XV FINDINGS AND GOOD PRACTICES IN STATISTICS ON RURAL DEVELOPMENT AND AGRICULTURAL HOUSEHOLD INCOME

XV.1 Introduction

This chapter brings together the central issues in the methodologies of rural statistics and the measurement of agricultural household income and wealth. It points to **good practice** in each of these areas.

As was described at the outset (Chapter I) the purpose of compiling the Handbook was not to produce a detailed and prescriptive manual on how these statistics should be produced, something that applies particularly to the sections on rural statistics. Rather, it was to inform both suppliers and users in these relatively new areas of statistics of the issues that have to be confronted, alternative approaches, data sources utilized etc. by drawing on the experiences gained in international organizations and national statistical offices. Nevertheless, one general lesson to be learned is that a **lack of harmonization** hinders in a very substantial way the ability to synthesise findings and draw comparisons between countries, valuable information in understanding the economic and other changes taking place. Therefore, particularly in the section on agricultural household income measurement, it is possible to suggest certain definitions and approaches that responsible officials might adopt. Of course, in groups of countries like the European Union harmonization can be carried a step further within the framework of community institutions.

Statistical indicators are tools that assist in the formulation of policies and the monitoring of changes/development/progress of those policies. Various overlapping sets of desirable characteristics of indicators are encountered in this Handbook. Bringing these together suggests that indicators should be:

- **Problem-oriented and relevant,** which will also include **timeliness.**
- **Reliable** in the sense that they are analytically sound and based on scientific evidence of their links with the problem in hand.
- Capable of establishing **levels, dispersions** and **trends** in the characteristics they attempt to measure.
- Capable of providing a **reference value** which can act as a benchmark against which change can be measured.
- Capable, within the bounds of suitability to different circumstances, of permitting **comparisons in space,** especially between countries, and bearing in mind the increasing interest in international comparisons.
- Capable of **reacting rapidly** to changing situations, including the interventions used to implement policies.
- Easily **understandable,** in the sense that they are **clearly defined** and capable of providing **conclusions easily communicated** to policymakers.
- Where formed by combining or comparing datasets, the elements should be based on the **same statistical units**.

However, the selection of indicators will always be a **compromise** because:

- Data collection is usually an expensive activity, especially where a new or additional survey has to be developed. Indicators are often restricted to exploiting existing datasets and sources or those to which commitments have already been made, adding value to the source. Thus **realizability** is also a desirable characteristic of an indicator.
- The **cost/benefit** ratio of an indicator is significant in its development, particularly in economically poor countries. The benefits come in many forms, and at times **political and administrative factors** may outweigh the potential efficiency gains of better policy decisions.
- Priority is often given to indicators that are capable of assisting in the routine monitoring of policies. For example, policies addressing rural development for a whole country have to describe problems/targets common to all rural areas of that country, that is, **generality** is a significantly desirable quality in an indicator. Indicators addressing specific problems for particular rural areas are less likely to be developed.

XV.2 Statistics for rural development

Statistics should be **policy-determined**, that is, they should be available to assist with the formulation of policies and assessing the performance of interventions. The aims of rural development policies are not always articulated clearly or in a timely way, and statisticians may have to anticipate the demand for indicators.

Looking at the "typical" problems of rural areas in the past decades, rural development policies normally aim to make rural places **economically, socially, culturally and environmentally healthy**. In broad terms, a successful rural development policy may be seen as one that allows rural areas to:

- Be able to at least maintain their population and within it a viable population age structure.
- Diversify their economic base beyond the primary sector, maintaining or even increasing employment rates to absorb the loss of jobs in the primary sector.
- Be able to keep poverty rates and unemployment rates on a level not worse than those in urban areas. They should also aim at offering job opportunities for women and young people.
- Be as easily accessible as possible and provide a minimum set of services. This means they should be well connected with neighbouring areas, which is the basis of tourism/recreation related industries. The provision of easy access to education, health care etc. for the local population is also required to maintain the attractiveness of living in the local area.
- Keep property ownership as wide spread as possible. The rate of locally financed and initiated new small enterprise start-ups should be relatively high.
- Keep the physical and mental health of the rural population as good as it is elsewhere.
- Make their key players work together towards common goals with an agreed value basis. The goals and values are set using a bottom-up approach. The local government should be empowered with reasonable fiscal and decision-making autonomy.
- Be responsible for their own development and not have it done by others.

