

IX THE AGRICULTURAL HOUSEHOLD – CONCEPTS AND DEFINITIONS

The household, rather than the individual, is commonly adopted as the basic unit of analysis when considering the economic situation of society (though data for individuals may be collected separately). The household is recommended by the Canberra Group of experts for use in studying income distributions and is the basic unit in household budget surveys, the main purpose of which is to assist in the creation of retail price indices (cost-of-living indices). In an agricultural context, it is adopted by the FAO as the foundation for its System of Economic Accounts for Food and Agriculture (SEAFSA), intended for use by countries at all levels of economic development (FAO, 1996). Within the EU, Eurostat measures the total income of agricultural households. In the United States, incomes for farm occupier households are calculated by the United States Department of Agriculture's Agriculture Resources Management Survey (ARMS) (the forerunner of which was the Farm Costs and Returns Survey).

A central feature of the household is that there is a high degree of pooling of income and expenditure. This means that assessment at the level of the household is more meaningful in representing the potential command over goods and services than would be the case if the incomes of the individual members were treated separately. This is not to deny that, for example, farmer's wives may have some source of income which they regard as their own (such as from providing bed-and-breakfast accommodation in the farmhouse), or that the pocket money which a farmer spends is the result of a collective decision and is approved as a necessary line of expenditure by the household. In many countries spouses work off the farm operation at a wide variety of occupations. When asked, they commonly report that their earnings go to increase the overall household income.

While in such circumstances it clearly makes more sense to take the household as a convenient basis for income measurement, it must be borne in mind that for some analytical purposes it is necessary to have figures that relate to individuals, as these are the fundamental units that experience utility (this issue is explored when the definition of income is considered in Chapter X).

A detailed consideration of what constitutes an agricultural household can be broken down into two elements:

- The definition of a household;
- The characteristics that distinguish an agricultural household from any other.

Both 'household' and 'agricultural household' (or 'farm household') are familiar terms. However, behind this common usage lie a variety of meanings that must be clarified and used with discrimination when generating statistics. Some of the general issues were introduced in Chapter VIII. Here the intention is to review the details.

IX.1 Definition of the household appropriate to accounting and statistics

The starting point for the definition of a household is the System of National Accounts 1993 (SNA93) (UN, 1993). The following definition uses the SNA93 (para 4.132) but adds a phrase that appears in the version of the SNA that is applied in the EU by the European System of Accounts (ESA) (Eurostat, 1996).

For the purpose of the System, a household may be defined as:

A small 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. [The criteria of the existence of family or emotional ties may be added].

The predominant view of households in the SNA93 and ESA95 is that they are units of consumption whose main resources come from wages (compensation of employees), property income or transfers. However, it is clear that households can also have a production activity, something that is of particular importance when considering agricultural households. The ESA describes the households sector as follows:

ESA 2.76 The households sector includes:

- *Individuals or groups of individuals whose principal function is consumption;*
- *Persons living permanently in institutions who have little or no autonomy of action or decision in economic matters (e.g. members of religious orders living in monasteries, long-term patients in hospitals, prisoners serving long sentences, old persons living permanently in retirement homes). Such people are treated as comprising, together, a single institutional unit, that is, a single household.*
- *Individuals or groups of individuals whose principal function is consumption and that produce goods and non-financial services for exclusively own final use; only two categories of services produced for own final consumption are included within the system: services of owner-occupied dwellings and domestic services provided by paid employees.*
- *Sole proprietorships and partnerships without independent legal status - other than those treated as quasi-corporations - which are market producers.*
- *Non-profit institutions serving households, which do not have independent legal status or those which do but are of only minor importance (see ESA 2.88).*

Hence the SNA/ESA definition of the households sector includes private households but also some units which do not form part of the coverage of household budget surveys. Examples include both communal living units (hostels and monasteries) and other institutions such as universities. However, these units are unlikely to correspond with the notion of the target group for agricultural policy and are probably better omitted from statistics on agricultural households. In any event, where households are selected for special study that are mainly dependent on agriculture for their incomes, such non-family forms are unlikely to be included.

As noted above, the SNA/ESA definition encompasses both the consumption and production activities of households. However, it defines households from a national accounts standpoint, which may not be universally appropriate. For insights into the microeconomic approach it is useful to turn to the series of household budget surveys, such as those found in the EU and that form the basis of much international work on poverty and income distributions. The official definitions of households that exist for use in the separate national household budget surveys are broadly similar but differ in detail. For the United Kingdom a household was described thus:

A household comprises one person living alone or a group of people living at the same address, sharing their meals and the household, and having sole use of at least one room. All persons in a household must receive from the same person at least one meal a day and spend at least four nights

a week (one, if they are married) in the household. The household includes staff, paying guests and tenants, and also anyone living in the household during the period in which expenditure is recorded. Persons who normally live in the household, but who are absent for a period of more than one month, are excluded (Eurostat, 1985).

The condition of living at the same address and sharing catering arrangements is common among the definitions adopted by all the EU Member States, though differences occur in the way that live-in domestic staff and temporary residents, such as students, are treated. However, such differences are peripheral to the main thrust of the definition of the household for the purpose of income studies. Of far greater import is the role played by adult family members, additional to the farmer and spouse, who may live in the farm dwelling - usually grown-up children, parents, brothers and sisters. These multigenerational and extended households are thought to be a particular feature of the social structure of agriculture, even in many industrialized countries. While there would be little dispute over treating a cohabiting couple with dependent children as a single household unit for the purpose of income assessment, there are problems if other adults also live in the same dwelling. Things are made complex because of the fact that many farms are run by family members working together and many different forms of financial arrangements, formal or informal, may exist between them. For example, family labour working on the farm may be unpaid, paid as hired workers, or be self-employed business partners.

Where grown-up children receive a wage, though they may make some payment to the farm household for their keep, they probably regard their independently-earned income to be under their own control as far as spending is concerned. The case for *not* including these additional adults in the household unit is particularly strong where they have full-time jobs off the farm and are treated within national tax systems as separate units. To include them in the larger household unit of measurement, when they are clearly financially independent, introduces a degree of artificiality that can undermine the validity of the income statistics. However, even if such grown-up children do not contribute labour to the farm on a regular basis, it seems highly unlikely that they would not help out at seasonal labour peaks; to some extent they still form part of the agricultural labour force. Much the same problem is faced when retired parents live with their farmer-children or when other groups of relatives live in the same house. The notion of personal income implies the freedom to dispose at will, and it is far from certain that, for example, the old-age pension of a retired relative living in the same residence can be regarded as at the general disposal of the household.

In developing countries the concept of the household can be rather different from that applicable among OECD Members. This is reflected in the UN in its guidelines for population and housing censuses, taken over into the draft methodological recommendations for the World Programme of Agricultural Censuses scheduled for 2010. These describe a household as follows:

"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. A household may be either (a) a one-person household, that is to say, a person who makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multi-person household, or (b) a multi-person household, that is to say, 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 may, to a greater or lesser extent, have a common budget; they may be related or unrelated persons or constitute a combination of persons both related and unrelated" (UN, 1998).

The guidelines stress the criterion of household members sharing the means for living, and do not mention the need to live at the same address (that is, in the same dwelling). They point out that when viewed in this way, households may occupy the whole of a housing unit (dwelling), part of one or several units. There

may be more than one household living in a housing unit. Some households consist of extended families making common provision for food and may occupy more than one housing unit. In other cases, different family units live in separate housing units, but have a common head, such as in polygamous unions. A “family” is more readily understood than a “household”, but it is not the same thing; a family may include people living in other households in other places.

Consequently, when designing statistics on the income situation of agricultural households, a distinction should be drawn between the household as a social unit for domestic budgeting and consumption (the housekeeping unit, or *single budget household*, comprising only those people who pool income and expenditure) and the household unit in the domiciliary sense (the *accommodation* or *dwelling household*, consisting of the people living under the same roof). Of course, any one farm may have more than one household associated with it; this applies whichever approach is taken.

