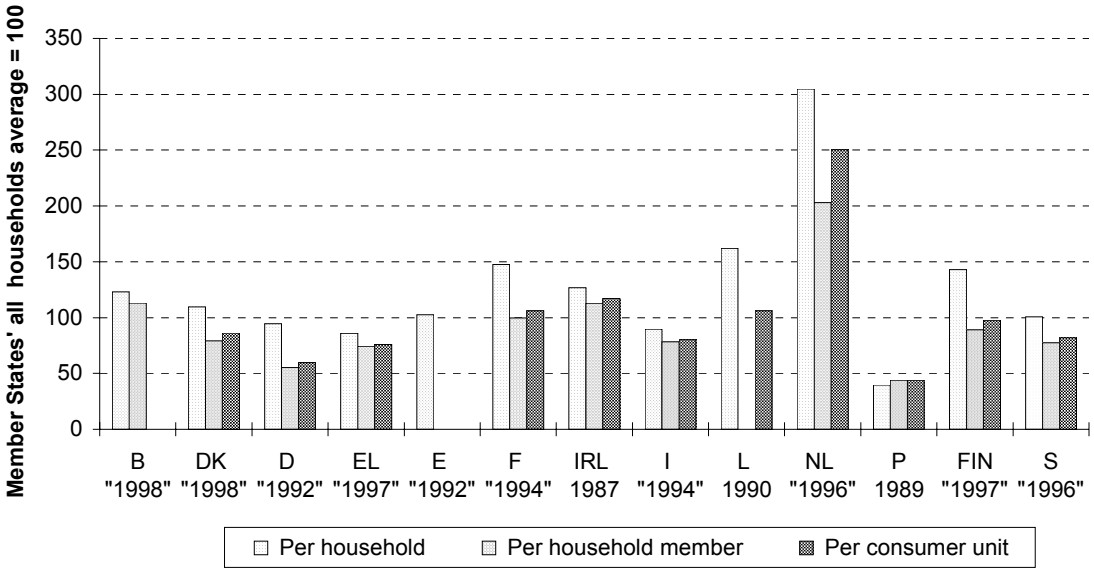
The development of agricultural household incomes in selected Member States (in real terms and %).



Source: Income of the agriculture houshold sector, 2001 report. Eurostat.

Figure 3

Average disposable income of agricultural households relative to the all-household average. Selected Member States

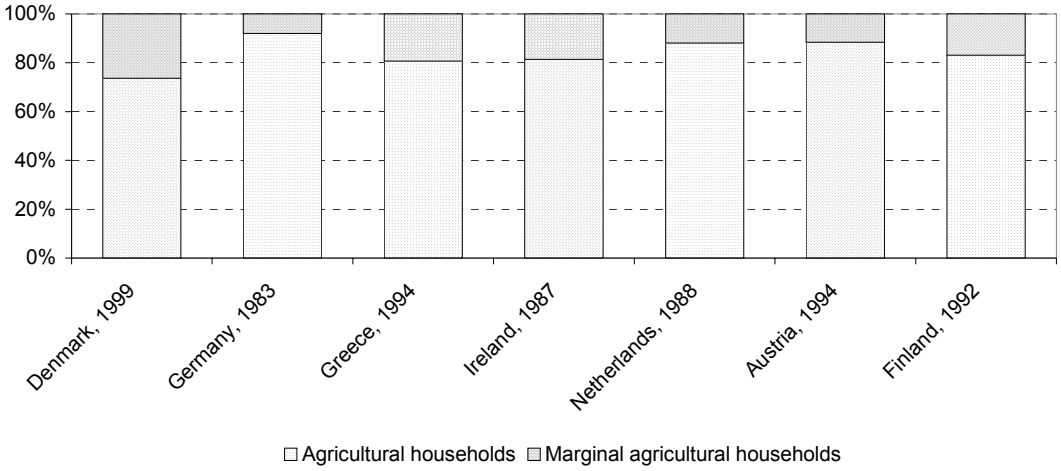


Source: Income of the agriculture houshold sector, 2001 report. Eurostat.

Note: For Luxembourg, in the absence of a comparison being generated within the IAHS statistics, interim figures taken from a survey of living standards have been substituted.

Figure 4

Income generated from agriculture by agricultural households (narrowly defined) and the „marginal“ agricultural households, as a share of the total income generated from agricultural



Source: Income of the agriculture houshold sector, 2001 report. Eurostat.

Table 1

Average disposable income of per agriculture household (narrow defintion) and per houshold member realtive to all households (=100)

	Employers and own-account workers			All employees	All others	All except farmers	All households
	Farmers "narrow"	All other	All self-empl.				
	a 1	**a 2**	**a 3**	**b**	**c**	**d=e-a1**	**e=a+b+c**
BELGIUM (1999 p)							
Net disposable income/household	**111.9**					99.9	100.0
Net disposable income/household member	**102.3**					100.0	100.0
DENMARK (1999)							
Net disposable income/household	**104.9**	132.8	128.9	121.5	66.3	100.0	100.0
Net disposable income/household member	**75.8**	104.4	100.1	105.1	88.7	100.2	100.0
GERMANY (1993)							
Net disposable income/household	**78.7**	235.9	214.7	111.1	70.2	100.2	100.0
Net disposable income/household member	**61.7**	250.6	217.7	123.4	89.7	100.8	100.0
GREECE (1998)							
Net disposable income/household	**84.5**	156.2	133.2	90.7	83.1	101.6	100.0
Net disposable income/household member	**73.3**	177.1	152.3	109.3	109.8	103.1	100.0
SPAIN (1990)							
Net disposable income/household	**97.0**	118.6	113.2	124.3	68.8	100.1	100.0
Net disposable income/household member	**84.5**	102.0	97.7	108.8	86.7	100.6	100.0
SPAIN (1990)							
Net adjusted disposable income/household	**103.4**	109.2	107.7	122.2	68.5	99.9	100.0
Net adjusted disposable income/household member	**90.1**	93.8	92.9	107.1	86.3	100.4	100.0
IRELAND (1987)							
Net disposable income/household	**127.3**					97.4	100.0
Net disposable income/household member	**113.3**					98.6	100.0
ITALY (1995)							
Net disposable income/household	**96.7**					100.1	100.0
Net disposable income/household member	**82.9**					100.4	100.0
NETHERLANDS (1997)							
Net disposable income/household	**328.8**	128.6	151.5	112.8	70.6	98.1	100.0
Net disposable income/household member	**220.6**	103.5	119.2	99.1	95.7	98.5	100.0
PORTUGAL (1989)							
Net disposable income/household	**39.6**	147.5	117.3	151.2	28.4	103.0	100.0
Net disposable income/household member	**43.8**	159.7	127.7	171.7	24.0	102.5	100.0
FINLAND (1999)							
Net disposable income/household	**152.4**	163.4	160.4	119.9	63.2	98.9	100.0
Net disposable income/household member	**96.5**	125.1	116.0	103.0	88.0	100.1	100.0
SWEDEN (1997)							
Net disposable income/household	**97.1**	116.1	111.6	125.3	64.3	100.0	100.0
Net disposable income/household member	**76.6**	90.4	87.2	108.0	85.4	100.3	100.0

Source: Income of the agriculture household sector, 2001 report, Eurostat.

Table 1

Average disposable income of per agriculture household (narrow defintion) and per houshold member realtive to all households (=100)

	Employers and own-account workers			All employees	All others	All except farmers	All households
	Farmers "narrow"	All other	All self-empl.				
	a 1	**a 2**	**a 3**	**b**	**c**	**d=e-a1**	**e=a+b+c**
BELGIUM (1999 p)							
Net disposable income/household	**111.9**					99.9	100.0
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Net disposable income/household member	**75.8**	104.4	100.1	105.1	88.7	100.2	100.0
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Net disposable income/household member	**73.3**	177.1	152.3	109.3	109.8	103.1	100.0
SPAIN (1990)							
Net disposable income/household	**97.0**	118.6	113.2	124.3	68.8	100.1	100.0
Net disposable income/household member	**84.5**	102.0	97.7	108.8	86.7	100.6	100.0
SPAIN (1990)							
Net adjusted disposable income/household	**103.4**	109.2	107.7	122.2	68.5	99.9	100.0
Net adjusted disposable income/household member	**90.1**	93.8	92.9	107.1	86.3	100.4	100.0
IRELAND (1987)							
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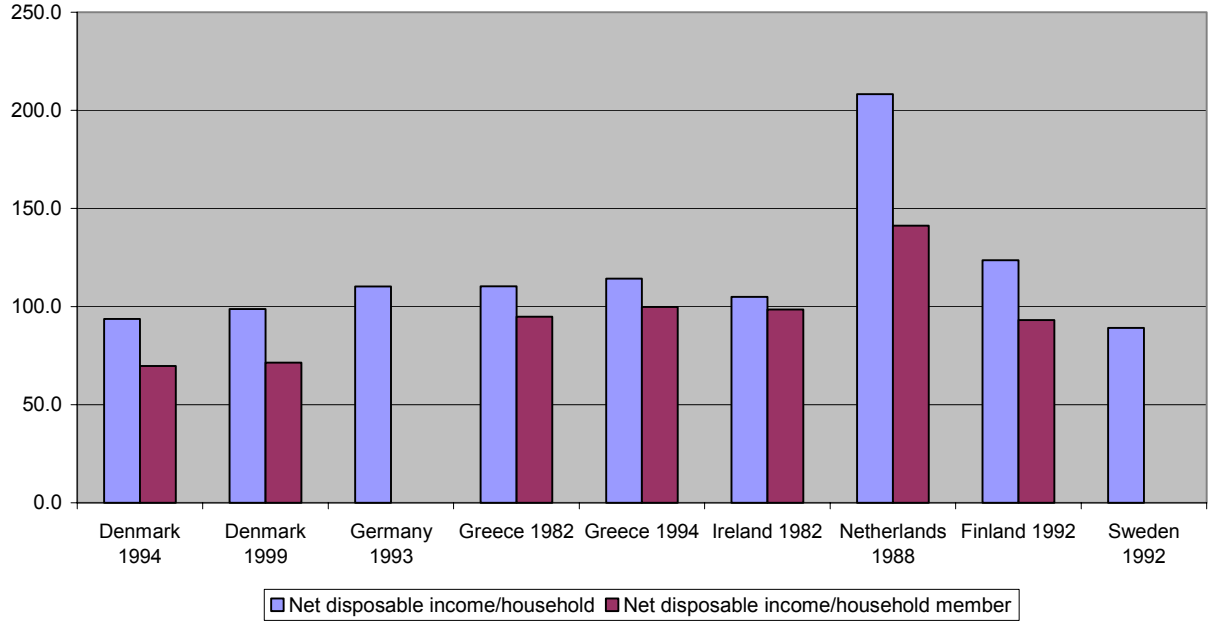
Net disposable income/household member	**96.5**	125.1	116.0	103.0	88.0	100.1	100.0
SWEDEN (1997)							
Net disposable income/household	**97.1**	116.1	111.6	125.3	64.3	100.0	100.0
Net disposable income/household member	**76.6**	90.4	87.2	108.0	85.4	100.3	100.0

Source: Income of the agriculture household sector, 2001 report, Eurostat.

Figure 5

Average disposable income of per agriculture household (wide defintion) and per houshold member realtive to all households (=100)



	Denmark 1994	Denmark 1999	Germany 1993	Greece 1982	Greece 1994	Ireland 1982	Netherlands 1988	Finland 1992	Sweden 1992
Net disposable income/household	93.7	98.8	110.3	110.4	114.3	104.9	208.2	123.7	89.1
Net disposable income/household member	69.7	71.4		94.8	99.8	98.4	141.2	93.2	

Source: Income of the agriculture household sector, 2001 report, Eurostat.

XIII.3.7 Other countries

(i) Australia

Households in Australia that contains at least 1 person whose main income comes from agriculture had in 2001 a mean income of about 90% households with no persons employed in agriculture (see table 1 and figure 1). There are, however, large differences between mean income depending on how much agriculture income contributes to the total income of the agriculture household. If it contributes less than 25% of total income then the mean income of the agriculture household reaches only 87% of non-farm households. In the range 25% to less than 50% total income of the agriculture households then the total income of the agriculture household jumps to 114% of non-agriculture households.

If agriculture income accounts for 50% but less than 75% of total income then the agriculture household income drops to 97% of non-farm households and in the final range of 75% or more agriculture income drops to 76% of the non-farm income.