XV.2.1 Key issues in rural statistics

Key issues for rural statistics are the **definition of rural,** the type of **geographical unit** to which it is to be applied, and the nature of the **indicators** that are employed to reflect aspects of concern in these areas.

There is more than one "correct" definition of rural and what is most appropriate will depend on the policy problem being considered. National definitions are continuously under debate and are in fact adjusted from time to time, reflecting, for example, changes in socio-economic and administrative structures or in mobility and communication. Similarly the level at which classifications are applied (that is, the size of the territorial units and the level of geographical hierarchy) will depend on the analytical purpose or on the policy problems that have to be solved. Within Member Countries, the OECD scheme distinguishes two hierarchical levels of geographic detail: local community level (small, though not necessarily the smallest possible, basic administrative or statistical units) and regional level. This Handbook recognizes that a **hierarchical system** (not necessarily just two-level) is good practice (Chapter VII).

The choice of what constitutes a rural area can have a marked effect on the results shown in statistics, such as the proportions of the population of a country who live there. As the demand for internationally comparable information rises, some kind of standard both for the definition of rural and for a set of indicators is desirable. In an increasingly globalized world, policymakers, researchers and the general public are not only interested in statistics showing what is going on in their country but also statistics on how their country compares to others such as neighbouring countries or countries with similar environmental, climate, social or political conditions.

Comparisons between countries rely on a commonality in statistical methodology. Certain bases of classification and typologies of rural areas have gained predominance at international level. The OECD system, based on population density, is widely used at regional level. This Handbook recognizes the value of countries having the capacity to generate rural statistics on this **standardized OECD basis**, though they should not ignore the advantages flowing from more detailed or complex bases of classification for national purposes.

Whichever level of geographical unit is selected, there are good reasons for covering the **entire territory** (that is, both rural and non-rural areas). Rural analysis relies on the ability to describe the differences and the interrelationships between the rural areas and the other parts of the country. Only if data is available for all parts can consistency of results be confirmed. This Handbook recognizes the value of classifications that cover all geographical areas and encourages their use as good practice.

In terms of what data should be collected, it is widely accepted in OECD countries that statistics for agriculture only relate to a small (and usually shrinking) sector of the economy and society, though this is not necessarily true for some developing countries. In most circumstances, rural statistics have to cover a broad range of economic, social and environmental issues. Various lists of indicators exist for OECD and EU countries and for the developing world (World Bank, FAO). While there is some overlap between indicator sets, there are differences that reflect the priorities of the institutions that drew them up. To take just one example, Eurostat has proposed that all Member States collect data on the following themes.

- Demography - Migration;
- Economy - Human capital;
- Economic structure and performance (primary sector);
- Accessibility to services - Infrastructure;
- Social well-being.

This Handbook recognizes the value of a **set of "core" indicators** for international use. In addition to those currently put forwards by international organizations (Chapter V), a further set has been proposed as part of Chapter VII. It is not felt appropriate at this stage to make a firm recommendation of a preferred list.

Each theme and related indicators has its own methodological questions that must be addressed, too numerous to be detailed here. Some overlap with material in the second part of the Handbook, such as the definition of a household and the use of equivalence scales when assessing poverty. Nevertheless, there are common sources of weakness that statisticians should take steps to minimize, such as **the dangers of using data from different sources that are not entirely compatible in order to construct indicators**. A general warning can be made about the use of a particular type of indicator - **composite indices**. Because of the multitude of indicators, it might be tempting to construct a rural composite of indices for international benchmarking. This Handbook strongly advises against such a practise, for statistical reasons set out in Chapter III.5.