In the absence of firm information on intra-household financial integration and the diverse forms it takes, a case exists for calculating household incomes using both concepts. This would imply data collection for all people living in the same dwelling, but only including the incomes of some of them when using the *single budget household* concept. Some balance could then be struck between the overstating of income at the disposal of the household incurred by including the income of additional adults and the understatement which would doubtless result from their being excluded. What is appropriate treatment for one country may not apply elsewhere because of differences in degrees of financial integration that will reflect, *inter alia*, social norms and systems of direct taxation. However, the boundaries of the *single budget household* are not simple to define. In reality, family budget surveys differ in their approaches, but usually conform to dwelling household (Eurostat, 1993). In contrast, taxation statistics that use the *fiscal household* approximate to the *single budget household* (though the move to independent taxation of individuals in some countries, including the United Kingdom, has eroded this).

The Canberra Group (2001) approaches the definition of a household from a microeconomic standpoint. The Group’s formulation of the several tiers of units involving household statistics are set out in Figure IX.1. Its recommendation is that the household (as shown in this figure) is adopted as the basic statistical unit for income distribution analysis, with other units taken as alternatives for particular purposes. The Group’s preference for the household (dwelling concept) is a reflection of the importance of household budget surveys as a main data source and of its particular interests – income distribution statistics. In the present context a somewhat different view is appropriate, in which the comparative position of agricultural households in relation to other socio-professional groups is of concern. Of particular importance is the comparison of agricultural households to other households that have a role in production activities. These might constitute one of the “particular purposes” postulated by the Canberra Group.

In the absence of an internationally applied definition of a household, Eurostat has recommended that, for its Income of the Agricultural Households Sector (IAHS) statistics, the definition of a household should accord with that used in national household budget surveys. This will normally be based on the single dwelling concept. However, a consensus is building that, for the purpose of constructing income statistics for agricultural households, the narrower single (housekeeping) budget concept is preferable for both theoretical and practical reasons. This Handbook therefore recognizes the *single budget household* concept as the preferred household measure. But it is equally clear that, for comparisons to be drawn with other socio-professional groups, an equivalent treatment must apply there too. If this is not possible, the single dwelling household may have to be used.

Figure IX.1
Canberra Group recommendations for harmonized statistical units

Dwelling

A structurally separate set of living premises with a private entrance from outside the building or from a common hallway or stairway inside. Eurostat definition is: a structurally separate set of living premises and the principal usual residence of at least one person.

Household (dwelling concept)

A person or group of people who reside together in the same dwelling. This is virtually identical to the Eurostat definition of a private household - household dwelling concept.

Family (housekeeping concept)

Two or more people sharing a common dwelling unit and related by blood, marriage (including same sex couples and de facto or Common Law relationships) or adoption. The proposal here is that all relatives living together at the time of the data collection should be considered to comprise a single family regardless of the nature of kinship. This is virtually identical to the Eurostat definition of a private household – housekeeping concept.

Unattached Individuals

An unattached individual is a person living alone or in a household where he/she is not related to other household members.

Income Units

One person or group of related persons, within a household, whose command over income is shared.

Source: Adapted from Table 3.1 of the Canberra Group (2001).

This Handbook recognizes that a flexible but transparent approach should be taken to the definition of a household. While income measurement on the basis of the complete dwelling household should be undertaken to facilitate comparisons, both internationally and with national data sources, data should also be available to allow the application of the concept of the single budget household which in some circumstances may be preferable.

IX.2 Households of different sizes and compositions

Households differ in size and composition. A given level of income for a large family may represent a much lower standard of living per member than for a smaller family. In particular, comparing the income level and distribution in this income between, say, households headed by active farmers with the all-households average is likely to be misleading, as the latter will reflect the large numbers of low-income single-person households, mainly containing elderly individuals, that typify many industrialized countries. Simply dividing income by the number of individuals in the household may not be satisfactory, as the requirements of child household members are likely to be different from those of adults. Basing the analysis of incomes on particular sizes of household (for example, comparing the incomes of households of two adults and two children across socio-professional groups) is likely to be restricting in terms of numbers of

cases. Some equivalence scale needs to be applied which puts incomes on a common base. This is a recommendation of the Canberra Group (for a review of approaches see Hagenaaers and Van Praag, 1985). It is preferable that different coefficients be applied at different levels of income, though this is not usually done. The choice of scales and equivalence figures will reflect differences in social conditions, and these are likely to change over time.

Hill (2000) reports that in the United States, though the scales used were otherwise similar to the British coefficients, the figure applied for late teenagers was substantially higher. This suggests that American families at the time may have been required to support their near-adults more than in the United Kingdom. It is likely that the coefficients that should apply to agricultural households will differ from those for other socio-professional groups, reflecting the particular social conditions found there, including the unusually large households found in some countries. This point is related to, but separate from, the issue of the proper measurement of household income where opportunities for the consumption of own production are offered, as in farming. However, it appears that whatever equivalence scales are adopted, arbitrary judgements are inevitable. In this case, countries should report the equivalence scale used to facilitate comparisons.

It is obvious that the use of equivalence scales is made less critical if a *single budget* definition of a household is adopted, in effect narrowing coverage to the couple and dependent children.

Eurostat recommends that, where equivalence scales are used in the estimation of incomes of agricultural households, that these are the same as scales currently employed within national household budget surveys. When calculating income results, Eurostat further requests that these are calculated on the basis of three different measures:

- Income per household;
- Income per household member (that is, divided by the number of people in the household);
- Income per consumer unit (that is, after applying an equivalence scale).

The use of an average income per household member or an equivalence scale when applied to income implies a particular distribution of income within the household; averaging implies equal division of incomes. In reality this may not happen, and the spending power may be exercised by particular individuals, others having much reduced levels and, possibly, thereby suffering economic deprivation. The issue of intra-household distribution is considered in more detail in Chapter X. However, reservations that should be borne in mind when interpreting income statistics do not alter the desirability of taking the size and composition of the household into account when reporting them.

This Handbook recognizes that both of these practices (the calculation of income per household member and per consumer unit, and the use of national equivalence scales) should be followed. Details of Equivalence Scales should be made available as metadata.

IX.3 The rural and urban household enterprise

The problems of defining what is meant by rural and urban have been considered elsewhere in this Handbook and will not be repeated here. Under most definitions of rural, agricultural households will be considered as operating within the rural space and using land in ways that typify rurality. An ability to

classify households, both in their role as consumers and as producers, into rural and non-rural is of considerable importance to a range of public policies.

However, it should be borne in mind that, in many industrialized countries, the households found in rural areas are not necessarily involved in agricultural production, even in a minor way. Some indication of the situation in the EU comes from an analysis of the features of rural areas published by the European Commission in preparation for its programme of rural development post 2006 (European Commission, 2004) and based on the OECD typology of municipalities (communes). In 2000, the proportion of the labour force working in agriculture, hunting, forestry and fisheries was only 13.1% in regions of the EU-25 classified as “predominantly rural” (that is with over 50% of the population living in rural communes, with less than 150 inhabitants per square km), falling to 6.6% in “significantly rural” regions (15-50% of the population in such communes) and 2.0% in “urban” regions. The structure of agriculture means that, at least in most countries, the labour would have been predominantly self-employed in farming. These figures are based on the main occupation of individuals in the labour force, so will understate the proportions that have some involvement with agriculture.¹ A consequence of these findings is that, while the large majority of agricultural households are likely to be found in rural areas, not all are. In these areas most of the households, even those with self-employment as their main income source, will be non-agricultural in terms of their predominant economic activity.