Table 1

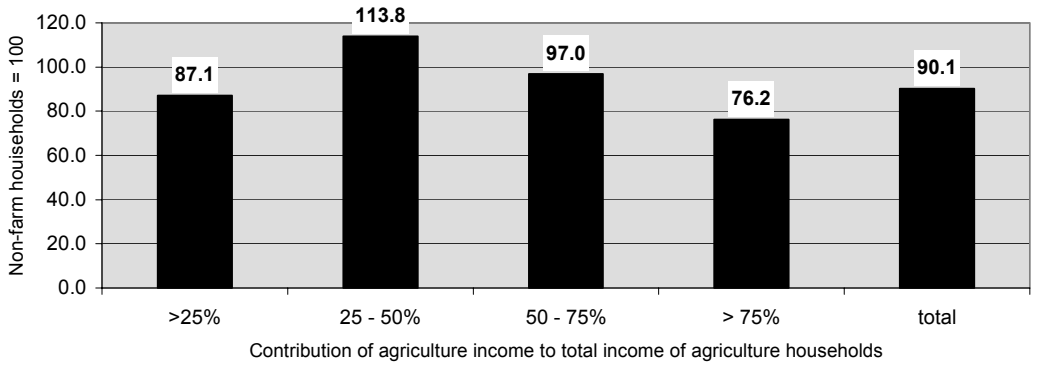
Income of agricultural and other households in Ausralia, by contribution of agricultural income to total income in 2001, $A

	Estimated number of households	Sample count of households	Mean agricultural income (a) ($A per week)	RSE of mean agricultural income (%)	Mean total income ($A per week)	RSE of mean total income (%)	Agric. Income as % of total income
Household contains at least 1 person whose main job is in the agriculture industry, where the contribution of agricultural income to total income is							
Less than 25%	88,704	75	**77**	48.8	**849**	18.9	9.0
25% to less than 50%	40,415	35	**424**	9.7	**1,110**	9.2	38.2
50% to less than 75%	58,635	52	**594**	15.5	**945**	14.5	62.8
75% or more	78,201	77	**673**	13.2	**743**	13.2	90.5
Total	265,955	239	**419**	10.1	**879**	8.0	47.7
Household contains no person employed in the agriculture industry	7,048,965	6,547			**975**	0.9	
Total	7,314,920	6,786	**15**	12.2	**972**	1.0	

Source: Australian Bureau of Statistics, Survey of income and housing costs, 2000-01.
(a) Income from wages and salaries from main job plus own unincorporated business income where industry of main job is agriculture.

Figure 1

Income of agriculture households compared to non-agriculture housholds (= 100) for different levels of contribution of income from agriculture, 2001



Source: Australian Bureau of Statistics, Survey of income and housing costs, 2000-01.

Annex 6

Abbreviations and Symbols

ARMS	US Department of Agriculture's Agricultural Resource Management Survey.
CBS	The Centraal Bureau voor de Statistiek (Central Bureau of Statistics of Netherlands).
CSO	Central Statistical Office.
EU	European Union.
EU-SILC	EU Survey on Income and Living Conditions (EU-SILC)
ESU	Business size is measured in European Size Units (ESU). One ESU was measured as €1,200 of SGM at 1996-98 values.
HA	Hectare (a unit of measurement of an area of land (10, 000 m^2)).
HBS	Household Budget Survey.
HIS	Household Income Survey.
IAHS	Income of Agriculture Household Sector Statistics.
ILO	International Labour Organization (Office).
N/A	Not Applicable (Not applied).
OECD	Organisation for Economic Co-operation and Development.
SER	Sociaal Economische Raad (The Social and Economic Council of the Netherlands).
SGM	Standard Gross Margin [see the Eurostat leaflet "Structure of agricultural holdings in the EU" (Theme 5: 22/2002) in the series "Statistics in Focus."].
STATEC	Le Service central de la statistique et des études économiques (Central Service for Statistics and Economic Studies – Luxembourg).
UNECE	United Nations Economic Commission for Europe.

y	Yes, explicit data.
*	Implied data covered elsewhere.
(y) and (*)	Covered in part.
@	Gross of capital consumption.
(?)	Information needs to be further verified.
y^{i}	covered elsewhere for years 1992 and 1993
y^{ii}	for some types of socio-professional group, but not agricultural households
y^{vii}	number of holdings
$*^{iii}$	figure for agricultural households included in under that for "all self-employed"

Table 1

Definition of household in EU countries

Countries	Definition of 'household'
Austria	All members of the family who live under the same roof and whose meals are prepared in the same kitchen.
Belgium	Fiscal household: reference person and spouse and dependent persons, but excluding other members of the household who are gainfully employed or who receive a transfer income of their own, such as unemployment benefit or pension.
Denmark	Families. A family is either a single person, or a group of persons, who live at the same address, and who have certain family relations. Children are included when the age is below 18. Adults in addition to the farmer and spouse are not included, except grown-up children.
Estonia	A household is a group of persons living in the common main dwelling (at the same address) and share joint financial and/or food resources and whose members consider themselves to be members of one household. A household can also consist of one member only.
Finland	IAHS definition used.
France	IAHS definition used.
Germany	IAHS definition used.
Greece	IAHS definition used.
Hungary	IAHS definition used.
Ireland	IAHS definition used.
Italy	IAHS definition used.
Latvia	A household is defined as a group of persons living together in an apartment or a small house with a common economy.
Lithuania	A household – is one person or a group of persons sharing a flat (house), common budget and having meals together.
Luxembourg	IAHS definition used.
Netherlands	IAHS definition used.
Poland	A household is a group of people related by kinship or not, living together and sharing their income and expenditure (a multi-person household) or a person maintaining himself/herself independently, whether living alone or not (a one person household). The composition of a household surveyed includes also the persons absent from the household for employment related reasons (e.g. seamen or those working abroad), if the income from their work is allocated to the maintenance of their families. The following persons are not accounted for as household members: a) pupils or students living in boarding schools, student's hostels or renting private flats; b) men in military service; c) persons in education centres, welfare homes or prisons.
Portugal	IAHS definition used.
Slovakia	No information on definition provided.
Slovenia	Households as observation units are either communities of persons who live together, eat together and spend their income together, or single persons who live and eat on their own and independently use the means (definition of HBS).
Spain	IAHS definition used.
Sweden	The definition of the household used in the HBS is based on the concept of the "dwelling household.A38"
United Kingdom	The basic units in the statistics are tax cases. Prior to 1989 these comprised single persons and married couples (which counted as single cases). However, independent taxation was introduced in the 1990/91 assessment year, the affects estimates of income from self-employment (independent activity) from 1989 and of all income from 1990 onwards.

Source: UNECE survey on agricultural household income statistics.

Notes : IAHS definition: small groups of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. In the absence of an internationally applied definition of a household, the composition of households is to be defined as in the household budget surveys of Member States.

Austria: use of term 'family' not likely to be of much significance to the coverage.

Belgium: excluded individuals thought to represent about a further 7% of the number included (1987).

Denmark: not considered to be of major significance because of the socio-economic structure of households in Denmark.

Greece: in addition, an alternative concept can be used that excludes financially independent members other than the farmer and spouse.

Table 2

Definition of household in non-EU countries

Countries	Definition of 'household'
Albania	No information on definition provided.
Andorra	A household is a person who lives single or a group of people who live in the same place, and who maintain a common budget or, more restrictively, who share food expenses. All members of the family that contribute to and enjoy the family budget belong to the household, whether they live in the house or not.
Armenia	People who usually live together in the household, share the same housekeeping, and have the same budget.
Australia	No information on definition provided.
Azerbaijan	A household is defined as a single person or a group of persons with a common budget and residence (house, flat, etc.). They are not necessarily relatives. In ambiguous or unclear situations, the interviewer must always ask: "Do you eat together and have a common household?"
Belarus	A person or a group of people who have common budget and housing unit; their family relationship is not essential.
Bulgaria	A regular household is considered to be: a) one person living alone, having meals separately and having his/her separate budget, b) two or more persons who live in one dwelling or part of dwelling, having their meals together and having a common budget irrespective of whether they are relatives or not. Persons who are temporarily absent are considered members of the household: children, students, conscripts on compulsory military service, those for treatment in hospitals, sanatoria and other health establishments.
Canada	A household refers to a person or a group of persons (other than foreign residents), who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada. It may consist of a family group (census family) with or without other non-family persons, of two or more families sharing a dwelling, of a group of unrelated persons, or of one person living alone. Household members who are temporarily absent on Census Day (e.g. temporary residents elsewhere) are considered as part of their usual household. For census purposes, every person is a member of one and only one household. Unless otherwise specified, all data in household reports are for private households only.
Croatia	A household is every family or other community of individuals who live together and spend their income together for covering the basic existential needs (accommodation, food etc.).
Georgia	Individual or group of persons living in one dwelling and sharing their budget. If persons are not relatives but satisfy the two conditions above they are treated as one household anyway.
Japan	Household refers to a group of two or more persons sharing living quarters and living expenses or a person living alone or living in a dormitory or a boarding house. 1/
Kazakhstan	A group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. A household may consist of one person.
Kyrgyzstan	A household is a group of persons who live together and provide themselves with everything necessary for living. It may consist of relatives or people not related to each other and can also consist of a single person.
Mexico	A household is a group of one or more persons who live in the same place and who share food expenses.

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 2 (concluded)

Definition of household in non-EU countries

Countries	Definition of 'household'
New Zealand	A household relates to a 'private household' which is defined as a single individual living in a dwelling who makes his or her own housekeeping arrangements or a group of people living in or sharing a dwelling for four or more days a week, who participate in some measure at least in consumption of food purchased for joint use by members. Or who, if not dependent upon a household member, contribute some portion of income towards the provision of essentials of living for the household as a whole.
Norway	A household consists of persons that are permanently resident in the same dwelling (housing unit) or institution. Such a household is called a dwelling household. Census 2001 does not supply any information about housekeeping units, i.e. persons living in the same dwelling with joint board (food expenses?).
Republic of Korea	A household consists of a person who provides for his own food or other essentials for living, or a group of two or more persons who make common provision for food or other essentials for living.
Republic of Moldova	A household, as observation unit, means either one person living separately, keeping the house alone, or a group of persons, not necessarily related, living at the same address with common budget.
Romania	A group of two persons or more, generally relatives, with or without children, that usually live together and are keeping the house in common, integrally or partially take part in forming and using the income and expenditure budget. Persons who live and keep the house by themselves and do not belong to another household represent households comprising one person.
Switzerland	A household is defined as a small group of persons who share the same accommodation, pool all, or some, of their income and wealth and consume certain goods, mainly accommodation and food, collectively. 2/
The former Yugoslav Republic of Macedonia	A household is defined as each single person who lives on their own and does not have any other household in some other place. Family or any community of people who live and spend their incomes together in order to cover their basic costs (those for living, food and etc.) regardless of whether all the members of the household are continually present in the place of residence or whether some of them are staying for a longer time in other places or countries for the purpose of education or employment. Persons who are not members of the family are classified as household members if they work, eat and reside in the same house community (e.g. housemaid, permanent workers on private agricultural holdings). Persons who were absent more than 45 days in the last three months are excluded as members of the household. Pupils and students are considered to be household members irrespective of how much time they spend outside the household.
Turkey	No information on definition provided.
Turkmenistan	A collection of individuals sharing the same living accommodation or part thereof, who may or may not be related, and who together provide themselves with all they need to live by pooling some or all of their resources.
Ukraine	A household is represented by a set of persons who live together in a dwelling or its part and make common provision for living, manage a common economy, completely or partially unite and spend funds. The persons could be relatives or brothers-in-law and sisters-in-law. They could have no relations at all or could be in both situations. Household can consist of one person.
United States of America	A household consists of all persons who occupy a housing unit.

Source: UNECE survey on agricultural household income statistics.
1/ Source: not the questionnaire but http://www.stat.go.jp/english/data/shakai/2001/yogo2.htm .
2/ Source: not the questionnaire but translation from
http://www.statistik.admin.ch/stat_ch/ber20/erc/download/eve01_d.pdf.

Table 3

Definition of agricultural household and treatment of fishery/forestry in EU countries

Country	Definition of 'agricultural household'	Treatment of fishery/forestry
Austria	Primary plus secondary agricultural holdings.	Agricultural activity is deemed to include forestry up to 200ha. Thus the income to the household comprises both that from the production of goods and services that are classed as belonging to agriculture within the framework of the EU's Economic Accounts for Agriculture, and also from forestry.
Belgium	No information on definition used.	Forestry and fishery households excluded.
Denmark	IAHS definition used.	Forestry and fishery households excluded.
Estonia	Not in use.	Forestry and fishery households excluded.
Finland	Not in use.	Forestry and fishery households excluded.
France	Not in use.	Forestry and fishery households excluded.
Germany	IAHS definition used.	Forestry and fishery households excluded.
Greece	IAHS definition used.	Both included with agriculture, as income from these is not separated in the Family Budget Survey, used as the basis for distribution coefficients.
Hungary	No information provided.	Forestry and fishery households excluded.
Ireland	IAHS definition used.	Forestry and fishery households excluded.
Italy	IAHS definition used.	Agricultural households can be defined so as to include or exclude fishing (excluded for IAHS results).
Latvia	Not in use.	
Lithuania	Households in which the main source of income (in cash and in kind) of the head of the household is from independent agricultural activities.	Forestry and fishery households excluded.
Luxembourg	Not currently applied.	
Netherlands	IAHS definition used.	Forestry and fishery households excluded.
Poland	Farm households are those where the exclusive or main source of maintenance is income from independent activity in agriculture.	Forestry and fishery households excluded.
Portugal	N/A.	Agriculture is defined broadly, and also includes forestry, fishing (and hunting).
Slovakia	N/A.	No information provided.
Slovenia	Agricultural households are all households that achieve income with selling of their own agricultural products. According to the definition, agricultural activity also include the manufacturing of own agricultural products (definition of EU-SILC*).	Forestry households are not included if they have forestry as independent activity. In the case that agricultural households has among agricultural activity also forestry and get some income from that source, they are included.
Spain	Households in which agriculture is the main income source of at least one member of the household.	
Sweden	IAHS definition used.	Forestry and fishery households excluded.
United Kingdom	Present coverage is between the IAHS "narrow" and "broad" definitions. Does not cover operators of farms that are arranged as companies, responsible for about a quarter of total Net Operating Surplus.	