It is possible to be more prescriptive about recommending that methodological details are made available to users. For practical reasons rural development statistics must be based on a multitude of statistical sources, sometimes rather disparate in nature. This Handbook strongly endorses, as good practice, the publication, together with the statistics, of a detailed analysis of the **sources and methods** used, adequate **meta data** for the individual data cells, and a **readers' guide**, advising how the results should be interpreted and with what precision**.**

For **international benchmarking** the above methodological information should be recorded for each country. If incompatibilities exist, these must be clearly indicated, together with a guide to what extent data indicator levels can in fact be compared. If they cannot, only **changes in levels** of indicators should be recorded.

However sophisticated the methodology put forwards for rural statistics, a crucial factor in their development is the **availability of data**. The Handbook considers the generic sources (Chapter VI) and their relative advantages and drawbacks. Sources are more varied in OECD Member Countries (censuses and surveys of various kinds, administrative records etc.) than in developing countries, where household surveys are predominant. Any new system for data collection is likely to demand substantial resources, and surveys should to be set within a proper statistical framework for efficient operation. There will be obvious interest in making use of what already exists by adding value, though the warnings of mixing disparate sources will have to be heeded.

Despite such dangers, when assembling statistics for rural areas it is often useful to gather (secondary) data from more than one source, when available, in order to cope with potential problems of reliability and validity. It is in the discrepancies that lessons can often be learned about the shortcomings of one data source or another and pointers to improvements found.

Some countries are able to link existing datasets in a reliable way, typically using personal identifier labels – Scandinavia leads the way in this respect. As a case study, experience in **Canada** (Chapter IV) demonstrates good practice in which a flexible dataset can in provide a wealth of information relevant for many aspects of rural policy. The statistics show the extent of changes over time in key indicators (on migration, employment, incomes, consumption spending, health, education etc.) and help identify those that are associated with successful development strategies.

XV.2.2 Rural measurement problems

Statistics on rural development are problematic in several ways. They are largely based on national censuses and surveys, which, in most industrialized countries at least, were not designed with rural areas in mind. As a consequence, many statistics used routinely at the national level or in urban regions need to be treated with caution when applied to rural areas. And, statistics that might pertain largely to rural areas, on land use, for instance, are often not part of national or regional data sets.

One central problem is that, because they are delineated on the basis of density and/or size of place, **rural areas do not remain constant over time and their boundaries are porous**. Rural areas that gain population become at some point urban areas and are then classified as such. This makes it difficult to track changes over time. Thus, looking at historical population trends using a current delineation of rural-urban is likely to underestimate overall rural population growth and overestimate urban growth. Without a careful presentation of the data, it is easy to conclude that areas have not grown because they are rural, forgetting that areas remain rural because they have not grown.

Rural boundaries not only change over time, they also become increasingly porous as commuting increases. By definition, rural areas lack large centres. Many residents, particularly in areas proximate to cities, may commute outside of the rural area to work. If regions are defined in part on the basis of a commuting threshold, the problem is minimized, but, even here, until that threshold is reached, there will be some discontinuity between jobs in the region and the jobs held by residents. This affects urban as well as rural statistics, but rural statistics are impacted more because commuters constitute a larger proportion of the rural work force.

A second issue is that statistics developed at the national level to reflect livelihood and well-being **may be less valid in rural settings than urban settings**. For instance, while censuses and surveys typically ascertain a single occupation, many rural people may hold more than one job. In some rural areas, for instance, a substantial proportion of people with income from farming may not consider farming as their principal occupation. The number of farmers identified in an agricultural census may far exceed the number of farmers found in a population census of the same area.

Another related example is unemployment, a key national and international indicator. This measure works well in urban areas, where the vast majority of people employed are wage and salary workers. In some rural settings, however, particularly agricultural settings, many people are self-employed. In this case, economic hardship is more apt to be marked by underemployment than by unemployment. Farm household members, for example, may have farm work, but have a desire to work off the farm and be able to do so without substantial loss in farm income. Whether they have off-farm work is not likely to be reflected in unemployment statistics.

A final example: rural employment is more likely to be seasonal than urban employment and estimates of labour market conditions can vary considerably depending on when a census or survey is taken. These examples point to the importance of using household budget and related surveys to supplement census data in understanding rural development conditions.