In developing countries, however, the rural population is relatively more important and agriculture accounts for a far higher proportion of the labour force. According to FAO statistics for 2001 (taken from its website), in developing countries 59% of the population was classed as rural (62% in the developing countries of Africa and Asia), in contrast with 37% in transition economies and 22% in industrialized countries. While the proportion of the population that is rural has been in decline since 1980 in each of these categories, the fall in absolute numbers in developing countries has been the most substantial. Agriculture, which accounted for only 6% of the labour force in developed industrialized countries in 2001, was the main occupation of 22% in countries in transition and 43% in developing countries (48% in East and Southeast Asia).

Many of the people who live on farms may not regard the farm as their main activity. Residence on an agricultural holding is of little meaning as a basis of classification in many parts of Europe where distances are often small enough for people to commute from farms (often little more than rural houses with particularly large gardens) to their regular place of work in urban areas. Conversely, it is quite possible, though less common for farmers to live in towns and for them to commute to their farms. In this case the location of the household's dwelling may not be where the farmed land is situated. Up to 1983, the USDA produced income statistics for ‘farm residents’; a farm was (and still is) defined as an establishment from which a given minimum value (\$1,000) of agricultural products was sold or would normally have been sold in a year. A set of objections similar to those in Europe led to the discontinuation of the USDA series after almost fifty years, though analysis of farms is still made on this basis (see Banks *et al.*, 1989). Residence does, of course, cover both self-employed and hired workers and thus extends to households that are not agricultural, in the sense that they receive income from self-employment in agriculture.

¹ A special report to the Countryside Agency in the UK (*Self-employment in rural England* by Elaine Kempson and Michael White, 2001) drew on the Family Resources Survey of 1998-1999 and 1999-2000 to analyse the personal characteristics and incomes of self-employed people and employees in agriculture and forestry and to contrast them with the self-employed and employees in urban households. Reference is made to gaps in responses to income questions and the under-estimation of incomes of self-employed (with correction factors of 1.2 to 1.5 mentioned but not applied to the results). Agriculture/forestry accounted for 10% of the self-employed people in rural areas.

IX.4 Definition of the agricultural household-firm (enterprise) and those belonging to other socio-professional groups

Neither the SNA93 nor the Canberra Group explicitly considers what characteristics should cause a household to be classified as being an agricultural household rather than one belonging to some other socio-professional group. Yet the manner in which the agricultural community is defined has a strong relationship with the utility of statistics to assist in policymaking decision (their *relevance* to users) because it carries important implications for the results, both in terms of the numbers of households that qualify and the income results that emerge.

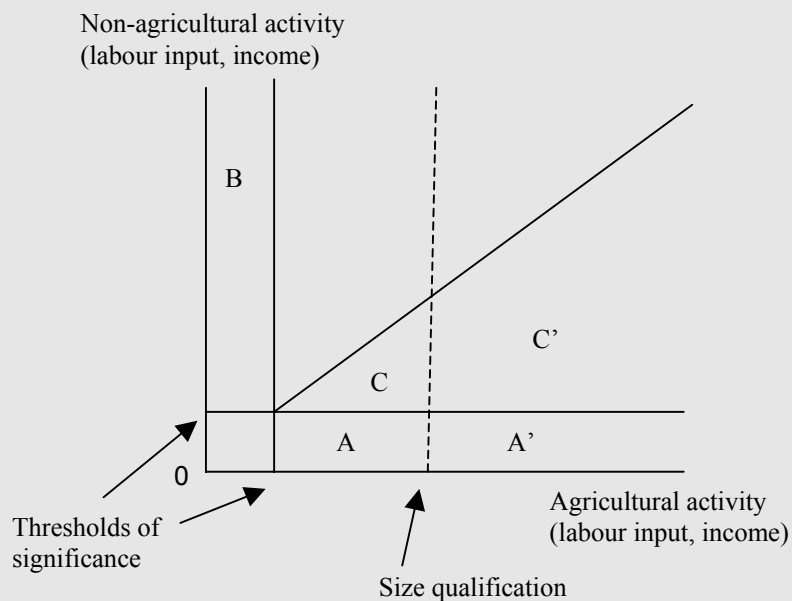
Several criteria can be used to qualify those households as agricultural, and the one which is appropriate will depend on the purpose for which these have to be distinguished from other households. The issue for the EU has been discussed in the context of which households comprise the agricultural community (Hill, 1990). Meanwhile, a longer history of studies in the United States has been particularly concerned with the recipients of the rewards from farming (Banks *et al* 1989). *Residence on a farm*, already dealt with above, is problematic. *Ownership of agricultural land* is another possible criterion, perhaps with a minimum size qualification (such as the threshold for inclusion in the EU's Farm Structure Survey) to eliminate large gardens. However, we are here mainly concerned with the operators of agricultural holdings (holders) and their households, not landowners (although there are good economic arguments for believing that the ultimate beneficiaries of income support are the owners of land - land being the factor of production in least elastic supply). Some, but not all, of these owners will be farmers, with the share of owner-occupation varying widely between countries.

A more plausible approach in the present context is to define an agricultural household in terms of its dependency on self-employment in farming for the household's livelihood. One way is to look at the pattern of working time; an agricultural household might be taken as those *households in which at least one member spends some time working in agricultural production*. However, this would include every one who grows some of their own vegetables in their gardens for hobby purposes as well as those for which this is a subsistence activity (that is, it substitutes for income-generating activity that could be used to purchase these commodities). These domestic producers, while not normally considered as part of the agricultural industry in many industrialized market economies, may be seen in a different light in countries with a history of collectivized agriculture or at lower levels of economic development where their production contributes significantly to overall output. If it is desirable to exclude these households, some cut-off might be used below which producers would not be considered as "real" farmers. Examples include minimum labour input (in days), a minimum area, or a minimum amount of output. Similar cut-offs are used in agricultural statistics to set the bottom limits of what constitutes a farm (or agricultural holding). In the United States, for example, the definition of farm applies to operations with \$1,000 of agricultural sales or the potential to generate such sales. A variant of this would be to include only those households where the members spend the *majority* of their time working on their farms. Box IX.1 illustrates some of these combinations.

At the level of the individual it may be relatively easy to collect data on what the respondent declares as his or her "main occupation." This is often a subjective judgement but is usually consistent and relatively stable. However, the use of a time allocation method at the household level is far more difficult in practice, requiring the labour records of each household member. These are rarely available in a reliable form. Another drawback of this labour input approach is that the notion of work may be too restricting. It is simplistic to treat only physical labour as work. On many larger farms physical labour may form only a small part of the operator's activities and it may be difficult or impossible to separate out time spent on managing the farm from that spent managing other activities. The two may even be complementary.

Box IX.1**Possible ways of selecting agricultural household on the basis of proportions and levels of agricultural activity**

The “broad” and “narrow” ways of defining agricultural households, applicable when using either a labour input or an income criterion, are explored further in the Figure below (from Hill, 2000). Agricultural activity (time or income) is shown on the horizontal axis and non-agricultural activity on the vertical. On both margins there is a level of activity which can be treated as irrelevant (kitchen garden production, hobby furniture repairing etc.). Only households which are within A or A' are unambiguously agricultural: those in B are similarly non-agricultural. Those which lie in C or C' use the majority of their labour for agriculture or derive most of their income from it, and could reasonably be labelled as agricultural. The division between A and A' (and C and C') might result from the imposition of some size qualification. If only a small amount of labour was spent in agriculture, even if little or none was used elsewhere, the household might fail to be regarded as agricultural and might be classed as non-economically active. Qualification tests outside this framework could also be employed; minimum holding areas or output values could be imposed before a household entered the frame.