Source: UNECE survey on agricultural household income statistics.
Notes: IAHS definition: agricultural households are those where the income from independent agricultural activity, net of capital consumption, constitutes the main source of the total income of the reference person.

Austria: Primary farms are where at least half the income from the labour of the operator and spouse plus members of the family forming part of their household and working together full or part-time in farming or forestry comes from farming or forestry activities.

* EU Survey on Income and Living Conditions (EU-SILC) is an annual survey conducted by the Central Statistics Office (CSO) to obtain information on the income and living conditions of different types of households. The survey also collects information on poverty and social exclusion. A representative random sample of households throughout the country is approached to provide the required information. The survey is voluntary from a respondents perspective; nobody can be compelled to co-operate. The 2003 survey, the first in the series, commenced on June 16th 2003 (*Source: http://www.cso.ie/eusilc/about_eusilc.htm*).

Table 4

Definition of agricultural household and treatment of fishery/forestry in non-EU countries

Country	Definition of 'agricultural household'	Treatment of fishery/forestry
Albania	No information on definition provided (only for agricultural holding).	No information provided.
Andorra	No definition provided but in the survey of family budgets the category 'worker in agriculture' is one of the ten socio-professional groups based on the main source of income of the household reference person.	No information provided. Limited availability of economic indicators in Andorra.
Armenia	No information on definition provided.	No information provided.
Australia	Definition not provided (Only 150-250 households holdings (depending on definition) in the 2000-01 Survey of Income and Household Costs).	No information provided.
Azerbaijan	No information on definition provided. However, the Household Budget Survey has information on main source of income of household head of which one is 'hired workers in agriculture' and one is 'work in household production'.	N/A.
Belarus	Not defined but 97% of rural households (see table with definition of rural household) are engaged in producing agricultural produce for own consumption and partially for sale.	N/A.
Bulgaria	Broad definition from the Manual of Income of Agricultural Households (Rev. 1), 1995. Households cultivating under 0.2 ha are excluded.	Excluded.
Canada[1]	One of the residents of the household must be a farm operator, as identified on the Census of Agriculture. (for definition of household see separate table).	Excluded unless household is also involved in agricultural activity.
Croatia	An agricultural household is every household that has an agricultural estate (over 10 ha) and whose members are involved in agricultural production.	Included.
Georgia	No information on definition provided.	No information provided.
Japan	Household having cultivated land of 30 acres or over, or whose annual sales of agricultural products amounts to 500,000 Yen and over.	Excluded.
Kazakhstan	No information on definition provided.	No information provided.
Kyrgyzstan	An agricultural household is a household in a rural area (according to the Territorial Classification of the Kyrgyz Republic SAOTO) and produce agricultural produce.	Excluded?
Mexico	Households in which agriculture is the main income source.	
New Zealand	Not currently applied.	N/A.
Norway	The current statistics on farmers' income and property cover holder and any spouse, registered partner or cohabitant. Cohabitants include only those who belong to the same household and in addition have children in common with the holder. Any children or other family members are not included. The classification uses the amount of utilised agricultural land and number of livestock. An agricultural household may have zero or negative income from agricultural activity and still be included in the statistics.	Households solely engaged in forestry and/or fisheries are not included.
Republic of Korea	If a farm with 10 acres or more is operated during the reference period and household which raises livestock and sells livestock products annual worth more than 500,000.	Excluded.
Republic of Moldova	Household category 'farmers': Households whose heads have their main source of income from individual agricultural activity. Household category 'Employees in agricultural sector': Households whose heads have their main source of income from remunerated agricultural activity.	No information provided.
Romania	A farmer household is a household where the head of household has the occupational status of being self employed in agriculture or is a member of an agricultural association.	Not existing in household budget survey'?
Switzerland	No information on definition provided.	No information provided.

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 4 (concluded)

Definition of agricultural household and treatment of fishery/forestry in non-EU countries

Country	Definition of 'agricultural household'	Treatment of fishery/forestry
The former Yugoslav Republic of Macedonia	A household with its own agricultural holding and all its members able to work are engaged on the holding as agricultural workers. None of the household members is officially employed outside the holding, none of them owns a store for trade and none of them is a pensioner, but one or more of its members can occasionally work outside the holding in order to earn some additional income. It also includes agricultural workers with no land who work regularly on the holdings of other private agricultural workers; agricultural households with elderly members who own a holding, but are not capable of working, regardless of whether they pay for the cultivation of land, lease their land or give it to sharecroppers since their income comes from the holding and they do not have any other income; households whose members have acquired the right to receive agricultural pension on the basis of the Law on Retirement and Disability Insurance; agricultural households whose members are temporarily working abroad.	Included.
Turkey	No information on definition provided (only for agricultural holding).	No information provided.
Turkmenistan	Households can be categorised as urban or rural, depending on the place of residence, but do not belong to the agricultural sector.	Not applicable since there is no definition for agricultural household; only rural household and the definition of rural is geographic.
Ukraine	Not in use. But information on types of activities is available so that households with income from agriculture, fisheries, forestry could be identified.	N/A.
United States of America	A subset of households engaged in the operation of a farm business establishment (land under operating arrangement on which there are or could be sales of at least $1,000 annual worth of agricultural products). For purposes of the U.S. Department of Agriculture's Agricultural Resource Management Survey (ARMS), the National Agricultural and Statistics Service's Terms and Definitions refer to a household as: "The operator, spouse and all individuals living in the operators residence who share the financial resources of the farm operator. Students living away from home who are dependent upon the operator's household for support are included."	Excluded. (Forestry and logging and fishing are defined as separate industries in the North American Industry Classification System. Household operating these establishments would not be considered farm households).

Source: UNECE survey on agricultural household income statistics.

Table 5

Broad definition of agricultural household in EU countries

Country	Definition of 'household'
Austria	Primary plus secondary agricultural holdings. Excludes farms outside the SGM# range Austrian shilling 90 000 - 1.5 mio, those with horticulture >25% of total gross profit, and mixed enterprises, such as forestry plantations over 200 ha. Covers only 50% of farms.
Belgium	No information on definition used.
Denmark	*
Estonia	Not in use.
Finland	Household which owns an agricultural holding with at least 2 ha of arable land under cultivation ("broad" definition).
France	Not in use.
Germany	*
Greece	*
Hungary	No information provided.
Ireland	*
Italy	*
Latvia	Not in use.
Lithuania	Household, where income of the head of the household (in cash and in kind) is received from individual agricultural activities.
Luxembourg	Not currently applied.
Netherlands	*
Poland	
Portugal	N/A.
Slovakia	N/A.
Slovenia	Agricultural households are all households that achieve income with selling of their own agricultural products. According to the definition of agricultural activity, the manufacturing of own agricultural products is also included (definition of EU-SILC).
Spain	Households in which agriculture is the main income source of at least one member of the household.
Sweden	*
United Kingdom	Present coverage is between the IAHS "narrow" and "broad" definitions. Does not cover operators of farms that are arranged as companies, responsible for about a quarter of total Net Operating Surplus.

Source: UNECE survey on agricultural household income statistics.

* IAHS target definition used: households that derive some income from dependent activity in agricul

Theoretically the Survey of "Structure of agricultural holdings in the EU" collects data on a comparable basis throughout the EU but in practice there are significant differences, particularly in the threshold for inclusion, ranging from 0.1 ha of agricultural land (Greece) to at least 2 ha (Sweden) or more than 1 European Size Units (ESU) (Netherlands). Average size ranged from 6.3 ESU in Greece to 89.6 ESU in the Netherlands, with the UK average of 47.4 fourth highest; that of Northern Ireland, 21.5 ESU was above the EU average and similar to that in the Irish Republic. (*Source: http://europa.eu.int).*

Table 6

Broad definition of agricultural household in non-EU countries

Country	Broad definition of agricultural household
Albania	N/A.
Andorra	N/A.
Armenia	N/A.
Australia	N/A.
Azerbaijan	N/A.
Belarus	N/A.
Bulgaria	Main definition is broad definition from Manual on the total income of agricultural households (Rev. 1). Households cultivating under 0.2 ha are excluded.
Canada	Main definition includes every household where at least one member has been identified agricultural operator in the Census of Agriculture and is as such already 'broad'.
Croatia	N/A.
Georgia	N/A.
Japan	N/A.
Kazakhstan	N/A.
Kyrgyzstan	N/A.
Mexico	N/A.
New Zealand	N/A.
Norway	N/A.
Republic of Korea	Full-time farm households: Members of the household engage in farm work only for themselves and for others. Off-farm work is less than a total of 30 days per member during the year. Part-time farm households: Any member of the household engage in paid off-farm work for more than 30 days during the year. Part-time type 1: farm receipts exceed off-farm receipts. Part-time type 2: off-farm receipts exceed farm receipts.
Republic of Moldova	No information provided.
Romania	N/A.
Switzerland	N/A.
The former Yugoslav Rep. of Macedonia	The broad definition includes agricultural households and mixed households. A mixed household is a household with its own agricultural holding in which, in addition to the members who work on the holding, one or more members are permanently employed outside the holding in the public or private sector or are engaged in some non-agricultural service (self-employed craftsmen, catering workers, hauliers etc.). This category also includes households where one or more members receive pension payments. It also includes households which own their own agricultural holding to the stipulated criteria and all its household members able to work hold an employment outside the holding, are self-employed craftsmen, pensioners or have other personal income but work on the holding in their spare time or pay for the cultivation of land under their supervision, lease their land or give it to sharecroppers since part of their income comes from agriculture.
Turkey	N/A.
Turkmenistan	N/A.
Ukraine	N/A.
United States of America	N/A.

Source: UNECE survey on agricultural household income statistics.

Table 7

Definition of rural household in EU countries

Country	Definition of rural household
Austria	
Belgium	
Denmark	
Estonia	A rural household is a household, which is living in a small town or village. This term is actively in use in annual analyses of the Estonian HBS.
Finland	Not in use.
France	
Germany	
Greece	
Hungary	Rural households are those who live in rural areas (areas with a population density under 120 heads/km2 or under 10.000 residential population, at settlement level).
Ireland	
Italy	Not in use.
Latvia	Rural households are all households who live in rural areas.
Lithuania	Rural households are those who live in rural areas, that is in areas without any town and city signs. *Urban population* refers to those persons, who live in cities and towns, i.e. in the population areas with the closely built permanent dwellings and with the resident population of more than 3,000 of which 2/3 of workers are involved in the industry, social infrastructure and business. In a number of towns the population may be less than 3,000 because these population areas had already had the town status before the law was enacted (19 July, 1994).
Luxembourg	
Netherlands	
Poland	Not in use.
Portugal	
Slovakia	Not in use.
Slovenia	Not in use.
Spain	
Sweden	
United Kingdom	

Source: UNECE survey on agricultural household income statistics.

Table 8

Definition of rural household in non-EU countries

Country	Definition of rural household
Albania	No information on definition provided.
Andorra	No definition used.
Armenia	Those who live in rural areas.
Australia	No information on definition provided.
Azerbaijan	No information on definition provided.
Belarus	A rural household is a household living in rural areas.
Bulgaria	No definition used.
Canada	Refers to a person or a group of persons (other than foreign residents), who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada. The dwelling must be located in a rural area. (For full definition of 'household' see table on household definition). An urban area has a minimum concentration of 1,000 persons and a population density of at least 400 persons per square kilometre, based on the current census population count. All territory outside urban areas is classified as rural.
Croatia	A rural household is every household in a rural area or in a dwelling outside settlements. Whether or not these conditions are met is the subjective assessment of the interviewer of the household budget survey.
Georgia	No information on definition provided.
Japan	No definition used.
Kazakhstan	Households living in rural areas. Rural areas are small human settlements ('auls' - villages) where at least 50 per cent of the population is composed of workers engaged in agricultural production and members of their families.
Kyrgyzstan	A rural household is a household in a rural area (according to the Territorial Classification of the Kyrgyz Republic SAOTO).
Mexico	A rural household is a household living in areas with fewer than 2,500 residents.
New Zealand	No definition used.
Norway	No official definition used.
Republic of Korea	No definition used.
Republic of Moldova	No information on definition provided.
Romania	No information on definition provided.
Switzerland	No information on definition provided.
The former Yugoslav Republic of Macedonia	No information on definition provided.
Turkey	No information on definition provided.
Turkmenistan	Households can be categorised as urban or rural, depending on the place of residence.
Ukraine	Households which reside in rural areas.
United States of America	The U.S. Census Bureau defines rural areas as open country and settlements with fewer than 2,500 residents. Farm household incomes as developed from ARMS can be classified by geographic area.

Source: UNECE survey on agricultural household income statistics.

