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**THE AGRICULTURAL HOUSEHOLD – CONCEPTS AND DEFINITIONS
(Part 1)**

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

1. 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). It is recommended by the Canberra Group of experts for use in studying income distributions and is the basic unit in household budget surveys, a main

* This paper is to be included as chapter IX in the Handbook on Rural Household, Livelihood and Well-Being: Statistics on Rural Development and Agriculture Household Income. 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).

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 (SEAFA)¹, intended for use by countries at all levels of economic development. Within the EU Eurostat measures the total income of agricultural households and in the USA incomes for farm occupier households are calculated by the US Department of Agriculture's ARMS survey (the forerunner of which was the Farm Costs and Returns Survey).

2. A central feature of the household is that there is a high degree of pooling of income and expenditure so that assessment at this level is more meaningful in representing the potential command over goods and services than is the separate incomes of the individual members. 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 bread-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 of as a necessary line of expenditure. Nevertheless, it clearly makes more sense to take the household as the unit for income measurement. Otherwise in a farm family with the business operated as a sole proprietorship all the farming income would be shown against the farmer, and his wife and children would be indicated as having zero income, a situation which obviously inaccurately expresses their real position as potential consumers.

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

- the definition of a household;
- what distinguishes an agricultural household from any other.

4. Both 'household' and 'agricultural household – or farm household' are familiarly used terms. However, behind this common usage lies a variety of meanings that must be clarified and used with discrimination when generating statistics. Some of the general issues have been introduced above. Here the intention is to review the details.

I. DEFINITION OF THE HOUSEHOLD APPROPRIATE TO STUDIES OF CONSUMPTION AND OF PRODUCTION

5. The starting point for the definition of a household is the SNA93. This describes a household as follows (SNA93, paragr. 4.132), with the addition in of a phrase that appears in the version of the SNA that is applied in the EU – the European System of Accounts (third edition, 1995).²

6. 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].

7. The predominant view of households in the SNA93 and ESA95 are as units of consumption and whose main resources are 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. ESA describes the households sector (S. 14) 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).

8. 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.

9. 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. Official definitions of households exist for use in the separate national household budget surveys that are broadly similar but differ in detail. For the United Kingdom a household is 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).”

10. The condition of living at the same address and sharing catering arrangements is common among the definition of adopted by EU Member States but there differences occur in the way that living-in domestic staff and temporary residents, such as students, are treated.

11. 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 and who may live in the farm dwelling - usually grown-up children, parents, brothers and sisters. These multi-generational and extended households are thought to be a particular feature of the social structure of agriculture, even in many industrialised countries. While there would be little dispute over treating a husband and wife 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 may exist between them, ranging from non-payment for the labour input to the farm of family members, treating them as hired workers, informal profit sharing, and business partnerships.

12. To take an example, 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-sons 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 can be regarded as at the general disposal of the household.

13. Ideally, a distinction should be drawn between the household as a social unit for domestic budgeting (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.

14. 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 when using the *fiscal household* approximate to the *single budget household* (though the move to independent taxation of individuals is eroding this). Unfortunately, within the EU few countries have sufficient data for both approaches to be explored and compared.

15. The Canberra Group approaches the definition of a household from a microeconomic standpoint. The Group's formulation of the several tiers of unit involving the household statistics are set out in Figure 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 main line of its interest – consumption, income distribution and poverty. In the present context a somewhat broader view is appropriate, in which the comparative position of agricultural households in relation to other socio-professional groups is of concern and, especially, households have a role in production activities. These might constitute one of the “particular purposes” postulated by the Canberra Group.

Figure 1
Canberra Group recommendations for harmonised 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 principle 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 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 Canberra Group (2001)

16. In the absence of an internationally applied definition of a household, Eurostat has recommended that, for its IAHS statistics, the definition of a household to be adopted is 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 recommends that the *single budget* household concept be adopted. 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.

17. This handbook recommends that a flexible but transparent approach be taken to the definition of a household. While the target should be the concept of the *single budget household* data should also be available for the complete *dwelling household* to facilitate comparisons, both internationally and within national data sources.

II HOUSEHOLDS OF DIFFERENT SIZES AND COMPOSITIONS

18. Households differ in size and composition and a given level of income for a large family may represent a much lower living standard per person 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 industrialised countries. Simply dividing income by the numbers of heads in the household is not satisfactory, as the requirements of children household members are likely to be different from those of adults. Basing the analysis of incomes to household of particular sizes (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 must be used to put them on a common base, and this is a recommendation of the Canberra Group (for a review of approaches see Hagenars *et al.*, 1985).³ It is likely that different coefficients should 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.

19. Hill (2000) reports that in the United States, though the scales used were otherwise similar to the British coefficients, the figure used for late teenagers was substantially higher, which 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 is offered, as in farming. However, it appears that whatever equivalence scales are adopted, arbitrary judgements are inevitable

20. 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.

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

- 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.

22. This handbook recommends 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 meta-data.

III. THE RURAL AND URBAN HOUSEHOLD ENTERPRISE

23. 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 those normally domiciled in rural and non-rural areas is of considerable importance to a range of public policies.