Combinations of agricultural and non-agricultural activity

Probably a better basis of classification in the context of industrialized countries is *income dependency*. This is the system proposed for the disaggregation of the households sector of national accounts in the SNA93/ESA95. At its broadest, the agricultural household could be defined as one in which anyone makes some income from self-employed farming activity. This coverage of households containing self-employed (independent) individuals would cover a wide diversity of types, spanning both those for which farming was a commercial activity and the main source of livelihood and many others earning only very small amounts from farming and whose main income came from other sources. Although constituting part of the agricultural community when defined in the “broad” way, this latter group could not be considered as being dependent on farming for their livelihoods.

IX.4.1 Selecting from the “broad” definition of an agricultural household

Following on from the above, it would be possible to define an agricultural household in a very broad way to include all those that derived any income, however minor, from agriculture or contributed some labour input to agricultural production. The next step then becomes one of selecting cases from this broad coverage in ways that would be policy-relevant. One relatively straightforward approach would be to apply a “narrow” definition and include only those households that were mainly dependent on farming for their livelihoods. This would include those who derived half or more of their total income from self-employment in agriculture or where it was the largest single source of income (which is not quite the same). The basis of this classification is compatible with the complete allocation of all households into socio-professional groups, of which agricultural households could form one. Because a comparison between the incomes of agricultural households and other socio-professional groups is an explicit or implied aim of agricultural policy in many countries, the ability to compare on this common income-dependency basis has attractions.

If, on the other hand, environmental policy is the issue, the broader group may be more relevant. This is based on the potential for large amounts of environmentally sensitive land to be controlled by those earning only very small amounts from farming and whose main income is derived from other sources.

Using this simple binary classification, it is possible to derive results for both the “broad” and “narrow” definitions of an agricultural household. Moreover, it should also be possible to obtain information on those “marginal” households in which farming generates some income but where it is not the main income source by using a process of subtraction.

Though income dependency is attractive as a basis for defining the agricultural community in a “narrow” sense, it is possible that the interest may be in households that use labour input to agriculture, or who use some combination of income dependency and labour input. These are combined in Box IX.2, which shows the percentage of income derived from, and the percentage of time used for, agriculture, together with situations where the combinations might have policy relevance (from Hill, 2000). A similar approach combining income and occupation (of the operator) has been applied in the United States by Ahearn and Lee (1991).

IX.4.2 Some practicalities of classification

Reference person system: In practice, classification systems based on the characteristics of whole households (income composition or labour input) often prove difficult to implement because of data problems. The alternative, which has gained ground in the EU, is the *reference person* system (where this person is typically the head of the household). Under this system, the whole household is allocated to the agricultural group if the reference person satisfies the criteria for inclusion. A reference person system carries with it the possibility that the nature of the total household may be poorly represented. For example, an elderly head-of-household farmer may have living in his household many younger people whose main occupations and income sources are off the farm.

While the household may be classed as agricultural using a reference person occupation system, it might be non-agricultural in terms of its overall income composition or labour allocation. Such situations can be reduced by imposing criteria to determine who is taken as the reference person; it could be the member with the highest income. Anomalies have to be accepted in the interest of practicality. Such a system is used in all the Family (Household) Budget Surveys in the EU, though there are differences in the rules determining who is regarded as the reference person and how his/her occupation group is determined. Within Eurostat’s IAHS statistics, in many Member States (most notably France, but also including Spain, Portugal, Italy, Greece, and Belgium) classification is determined not by income composition but to the

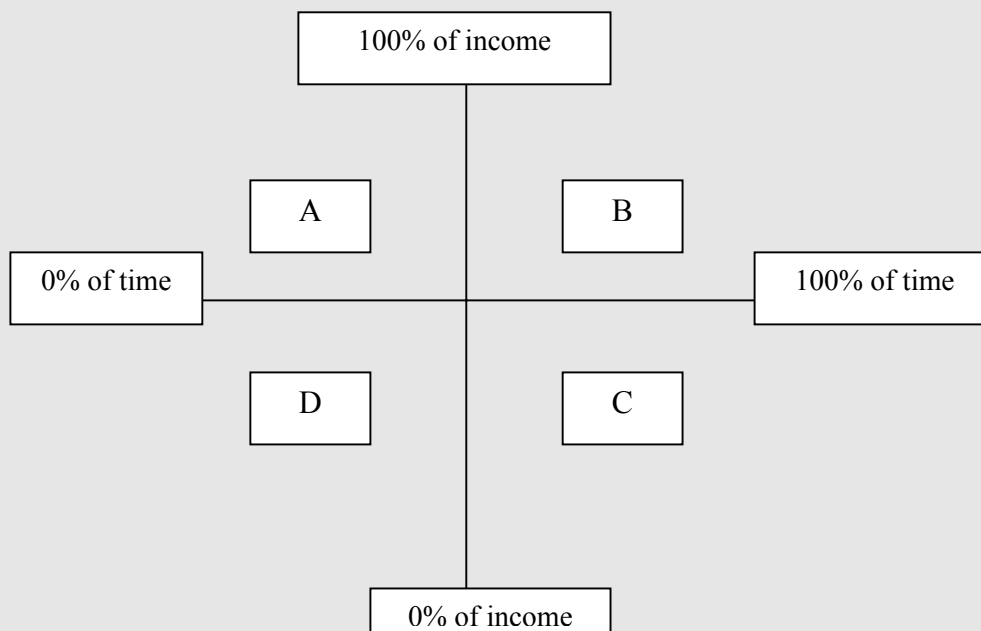
reference person's *declared main occupation*. Typically this is interpreted subjectively by the respondent and can be a mixture of income composition and time allocation, or predominantly time. However, evidence from Ireland suggests that the difference in results between using income composition and time allocation can be substantial.

Variation of income for classification purposes. An important caveat must be borne in mind when applying criteria that involve the selection of households according to their position on a continuum. This is that there must be some degree of *stability in the variable used for classification purposes*. In this respect labour input, or a self-declared subjective judgement of the head of household's main occupation, are superior to income composition. This is especially true of farming with its inherent income instability. Not only will the number of agricultural households where farming is the main income source change, but also the average income levels of those remaining in the group will alter. Evidence from Germany (Cordts *et al.*, 1984) and Norway (Hill *et al.*, 2001) suggests that taking a three-year period removes most of the unpredictable variation in incomes, an approach supported by analysis in France (Brangeon *et al.*, 1991). Using longer periods gives more stability but there is an increasing danger that changing farm structure (changes in the size distribution of the farms concerned) will affect the long-term trend in income variability. There is a tendency for the classification system to respond to changes in the numbers of households in ways which hide the cases in certain categories, and sometimes these are the ones of greatest interest. For example, while the number of holdings deriving some income from farming may be declining in a stable and predictable way, if falls in income from farming are concentrated among the small, low-income farms, this may disproportionately affect the numbers whose main income comes from farming.

Many of those with the severest income problems will be declassified as agricultural households. This is seen in an extreme form when incomes from farming fluctuate and reclassification (on the basis of income composition) takes place each year. Empirical evidence from Denmark, reported to Eurostat's IAHS statistics, demonstrates that it is quite possible for the residue of households left in the agricultural group in years of low farm profitability to be occupiers of the larger, more successful farms. On the smaller farms, the low farm profits shifts the balance in income composition to the extent that they no longer fall into the agricultural group. In consequence, the average total incomes of the remaining agricultural households are seen to increase when the general prosperity of agriculture falls. Thus it may be necessary to pay attention to both what is happening to numbers and income levels among agricultural households defined in the "narrow" way, and to what is happening in the "marginal" group where farming is not the main income source.

Falling household numbers over time. Even if short-term instability can be eliminated, the households that are labelled as agricultural will not form a constant group over time. In the long term, agricultural household numbers will decline, in line with the historic trend. Agricultural policy reform is likely to accelerate this decline. For example, the households which are most successful in diversifying into non-agricultural activities can be expected to eventually fall outside the agricultural group as defined in the "narrow" sense, and to join some other. Even farmers who face a fall in their income from farming without developing other earnings will eventually be excluded from the agricultural category as their welfare transfers grow in relative importance. Thus when commenting on income developments over time, changes in the composition of the group of agricultural households must be borne in mind.