Table 9

Treatment of non-personal form of institution in the household sector and of holdings operated as corporate institutions but de facto run as family businesses in EU countries

Country	Treatment of non-personal form of institution in the household sector	Treatment of holdings operated as corporate institutions but de facto run as family businesses
Austria		
Belgium	*	They appear under another category.
Denmark		
Estonia	Not included in household survey.	
Finland	Excluded.	
France		
Germany		
Greece		
Hungary	Institutional households are a part of the households sector in the Hungarian National accounts, but they are not treated as part of IAHS statistics.	
Ireland		
Italy		
Latvia	No information provided.	
Lithuania	Not in use.	
Luxembourg		
Netherlands		
Poland	Not included in household survey.	
Portugal		
Slovakia	Not in use.	
Slovenia	No information provided.	
Spain		
Sweden		
United Kingdom		

Source: UNECE survey on agricultural household income statistics.

Table 10

Treatment of non-personal form of institution in the household sector and of holdings operated as corporate institutions but de facto run as family businesses in non-EU countries

Country	Treatment of non-personal form of institution in the household sector	Treatment of holdings operated as corporate institutions but de facto run as family businesses
Albania	No information provided.	No information provided.
Andorra	No information provided.	No information provided.
Armenia	No information provided.	No information provided.
Australia	No information provided.	No information provided.
Azerbaijan	No information provided.	No information provided.
Belarus	Included.	Included.
Bulgaria	Excluded.	Excluded.
Canada	The household for religious colonies is considered to be the collective dwelling. Farming cooperatives are not identified as such on the Census of Agriculture, therefore the households of the agricultural operators of the cooperative would be considered as agricultural households. Community pastures, prison farms and other institutional farms do not have agricultural households associated with them.	A household is considered to be an agricultural household if a farm operator resides there, regardless of whether the farm is a family corporation, non-family corporation, partnership or sole proprietorship.
Croatia	Excluded from household budget survey.	Holdings operated as corporate institutions cannot be identified separately.
Georgia	No information provided.	No information provided.
Japan	Excluded.	Will be covered from 2004 onwards.
Kazakhstan	Excluded from survey.	No information provided.
Kyrgyzstan	Excluded from survey.	Not used.
New Zealand	Excluded.	If a respondent defines themselves as self-employed the net profit from the business is counted as self-employment income.
Norway	No information provided.	See note.
Republic of Korea	Excluded from survey.	Excluded from survey.
Republic of Moldova	No information provided.	No information provided.
Romania	Excluded from household budget survey.	Does not exist in household budget survey.
Switzerland	Income of the agriculture households sector activity removed from statistical programme in 2003.	
The former Yugoslav Republic of Macedonia	Excluded from household budget survey.	The kind of institution that is registered as legal entity is included in the Household Budget Survey and for incomes data on wages from their family business is included.
Turkey	No information provided.	No information provided.
Turkmenistan	N/A.	Not really mentioned - the main source of data is the survey of household budgets. Ii is therefore assumed that these kind of institutions are excluded.
Ukraine	Not included in household survey.	Household survey but some special treatment for agriculture. Households probably identified as agricultural - not substantial probably anyway.
United States of America	Households of operators of non-family corporations, other legal entities and hired manager households are excluded.	Operators households for farm corporations and partnerships are included in agriculture household income measurement.

Source: UNECE survey on agricultural household income statistics.

Note concerning Norway : Holdings organized as general partnership ("group holdings") or legal person (limited company, institution, foundation, government, county, municipality etc.) are not included in the current statistics.

Nevertheless, many holdings organized as general partnership are joint operation in milk production. These holdings are not treated as independent units in the context of taxation. Income, property etc. are shared among the partners. Due to the present regulations regarding governmental subsidies in agriculture, many partners participating in joint operations in milk production in addition operate their own individual holding. Income, property etc. for these persons will include both own holding and share from the general partnership (joint operation). As from 2002 changes in the subsidy regulations will reduce this "problem".

Table 11

Criteria for classification of households into socio-economic groups in EU-countries

Country	Classification criteria
Austria	A distinction is made between *primary* and *secondary* activity holdings. Primary farms are where at least half the income from the labour of the operator and spouse plus members of the family forming part of their household and working together full or part-time in farming or forestry comes from farming or forestry activities.
Belgium	Grouping is made according to the reference person's main occupation, determined on the basis of the time spent on the occupation and, as a secondary criterion, the income brought in. This system is based on that used for the agricultural census.
Denmark	The reference person system takes agricultural households to be those where the person with the highest gross income has agriculture as his or her industry and employment status as self-employed (independent). The industry of the reference person is determined by the administration (that is, not subjectively by each reference person) according to several criteria, including the composition of income, registration for Value Added Tax and non-receipt of unemployment benefit. Reference persons are allocated to industries if that industry forms more than 50% of the total income of that reference person; total income must be positive.
Estonia	Working household is a household with a least one working member aged 16 or more. **Unemployed household** is a non-working household with at least one member aged 16 or more who is employed. **Retired household** is a non-working and non-unemployed household with at least one old-age pensioner. **Other inactive household** is a non-working, non-unemployed and non-retired household (no member is working, no unemployed members nor pensioners). Until now there was in HBS not in use the division of household by main source of income of the household's reference person. Technically it is possible to separate employee income, received from agricultural activity, but this needs some methodological work, also there has not been interest from users of statistics for this kind of division. To Social Survey questionnaires of future periods one can add some specific questions for better qualifying the income received from agricultural activities.
Finland	The reference person is used for the classification of households into socio-professional groups. First, the reference person are classified as economically active or inactive. Second, economically active persons are further classified as (i) employees or (ii) employers or own-account workers. Classification into socio-professional groups is based on the main activity and occupation of the reference person.
France	Grouping is made according to the industry in which the head (reference person) declares himself/herself to be primarily active.
Germany	* 1/
Greece	* The target system is now used. Two other classification systems are available for comparative purposes. The first is based on the main employment (occupation) of the head of household, as declared to the Household Income Survey (Family Budget Survey). Under this system, heads of agricultural households who are in receipt of retirement pensions are classified as pensioners (that is, not as farmers) even if at the same time they continue to work on their farms. The second is based on the main source of income of the entire household.
Hungary	Based on the main source of income of the household's reference person (holder).
Ireland	*
Italy	Heads declare the branch in which they pursue their main activity. Both time and income factors are taken into account.
Latvia	Not in use.
Lithuania	Socio-economic group is determined by the main income source of the head of the household.

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 11 (concluded)

Criteria for classification of households into socio-economic groups in EU-countries

Country	Classification criteria
Luxembourg	Agricultural households are taken to be those which operate "professional agricultural holdings". These are holdings headed by a person who satisfies all the following conditions: the head of the holding works more than 50% of his time on the holding; he gets from the holding more than 50% of his income; he is affiliated to the agricultural social insurance; he has no other non-agricultural main activity.
Netherlands	Classification is based on the main source of income of the household as a whole. Seven income clusters are used. Independent activity falls within "profit prior to deduction of stock and capital," which in turn leads to class of business being determined.
Poland	Households are qualified for a particular socio-economic group based on the criterion of the source of income earned by household members. If the household members get income from several sources, it is the prevailing income that decides on the socio-economic group of household.
Portugal	Households headed by a self-employed worker in agriculture, including both those with and without paid employees.
Slovakia	No information provided.
Slovenia	Not in use.
Spain	Where there is doubt which is the main occupation of the reference person, the one providing the highest income is recorded. Incomes are used gross of capital consumption in allocating reference persons to socio-professional groups.
Sweden	The classification has been based on the main occupation of the reference person.
United Kingdom	On the basis of the income of the tax case. Up to the 1990/91 year of assessment agricultural cases were those in which self-employment (independent) income from agriculture or horticulture usually constituted the main or principal additional source of *self-employment income* (not, it should be noted, of total income) of single persons or husbands or the main source of self-employment income of wives. Since then, husbands and wives have been treated separately and included in the analysis only if they *as individuals* have a main or principal additional source of self-employment income deriving from agriculture or horticulture. Households which operate their farms as corporate bodies, and therefore receive income in the form of compensation from dependent activity rather than as income from independent activity, are therefore not treated as agricultural.

Source: UNECE survey on agricultural household income statistics.

1/ * The definition used corresponds to the IAHS target: the main source of income of the household's reference person.

Table 12

Criteria for classification of households into socio-economic groups in non-EU countries

Country	Classification criteria
Albania	No information provided.
Andorra	The criterion for classification of households into socio-professional groups is based on the main source of income of the household's reference person. There are 10 socio-professional groups: worker in agriculture, director, manager of company, superior technician, intermediate technician, administrative employee, worker of restoration and personal services, qualified worker, operator of machinery, non-qualified worker.
Armenia	No information provided.
Australia	No information provided.
Azerbaijan	No information provided.
Belarus	Rural household are not classified by socio-professional groups. They are classified by source of income (compensation for labour or pension) and by its size.
Bulgaria	N/A.
Canada	The identification of persons as farm operators on the Census of Agriculture provides the indicator for households or families as agricultural or non-agricultural.
Croatia	The household's main source of income or self-reported agricultural status of the head of
Georgia	No information provided.
Japan	Not used.
Kazakhstan	No information provided.
Kyrgyzstan	N/A.
New Zealand	N/A.
Norway	In the current statistics, (agricultural) households are not classified into socio-professional groups.
Republic of Korea	Main source of income of the household members.
Republic of Moldova	No information provided.
Romania	Households are grouped on the basis of the occupational status of the head of household (employee, employer, farmer, pensioner etc.).
Switzerland	No information provided.
The former Yugoslav Republic of Macedonia	Split into agricultural, mixed or non-agricultural households depending on ownership of an agricultural holding: if all members exclusively work on the holding - agricultural; if some income derived from the holding (includes income from leasing of holding) - mixed; if household does not own an agricultural holding - non-agricultural.
Turkey	No information provided.
Turkmenistan	In sample surveys of household budgets in both urban and rural areas, households are not categorised by social and occupational group.
Ukraine	Household are presently classified only by social characteristics of the household (size and composition) but there are plans to group data according to the main income source of household.
United States of America	Data on sources of income or gross sales.

Source: UNECE survey on agricultural household income statistics.

Table 13

Mechanisms used to introduce short-term stability in numbers of agricultural households

Country	Mechanisms used	Information from IAHS document
Austria	Results calculated per holding, not grossed up.	Not yet applicable.
Belgium	Main occupation classification system. Household numbers taken each year from the agricultural census. Numbers of household members for 1987 calculated on the basis of fiscal statistics and extrapolated according to the number of households.	No smoothing apart from the characteristics of the occupation system.
Denmark	Annual classification in income statistics records, but with some experimental averaging.	No regular smoothing.
Estonia	Not in use.	
Finland	Not in use.	
France	Main occupation classification system. Household numbers extrapolated from base years using the annual survey of employment.	Smoothed.
Germany	Numbers established in the five-yearly Income and Consumption Sample Survey, and extrapolated using the annual Microcensus.	Smoothed between base years.
Greece	Numbers taken from the Family Budget Surveys (1982, 1988) and interpolated and extrapolated.	Smoothed between base years.
Hungary	The use of average incomes over several years.	To be used in the future, at the moment there are data for one year.
Ireland	Results only calculated for base years of household budget survey.	Not yet applicable.
Italy	Numbers of households with head working as self-employed in agriculture are extracted from Labour Force Survey.	
Latvia	No information provided.	
Lithuania	Not in use.	
Luxembourg	Results only available for a single year.	Not yet applicable.
Netherlands	Appears to be reclassified annually in the SER according to the household's main source of income.	No smoothing apparently applied.
Poland	Not in use.	
Portugal	Main occupation classification system. Numbers taken from the General Population Census of 1981 and 1991, interpolated and extrapolated.	Smoothed between base years.
Slovakia	Not in use.	
Slovenia	Not in use.	
Spain	Numbers taken from the Family Budget Surveys (1980, 1990) and interpolated and extrapolated.	Smoothed between base years.
Sweden	No smoothing applied. Number of households taken from the Farm Register providing information on all households with an agricultural holding with more than 2,0 hectares of arable land.	
United Kingdom	Classification of cases by taxation authority is believed to take into consideration the normal income composition.	Informal smoothing, though subjective.

Source: UNECE survey on agricultural household income statistics.

Table 14

Mechanisms used to introduce short-term stability in numbers of agricultural households in non-EU

Country	Mechanisms used
Albania	No definition of agricultural household provided.
Andorra	Not applicable as no definition of agricultural household used.
Armenia	No definition of agricultural household provided.
Australia	Not applicable as no definition of agricultural household used.
Azerbaijan	No definition of agricultural household provided.
Belarus	Not applicable as no definition of agricultural household used.
Bulgaria	No such mechanism used.
Canada	?
Croatia	No information provided.
Georgia	No definition of agricultural household provided.
Japan	No such mechanism used.
Kazakhstan	No definition of agricultural household provided.
Kyrgyzstan	No such mechanism used.
New Zealand	No such mechanism used.
Norway	No such mechanism used.
Republic of Korea	No such mechanism used.
Republic of Moldova	No information provided.
Romania	No such mechanism used.
Switzerland	No information provided.
The former Yugoslav Republic of Macedonia	No such mechanism used.
Turkey	No information provided.
Turkmenistan	No such mechanism used.
Ukraine	No such mechanism used.
United States of America	No such mechanism used.

Source: UNECE survey on agricultural household income statistics.