24. However, it should be borne in mind that, in many industrialised 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 Commission⁴ 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 “significantly rural” (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% 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, a point taken up below.⁵ A consequence of this finding is that, while the large majority of agricultural households are likely to be found in rural areas, not all are. 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.

25. 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, 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 industrialised developed 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 industrialised countries in 2001, was the main occupation of 22% in countries in transition and 43% in developing countries (48% in East and Southeast Asia).

26. Many of the people living 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, so that 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 for 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).⁶ Residence does, of course, cover both self-employed and hired workers and thus extend to households that are not agricultural, in the sense that they receive income from self-employment in agriculture.

IV. DEFINITION OF THE AGRICULTURAL HOUSEHOLD-FIRM (ENTERPRISE) AND THOSE BELONGING TO OTHER SOCIO-PROFESSIONAL GROUPS

27. 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 both a strong relationship with the utility of statistics to assist in policymaking decision (their *relevance* to users) but also carries important implications for the results, both in terms of the numbers of households that qualify and the income results that emerge.

28. 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 1990⁷) with a longer history of studies in the US that is particularly concerned with the recipients of the rewards from farming (Banks *et al* 1989)⁸. *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, though there are good economic arguments for believing that the ultimate beneficiaries of income support are the

owners of land, the factor of production in least elastic supply. Some but not all of these owners will be farmers, the share of owner-occupation varying widely between countries.

29. 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 to 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, 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 industrialised market economies, may be seen in a different light in countries with a history of collectivised agriculture or at lower levels of economic development where their output contributes significantly to overall output. If it is desired to exclude these households some cut-off might be used below which producers would not be considered as "real" farmers, such as a minimum labour input (in days), a minimum area, or a minimum amount of output. Similar cut-offs are encountered in agricultural statistics to set the bottom limits of what constitutes a farm (or agricultural holding). A variant of this would be to treat only those households where the members spend the *majority* of their time working on their farms as agricultural. Box 1 illustrates some of these combinations.

30. 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 often consistent and relatively stable. However, the use of time allocation at the household level is far more difficult in practice, requiring records of the labour allocation of each household member which will be 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 too simplistic to treat only physical labour as work; on many larger farms this 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.

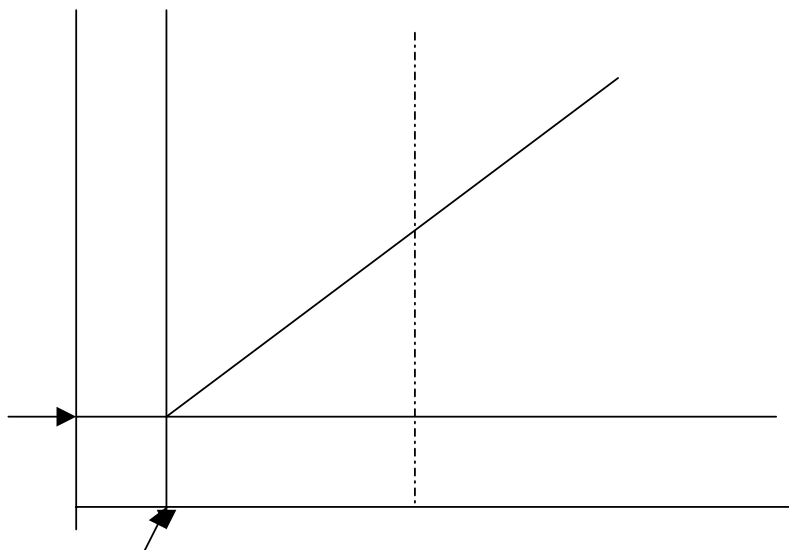
Box 1

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 2 below. 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.