Box IX.2
Combination of time allocation and income dependency



On the assumption that a 50 per cent line can be used to divide the agricultural from the non-agricultural, cases falling into quadrant B may be confidently treated as agricultural since they satisfy both criteria. Similarly those in quadrant D could be classed as non-agricultural, though they operate holdings and are therefore beneficiaries of any price-support regimes for agricultural commodities which might exist. However, D might also include some households which might be regarded as legitimate targets of agricultural policy; households on farms too small to absorb all the available labour (yet too large to be dismissed as not really being farms at all), where there currently are no other opportunities for alternative employment, and where there is major dependence on welfare transfers as a source of income. Policies of farm modernization or the promotion of rural diversification may offer hope for some of these. Also covered here would be high-income households whose farms may be large but whose non-agricultural activities may generate even larger non-farm incomes and where little household labour is spent on the farm, operations being carried out by hired managers and workers. Quadrants A and C contain further complex mixes of farming situations. For example, C would cover, on the one hand, the semi-retired businessmen, filling his time on the farm carrying out unnecessary tasks while receiving a high income from his former business in the form of director's remuneration and dividends on his investments and, on the other, a low-income farm household struggling against severe natural production conditions which absorb most of its available labour but yet which leave it primarily dependent on other sources of income. Quadrant A would include the large-scale farmer who arranges his farm so that he can spend large amounts of time off the holding doing, for example, unpaid political work, or in leisure pursuits.

Given the above, it is desirable to have data that enables a study to be made longitudinally through time, that is, a panel approach. If the policy interest is to trace the development of income of people who *started* any given period as members of agricultural households, some attempt should be made to retain these

in the group. Income averaging over a short run of years for the purpose of classification also requires individual cases to be maintained and identified in the data system. This represents a major challenge to the way that official statistics are organized (typically as a snapshot at a particular moment), since longitudinal analysis of a constant sample is at present very rare and data are not organized in ways that makes this easy. The need for this demographic approach is, of course, something that is shared by studies of businesses in other sectors.

This Handbook recognizes that, as good practice, data should be available to develop estimates of income for households defined as agricultural in alternative ways. This flexible approach should permit a coverage of all households that earn any income from self-employed farming activity. However, it should also permit the selection of households where agriculture is the main income of the household (smoothed to take into account the year-to-year variation anticipated by farmers, for which averaging over three years is advised). Secondary criteria may also be applied, such as farm size. Where it is not possible to use household income composition for classification, the Handbook recognizes the use of a reference person system, where the person is normally the main income earner. Studies should be undertaken to assess the significance of adopting alternative bases of classification.

IX.4.3 Choice of other socio-professional groups with which to compare agricultural households

Frequently, users wish to compare the economic situation of agricultural households with that of other socio-professional groups or with all non-agricultural groups or with the national average.

Caution is advised on making such comparisons. It should be remembered that:

- The income of agricultural households often includes entrepreneurial income. In conventional accounting systems entrepreneurial income comprises a hybrid of rewards, including not only the reward to unpaid labour but also to the capital and land owned by the entrepreneur. In contrast, the national average is dominated by households whose main income comes from wages or social benefits. While the nature of the income composition is not relevant for short-term comparisons of the ability to spend or save (the main issue being the funds that are available to consumption or saving), this may not be valid in longer-term exercises.
- As noted above, the national household average will often be dominated by single-person households (comprising mainly the young and old), so adequate steps have to be taken to respect differences in size and nature of households in the groups to be compared. In addition to income per household, the use of income per household member and income per consumer unit (calculated using equivalence scales) is recommended. Alternatively, comparisons can be made only using households of the same demographic characteristics (such as households containing two adults and no children).
- There is often special interest in comparing the income of farm households with those of other business people with enterprises of similar size in rural areas.
- The accounting systems used to generate income figures may not capture adequately all the elements of income that should be included in comparisons. For example, the output of food that is consumed by the farm household, or costs of private living that are treated as business costs, will need adequate identification and evaluation before satisfactory comparisons can

be drawn. In some regards, comparisons between agricultural households and the operators of other small businesses avoid some of these difficulties.

- Capital gain may be an important source of income for agricultural households that own land that is not available to other groups in society and consequently is not normally covered in measures of current income.
- Income variation, and the way in which it is viewed, including any countermeasures taken, can vary between socio-professional groups. Thus income averaging may be appropriate where this is feasible.

These issues relating to the definition of income are examined in greater detail in Chapter X.

For use within its IAHS statistics, Eurostat has developed a typology of other socio-professional groups that is recommended for use in comparisons (see section IX.7 below).

This Handbook recognizes that steps should be taken to avoid misrepresentations when drawing comparisons between the income situation of agricultural households and other socio-professional groups. At the least, this should include income comparisons per household member and per consumer unit.

IX. 5 Households containing hired labour working in agriculture

Hired (dependent) workers are not usually considered to be agricultural households. Within the EU, they have not been treated as being within the agricultural community for which the CAP aims to provide a “fair standard of living.” Indicators of the residual rewards from farming (entrepreneurial income) exclude the costs of hired labour. Policies have been primarily directed towards assisting the self-employed members of the agricultural labour force, not the hired ones. Income problems among the households of hired workers have been subject to the normal provisions for poverty alleviation, in the same way as for other employees. Some countries where there are substantial numbers of hired workers in agriculture have a special system for monitoring the wages and conditions of service. In the UK, there is a special legal mechanism to set minimum wages and to avoid exploitation that may result from the fragmented and small-scale nature of agricultural employment. Nevertheless, a range of studies has shown that low-income and household poverty are commonly found among the hired section of the labour force, a particular problem when this is associated with low wealth, as is often the situation.

At this point it is necessary to mention farms that have their own legal status (companies or similar forms). Where a family farm takes the legal form of a company the farmer-directors are not, from a legal perspective, self-employed (as they would be as sole traders or as partners) but rather are salaried employees of their own companies. Similarly, any dividends they may receive are not strictly income from self-employment. According to the definition of an agricultural household as one where the head (or the entire household) has self-employment as their main income source, the households headed by hired workers are not included. Applying this rule strictly would mean that the households of the operators of company farms would also not be included. This is the current approach used in the United States where non-family farms and farms run by hired managers are excluded from the calculation of farm household income.

In reality, most company farms are family owned and operated businesses that adopt this particular business form primarily for taxation reasons or for other conveniences (such as distributing ownership of a

family business among members who do not wish to farm). In most respects they are indistinguishable from unincorporated businesses. Indeed, in the EU's Farm Structure Survey, some Member States record family farms run as companies as if they were sole traders or partnerships. A common-sense view would clearly include the households of such farmers as agricultural households and as a part of the agricultural community. In practice these farms will often be large and there may be several directors, in which case there is likely to be more than one agricultural household per business.

The lack of statistical attention given to the households of hired agricultural workers can be expected to change following the EU's enlargement to the east. This enlargement has brought into statistical coverage large numbers of people working on farms arranged as forms of cooperative or joint stock companies that are very different in nature from the traditional family farm. This point is developed in the next section.

This Handbook recognizes that:

Households found on family farms that are arranged as corporations, but that function as unincorporated businesses should be treated as if they were sole-proprietorships or partnerships, and thus be classed as agricultural households. Income results should be shown separately for the households on these quasi-unincorporated farms if possible, which would enable exclusion or inclusion with other agricultural households according to the user needs.

The income situation of the households of hired agricultural workers should be assessed as a separate and supplementary exercise (a recommendation to be taken with that of the next section). An ability to analyse by the type of business on which they are employed should be incorporated (family farm, corporate farm etc.).

