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The World Bank

The Wye Group Handbook

Rural Households' Livelihood and Well-Being

Statistics on Rural Development and
Agriculture Household Income



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PREFACE

Why this Handbook?

As the world changes, so should the collection of public statistics that inform governments and citizens about the nature of their lives and their livelihoods. For rural communities and for agriculturalists, the past decades have seen large changes in the structure and significance of farming and in the composition of rural economies. In developed economies, food is less and less a matter of commodities and agriculture is more than just their production. With food sufficiency not an issue for most, consumers have developed strong preferences with respect to food quality and safety. In rural areas, farms are often no longer the mainstay of the economy, and many farm families have income from both the farm business and off-farm employment.

Accordingly, public data collection is under increasing pressure to move away from an almost exclusive focus on commodity production and factor use. But move to what? This Handbook responds to the question, what next for rural and agricultural statistics? It envisages the need for better data and indicators on the environment, rural economies and communities, and, very importantly, the farm household itself.

Changes in the rural and farm sectors are accompanied by growing requirements for comparability in statistics across countries, reflecting the phenomenon of globalization, and for statistics as a measure of accountability in the use of public funds.

For agriculture, world markets matter, and multi-lateral trade liberalization almost certainly will require some degree of farm policy reform in developed – if not developing – countries. International trade agreements already point in the direction of the likely outcome - a requirement that domestic farm support distort world markets as little as possible. In practice, this criterion largely rules out direct market intervention to affect prices or area planted or quantity produced. As a consequence, the impact of policy can no longer be assessed simply by observing supply and demand shifts in commodity markets.

Market interventions are often replaced by direct payments to farm households. The disposition of those payments – as allocated between the farm business and other activities – is conditioned by the household's income and wealth, along with its preferences and demographic characteristics. The outcome is a matter for empirical analysis. Understanding the ultimate market impacts of these direct payments depends on having data on farm households that includes the farm operation and also all other activities. Focus on farm accounts and business is not sufficient.

In some constructions of an eventual agreement in the current Doha Round of trade negotiations, nations would be required to demonstrate that domestic support provided to their farmers does **not** distort world markets, that is, it does not cause them to increase agricultural production such that aggregate supply is affected significantly. Proving a negative proposition is difficult enough, but without data on the full range of a farm household's activities (that defines its choices for use of the direct payments), it really is impossible. Therefore, some degree of comparability across nations in farm household data is probably the precursor to its effective use in analyses that assess the degree to which countries are meeting their international obligations.

Beyond uses in international fora, data on rural and farm households and on rural economies and environments are increasingly sought as measures of the efficacy of public policies. Accountability is more than ever a requirement in governance, in both developed and developing countries. Objective assessment of the well-being of a nation's households is one obviously important indicator of success. The condition of the

natural environment is another. For rural areas, these dimensions of the quality of life are important in sustaining agriculture but also other activities such as tourism. The need to understand the causal linkages between government actions and economic and environmental well-being puts renewed emphasis on the careful selection of indicators and their policy relevance. Quantification is the by-word of accountability.

Who is the Handbook written for?

The Handbook is intended for the benefit of various groups concerned with rural development and the evolving nature of the agricultural industry. It aims to be a guide for the providers of statistics, not only those who confront measurement challenges for the first time, but also for those who are building on existing programmes. Statistical offices often have to make choices. The Handbook explains the underlying economic and statistical concepts and principles needed to enable these offices to make their choices in efficient and cost effective ways and to be aware of the implications of their decisions.

It is also intended for those who use the data to perform analyses and to interpret what the statistics mean for personal and national goals. The Handbook will be of special interest to those in the public sector responsible for setting targets and monitoring policies related to:

- the standard of living and well-being of rural households *vis-à-vis* urban and all households; and
- the standard of living and well-being of agricultural households *vis-à-vis* households of other socio-professional categories.

The Handbook is a reference for current **good practice**, drawing upon the collective expertise accumulated in many countries and providing a means of access to this form of social capital. Also, as a living document, it represents a potential repository for findings of new ways to approach measurement of important variables. In this respect, both developed and developing country settings are important.

Directions and methods of work for compiling the Handbook

The Inter-secretariat Working Group on Agriculture and Rural Indicators (IWG.AgRI) has as its participating organisations the United Nations Economic Commission for Europe (UNECE), the Organisation for Economic Co-operation and Development (OECD), the Food and Agriculture Organization of the United Nations (FAO), and the Statistical Office of the European Community (Eurostat).