A third issue is a **lack of measures that pertain particularly to the development of rural areas, such as natural amenities.** Measures of urban assets tend to be a by-product of business and other surveys and administrative data. Thus, the presence of transportation hubs, research universities, and substantial high-end business services sectors have all been linked to urban growth in industrialized countries. By these standards, rural regions are clearly disadvantaged. However, rural areas can have their own advantages: pleasant landscapes and climate, lakes or ocean, mountains and streams, and unique picturesque or historical

settings. These assets are important for tourism and second home development, but they can also serve to attract entrepreneurs and others who prefer to reside in natural rather than urban environments. A study of rural United States counties found population and employment growth to be more highly correlated with natural amenities than with the economic base (McGranahan, 1999).

The potential importance of these natural assets is included in the concept of farm "multifunctionality," where farms and farmland are recognized as having environmental, recreational, and scenic outputs in addition to agricultural productivity. However, the actual measures of rural amenities - what attracts people to rural areas - have not been developed. One reason is that the measures cannot be derived easily from existing statistical systems. More important is the current lack of any clear basis for ascribing amenity value. When it comes to attractive rural settings, "more" is not always "better." Landscape preference research has found, for instance, that people most like varied landscapes (and even then, only up to a point).

The absence of official measures of these rural amenities does not mean they are irrelevant for rural well-being. Families may be willing to "pay" considerably for these amenities, by accepting lower earnings and/or paying a higher proportion of income for housing. The result may be rural anomalies from a strictly economic perspective, such as population shifts from areas of apparently high real earnings to areas of lower real earnings. Annex 6 gives further details about the importance of natural amenities.

The fourth issue is the relatively **small size of rural regions**. Tabulations of income, occupation, and other socioeconomic measures that are used nationally or in urban regions may be inappropriate for rural areas because of issues of data confidentiality. Statistical Disclosure Limitation (SDL) has become a major concern for statistical agencies as reasonable response rates depend on the belief that respondents have that their answers will be kept in confidence. (Methods of overcoming this problem were touched on in Chapter VI).

Small size also affects the reliability of statistics estimated on the basis of administrative records. National statistical agencies are increasingly called on to develop local area estimates for various measures where the costs of censuses or major surveys are prohibitive. For instance, in years outside of censuses, area populations may be estimated on the basis of births, deaths, school enrolments, telephone hook-ups, and other measures. Regional income or domestic product may be estimated from establishment data on employment and wages and other information. Typically, estimates are made first at the national and perhaps regional levels, where there are extensive data, and then allocated downward, based on local statistics. In rural areas, these estimates must be treated cautiously. Estimates are inherently more unreliable where territorial units are small. Moreover, the assumptions and methods that are used in making these estimates may fit urban areas better than rural areas. It is, for instance, typically much more difficult to estimate self-employment income than wage and salary income.

The small size of rural regions can also affect the reliability of estimates from surveys and, since they frequently ask complete sets of questions only for a proportion of respondents, population and other censuses. One way to overcome this problem is by over-sampling in rural regions or at least those rural regions of particular interest, such as agricultural regions or declining regions. Of course, over-sampling in one type of area means under-sampling in another. More precise regional estimates come at the expense of precision in estimates for other national subpopulations such as ethic groups. Bayesian techniques are available to estimate the sample size necessary to obtain estimates of a given precision.

The fifth issue relates to the **interpretation of rural statistics**. To the extent possible, well-being outcomes (earnings, employment, health etc.) need to be standardized for the composition of the population. This is most obvious in the case of mortality rates, which are highly related to age and sex, but it extends to

other areas as well. Comparisons between rural and urban regions or localities almost inevitably find rural areas have lower incomes than urban areas. This does not necessarily mean that rural areas are somehow lagging, however, or that an explicitly regional policy is called for. As noted elsewhere, according to conventional methodology the cost of living is typically lower in rural areas than in urban. But, adjusting for cost of living may not be enough.