IX.6 Relevance for countries with large-scale agricultural enterprises with separate legal status

The statistical treatment of hired agricultural workers, their households and their incomes has been thrown into prominence by the enlargement of the EU and the associated introduction into the sector of significant numbers of large-scale agricultural units that have their own legal status and that have a considerable number of employees. These are far removed from the "family farm model" that underlies many agricultural statistics. Many large-scale agricultural units with their own legal status are already found in the unified Germany where they are thought to be responsible for some 15% of the agricultural Net Value Added of the entire (enlarged) country (Eurostat, personal communication). The accession of a further 10 Member States in 2004 has raised these units and their hired workers to much greater prominence. For example, in Hungary in 2000, corporate units constituted only 0.9% of total farms but these occupied 41% of the area.

Replies to a Circular Note from Eurostat have shown that a range of organizational forms are encountered – agricultural enterprises arranged as joint stock companies, limited liability companies, cooperatives, partnerships etc., though in some countries the business structure is not yet stable. Several countries have explicitly stated that the households that work on these large units are considered as part of the agricultural community and are seen as intended beneficiaries of agricultural policy. Furthermore, these households also commonly operate private plots that generate a significant share of their own food supply and contribute a substantial proportion of the aggregate output of some commodities. However, such plots may also be operated by households that are not associated with large-scale units.

There are implications for both the “narrow” and “broad” views of what constitutes an agricultural household, the statistical responses to which have not yet been fully worked out. As an interim solution, Eurostat has proposed that it will provide for the inclusion of income estimates for households found on large-scale enterprises as an “add-on.” This add-on will constitute a supplementary category of households that, in the interest of simplicity and clarity, will cover the households of employees working on *all* large-scale agricultural enterprises, irrespective of the form of legal structure that these units take. To be included, the household’s reference person must work on a large agricultural unit and that job must be their principal occupation (in terms of income or, failing that, of time). It is assumed that this will be the case for most reference persons.

This “add-on” provision applies to statistics for agricultural households defined in the “narrow” way. The solution appropriate to the “broad” definition of an agricultural household is more problematic and needs further methodological consideration. While the “broad” coverage should obviously include the households of private farmers (deemed to be all those selling to the market and thus generating some income from this activity) and of all workers on large units (to be consistent with the above treatment of reference persons found on them), the issue is complicated by the significant amounts of agricultural production of a subsistence nature that takes place on private plots.² This has been accommodated by a proposal to include subsistence producers within the “broad” definition of an agricultural household, while still excluding hobby producers, a distinction that is hard to make but which is intended to be consistent with the (activity) Economic Accounts for Agriculture (EAA). However, this solution on household classification should only be regarded as provisional. Another problem is posed by the valuation of the output from private plots and the contribution this makes to any measure of disposable income, though this issue is also faced by the EAA and national accounts.

This Handbook recognizes that the income situation of the households of hired agricultural workers on all large-scale agricultural units should be assessed as a separate and supplementary exercise, including a breakdown of the type of unit on which they are found and the forms of income they receive (wages, profit share etc.).

IX.7 Households in less developed countries

Up to this point the discussion of agricultural households and how they may be defined has taken place mainly in the context of the social institutions normal in developed countries, and especially those of the OECD members. It has been acknowledged that even among these there are variations in norms in terms of issues such as extended and multigenerational households that pose problems in establishing methodologies that can generate comparable results. It is necessary to note that, when the spectrum of countries is extended to less developed economies, problems of this sort multiply considerably. As Box IX.3 makes clear, in an African context the household, whether defined in terms of a dwelling or single budget unit, may be irrelevant for statistical purposes or in explaining behaviour. Solutions to methodological problems should be sought that are appropriate to local social norms, and what is suitable for Africa may not apply elsewhere. Later versions of this Handbook are likely to elaborate on this crucial issue if the material it contains is to find greater application among less developed countries.

² In 2001 in Estonia, there were some 176,000 household plots (1.6% of agricultural area) in contrast with 85,300 agricultural holdings (98.4% of the area). Of the 32,400 ha occupied by household plots, which averaged 0.18 ha each, some 2,300 ha were used for potatoes.

IX.8 Typologies of farm households

Finally, three examples are given of typologies of farm households relevant to the generation of statistics that are suitable for policy analysis and that incorporate the structure of total household income. Two also involve other socio-economic characteristics.

IX.8.1 European Union: Eurostat's IAHS statistics typology

The first example is the pioneering typology of farm households developed by Eurostat in its Income of the Agricultural Households (IAHS) statistics for EU Member States (drafted before the enlargement of 2004), to which reference has already been made. In brief, this is a binary classification that divides households with some income from farming (a "broad" coverage) into those that are narrowly "agricultural" and those that are "marginal".

- For its "**broad**" coverage all households are included that derive some income from independent activity in agriculture (other than income solely in kind that is of a "hobby" nature). This income can arise from the activity of the head of the household or any other member.
- For its "**narrow**" coverage the IAHS applies a classification system based on the **main income source of the household's reference person** (Eurostat, 1996), a more practical approach than one that looks at the composition of the entire household's income. This reference person is intended to be the household's highest income earner, who will also usually be the one regarded as the head of the household. How this person is designated varies from country to country, and may be selected by self-declaration or more complex algorithms. Countries where an income-based classification is not feasible (for example, France) have been allowed to apply a system based on the reference person's main *time allocation* or on a more subjectively determined occupation or trade group label. It is recognized that some producers of significant volumes of agricultural commodities may be excluded from the "narrow" agricultural group if they have even larger incomes from elsewhere.
- Subtracting the "narrow" coverage from the "broad" results in a "**marginal**" group of households that engage in independent agricultural activity but where the main income is from some other (non-agricultural) source.

The "narrow" definition takes precedence in the generation of IAHS statistics because it produces a group that appears to correspond more closely with the "agricultural community" whose incomes the CAP is intended to support. Of course, whichever definition is being used, the incomes of all household members are summed to achieve a total for the household.

Box IX.3**Difficulties in using the household as the unit for analysis**

A number of criteria can be used to define the household. Those commonly employed include: members have a common source of major income; they share a common source of food; and they sleep under the same roof or within the same compound. But the criteria used to identify households must be relevant to the local situation, since their size and characteristics show wide variations by principal occupation, locality and country. The household may consist of a single family, but in Africa households commonly comprise several families, kin, and even persons with no kin relationship. It is possible for families to be spread among several households, either temporarily or permanently. For example, a married woman while young may continue to live in her father's household, while her husband lives under a separate roof.

The household is an important social unit because within it many of the decisions concerning individual members' activities and their consumption (and thus their welfare) are made and its physical properties – that it is a collection of individuals with an identifiable location – makes it a useful sample unit in survey work. It must be emphasized, however, that households are embedded in wider social networks, their lineage group for example, whose actions partly determine their members' welfare. Given the importance of the household as a decision-making unit, we need a conceptual framework to analyse its decisions over the allocation of resources. Two key issues are raised in the analysis of the household. The first is the role of the household as both the producing and consuming institutional unit. Whereas in much of orthodox economic theory the firm is assumed to be the producing unit and the household the consuming unit, quite different institutional arrangements must be assumed for developing countries. This is especially the case in Africa given the predominance of agricultural activities in total employment and the limited share of formal employment in most countries.

The second issue that has been addressed concerns how household decisions are made – are they reached collectively or does one individual or group dominate the process? A related issue is whether we can speak of a 'household welfare function', since there may be conflicts of interest within the household. In theoretical work, individuals are aggregated into households on the assumption that they possess identical preferences based on identical tastes. Household decisions are then analysed in the same way as those for a single individual. Why people should group themselves in a household is usually analysed as a secondary problem, but it is generally assumed that they make up a family. Sen ... calls this arrangement the 'glued-together family'. Alternatively, a 'despotic family' is one in which the head of the family takes all the decisions, so the family behaviour is simply a reflection of the head's choice function. These are polar cases – in the former, members of the household are assumed to share the same preferences; in the latter, the preferences of the household head alone are relevant.