Table 15

Equivalence scale used to give consumer units in EU countries

Country	Equivalence scale
Austria	Used, but scale not stated.
Belgium	Not used or reported.
Denmark	1st person in household including and above 17 years = 1, 2nd and following = 0.7, persons ≤ 17 years = 0.5. (*Source: OECD Standard*).
Estonia	The equivalence scale used in Estonia is 1: 0,8: 0,8.
Finland	Standard and modified OECD scale.
France	Reference person = 1, additional persons of 14 years and over = 0.7, children (less than 14 years old) = 0.5.
Germany	1st adult in household aged 14 years and above = 1, each additional adult = 0.7, children aged below 14 = 0.5. (*Source: SOEC request for Poverty Related Data, 1988, p.8*).
Greece	Head of household = 1.0; other members of 14 years and over = 0.7; members under 14 years = 0.5.
Hungary	Not yet calculated for agricultural households, but the same scale will be used as in the Household Budget Survey. The consumption unit factors applied by the Hungarian Central Statistical Office (Household Budget Survey) are the followings. In the households consisted of active earners and children: the first adult member of the household represent 1.00; any other adult household members = 0.75; the first child = 0.65; second child = 0.50; other children = 0.40 consumption unit. In case of inactive (pensioner) households (if no active earner among the household members) the first adult member represents 0.90, any other persons 0.65 consumption unit.
Ireland	Head of household = 1.0; other members of the household aged 14 years or over = 0.7; children under 14 years of age = 0.5.
Italy	Head of household = 1; other members of the household aged 15 years and over = 0.7; children less than 15 years old = 0.5.
Latvia	No information provided.
Lithuania	Not in use.
Luxembourg	Scale used by STATEC in family budget surveys. Men aged 14-59 = 1.0; women 14-59 = 0.8; men and women 60 years or over = 0.8; children under 2 = 0.2, 2 to 3 = 0.3, 4 to 5 = 0.4, 6 to 7 = 0.5, 8 to 9 = 0.6, 10 to 11 = 0.7, 12 to 13 = 0.8.
Netherlands	Used, but scale not stated.
Poland	The household budget survey results are published as average per capita data with no account for equivalence scales. The OECD equivalence scales is used for the analysis of poverty (based on HBS results).
Portugal	ILO scale. Head of household and other men aged 14-59 = 1; other women aged 14 and over, and men aged 60 and over = 0.8; children aged under 2 = 0.2, 2 and 3 = 0.3, 4 and 5 = 0.4, 6 and 7 = 0.5, 8 and 9 = 0.6, 10 and 11 = 0.7, 12 and 13 = 0.8.
Slovakia	No information provided.
Slovenia	Used a modified OECD scale, but modification not stated.
Spain	Head of household = 1.0; other persons over 14 years old = 0.7; other persons, or those of 14 years and under = 0.5 "Oxford" scale.
Sweden	Not in use.
United Kingdom	None used.

Source: UNECE survey on agricultural household income statistics.

Table 16

Equivalence scale used to give consumer units in non-EU countries

Country	The equivalence scale used to give consumer units
Albania	No information provided.
Andorra	No information provided.
Armenia	Adult man = 1.0; adult woman = 0.8; children under 15 = 0.5 (only used as alternative assessment).
Australia	No information provided.
Azerbaijan	OECD scale equivalence scale used.
Belarus	Head of household = 1.0; other adults = 0.75; children under 14 = 0.5.
Bulgaria	Not used.
Canada	Not used in the agriculture-population linkage database.
Croatia	Modified OECD scale; head of household = 1.0, other adults = 0.5, children = 0.3.
Georgia	Adult man 16 to 60 = 1.00; adolescent 7 to 16 = 1.00(?); pensioner age men 60 and over = 0.88; adult woman 16 to 55 = 0.84; pensioner age woman 55 and over = 0.76; pre-school age child 0 to 7 = 0.64.
Japan	None used.
Kazakhstan	Proposed equivalent scale for households for poverty line calculations: first adult = 1.00, all other members = 0.8 (1+(n-1)*0.8).
Kyrgyzstan	None used.
Mexico	None used.
New Zealand	The Revised Jensen Scale is used.*
Norway	Equivalence scales are normally used in analysis of household income.
Republic of Korea	None used.
Republic of Moldova	First adult in the household = 1.00; other adults = 0.70; children under 16 = 0.50.
Romania	None used.
Switzerland	No information provided.
The former Yugoslav Republic of Macedonia	None used.
Turkey	No information provided.
Turkmenistan	None used in the sample survey of household budgets.
Ukraine	Yes, in relation to poverty issues. First adult = 1.00, all other members including children = 0.70.
United States of America	Not estimated for farm household income measurement.

Source: UNECE survey on agricultural household income statistics.

Notes: * Jensen Equivalised Annual Household Income is a measure of household income which takes into account household composition. (*Source: http://www2.stats.govt.nz/domino/external/web/prod_serv.nsf/Response/Indicator+16:+Jensen+Equivalised+Annual+Household+Income*).

Table 17

The basis of estimating the value of own consumption
(of agricultural and non-agricultural goods and services) in EU countries

Country	Basis of estimating the value of own consumption
Austria	
Belgium	Basis not clear. Prices and quantities provided by the Agricultural Economics Institute. Amounts produced by non-farmers from the family budgets survey. Prices the same as LEI data.
Denmark	In principle the sales value of the quantity consumed.
Estonia	Estimate provided by the respondent, at market prices.
Finland	Excluded from 2000 onwards.
France	The Preliminary Information section of the DTT (1990) states that own-consumed goods, as reported in the Family Budget Survey, are valued at market prices. The earlier TIAH report from France (1986) states that these correspond to producer prices, whereas a previous system used consumer prices.
Germany	At producer prices (as in national accounts). Various statistics used for this purpose, including income and consumption sample survey.
Greece	From Household Income (Family Budget) Survey. Agricultural goods valued at ex-farm prices: non-agricultural goods at basic prices.
Hungary	At average market prices.
Ireland	At retail prices in data source (Household Budget Survey), but revalued for the IAHS to farm-gate prices.
Italy	Included, but method of valuation not stated. Various statistics used for this purpose, including REA starting from 1999.
Latvia	No information provided.
Lithuania	Estimate provided by the respondent, at market (retail) prices.
Luxembourg	No details given.
Netherlands	At market prices.
Poland	At market prices.
Portugal	Not stated.
Slovakia	No information provided.
Slovenia	At market prices.
Spain	Self-supply and own-consumption cover goods only, not services. In 1980 only foodstuffs were included. Where goods have been included they have been valued at local retail market prices.
Sweden	At market prices.
United Kingdom	Tax rules apply: some forms of income in kind are subject to taxation, but coverage and valuation probably understates the true value.

Source: UNECE survey on agricultural household income statistics.

Table 18

The basis of estimating the value of own consumption
(of agricultural and non-agricultural goods and services) in non-EU countries

Country	Basis of estimating the value of own consumption
Albania	No information provided.
Andorra	No income statistics for agricultural households.
Armenia	Value of own consumption is estimated using the mean price at country level.
Australia	No information provided.
Azerbaijan	No information provided.
Belarus	The purchase price of similar goods sold on markets serve as the basis for estimating the value of own-consumption of agricultural goods.
Bulgaria	There is no estimation of the value of own-consumption.
Canada	Not used in the agriculture-population linkage database.
Croatia	The value of own-consumption is estimated on the basis of prices of similar goods sold on the regional market.
Georgia	Estimated in market prices.
Japan	Price of agricultural products is the farm gate price based on results of the 'Statistical survey on prices of agricultural products' carried out by the Statistics Department of the Ministry of Agriculture, Forestry and Fisheries.
Kazakhstan	Monetary estimate of consumption by household members of produce from private plots is made using the average prices of goods purchased in shops and on markets in the region (oblast).
Kyrgyzstan	N/A.
Mexico	Not applied. (?)
New Zealand	The value of own consumption is not estimated.
Norway	The value of home consumption of products produced on the holding is included in the tax return data. The values are based either on information reported by the holder or standard values stipulated by the Tax authorities.
Republic of Korea	The value of own-consumption is estimated based on market prices.
Republic of Moldova	The own consumption assessment is done on the basis of average buying prices for similar products in a certain area for the period of reference.
Romania	Lei (monetary) equivalent of own-consumption of food and non-food products (agricultural production, stocks from previous periods, labour, gifts, etc.) is calculated using the medium purchase prices of similar goods in the statistical regions in the reference month.
Switzerland	Income of the agriculture households sector activity removed from statistical programme in 2003.
The former Yugoslav Republic of Macedonia	The value of own-consumption is estimated using data from the survey on quantities of food consumed from own-production. The quantities are multiplied with average prices.
Turkey	No information provided on calculation but own consumption is included in the calculation of agricultural income in the Household Income and Consumption Expenditure Survey.
Turkmenistan	The value of food and non-food items received in kind is estimated using average purchase prices as calculated for each district.
Ukraine	The estimation of the consumed natural revenues is made using the average prices for purchasing the appropriate commodities in the reference period in trade outlets and markets of the given region.
United States of America	Estimates of the value of farm produced goods consumed on farms are self reported.

Source: UNECE survey on agricultural household income statistics.

Table 19

The basis of calculating the imputed rental value of own dwellings in EU countries

Country	
Austria	Not included.
Belgium	Included. Method not specified exactly. Calculations (as) for national accounts and tax data.
Denmark	A percentage of the value of the dwelling; normally considered to be below market value.
Estonia	Imputed rental value, if asked in Household Budget Survey (HBS), was determined by respondents. Because of low quality of the received answers this data were not published and questions were excluded from HBS 2003 questionnaire.
Finland	Included. Measured by the value of actual rents of similar dwellings.
France	Estimated on the basis of local values (actual rents paid by local households). These estimates are based on the characteristics of the dwellings and their locations.
Germany	Computed on the basis of the kind of rent payable per square metre for comparable rented dwellings. Characteristics of (agricultural) own used dwellings, such as surface area, level of fittings and age, are available from buildings and housing censuses, housing sample surveys and supplementary microcensus surveys.
Greece	In the Household Income (Family Budget) Survey (HIS) households are asked to estimate the rental value of their dwelling had it been rented out. Figures on combined real and imputed rents are taken from national accounts, the imputed part derived by applying HIS coefficients and distributed between agricultural and non-agricultural households.
Hungary	Not yet calculated in the IAHS statistics, but in the National accounts it is estimated on a cost basis.
Ireland	Not included. Crude calculations indicate that imputed rents represent on average about 7% of gross household income as measured in the Household Budget Survey.
Italy	Rental values of own dwellings are estimated on the basis of information provided from the household surveys. The values are then compared with the national accounts data (branch: hiring of factory premises).
Latvia	No information provided.
Lithuania	Self-estimated value of rental that a tenant would pay for the same accommodation.
Luxembourg	Imputed rental value of owned dwellings is measured by the value of actual rents of similar dwellings in the countryside, found by an annual survey of rents conducted by STATEC.
Netherlands	CBS (1985). Valued at the economic rentable value, i.e. based on the rental value of an economically equivalent dwelling in the rented sector. Earlier estimates were "according to tax guide-lines ("fiscal laws")."
Poland	In Household Budget Survey imputed rents are planned to estimate starting from 2005. In national accounts, beginning with data for 2003, imputed rental value of owner occupied dwellings is calculated by user cost method. Additionally data for years 1995-2002 have been recalculated using this new method. Shortly, user cost method consists in adding specific cost items like consumption of fixed capital, expenditures on maintenance and repair, taxes, net insurance premiums paid by owner occupants as well as some allowance for net operating surplus.
Portugal	Not stated.
Slovakia	No information provided.
Slovenia	The rental value of the own dwelling is determined by respondents. These data are used only at an aggregate level in the National Accounts.
Spain	A value is imputed similar to the rent which a household would have to pay for a dwelling like the one it occupies if it were a tenant.
Sweden	From income year 1999 an imputed rental value of owner dwellings has been calculated. The total imputed rental value according to National Accounts has been distributed to the households by the tax assessment value for small houses.
United Kingdom	Not included.

Source: UNECE survey on agricultural household income statistics.

Table 20

The basis of calculating the imputed rental value of own dwellings in non-EU countries

Country	
Albania	No information provided.
Andorra	No income statistics for agricultural households.
Armenia	No information provided.
Australia	No information provided.
Azerbaijan	No information provided.
Belarus	No imputation of owner occupied dwellings.
Bulgaria	No imputation of owner occupied dwellings.
Canada	Not used in the agriculture-population linkage database.
Croatia	The estimate is based on an estimate made by the reference person. They are asked in the survey to state the amount they would have to pay if they rented the same type of dwelling.
Georgia	No information provided.
Japan	Based on purchase value of own dwellings: value of own dwellings = present value - depreciation per year.
Kazakhstan	In SNA, the imputed value of housing services in owner-occupied dwellings is calculated on the basis of rentals paid for similar accommodation.
Kyrgyzstan	N/A.
Mexico	The estimate is based on an estimate made by the reference person. They are asked to state the amount they would have to pay/receive if they rented the same type of dwelling.
New Zealand	Imputed rental value of own dwellings is not calculated.
Norway	The value is included in the tax return data. In general, the calculated value is the gross rental value of a similar dwelling in the region concerned. Costs related to the dwelling are deductible. For all kinds of households, the stipulated taxation value of own dwelling is much lower than the real market value.
Republic of Korea	No imputation of owner occupied dwellings.
Republic of Moldova	No imputation of owner occupied dwellings.
Romania	No imputation of owner occupied dwellings.
Switzerland	Income of the agriculture households sector activity removed from statistical programme in 2003.
The former Yugoslav Republic of Macedonia	No imputation of owner occupied dwellings.
Turkey	No information provided.
Turkmenistan	No imputation of owner occupied dwellings.?
Ukraine	No imputation of owner occupied dwellings.
United States of America	USDA measures the rental value of operator dwelling by using direct reported values of the operator dwelling and rent to value ratios obtained from the U.S. Department of Commerce. The product of these two items gives a measure of gross space rent. Survey respondents report expenses on their dwellings except for depreciation which is imputed. Gross rents and expenses are used to calculate an estimate of net rent for operator dwellings.