In 2003 the IWG.AgRI agreed to set up a Task Force on Rural Development Statistics and Agriculture Household Income with a membership consisting of experts from the IWG.AgRI, the World Bank, national statistical offices known to be active in these areas, and academia. This initiative was endorsed by the Joint UNECE/Eurostat/FAO/OECD Meeting on Food and Agriculture Statistics that took place in Geneva in July 2003. Subsequently, it was approved by the UN Conference of European Statisticians (CES). The IWG.AgRI Task Force met five times: Washington (October 2003), Rome (October 2003), Paris (November 2003), Verona (July 2004), Wye (April 2005) and Rome (June 2005). The Joint UNECE/Eurostat/FAO/OECD Meeting on Food and Agriculture Statistics, which also took place in Rome in June 2005, endorsed the Handbook and asked the IWG.AgRI to have it disseminated in the autumn 2005. A final meeting of the Task Force took place in Paris in June 2006.

Drafting of the Handbook started in 2003. The electronic version of the Handbook was published as a web-based document in 2005. In 2007 the UNECE prepared a version suitable for printing; this involved a making number of minor changes to improve consistency (in matters of spelling, numbering etc.). These are being carried over to the electronic version. However, the content remains unchanged and represents the

state of statistics on rural development and agriculture household income at they were at the time of compiling the Handbook.

All members of the Task Force participated in their individual capacity as experts without necessarily committing their employers or organizations. The Handbook is published on the responsibility of the secretariats of the participating organizations of IWG.AgRI.

The sponsoring organizations recognize the usefulness of the principles and recommendations contained in the Handbook as good practice for agencies when compiling their statistics on rural development and agriculture household income. Because of practical and resource constraints some of the current recommendations may not be immediately attainable by all statistical offices. However, they should serve as guidelines for agencies as they revise their statistics and improve their programmes.

The Handbook draws upon the experience of many statistical offices throughout the world. The procedures these offices use are not static but continue to evolve and improve in response to several factors. Academic research continually improves and refines the economic and statistical theory underpinning rural indicators and strengthens it. New technology can also affect the methods used to collect rural statistics and transmit them. The present Handbook is therefore intended to be a "*living document*" which will be periodically updated and amended. Hence some of the chapters currently have the character of work-in-progress. This is certainly the case for the chapters dealing with case studies of country experiences. Future editions of the Handbook, incorporating developments and improvements, will be handled by the "Wye" Group (see below).

Designation of the Task Force as the "Wye" Group

In 2002, the PennState University (United States), the Economic Research Service of the U.S. Department of Agriculture, and the Department of Agriculture Sciences of the Imperial College London organized a *Workshop on the Farm Household-Firm Unit: Its importance in agriculture and implications for statistics*. This was held at the Wye (Kent, UK) campus of Imperial College. The IWG.AgRI participated actively in the Workshop. The issues raised had previously been recognized in a number of UNECE/Eurostat/FAO/OECD meetings on agriculture statistics as well as in the Second International Conference on Agriculture Statistics (the CAESAR Conference in Rome, 2001) as having a very high priority. All concerned parties agreed on the need to bring knowledge together and produce the present Handbook.

In view of the catalyzing effect that the 2002 Wye Workshop had and the important progress made at the 2005 Task Force meeting in Wye, the Task Force agreed to name the Handbook;

*The Wye Group:
Handbook on Rural Households' Livelihood and Well-Being:
Statistics on Rural Development and Agriculture Household Income.*

Early in 2007 the UN Statistical Commission accepted a proposal that this be formally established as a 'City Group', designated The Wye Group on Statistics on Rural Development and Agriculture Household Income. In its terms of reference one activity of this group is to determine the need for any changes or updating to the Handbook and, if indicated, to organize and execute revisions.

The designations employed and the presentations of the material in this publication do not imply the expression of any opinion on the part of the secretariats of the participating organizations of the IWG.AgRI concerning the legal status of any country, territory, city or area, or of its authorities, or concerning delimitation of its frontier or boundaries.

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EXECUTIVE SUMMARY

Why the urgency for better statistics on rural areas and farm household incomes?