Major problems exist, however, in using either the concept of the 'glued-together' or the 'despotic' family. Preferences, particularly those that arise from age and sex differences, can differ widely among family members so that they will allocate family resources in different ways. The eventual allocation of resources will differ, perhaps substantially from that under 'glued-together' or 'despotic' families. These difficulties apply with equal force to the unit of the household because large numbers of people can be involved in decisions about its collective resources. In such circumstances, assuming a single-household utility function is even less valid than making such an assumption for a single family unit.

Source: World Bank (1990) pages 38-39.

Some idea of the implication of this typology for the numbers of households and income levels can be gained from the seven EU15 countries where this calculation is possible (though spread across several years). The “marginal” households are shown to be present in substantial quantities and in some countries are more numerous than “narrow” agricultural households (see Box IX.4). This may present difficulties of acceptance amongst some users if they feel that large numbers of the households they regard as farmers are being excluded and that the results relate to a small sector of the industry that is, in some sense, atypical. This has proved a particular problem in Denmark and Ireland because of their socio-economic traditions (see comments in Box IX.4). Though highly heterogeneous, the “marginals” share the characteristic that agriculture is typically of less importance to them from the perspective of total household income (for example, generating only some 5% of household income in Germany in 1983 and 14% in Ireland in 1987) (Eurostat, 2002 and earlier reports).

Though attention here has focussed on households, a parallel classification of other institutional units (corporations etc.) might also be envisaged. By summation, a picture could be presented of all units engaged in production or for which it is the major activity or income source.

Eurostat has also developed a draft typology of other socio-professional groups, based on national accounts guidelines, to be used for comparative purposes within IAHS statistics (see Box IX.5). Some commentators see the ability to compare the incomes of agricultural households with others in society as important to the achievement of the objectives of agricultural policy, in particular of ensuring the “fair standards of living for the agricultural community” which is a prime aim of the EU’s CAP. Categories shown in **bold** constitute a “minimum” list proposed by Eurostat. Member States that wish to use a more detailed breakdown may do so. In reality, where results are calculated, Member States largely use the bolded categories.

Among agricultural households defined in a “broad” way, alternative and more detailed ways of disaggregating the data are, of course, possible (for example, by size of farm, by type of rural location, by age of principal farm operator). However, in Europe there is no systematic and harmonized approach; what is done is usually determined by national data availability. An interesting example is provided by Ireland, where the combination of the annual national farm survey and the periodic household budget survey enables a flexible and detailed analysis to be carried out, though only in the base years of the household survey (typically every 6 or 7 years). This enables, at least in theory, the comparison of incomes of farm households defined in various ways with other socio-professional groups. Denmark publishes household income results (total income and disposable income per farm) by size of farm (area and economic size). Germany also breaks down the results of total and disposable income from its farm accounts survey into averages for “full-time” (subdivided by size), “part-time” and “spare time” farms. (For a review of these and other country breakdowns see Hill, 2000). These breakdowns use conventional categories and are not explicitly policy-orientated.

Box IX.4**Implications of using “broad” or “narrow” definitions of an agricultural household**

The following numbers of agricultural households and average incomes are contained in Eurostat’s reports from its IAHS statistics. They come from a number of national sources, some routine annual exercises but many others from special studies, some of which are now quite historic.

Number of households and levels of average net disposable income for three groups of agricultural households, in selected Member States:

<i>Agricultural households</i>	Denmark (1999)	Germany (1983)	Greece (1994)	Ireland (1987)	Netherlands (1988)¹	Finland (1992)	Sweden (1992)
No. agricultural households (x 1 000)							
"broad"	57	613	615	207	136	139	94
"narrow"	16	353	398	85	87	73	54
"marginal"	41	260	217	122	49	65	41
Disposable income per household (All households = 100)							
"broad"	99	110	114	105	210	124	81
"narrow"	105	101	86	127	267	131	79
"marginal"	92	123	166	89	108	116	85

The relationship between numbers of households in the three categories reflects real differences in national socio-economic conditions. For example, in **Denmark** the transfer of land between generations typically takes the form of sales between parents and children, something that is not usual elsewhere in the EU. Specialist lending institutions grant loans for this purpose. To meet interest charges it is common for one or more members of the successor’s household to take a non-agricultural job, something that can influence the choice of enterprise on the farm. Interest charges also reduce the profit from the farm business. The result is farming that appears unprofitable (in the short term) because of a high debt burden and relatively few households where the farm forms the main income source. In the longer term, the death of parents implies the release of capital to the succeeding generation. In **Ireland** demographic conditions appear to have produced relatively large numbers of household comprising single older males who are dependent on social benefits.

Source: Eurostat (2002) Income of the Agricultural Households Sector 2001 report. Theme 5. Eurostat, Luxembourg. ISSN 1725-1605.

Box IX.5**Typology of socio-professional groups for use within IAHS statistics
(a disaggregation of the households sector account)**

- (a) **Employers and own-account workers**
 - (i) **Farmers** (This group should not include forestry or fishery households. Where it is not possible to exclude them, this should be made explicit)
 - (ii) **Others**
 - (x) Retail and wholesale distribution; accommodation and catering
 - (y) Services (including professions operating as own-account workers)
 - (z) Others (including manufacturing industry)
 - (iii) **All self-employed [(a)(i) + (a)(ii)]**
- (b) **Employees**
 - (i) Manual workers in agriculture, industry and services
 - (ii) Non-manual workers
 - (iii) All employees [(b)(i) + (b)(ii)]
- (c) **Others**
 - (i) Recipients of property income
 - (ii) Recipients of pensions
 - (iii) Recipients of other current transfers
 - (iv) All others
- (d) **All households except farmers [(e) minus (a)(i)]**
- (e) **All households [(a) + (b) + (c)]**

IX.8.2 Economic Research Service farm typology for the United States

The second example of a typology applied to agricultural households comes from the United States, where the Economic Research Service (ERS) (2001) of the Department of Agriculture has developed a classification that appears to be more focussed on the needs of policymakers. It is based on a combination of the occupation of the operator and the sales class of the farm (Offutt, 2002). It identifies five groups of small family farms (sales less than \$250,000).

- **Limited resource.** Any small farm with gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited resource farmers may report farming, a non-farm occupation, or retirement as their major occupation.

- **Retirement.** Small farms whose operators' report they are retired (excludes limited resource farms operated by retired farmers).
- **Residential/lifestyle.** Small farms whose operators report a major occupation other than farming (excludes limited resource farms with operators reporting a non-farm major occupation).
- **Farming occupation/lower-sales.** Small farms with sales less than \$100,000, whose operators report farming as their major occupation (excludes limited resource farms whose operators report farming as their major occupation).
- **Farming occupation/higher-sales.** Small farms with sales between \$100,000 and \$249,000 whose operators report farming as their major occupation.

In addition, there are three categories of farms that are considered large in that their sales exceed \$250,000. This threshold is admittedly arbitrary, with the ERS choosing \$250,000 at the suggestion of the National Commission on Small Farms.

- **Large family farms.** Farms with sales between \$250,000 and \$499,999;
- **Very large family farms.** Farms with sales of \$500,000 or more;
- **Non-family farms.** Farms organized as non-family corporations or cooperatives, as well as farms operated by hired managers.

This typology now forms the basis for disaggregating ERS reporting on farm household and business performance and will be used to evaluate the impacts of changes in agricultural legislation. According to Offutt (2002), disaggregation using the typology shows very clearly how dependence on farm income varies by farm type. In 1999, only households operating very large farms acquired more than 80% of their total income from their farm business.