Source: UNECE survey on agricultural household income statistics.

Table 21 (part 1)

Calculation of Net Disposable Income of Agriculture Households in EU-countries

		Austria (IAHS)	Belgium	Denmark (IAHS)	Estonia	Finland	France (IAHS)	Germany (IAHS)	Greece (IAHS)	Hungary	Ireland	Italy
	Number of households	y[vii]	y	y	y	y	y	y	y	y	y	y
	Number of persons		y	y	y	y	y	y	y	y	y	y
	Number of consumer units			y	y	y	y	y	y		y	y
1	**FROM INDEPENDENT ACTIVITY**	**y**	**y**	**y**		**y**	**y**	**y**	**y**	**y@**	**y**	**y**
1a	From independent agricultural activity									y@		
	Net Operating Surplus		y	y	(y) and (*)				y	y@		y
	Income	y			y		y	y			y	y
1b	From independent non-agricultural activity					y				y@		
	Net Operating Surplus		y	y	(y) and (*)				y	y@		y
	Income	y			y		y	y			y	y
1c	Net Operating Surplus from imputed rental value of owner-dwellings		y	y[i]	@	y	y	y	y			y
2	**DEPENDENT ACTIVITY of which**	**y**	**y**	**y**		**y**	**y**	**y**	**y**	**y**	**y**	**y**
2a	Wages and salaries		y	y	y	y	*	y	y	y	y	
2b	Employer's actual social contributions				(y) and (*)		*	y	y[ii]			
2c	Imputed social contributions				(y) and (*)		*	y				
3	**PROPERTY INCOME RECEIVED of which**	*	**y**	**y**		**y**	**y**	**y**	**y**	**y**	**y**	**y**
3a	Interest	?	y	*	y	y	y	*	y	y	*	
3b	Dividends	?	*		y	y	y	*	y	y	*	
3c	Withdrawals from quasi-corporations		*	*	(y) and (*)	*	*	(*)	*		*	
3d	Property income attributed to insurance policy holders		y		(y) and (*)		y	*	*			
3e	Rents on land and subsoil assets	*	*	*	y	*	y	*	y		*	
4	**NON-LIFE INSURANCE CLAIMS**		**y**				**y**	**y**	**y**			**y**
4a	Claims on capital items		*		(y) and (*)			*				
4b	Claims on personal accident		*		(y) and (*)			*				
5	**SOCIAL BENEFITS received (other than social transfers in kind)**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**
6	**MISCELLANEOUS INWARD CURRENT TRANSFERS**		**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**	**y**
7	**CURRENT RECEIPTS Sum of 1-6**	**y**	**y**	**y**	**(y) and (*)**	**y**		**y**	**y**	**y**		**y**
8	**PROPERTY INCOME PAID of which**	*	**y**	**y**		*	**y**	**y**	**y**		*	**y**
8a	Interest on loans for		y	*		*	y		y			
	(i) farming purposes		y	*	(y) and (*)	*	*	*	*		*	
	(ii) purchase of agriculture land and buildings		*	*	(y) and (*)	*	*	*	*			
	(iii) other business purposes		*	*	(y) and (*)	*	*	*	*		*	
	(iv) private and other credit		y	*	(y) and (*)			y	*		*	
8b	Rents on		y			*	y		y			
	(i) agricultural land and buildings		y	*	(y) and (*)	*	*	*	*		*	
	(ii) other business land and buildings			*	(y) and (*)	*	*	*	*[iii]		*	
9	**NET NON-LIFE INSURANCE PREMIUMS**	*	**y**		(y) and (*)		*	**y**	**y**			**y**
10	**CURRENT TAXES ON INCOMES AND WEALTH of which**	**y**	**y**	**y**		**y**	**y**	**y**	**y**	**y**	**y**	**y**
10a	on income		y		(y) and (*)	*	y	*	y	y	*	
10b	on capital gains				(y) and (*)	*	y	*	*		*	
10c	on capital or wealth				(y) and (*)	*	y	*	y		*	
10d	on private use of vehicles etc.				-		y	*	y			

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 21 (part 1 concluded)

Calculation of Net Disposable Income of Agriculture Households in EU-countries

		Austria (IAHS)	Belgium (IAHS)	Denmark (IAHS)	Estonia	Finland	France (IAHS)	Germany (IAHS)	Greece (IAHS)	Hungary	Ireland	Italy
11	**SOCIAL CONTRIBUTIONS of which**	**y**	**y**	**y**		**y**	*****	**y**	**y**	**y**	**y**	**y**
11a	Actual		y			y	*	y	y	y	y	
	(i) employers' actual social contributions				(y) and (*)		*	y	*[iii]y			
	(ii) employees' social contributions				(y) and (*)	y	*	y	*		*	
	(iii) by self-employed and non-employed persons	y	y		(y) and (*)		*	y	*		*	
11b	Imputed				y		*	y	y[ii]			
12	**MISCELLANEOUS OUTGOING CURRENT TRANSFERS of which**		**y**			*****	*****	**y**	**y**		**y**	**y**
12a	to NPISHs				@		*	*	y		*	
12b	between households		y		y	*	*	*	y			
12c	other		y		y		y	*	y		(*)	
13	**NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT**	**y**	**y**	**y**	**(y) and (*)**	**y**	**y**	**y**	**y**		**y**	**y**
14	**SOCIAL TRANSFERS IN KIND**				**(y) and (*)**							
15	**NET ADJUSTED DISPOSABLE INCOME**				**(y) and (*)**							

Source: UNECE survey on agriculture household income.

Notes: y = yes, explicit data; * = implied data covered elsewhere; (y) and (*) = covered in part; @ = gross of capital consumption.

Table 21 (part 2)

Calculation of Net Disposable Income of Agriculture Households in EU-countries

		Luxemb. (IAHS)	Latvia	Lithuania	Nether-lands	Poland	Portugal (IAHS)	Slovakia - no info	Slovenia	Spain (IAHS)	Sweden	United Kingdom
	Number of households	y	y	y	y		y			y	y	y
	Number of persons	y	y	y	y		y			y	y	
	Number of consumer units	y			y		y			y		
1	**FROM INDEPENDENT ACTIVITY**	**y**	**y**		**y**		**y**		**y**	**y**	**y**	**y**
1a	From independent agricultural activity		y	y					y			
	Net Operating Surplus	y	y	y	y	-	*(@)			y		
	Income		y	y		y					*	y
1b	From independent non-agricultural activity			y					y			
	Net Operating Surplus	y		y	y	-	*(@)		y	*		
	Income		y	y		y					*	y
1c	Net Operating Surplus from imputed rental value of owner-dwellings	y	y		y	-	y		y	y	y	
2	**DEPENDENT ACTIVITY of which**	**y**	**y**		**y**		**y**			**y**	**y**	**y**
2a	Wages and salaries		y	y	y	y			y	y	y	y
2b	Employer's actual social contributions			*	y	-			y	y		
2c	Imputed social contributions				*	-				y	y	
3	**PROPERTY INCOME RECEIVED of which**	**y**	**y**		**y**		**y**			**y**	**y**	**y**
3a	Interest	y	y	(y) and (*)	y	y			y	y		*
3b	Dividends	y	y	y	y	y			y	*		*
3c	Withdrawals from quasi-corporations					y				*		
3d	Property income attributed to insurance policy holders					-			*	y		
3e	Rents on land and subsoil assets	y	y	y	*	y			y	y		*
4	**NON-LIFE INSURANCE CLAIMS**	**y**					**y**			**y**	**(*)**	
4a	Claims on capital items	y				y			*			
4b	Claims on personal accident	y		y		y			*			*
5	**SOCIAL BENEFITS received (other than social transfers in kind)**	**y**		**y**	**y**	**y**	**y**		**y**	**y**	**y**	**(y)**
6	**MISCELLANEOUS INWARD CURRENT TRANSFERS**			**y**	**y**	**y**	**y**		*	**y**	**(*)**	
7	**CURRENT RECEIPTS Sum of 1-6**	**y**		**y**	**y**		**y**			**y**	**y**	**y**
8	**PROPERTY INCOME PAID of which**	**y**	**y**		**y**		**y**			**y**	**y**	*
8a	Interest on loans for				y					y		
	(i) farming purposes	y	y	(y) and (*)	*	-			y	*		y
	(ii) purchase of agriculture land and buildings		y		*	-				*		*
	(iii) other business purposes		y		*	-			y	*		*
	(iv) private and other credit	y			*	-			y	*		
8b	Rents on				y							
	(i) agricultural land and buildings	y	y	y	*	-			y			y
	(ii) other business land and buildings				*							*
9	**NET NON-LIFE INSURANCE PREMIUMS**	**y**					**y**			**y**	**(*)**	
10	**CURRENT TAXES ON INCOMES AND WEALTH of which**	**y**			**y**		**y**			**y**	**y**	
10a	on income	y		y	y	-	*		y	*		
10b	on capital gains					-			y	*		
10c	on capital or wealth	y			y	y	*			y		
10d	on private use of vehicles etc.	y			*	y				y		

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 21 (part 2 concluded)

Calculation of Net Disposable Income of Agriculture Households in EU-countries

		Luxemb. (IAHS)	Latvia	Lithuania	Nether-lands	Poland	Portugal (IAHS)	Slovakia - no info	Slovenia	Spain (IAHS)	Sweden	United Kingdom
11	**SOCIAL CONTRIBUTIONS of which**	**y**		**y**	**y**		**y**			**y**	**y**	
11a	Actual	y		y	*					y		
	(i) employers' actual social contributions			(y) and (*)	*	-			y	y		
	(ii) employees' social contributions				*	-				y		
	(iii) by self-employed and non-employed persons			(y) and (*)	*	-			y	y		
11b	Imputed				*	-				y		
12	**MISCELLANEOUS OUTGOING CURRENT TRANSFERS of which**	**y**		**y**	**y**		**y**			**y**	**(y)**	
12a	to NPISHs				*	y				y		
12b	between households			(y) and (*)	y	y			y	y		
12c	other	y		y	y	y				y		
13	**NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT**	**y**		**y**	**y**	**7–(8b+10cd +12)**	**y**			**y**	**y**	
14	**SOCIAL TRANSFERS IN KIND**			**(y) and (*)**		**-**			*	**y**		
15	**NET ADJUSTED DISPOSABLE INCOME**			**y**		**-**				**y**		

Source: UNECE survey on agriculture household income.

Notes: y = yes, explicit data; * = implied data covered elsewhere; (y) and (*) = covered in part; @ = gross of capital consumption.

Table 22 (part 1)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Albania	Andorra	Armenia	Austra-lia	Azer-baijan	Belarus	Bulgaria	Canada 1/	Croatia
	Number of households	y	n/a	n/a	y	y	y	y	y	y
	Number of persons	y	n/a	n/a	y	y	y	y	y	y
	Number of consumer units	y	n/a	n/a		y	y			(y) and (*)
1	**FROM INDEPENDENT ACTIVITY**	**(y) and (*)**	**n/a**	**n/a**						
1a	From independent agricultural activity		n/a	n/a		y		(y) and (*)		
	Net Operating Surplus		n/a	n/a		@		(y) and (*)	y	y
	Income		n/a	n/a	1/	y		(y) and (*)		y
1b	From independent non-agricultural activity		n/a	n/a		y		-		
	Net Operating Surplus		n/a	n/a		@		-	y	y
	Income		n/a	n/a	2/	y		-		y
1c	Net Operating Surplus from imputed rental value of owner-dwellings		n/a	n/a		@				
2	**DEPENDENT ACTIVITY of which**	**(y) and (*)**	**n/a**	**n/a**						*
2a	Wages and salaries	(y) and (*)	n/a	n/a	y	y	y	(y) and (*)	y	*
2b	Employer's actual social contributions	(y) and (*)	n/a	n/a		y		(y) and (*)		*
2c	Imputed social contributions		n/a	n/a		y		-		*
3	**PROPERTY INCOME RECEIVED of which**	*	**n/a**	**n/a**				**(y) and (*)**	**y**	
3a	Interest		n/a	n/a	y	y	y	-	y	*
3b	Dividends		n/a	n/a	y	y	y	-	y	*
3c	Withdrawals from quasi-corporations		n/a	n/a	*	@		-	y	*
3d	Property income attributed to insurance policy holders		n/a	n/a		y		-	y	*
3e	Rents on land and subsoil assets		n/a	n/a	*	y		-	y	*
4	**4 NON-LIFE INSURANCE CLAIMS**	*	**n/a**	**n/a**				**(y) and (*)**		
4a	Claims on capital items		n/a	n/a		@		-		*
4b	Claims on personal accident		n/a	n/a		@		-		*
5	**SOCIAL BENEFITS received (other than social transfers in kind)**	**(y) and (*)**	**n/a**	**n/a**	**y**	**y**	**y**	**(y) and (*)**	**y**	**(y) and (*)**
6	**MISCELLANEOUS INWARD CURRENT TRANSFERS**	**(*)**	**n/a**	**n/a**	**y**	**y**	**y**	**(y) and (*)**		*
7	**CURRENT RECEIPTS Sum of 1-6**	**(*)**	**n/a**	**n/a**		**y**		**(y) and (*)**		
8	**PROPERTY INCOME PAID of which**	**(*)**	**n/a**	**n/a**				**(y) and (*)**		
8a	Interest on loans for		n/a	n/a		y		-		
	(i) farming purposes		n/a	n/a		@			y 2/	*
	(ii) purchase of agriculture land and buildings		n/a	n/a		@			y 2/	*
	(iii) other business purposes		n/a	n/a		@			y 2/	*
	(iv) private and other credit		n/a	n/a		@			y 2/	*
8b	Rents on	(*)	n/a	n/a				-		
	(i) agricultural land and buildings		n/a	n/a		y			y	*
	(ii) other business land and buildings		n/a	n/a		y				*