The residents of rural regions also tend to have relatively low levels of educational attainment and to be older than their urban counterparts. Since lower levels of educational attainment are generally associated with lower incomes at the individual level, lower rural incomes may reflect the educational characteristics of the rural population rather than any drawback to rural residence. By the same token, if income disparities increase or decrease nationally across educational attainment levels, this will be reflected in increasing or decreasing disparities between rural and urban areas. This tendency of divergence is also found between industrially advanced countries with a highly educated labour force and less developed countries characterized by a predominantly rural economy[1].

XV.3 Statistics on the incomes and wealth of agricultural households

In OECD countries the relevance of indicators of income and wealth for agricultural households comes in large part from the **aims of agricultural policy**. Though they only represent one component of the population of rural areas, and in many industrialized countries a small and declining one, farm households and their livelihoods are the focus of substantial government interest. Concern is not usually well-focussed, but is often to do with the level of income and how this affects consumption possibilities and poverty (an aspect of particular concern in developing countries). In addition, within the public sector, policies on deprivation, economic development, sustainability, trade liberalisation and environmental quality would find such statistics useful if their aims are to be properly serviced and the performance of policy interventions to be assessed. Others groups also needing the information include academics and commercial firms, such as those in the industries upstream and downstream from farming. In developing countries the prime concern is **poverty**.

The main way in which incomes in agriculture are currently described by official statistics in most countries (and in the European Union as a whole) is by measures of the return to the **factors used in the activity of agricultural production**. While this approach is appropriate for some circumstances, it is clearly not capable of providing information on the non-agricultural sources of income in which farm operators and their households frequently engage, especially in developed countries. For this a **household perspective** is needed. The combination of farming with other income-generating activities is a common and increasing phenomenon. Non-agricultural incomes from gainful activities together with the returns from property ownership and transfers from government are necessary inputs to explaining the consumption and savings opportunities of farm households and to their on-farm decisions, such as the choice of enterprise mix, intensity of land use, investment level etc.

To continue to monitor the income situation of farm operators using only indicators based on agricultural activity carries the danger that such **figures will be misused** to draw implications for agricultural households. This would break a fundamental principle in the choice, design and use of indicators which lays

[1] According to the ILO, unemployment is quite evenly distributed between men and women with a secondary education in most economies, but at the tertiary level of education greater country-level diversity is apparent. In all the economies shown, females with higher education levels are more often unemployed than males of the same education group. On the other hand, with the exception of Peru, men with low education levels have higher unemployment rates than females in all economies (ILO, KILM 11). Source: http://www.ilo.org./public/english/employment/strat/kilm/kilm11.htm

emphasis the selection of indicators that match the problem in hand. What would be needed in developed countries are indicators of household total and/or disposable income. The same principle might indicate that consumption is preferable to income as a measure of well-being in less developed economies.

At present there is **no internationally agreed system for generating statistics on income and wealth for agricultural households** that parallels the OECD coordination of a set of aggregate Economic Accounts for Agriculture (activity accounts) and associated indicators for its Member Countries based on methodology established by Eurostat for use in the European Union. What exists at national level is patchy, contains large gaps and uses different methodologies, a factor that hampers comparisons between countries. Typically the surveys on which most evidence is based relates to a non-constant sample that is shrinking over time, with the snapshots at single points in time hiding a considerable amount of contrary short-term movements ("churning").

Nevertheless, some broad generalizations are possible from existing results (Chapters VIII and XIV) that support the need for better information on agricultural household incomes that cover more than just the income from agricultural activity. These include the following:

- The income from farming alone substantially understates the overall income that agricultural households receive, so judging their economic situation only on the basis of agricultural income will overstate the problem of low-incomes and associated poverty. The relative importance of non-farm income seems to have been increasing over time (though the non-constant nature of most samples makes this conclusion. Multiple income sources are found not only in OECD countries but also in less developed ones and economies in transition.
- The stability of total household income over time is greater than that from farming alone, so judging the instability problem will be overstated if only farm income is considered.
- Consumption spending is more stable over time than income, suggesting that farm households save and dis-save to cushion income variations. This is compatible with the permanent income hypothesis in which consumption is sensitive to long-term income prospects and relatively insensitive to short-term movements. In developing countries access to credit is a key factor in allowing consumption to depart from income.
- The distribution of incomes among farm household in OECD countries is generally made less unequal when total income is considered rather than the income from farming alone.
- In many developed countries the disposable income of farm operator households compare favourably with the national average, suggesting that farmers and their families as a group do not form a particularly disadvantaged group in society. The position is somewhat eroded when incomes are measured per household member or per consumer unit.
- Wealth and income are linked, especially in agriculture where land prices reflect *inter alia* the profitability of farming. In the few OECD countries where wealth statistics are available, farm households are typically more wealthy (and substantially so) than the rest of the population. While some agricultural households have both low-income and low wealth, far commoner situations are where low-income is found combined with high wealth, or where both wealth and income are large.
- These findings on relative income and wealth positions of farm households have implications for countries (including the European Union) that have policies aimed at ensuring a fair standard of living for the agricultural community.

XV.3.1 Methodological issues in measuring agricultural household income and wealth

The second section of this Handbook is largely concerned with discussion of methodological issues that have to be confronted when developing statistics for agricultural households and in reviewing what countries actually do when attempting measurement. The choices made reflect the purposes for which the statistics are required; within a single country there may be a range of uses that, in an ideal world, would be met by using different concepts. For the sake of **international comparability** the same methodology needs to be applied across a range of countries, but this risks imposing definitions on circumstances for which they are not entirely appropriate. Methodology also has to take into account the practicality of being put into operation, which will be usually determined by **available data sources**. In reality the methodology usually turns out to be a compromise. This is why it is valuable to understand the background against which decisions on methodology took place and the process by which choices have been made.

The main methodological issues concern the following:

- Definition of a household (dwelling and single budget units).
- Method of measuring household size and use of equivalence scale.
- Classification of households into agricultural and other; employee households, subsistence producer households. This, combined with the definition of a household, essentially results in a definition for an agricultural household.
- Measure of income, including the coverage of both money income and income in kind, imputed flows, disposable income (after the deduction of non-optional deductions such as taxes), and broader approaches that take into account in-household activities.
- Measures of wealth, and economic status.
- Distribution of incomes, indicators of inequallity, and the measurement of poverty.

Though this Handbook stops short of making recommendations, it does indicate **good practice** in approaching each of these issues. It recognizes the following:

- *Definitions of a household, an agricultural household and related matters* (Chapters IX to XII)*:*
    - 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 he available to allow the application of the concept of the **single budget household** which in some circumstances may be preferable (Chapter IX). However, the concept of a household applicable in OECD Members may require modification for use in developing countries.
    - In addition to income per households, the calculation of **income per household member and per consumer unit** (using national equivalence scales) should be undertaken. Details of Equivalence Scales should be made available as metadata. The basis of these scales may vary between countries at different stages of economic development.
    - Data should be available to develop estimates of income for households defined as agriculture in a number of ways, as no one definition will suit all purposes. This flexible approach should permit a coverage of all households that earn **any income**

from self-employed farming activity. However, for many of these farming will be only a very minor activity. Particular policy interest focuses on a more **narrowly defined** sub-group, 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). This "narrow" approach facilitates comparisons with other socio-professional groups selected in a consistent manner. Where it is not possible to classify using the household's main income source, the Handbook recognizes the use of a **reference person** system, where the person is normally the main income earner and households are classified as agricultural or as belonging to some other socio-professional group according to that person's main income (or occupation). For other purposes, selecting from the "broad" coverage by farm size (and other criteria) may be undertaken. Studies should be made to assess the significance of adopting alternative bases of classification and different coverages.

- 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**.
- The income of households that operate **family farms as corporations** requires special attention, as income comes not as self-employment income but from employment and from property. They may be treated as quasi unincorporated. Results should be shown separately for the households, which would enable exclusion or inclusion with other agricultural households according the user needs
- The income situation of the households of **hired agricultural workers** (that is, those that do not have entrepreneurial responsibility) should be assessed as a separate and supplementary exercise. An ability to analyse by the type of business on which they are employed should be incorporated (family farm, corporate farm etc.). In developing countries this category will include landless workers in agriculture.
- As a special case of the above, in countries that previously operated socialised forms of production, the income situation of the households of **hired workers on all large-scale agricultural units** (whether arranged as cooperatives, other forms in which there is some entrepreneurial responsibility, or corporations) 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.). These households may also be **subsistence producers**. How they should be treated is a matter for further discussion.
- There is value using **flexible typologies of agricultural households** that reflect the needs of users, and their development is encouraged. Consideration should be given to the international application of a classification similar to that used by the USDA-ERS.