For large farms, farm income accounted for 60 per cent of total income while for higher-sales small farms, half of total income came from farming. The remaining small farm households derived virtually all their income from off-farm sources. Off-farm income, therefore, is as important, or more important, than farm income to the well-being of most of America's farm families. The data on household income also show distinct differences in levels compared to United States average household income (more detailed comparisons with separate socio-professional groups are not offered in the USDA-ERS publication). As noted, the average farm household income in 1999 was about a third higher than the average for all United States households. But, again, this average masks significant variation.

For example, the average household income for limited resource farms lay below the poverty level while the average household income for the very large family farms was more than three times the national average. On smaller farms where the operator's main occupation was farming, the higher-sales group's total income was just above the national average while the lower-sales group lay just below it. In addition, total income from retirement farms lay just below the national average.

Residential/lifestyle farms had negligible or negative income from their farm but had overall household incomes above the national average. These comparisons of farm household income across typology groups demonstrate the value of survey data in presenting a cross-sectional view. In addition, it emphasizes the value of using the household as the basic unit of observation.

IX.8.3 Italy: the ISMEA survey

The third example of a farm household typology comes from Italy and is based on analysis of 1995 ISMEA survey data which used a sample drawn from the 1992 Agricultural Census (Napoletano *et al.*, 2001; Castagnini *et al.*, 2003). This survey collected data on farm budgets, household and farm characteristics, time use, off-farm money income, governmental and intra-household transfers, consumption, and information about the degree of autonomy in decision-making by household members. A farm size threshold of four European Size Units was applied to exclude households where agricultural activity was negligible or marginal. Rather than starting from categories that were primarily determined by policy requirement (as in the United States), groupings were developed by statistical techniques from a socio-economic survey of Italian agriculture that was based on general equilibrium household theory for those engaged in entrepreneurial activities. The main thrust of the work was to establish links between the micro- and macroeconomic levels of economic and policy analysis.

The outcome was a typology of seven categories that bears a striking resemblance to the ERS system for the United States (see Figure IX.2). The breakdown by type, and their geographical location, enabled some key conclusions to be drawn. For example, limited resources farms contribute only two per cent to agricultural output but 70% of them are concentrated in the *Mezzogiorno*, an area suffering from structural disadvantages and where there are currently very few alternatives to agriculture. This finding suggests that, for this part of Italy, policymakers should focus their attention on programmes of economic and rural development rather than on agricultural support.

The three examples cited above illustrate the usefulness of being able to disaggregate the income results, especially in ways that may be of relevance to agricultural and other policies. The similarity of the system devised for the United States and the empirical results of analysis in Italy suggests that there may be virtue in adopting the basic typology they contain for application elsewhere among OECD countries.

This Handbook recognizes the value of the typologies of agricultural households that reflect the needs of users and encourages their development. The basis of the typology should be flexible so that different needs can be met. Consideration should be given to the international application of a classification similar to that used by the USDA-ERS.

Figure IX.2
The ISMEA survey-based typology

Farm type	Description
Limited Resource	Any small farm with global family income, gross sales and total farm asset less than the first quartile of the respective distribution.
Retirement	Small farms whose operators report that they are retired.
Residential	Small farms whose operators are not retired and report a major occupation other than farming.
Small family farms	Small farms with gross sales less than the first quartile of the distribution and whose operators report farming as their major occupation.
Medium family farms	Any farm with gross sales less than the third quartile of the distribution and whose operators report farming as their major occupation.
Large family farms	Any farm with gross sales over the third quartile of the distribution.
Non-family farms	Any farm organized as non-family corporations or cooperatives, or operated by hired managers.

Source: Napoletano *et al.* (2001).

References

- Ahearn, M. and Lee, J. E. (1991). "Multiple Job-holding among Farm Operator Households in the United States". In Hallberg, M. C., Findeis, J. L. and Lass, D. A. (eds.) *Multiple Job-holding among Farm Families*. Iowa State University Press, Ames.
- Banks, V., Butler, M. and Kalbacher, J. (1989). "Alternative Definitions of Farm People". Staff Report No 89-9, USDA ERS, Washington.
- 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.
- Canberra Group (2001). "Expert Group on Household Income Statistics. Final Report and Recommendations". Ottawa. ISBN 0-9688524-0-8.
- Castagnini R., F. Perali, C. Salvioni (2003). "Dallo sviluppo agricolo a quello rurale: che informazioni sono necessarie?" A. Arzeni, *et al.*(eds.) *Politiche di sviluppo rurale tra programmazione e valutazione*. Franco Angeli, Milano.
- Cordts, W., Deerberg K.-H., and Hanf, C.H. (1984). "Analysis of the intrasectoral income differences in West German agriculture". *European Review of Agricultural Economics*. 11: pp.323-342.
- Economic Research Service (2001). "America's diverse family farm: assorted sizes, types and situations". Economic Research Service, U.S. Department of Agriculture, Washington.
- European Commission (2004). "Extended impact assessment – Rural Development Policy post 2006". Agricultural Directorate General, European Commission, Brussels.
- Eurostat (1985). "Family Budgets: Comparative Tables – Federal Republic of Germany, France, Italy, United Kingdom". Eurostat, Luxembourg.
- Eurostat (1993). "Manual of the Total Income of Agricultural Households (Rev.1)". Theme 5 Series E, Eurostat, Luxembourg, ISBN 92-827-5227-5.
- Eurostat (1996). "European System of Accounts: ESA 1995". Eurostat, Luxembourg.
- Eurostat (2002). "Income of the Agriculture Households Sector, 2001 report". Theme 5, Eurostat, Luxembourg. ISSN 1725-1605.
- FAO (1996). "System of Economic Accounts for Food and Agriculture". FAO Statistical Development Series 8, Food and Agriculture Organization of the United Nations, Rome.
- Hagenaars, A. J. M. and Van Praag, B. M. S. (1985). "A Synthesis of Poverty Line Definitions". *Rev. of Income and Wealth*. 31(2): pp.139-54.
- Hill, B. (2000). "Farm Incomes, Wealth and Agricultural Policy". 3rd ed. Ashgate Publishing, Aldershot.
- Hill, B. (1990). "In search of the Common Agricultural Policy's "agricultural community"". *J. agric. Econ.*, 41(3): pp.316-26.

- Hill, B., Hegrenes, A. and Lien, G. (2001). "Income instability among agricultural households – evidence from Norway". *Journal of Farm Management*. 11(1): pp.1-12.
- Kempson, E. and White, M. (2001). "Self-employment in rural England". Special report to the Countryside Agency, UK.
- Napoletano, M. R., Castagnini, R., Perali, F., Salvioni, C (2001). "Data Needs for the Rural Economy to Establish a Micro-Macro Link in Agricultural Policy Analysis: The ISMEA Experience." Paper to the Joint UN/ECE-Eurostat-OECD-FAO Meeting on Food and Agricultural Statistics in Europe. Geneva October 17-19.
- Offutt, S. (2002). "What is agriculture". In: Piersimoni, F. (ed.), *Conference on Agricultural and Environmental Statistical Applications in Rome – CAESAR*. [2nd World Conference of Agricultural Statisticians]. Volume 1, p59 – 68. Rome: National Statistical Institute of Italy (ISTAT). Essays n. 12/2002. ISBN 88-458-0835-1.
- UN (1998). "Guidelines for Population and Housing Censuses", quoted in "Guidelines for the World Programme of Agricultural Censuses".
- UN (1993). "System of National Accounts 1993". Commission of the European Communities - Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank, Brussels/Luxembourg, New York, Paris, Washington, D.C., ISBN 92-1-16352-3.
- White, M. and Kempson, E. (2001). "Self-employment in rural England". Countryside Commission, Cheltenham, UK.
- World Bank (1990). "Making Adjustment Work for the Poor: A Framework for Policy Reform in Africa". World Bank, Washington.