Figure 2

Combinations of agricultural and non-agricultural activity



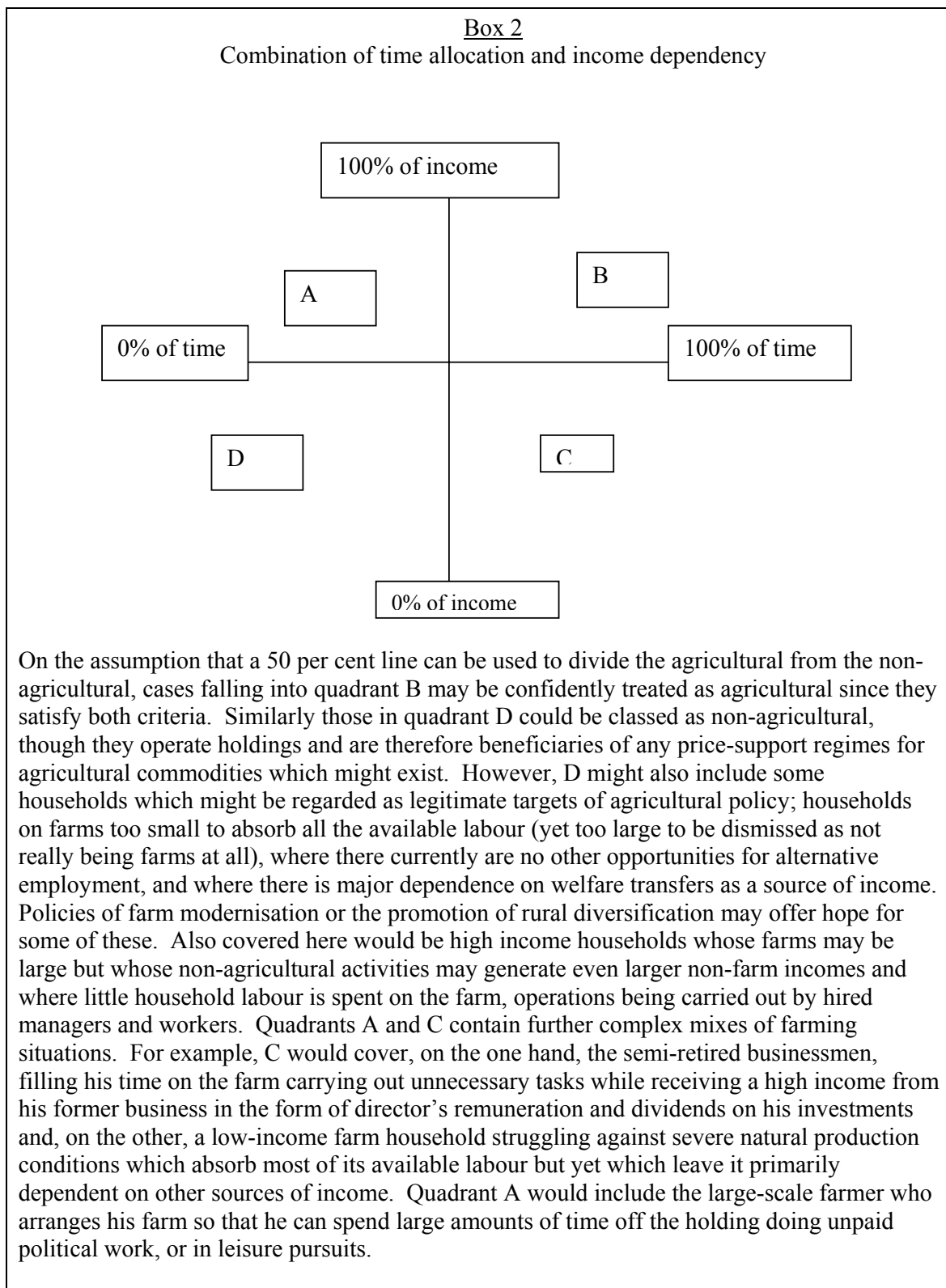
31. Probably a better basis of classification in the context of industrialised countries is *income dependency*. This is the system proposed for the disaggregation of the households sector of national accounts in the SNA93/ESA95. At its broadest the agricultural household could be defined as one in which 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, including both those for which farming was a commercial activity and the main source of their livelihoods and many other earning only very small amounts from farming and whose main income came from other sources. Although part of the agricultural community defined in the “broad” way, this latter group could not be considered as being dependent on farming for their livelihoods.

V. SELECTING FROM THE “BROAD” DEFINITION OF AN AGRICULTURAL HOUSEHOLD

32. Following on from the above, it would be possible to define an agricultural household in a very broad way to include any 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, that is where they derived half or more of their total income from self-employment in agriculture. 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, the ability to compare on this common income-dependency basis has attractions.

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

34. 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 in some combination of income dependency and labour input. These are combined in Box 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).⁹



NOTES

¹ FAO (1996) *A System of Economic Accounts for Food and Agriculture*. FAO Statistical Development Series 8, Food and Agriculture Organisation of the United Nations, Rome.

² Throughout this Manual passages quoted directly are given in Italics.

³ Hagenaaars, A. J. M. and Van Praag, B. M. S. (1985), 'A Synthesis of Poverty Line Definitions', *Rev. of Income and Wealth*, 31(2), 139-54.

⁴ European Commission (2004) *Extended impact assessment – Rural Development Policy post 2006*. Agricultural Directorate General, Directorate F.

⁵ 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 1998/99 and 1999/2000 to analyse the personal characteristics and incomes of self-employed people, including those in agriculture and forestry, and employees) and to contrast them with employees and with urban households (including urban self-employed). 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 provided 10% of the self-employed people in rural areas.

⁶ Banks, V, Butler, M. and Kalbacher, J. (1989), *Alternative Definitions of Farm People*, Staff Report No 89-9, USDA ERS, Washington

⁷ Hill, B. (1990), 'In search of the Common Agricultural Policy's "agricultural community"', *J. agric. Econ.*, 41(3), 316-26.

⁸ Banks, V, Butler, M. and Kalbacher, J. (1989), *Alternative Definitions of Farm People*, Staff Report No 89-9, USDA ERS, Washington.

⁹ 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.)(1991), *Multiple Job-holding among Farm Families*, Iowa State University Press, Ames.