- *Definitions of income and related matters:*

  - Bearing in mind the methodologies of national accounts and the recommendations of the Canberra Group of Experts relating to general household income statistics (Chapter X), the Handbook recognizes the value of applying a **simplified definition of disposable income** when measuring the income of agricultural households, as

shown in Figure XV.1. When presenting results, information should be available for the **separate items** shown in this definition.

- Basic statistical characteristics of the **distribution of incomes** of agricultural households should be calculated, including medians and quartiles, and measures of inequallity and of poverty based on them (Chapter XI). In developing countries the measurement of consumption may be superior to that of income in the assessment of living standards and poverty.
- The use of Lorenz curves, low-income rates etc. is encouraged, with comparisons drawn over time, geographically and between agricultural households (variously defined) and other socio-professional group, suitable attention being given to hazards in these comparisons. When setting **income poverty lines** no particular methodology is preferred, though metadata on the methods used should accompany results.
- Household **net worth** is the summation of farm net worth (assets minus debts) and non-farm net worth (assets minus debts) (Chapter XII). Farm households may have multiple sources of farm and non-farm assets and/or liabilities. To help ensure accuracy and completeness of estimates, net worth measures should take into account both farm and non-farm sources of wealth. Estimates of net worth should also recognize that farm wealth may not be entirely owned by farm households.
- Indicators that combine income and wealth in a single indicator should be explored (such as estimates of **Economic Status).** Comparisons between agricultural households and other socio-professional groups must be done with care over the issue of assets used in production.

The review of **current methodological practice** in measuring the income of agricultural households in OECD countries (Chapter XIII) shows a range of definitions in use and mixed treatment of elements in income (such as imputed flows) and the use of equivalence scales. Of particular significance are the differing approaches used to the coverage of agricultural households in the statistics.

Countries fall into two main groups in this respect. First there are those that take a **"broad" approach** and include among agricultural households all those that operate a farm (usually defined in terms of an agricultural producing unit whose size is above some threshold that separates it from a domestic garden or hobby production). Examples are found mainly where agricultural household statistics are based on censuses or surveys of farms (or agricultural holdings). Second are those countries that apply a more selective approach designed to include only those households that have agriculture as their main source of income or activity, with the assumption that these are the main target of support by agricultural policy. In the European Union, Eurostat's IAHS statistics have given priority to this **"narrow" approach** (an important factor being that this facilitates comparisons to be made with other socio-professional groups) and its influence is clearly observed among Member States. Other examples can be found that fall between these approaches or select in different ways.

Only rarely are results presented using alternative definitions in the same country. When this happens within a single dataset, or other means of drawing comparisons are possible (such as with agricultural censuses), it is clear that the choice of definition often has a major influence not only on the number of households classed as agricultural but also on the results in terms of income level, composition and comparison with other socio-professional groups. This finding points to a need for caution when using unharmonized results and the desirability of agreeing on key elements of methodology for international studies.

Figure XV.1
Recommended definition of net disposable income for application to agricultural households

Net income from self-employment (money income and in kind)

Net income from self-employment (operation of unincorporated businesses, or incorporated businesses that can be treated as *quasi* unincorporated because of family operation and ownership) after deduction of intermediate consumption items, interest on business loans, rents on land and business property, and a depreciation allowance for capital consumption. This will include net profit or loss in money form and the value of other income in kind, such as the value of output used for barter and for own-consumption, net of cost of inputs used in their production.
Of which:
(a) self-employment in agriculture (money income and in kind)
(b) self-employment in other industries (money income and in kind)
(c) imputed rental value of owned dwelling