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 22 (part 1 concluded)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Albania	Andorra	Armenia	Austra- lia	Azer-baijan	Belarus	Bulgaria	Canada 1/	Croatia
9	**NET NON-LIFE INSURANCE PREMIUMS**	**(*)**	**n/a**	**n/a**		**y**		**(y) and (*)**		*****
10	**CURRENT TAXES ON INCOMES AND WEALTH of which**	**(*)**	**n/a**	**n/a**		**y**		**(y) and (*)**		
10a	on income		n/a	n/a	y (imputed)	y		-		y
10b	on capital gains		n/a	n/a		@		-		*
10c	on capital or wealth		n/a	n/a		@		-		y
10d	on private use of vehicles etc.		n/a	n/a		@		-		y
11	**SOCIAL CONTRIBUTIONS of which**	**(*)**	**n/a**	**n/a**				**(y) and (*)**		
11a	Actual		n/a	n/a		@		-		
	(i) employers' actual social contributions		n/a	n/a		@				*
	(ii) employees' social contributions		n/a	n/a		@				*
	(iii) by self-employed and non-employed persons		n/a	n/a		@				*
11b	Imputed		n/a	n/a		@		-		*
12	**MISCELLANEOUS OUTGOING CURRENT TRANSFERS of which**	**(*)**	**n/a**	**n/a**		**@**		**(y) and (*)**		
12a	to NPISHs		n/a	n/a		@		-		*
12b	between households		n/a	n/a		y	y	-		*
12c	other		n/a	n/a		y		-		*
13	**NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT**	**(*)**	**n/a**	**n/a**		**y**		**(y) and (*)**		
14	**SOCIAL TRANSFERS IN KIND**	**(*)**	**n/a**	**n/a**	**y (imputed for HIES only)**	**y**	**y**	**-**		**(y) and (*)**
15	**NET ADJUSTED DISPOSABLE INCOME**	**(*)**	**n/a**	**n/a**		**@**		**(y) and (*)**		

Source: UNECE survey on agriculture household income.

Australia : 1/ Number of consumer units could be calculated but isn't.

Australia : 2/ Income from independent activity – income from unincorporated business (including sole traders and partnerships) is measured in the survey as the profit or loss of the business. Profit/loss consists or the value of gross output of the enterprise after the deduction of operating expenses (including depreciation). This income is not able to be split by whether it relates to agricultural or non agricultural activity.

Canada : 1/ Data in the table is based on the Census of Agriculture. A separate table is available with information on income from all data sources in Canada.

Canada : 2/ Property income received and interest loans as a group not individually.

Croatia : There is no income data classified by the socio-economic type of the household.

Notes: y = yes, explicit data; * = implied data covered elsewhere; (y) and (*) = covered in part; @ = gross of capital consumption.

Table 22 (part 2)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Georgia 1/	Japan	Kazakh-stan	Kyrgyz-stan	Mexico	New Zealand	Norway	Republic of Korea
	Number of households	y	n	n/a	y	y	y		y
	Number of persons	y	n	n/a	y	y	y		y
	Number of consumer units	y	n	n/a		y			n
1	**FROM INDEPENDENT ACTIVITY**			**n/a**				**y**	**y**
1a	From independent agricultural activity			n/a		y		y	y
	Net Operating Surplus		y	n/a		y*	y* 1/	y	y
	Income	y	y	n/a		y		y	y
1b	From independent non-agricultural activity			n/a		y		y	y
	Net Operating Surplus		y	n/a		y*	y*	y	y
	Income	y	y	n/a		y		y	y
1c	Net Operating Surplus from imputed rental value of owner-dwellings		y	n/a		y		(y) and (*)	n
2	**DEPENDENT ACTIVITY of which**			**n/a**					**(y) and (*)**
2a	Wages and salaries	y	y	n/a		y	y	y	y
2b	Employer's actual social contributions		y	n/a		y*			n
2c	Imputed social contributions		y	n/a		y*			n
3	**PROPERTY INCOME RECEIVED of which**	**y**		**n/a**					**y**
3a	Interest		y	n/a		y	y	y	y
3b	Dividends		y	n/a		y	y	y	y
3c	Withdrawals from quasi-corporations		y	n/a		y	(y)	y	n
3d	Property income attributed to insurance policy holders		y	n/a		y		y	n
3e	Rents on land and subsoil assets		y	n/a		y	y		(y) and (*)
4	**4 NON-LIFE INSURANCE CLAIMS**			**n/a**					**(y) and (*)**
4a	Claims on capital items		y	n/a		y			n
4b	Claims on personal accident		y	n/a		y			y
5	**SOCIAL BENEFITS received (other than social transfers in kind)**	**y**	**y**	**n/a**		**y**	**y**	**y**	**y**
6	**MISCELLANEOUS INWARD CURRENT TRANSFERS**	**y**	**y**	**n/a**		**y**	**y**	**y**	**y**
7	**CURRENT RECEIPTS Sum of 1-6**		**y**	**n/a**		**y**	**y (except 4)**	**y**	**(y) and (*)**
8	**PROPERTY INCOME PAID of which**			**n/a**					**y**
8a	Interest on loans for			n/a			y 2/	y	y
	(i) farming purposes		y	n/a		y		*	y
	(ii) purchase of agriculture land and buildings		y	n/a		y		*	y
	(iii) other business purposes		y	n/a		y		*	y
	(iv) private and other credit		y	n/a		y		*	y
8b	Rents on			n/a			y		(y) and (*)
	(i) agricultural land and buildings		y	n/a		y			(y) and (*)
	(ii) other business land and buildings		y	n/a		y			(y) and (*)

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 22 (part 2 concluded)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Georgia 1/	Japan	Kazakh-stan	Kyrgyz-stan	Mexico	New Zealand	Norway	Republic of Korea
9	**NET NON-LIFE INSURANCE PREMIUMS**		**y**	**n/a**			**y 3/**		**y**
10	**CURRENT TAXES ON INCOMES AND WEALTH of which**			**n/a**				**y**	**(y) and (*)**
10a	on income		y	n/a			y	y	(y) and (*)
10b	on capital gains		y	n/a				*	(y) and (*)
10c	on capital or wealth		y	n/a		y*		y	(y) and (*)
10d	on private use of vehicles etc.		y	n/a		y		*	(y) and (*)
11	**SOCIAL CONTRIBUTIONS of which**			**n/a**					**n**
11a	Actual			n/a					n
	(i) employers' actual social contributions		y	n/a		y*			n
	(ii) employees' social contributions		y	n/a					n
	(iii) by self-employed and non-employed persons		y	n/a				y	n
11b	Imputed		y	n/a		y*			n
12	**MISCELLANEOUS OUTGOING CURRENT TRANSFERS of which**			**n/a**					**(y) and (*)**
12a	to NPISHs		?	n/a		y			n
12b	between households		y	n/a		y		y	(y) and (*)
12c	other		y	n/a		y			(y) and (*)
13	**NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT**		**y**	**n/a**		**y***	**y (7 minus 10a)**	**y**	**n**
14	**SOCIAL TRANSFERS IN KIND**		**y**	**n/a**		**y**			**n**
15	**NET ADJUSTED DISPOSABLE INCOME**		**y**	**n/a**		**y**			**n**

Source: UNECE survey on agriculture household income.

Georgia : Information not provided in this form but information taken from a different table which was provided.

Kazakhstan : Data for money incomes being of low quality, the level of incomes has therefore been evaluated since 2001 on the basis of expenditure on consumption plus a monetary estimate of consumption by household members of produce from private plots.

Kyrgyzstan : Net disposable income not calculated.

New Zealand : 1/ Net operating surplus doesn't differentiate between agricultural and non-agricultural activity.

New Zealand : 2/ Interest on loans and rents are classified as expenditure.

New Zealand : 3/ Insurance premiums are estimated.

Republic of Korea : Disposable income = Farm household income - non consumption expenditures (taxes & dues, remittance by family, other cash and gift donation, etc).

Notes: y = yes, explicit data; * = implied data covered elsewhere; (y) and (*) = covered in part; @ = gross of capital consumption.

Table 22 (part 3)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Republic of Moldova	Romania	Switzer-land	The former Yugoslav Rep. of Macedonia	Turkey	Turkmen istan	Ukraine	United States of America
	Number of households	y	y	n/a	y	n/a	y	y	y
	Number of persons	y	y	n/a	y	n/a	y	y	y
	Number of consumer units	y	n	n/a		n/a		y	not calculated
1	**FROM INDEPENDENT ACTIVITY**			**n/a**	**y**	**n/a**		**y**	**y**
1a	From independent agricultural activity	y		n/a	y	n/a	y		y
	Net Operating Surplus	y	n	n/a		n/a			y
	Income	n	y	n/a		n/a	y	y	y
1b	From independent non-agricultural activity	y		n/a		n/a	y	y	
	Net Operating Surplus	y	n	n/a		n/a			
	Income	n	y	n/a		n/a	y	y	y
1c	Net Operating Surplus from imputed rental value of owner-dwellings	n	n	n/a		n/a		n	y
2	**DEPENDENT ACTIVITY of which**		**y**	**n/a**	**y**	**n/a**			**y**
2a	Wages and salaries	y	y	n/a	y	n/a	y	y	y
2b	Employer's actual social contributions	n	n	n/a		n/a		?	
2c	Imputed social contributions	n	n	n/a		n/a	y		
3	**PROPERTY INCOME RECEIVED of which**	**y**	**y**	**n/a**	**y**	**n/a**			**y**
3a	Interest	y	y	n/a		n/a	y	y	y
3b	Dividends	y	y	n/a	y	n/a	y	y	y
3c	Withdrawals from quasi-corporations	n	n	n/a		n/a			
3d	Property income attributed to insurance policy holders	n	y	n/a		n/a	y		
3e	Rents on land and subsoil assets	y	y	n/a	y	n/a	y	y	y
4	**NON-LIFE INSURANCE CLAIMS**	**n**	**1/**	**n/a**	**y**	**n/a**	**y**		
4a	Claims on capital items	n		n/a	y	n/a			
4b	Claims on personal accident	n		n/a	y	n/a			
5	**SOCIAL BENEFITS received (other than social transfers in kind)**	**y**	**y**	**n/a**	**y**	**n/a**	**(y) and (*)**	**y**	
6	**MISCELLANEOUS INWARD CURRENT TRANSFERS**	**y**	**2/**	**n/a**	**y**	**n/a**		**y**	**y**
7	**CURRENT RECEIPTS Sum of 1-6**	*		**n/a**	**y**	**n/a**		**y**	**y**
8	**PROPERTY INCOME PAID of which**	*		**n/a**		**n/a**			**y**
8a	Interest on loans for	*	3/	n/a		n/a			
	(i) farming purposes	*		n/a		n/a			y
	(ii) purchase of agriculture land and buildings	*	n	n/a		n/a	y		y
	(iii) other business purposes	*	4/	n/a		n/a			y
	(iv) private and other credit	*	y	n/a		n/a	y		
8b	Rents on	n		n/a		n/a			
	(i) agricultural land and buildings	n	y	n/a		n/a	(y) and (*)		y
	(ii) other business land and buildings	n	y	n/a		n/a	(y) and (*)		

TABLE TO BE CONTINUED ON THE NEXT PAGE

Table 22 (part 3 concluded)

Calculation of Net Disposable Income of Agriculture Households in non-EU countries

		Republic of Moldova	Romania	Switzer-land	The former Yugoslav Rep. of Macedonia	Turkey	Turkme nistan	Ukraine	United States of America
9	**NET NON-LIFE INSURANCE PREMIUMS**	**n**	**y**	**n/a**		**n/a**			
10	**CURRENT TAXES ON INCOMES AND WEALTH of which**	**n**	**n**	**n/a**		**n/a**			
10a	on income	n		n/a		n/a	y		
10b	on capital gains	-		n/a		n/a			
10c	on capital or wealth	-	n	n/a		n/a			
10d	on private use of vehicles etc.	-	y	n/a		n/a	(y) and (*)		
11	**SOCIAL CONTRIBUTIONS of which**	**-**	**y**	**n/a**		**n/a**			
11a	Actual	-	n	n/a		n/a			
	(i) employers' actual social contributions	-		n/a		n/a			
	(ii) employees' social contributions	-		n/a		n/a			
	(iii) by self-employed and non-employed persons	-	y	n/a		n/a			
11b	Imputed	-		n/a		n/a			
12	**MISCELLANEOUS OUTGOING CURRENT TRANSFERS of which**	**y**		**n/a**		**n/a**			
12a	to NPISHs	n	5/	n/a		n/a			
12b	between households	y		n/a		n/a		?	
12c	other			n/a		n/a		?	
13	**NET DISPOSABLE INCOME (7 minus 8-12) OR ANOTHER DEFINED CONCEPT**	**y**		**n/a**	**y**	**n/a**			
14	**SOCIAL TRANSFERS IN KIND**	**-**		**n/a**	**y**	**n/a**	**y**		
15	**NET ADJUSTED DISPOSABLE INCOME**	**y**		**n/a**		**n/a**			

Source: UNECE survey on agriculture household income.