\+ **Cash wages and salaries**, earned from dependent activity in enterprises (institutional units) that may be agricultural or non-agricultural in nature

(= Primary income)

+ Rent received
(a) net rents from the letting of property other than land
(b) net rents from the letting of land

+ Other property income
(a) net interest received (interest received less interest paid, though payments should not include interest already deducted in calculating profits)
(b) dividends received

+ Social transfers received
(a) Social insurance benefits from employers' schemes
(b) Social insurance benefits in cash from government schemes
(c) Universal social assistance benefits in cash from government
(d) Means-tested social assistance benefits in cash from government

+ Other current inflows
Regular inter-household cash transfers received such as transfers from relatives living and working abroad)

= TOTAL INCOME

- Current taxes on income and wealth

- Non-discretionary social contributions (payments to social security schemes)
a) by members of agricultural households as self-employed person
b) employee social contributions (only) relating to income from employment

= **NET DISPOSABLE INCOME** (note: this is not adjusted for the receipt of social benefits in kind)

XV.3.2 Provision of data – the data system for agricultural household income measurement

The provision of data is, in practice, the **most fundamental problem** facing the development of statistics on the income and wealth of agricultural households. As in the case of rural statistics, without data the discussion of methodological issues and identification of good practice loses much of its relevance.

Reviews of data sources in developed countries have been published by Hill (2000) and the OECD (1995, 1999) This Handbook has not attempted to update this work, which mainly took place in the later 1990s. Rather, it has concentrated on cases studies where data are robust enough to enable patterns in the results to be identified (Chapter XIV).

Among OECD countries the three main generic sources of agricultural household income are **farm accounts surveys, general household expenditure surveys** (which increasingly also cover incomes), and **taxation records.** Each has well-known advantages and disadvantages (Chapter XIII). In developing countries household surveys (Living Standards Measurement Study **(LSMS)** surveys) are the principal method of data collection.

Though there is some information on agricultural household incomes in all OECD countries, **wide variations are found in the availability and quality of data**. A few countries have several good data sources on which to base statistics, sometimes having the ability to link datasets to provide a powerful and flexible tool of analysis. Examples are the Scandinavian countries with their income registers. Elsewhere a single survey may provide a sufficiently robust base (for example, the ARMS survey of farms in the United States). However, **many countries do not have a single satisfactory microeconomic data source**, a group that contains several EU Member States. Situations occur in which simultaneously the national farm accounts survey does not include questions on other sources of income that are necessary to establish household income, where the taxation of farmers does not yield information on actual incomes, and where the household budget survey either generates too few agricultural household cases for the results to be reliable or where the quality of income data is unacceptably poor. This gap in was one factor that led Eurostat's IAHS statistics, initiated in the late 1980s, to take a sector-level approach based in national accounts, one which is less dependent on good quality microeconomic data though these are usually still needed as distribution agents for economic aggregates (Eurostat, 2002). In the more recent discussions on the need for statistics on agricultural household incomes emphasis has once more switched to microeconomic data as a primary source, as it is acknowledged that in many respects only microeconomic data can provide answers to many of the important policy questions.

Developing the data systems of OECD countries so that they are capable of servicing statistics on agricultural household incomes are **matters for national governments and their statistical authorities**. Making use of existing regular farm surveys for which there a continuing commitment by extending coverage to household income and wealth has obvious attractions. Adding value to tax data by modifying the ways that they are processed and accessed in order to provide economic information may be relatively low-cost. Boosting sample sizes of agricultural cases in general household surveys and improving quality of income data, perhaps by establishing links with farm accounts surveys, may be another possibility. Sometimes only a completely new survey is adequate. Each of these advances implies costs, not only in terms of resources used by the data system but politically and in the potential impact on the rest of the statistical system (such as by affecting response rates among cooperators in existing voluntary surveys). Countries will need to appraise their particular opportunities and costs and the routes chosen by which to provide data will probably differ.

By establishing the main elements in the methodology of statistics on agricultural household incomes, it is hoped that Handbook will assist in identifying the **direction in which data systems should be moving**, if not the exact path by which they should get there.

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