Romania : 1/ Sums cashed as compensation within the insurance for goods and persons.

Romania : 2/ Amounts received from persons outside the household and amounts received monthly from non-profit societies.

Romania : 3/ The payment of interest for loans taken for own dwellings, loans from banks and from the 'Mutual Benefit fund', from credit co-ops, loans from private people or economic agents etc.

Romania : 4/ Payment of rent for buildings rented from the state, payment of rent for furnished and non-furnished dwellings.

Romania : 5/ Equivalent value of in-kind income obtained by employees, equivalent value of in-kind incomes obtained by beneficiaries of social benefit allowances.

Switzerland : Income of the agriculture households sector activity removed from statistical programme in 2003.

United States: Number of consumer units could be calculated but isn't.

Notes: y = yes, explicit data; * = implied data covered elsewhere; (y) and (*) = covered in part; @ = gross of capital consumption.

ANNEX 7

FROM AGRICULTURAL TO RURAL STANDARD OF LIVING SURVEYS

As it is well known in the recent years there is a progressive shift in the interest both of the academic community and of the policymakers from agricultural to rural policies. In relation to this change a reflection must be done about the way to provide the data needed to assess the socio-economic impact of the rural policy programs and to monitor the living standard of rural population, that is the main objective of rural policies.

(i) The statistical data presently available

The statistical information presently available is not very helpful for use in assessing the socio-economic impact of the rural policy programs. Graph 1 depicts the portion of the "rural living standard space" covered by the information provided by different kinds of surveys presently available.

The traditional *agricultural surveys*, such as the RICA-FADN, usually provide only the information needed to capture the economic impact of farm programs at the holding or at the sector level.

On the contrary *farm business-household surveys*, for example the ARMS of the USDA (see chap. **XIII.3.3.1)** as well as the Italian Ismea survey (see chap. **XIII.3.3.2)**, provide the data needed to better understand the agricultural household behaviour and to assess its welfare. Accordingly, they can be defined as *agricultural household standard of living surveys.* While these kind of surveys represent an important advancement in terms of agricultural policy assessment, they are of little help in monitoring and analyzing the well-being of the rural population. This is particularly true in the industrialized countries, where the agricultural population is only a small subset of the entire rural population.

Household budget surveys and *living conditions surveys*, for example the EU-Silc, collect data on the household income of the whole rural, agricultural and non, population. As a consequence these surveys can be used to monitor the standard of living in rural areas. A first problem with these surveys is that the agricultural sub-sample is too little to be statistically significant (see Annex on UNECE survey). A second problem stems from the kind of information they provide: for example, living conditions surveys do not collect data on consumption, in addition both the kind of surveys do not usually collect data on farm and non farm businesses run by the household, as a consequence their contribution to a rationalization of the political process, to set goals and priorities and to evaluate policy programs, is insufficient due to lack of some of the information needed to model household behaviour.

The most comprehensive survey presently in use is the one proposed by *the Living Standards Measurement Unit of the World Bank.* This survey collects data on the socio-economic condition of the households, but also on the business run by the household and on the socio-economic environment in which the household resides.

(ii) The Living Standards Measurement surveys of the World Bank

The long term experience of the Living Standards Measurement Unit of the World Bank in the design of surveys aiming at measuring living standards of both the urban and rural population represents a valuable example to learn from. The objective of the LSM Unit, originally established by the World Bank in 1980, was to develop new methods for monitoring progress in raising levels of living, to identify the consequences for households of current and proposed government policies, and to improve communications between survey statisticians, analysts, and policymakers to explore ways of improving the type and quality of household data collected by government statistical offices in developing countries (Grosh and Glewwe, 1995). Given the economic environment of the less developed countries, the surveys produced by the LSM Unit are especially concerned with the problems of rural communities and are therefore especially important.

To collect data on many dimensions of household well-being, including consumption, income, savings, employment, health, education, fertility, nutrition, housing and migration the LSMS surveys make usually use of three different kinds of questionnaires.

First of all, we consider the *household questionnaire* which collects detailed information on the household members. Because economic welfare is traditionally deduced from consumption data, the measurement of consumption is usually strongly emphasized. A wide range of income information, such as wages or in kind compensations from principal as well as secondary jobs, is also collected. In addition, agriculture and small enterprise modules are designed to yield estimates of net household income from these activities. Data on other sources of miscellaneous income, such as private or public transfers, are also collected.

In order to limit the length of the household questionnaire, information on local conditions that are common to all households in the area is gathered in the *community questionnaire*. They are normally used only in rural areas, where local communities are easier to define than in urban areas. Key community leaders and groups are asked to give information on the location and quality of health facilities and schools, the condition of local infrastructure such as roads, the sources of fuel and water, the availability of electricity, means of communication and agricultural conditions and practices.

Eventually, in countries in which prices vary considerably among regions, a *price questionnaire* is proposed to gather information on the prices that households are faced with in practice.

A fourth type of questionnaire, the *Special Facility Questionnaires* on schools or health facilities, is sometimes used as well.

(iii) A prototypical rural living standard survey

In order to assess the impact of policy programs on the standards of living of rural households a new kind of survey has to be designed, that allows for the collection of detailed information either on farm household or on other non farm households enterprises as well as on the whole socio-economic environment in rural areas.

In **graph** 1 it is shown what kind of information is provided by the surveys presently available and how they contribute to the coverage of the data needed to represent the socio economic dimension of the rural space. It is easy to see that none of this surveys covers all the information needed: agricultural surveys such as FADN collect many information on the agricultural production process but not enough detailed information on the agricultural household and on other businesses run by the household; the ARMS and Ismea survey gather the information needed to assess the welfare position of the agricultural but non of all the other rural households; urban/rural surveys on living standards (LSMS) and living conditions (SILC) do not usually provide important information about farm and non-farm enterprises run by the rural household..

In order to assess the welfare of rural households, the multi-topic structure used by the LSMS can be integrated with modules providing information on

- consumption of household members;
- time use of household members;
- real and financial wealth of the household;
- intra-household transfers;
- non-farm business run by the household
- environmental impact of the farm.

A prototypical rural living standard questionnaire, obtained by integrating the LSMS modules with those in use in the Ismea and ARMS surveys is presented in the first column of Table 1.

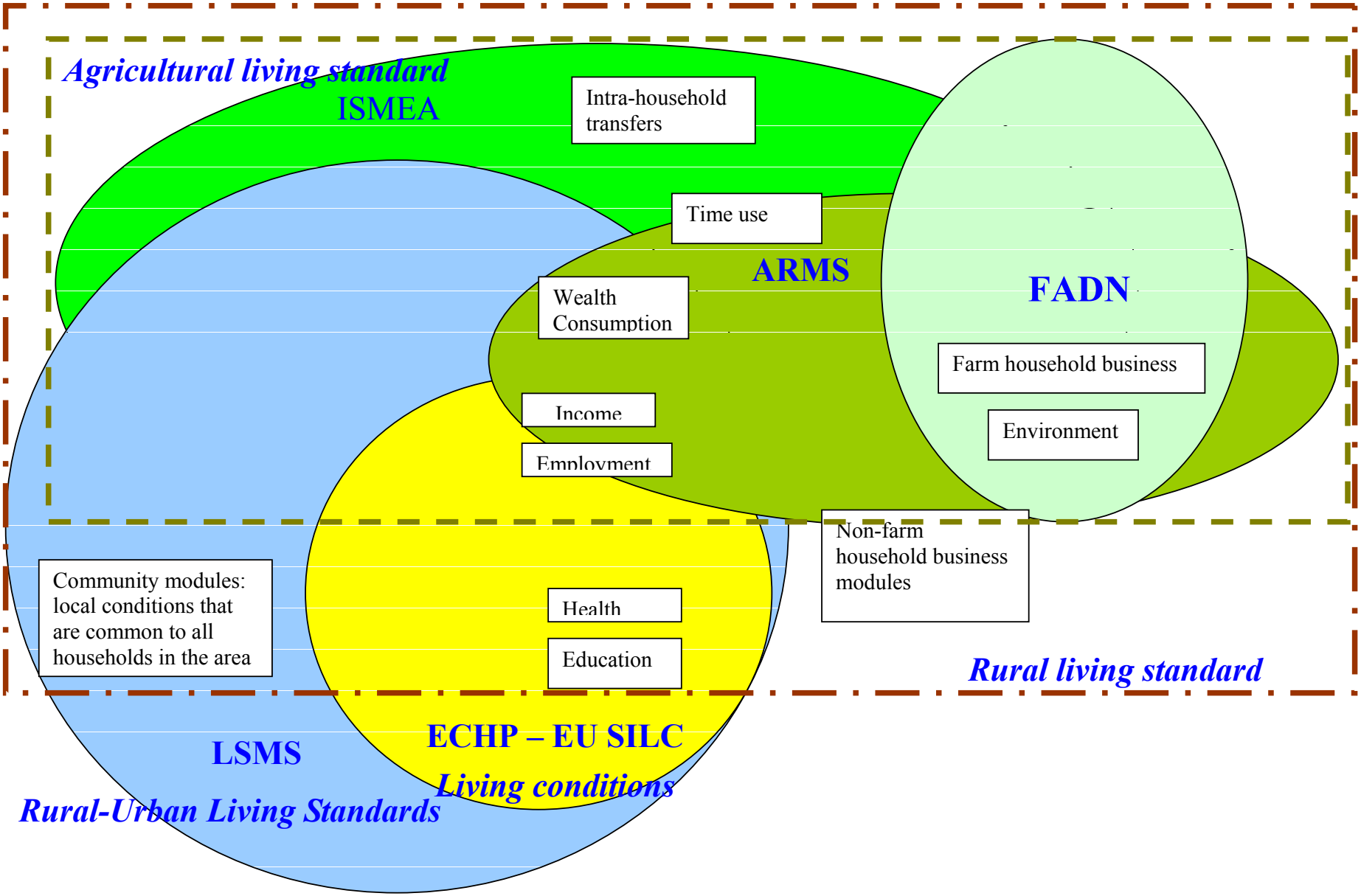
5. References

Grosh, M. & Glewwe, P. (1996) *A Guide to Living Standards Surveys and Their Data Sets***.** LSMS Working Paper #120, The World Bank, 1995.

Tables and graphs

Table 1 - A prototypical rural living standard questionnaire

	Rural	Rural/urban		Agricultural		
		LSMS	SILC	Ismea	ARMS	Rica/FADN
HOUSEHOLD MODULES						
DEMOGRAFIC DATA	X	X	X	X	X	X
CHARACTERISTICS OF HOUSING	X	X	X	X		
EDUCATION	X	X		X	X	
HEALTH	X	X				
EMPLOYMENT	X	X	X		X	
TIME USE	X	X		X	X	
MIGRATION	X	X				
AGRICULTURAL ACTIVITIES	X	X		X	X	X
NON AGRICULTURAL HOUSEHOLD ENTERPRISE	X	X			X	
EXPENDITURE ON FOOD	X	X		X	X	
EXPENDITURE ON NON FOOD	X	X		X	X	
FERTILITY	X	X				
OTHER INCOME	X	X	X	X	X	
SAVING AND BORROWING	X	X		X	X	
ANTHROPOMETRIC	X	X				
BEQUEST AND PREFERENCES ABOUT CHILDREN	X			X		
TECHNOLOGY AND ENVIRONMENT	X			X		
INTRAHOUSEHOLD DECISIONS	X			X		
INTRAHOUSEHOLD TRANSFERS	X			X		
COMMUNITY MODULES						
DEMOGRAPHIC INFORMATION	X	X				
ECONOMY AND INFRASTRUCTURE	X	X				
EDUCATION	X	X				
HEALTH	X	X				
AGRICULTURE	X	X				
PRICE MODULE						
	X	X				
SERVICES						
access, need, reason for not using, satisfaction, type use	X	X				


Agricultural living standard
ISMEA
Intra-household transfers
Time use
ARMS
Wealth
Consumption
FADN
Farm household business
Income
Environment
Employment
Non-farm household business modules
Community modules: local conditions that are common to all households in the area
Health
Education
Rural living standard
LSMS
ECHP – EU SILC
Living conditions
Rural-Urban Living Standards