Large amounts of **public funds** are used to support farmers and their households in OECD countries. The current round of multi-lateral trade liberalization negotiations will almost certainly require some degree of farm policy reform in developed – if not developing – countries. International trade agreements already point in the direction of the likely outcome - a requirement that domestic farm support distorts world markets as little as possible. To achieve this, market interventions are often replaced by direct payments to farm households. Understanding the ultimate market impacts of these direct payments depends on having data on farm households that includes the farm operation and also all their other activities. **Focus on farm accounts and business is not sufficient.**

Increasing sums are being spent on rural areas, the livelihoods and well-being of people who live there, and conservation of the natural environment. Agricultural policy reform is likely to move spending further in this direction. In the rural areas of developed economies farms are often **no longer the mainstay of the economy**, particularly in OECD countries. Many of the problems of farm families can only be addressed by creating economic opportunities outside agriculture. Statistics for **rural areas** need to **go far beyond agriculture** and cover a wide range of economic, social and environmental indicators.

Less developed countries, where agriculture is still relatively important in rural areas, **poverty** is a major policy issue. In such circumstances income may be displaced as an indicator by consumption. Nevertheless, household incomes are seeing changes that move them towards the patterns observed in the developed world. Economies in transition face particular statistical challenges concerning their agricultures and rural development.

Accountability is more than ever a requirement in governance, in both developed and developing countries. Objective assessment of the well-being of a nation's households is one obviously important indicator of success. The condition of the natural environment is another. For rural areas, these dimensions of the quality of life are important in sustaining agriculture but also other activities such as tourism. The need to understand the causal linkages between government actions and economic and environmental well-being puts renewed emphasis on the careful selection of indicators and their policy relevance. Quantification is the by-word of accountability.

What are the key issues in rural statistics?

In rural development it is particularly important to have clear understanding of what “**rural**” means and the **geographical areas** to which it is applied (which may range from the complete region to small local areas). Good practice includes the use of various levels to suit the problem at hand; sometimes the concern will be a large area (relevant to air quality for example) while for others (such as access to transport) something much smaller might be needed. It is also good practice to apply a system that covers the **entire territory**, so that comparisons are possible in a flexible way between rural and non-rural or between rural areas.

Indicators for the wide range of topics that rural statistics cover need to be drawn from many different data sources, as it is rarely possible to set up anything new. They must be reliable, timely and avoid the pitfalls that come with the need to work with existing data and to mix sources. The Handbook lists the desirable features of **quality** for indicators.

What are the key issues in agricultural household income statistics?

Similarly, when measuring **agricultural household income** it is necessary to settle on agreed definitions of a household, what makes it an “agricultural household” (for which several bases of classification are possible) and how income should be measured. A concept of an agricultural household that fits in OECD member countries is unlikely to be appropriate for many developing countries. Incomes of self-employed farmers contain elements that are particularly hard to value (such as food or fuel produced and consumed on the farm) yet which are of importance when comparing the income situation of agricultural households with that of other social groups. The choice by statistical offices on these fundamental methodological issues can seriously affect the results.

Are we measuring farmers’ standard of living correctly?

The conventional way of assessing incomes in agriculture has been by measuring the rewards from farming. This ignores the fact that many farm families have **multiple income sources**, receiving money off-farm employment, business profits, pensions etc. in addition to what they make from the farm. For many, farming may be only a minor part of household income. Measuring profits from farming alone is clearly inadequate for establishing the standard of living of farm operators, for indicating how many are in poverty or for showing how their disposable incomes fluctuate over time. Explaining their savings and investments, and even the way they use the land, also requires a broader household view. A new approach is needed that covers **all income and wealth sources for the complete household**. What statistics that exist on this basis at national level are patchy, inconsistent and inadequate.

Are farm households more wealthy than other households?

The **wealth** of farm households has usually been ignored when assessing their well-being. This is highly unsatisfactory as, in OECD countries, farmers as a group are often wealthy compared to the rest of society. Ways of measuring wealth and of combining it with income in a single measure are considered in the Handbook.

How can we collect better data on farm household income and wealth?

The provision of **data** is, in practice, **the most fundamental problem** facing the development of statistics on the income and wealth of agricultural households. Without data the discussion of methodological issues and identification of good practice loses much of its relevance. Many OECD countries do not have a single satisfactory microeconomic data source, a group that contains several EU Member States. The Handbook draws attention to the relative advantages and disadvantages of survey and censuses of various kinds and administrative records. In developing countries surveys of households are often the only practical sources of data, their costs also implying that they must form part of a consistent framework of surveys.

How does this Handbook help?

This Handbook acknowledges the **need for better data and indicators** on the environment, rural economies and communities, and, very importantly, the farm household itself which in almost all countries is the most numerous type of farm unit. Present information is **hampered by large variations** in how results are calculated at national level, offering the possibility of **misrepresentation and false conclusions**. **International standards** in statistics for rural areas and agricultural household incomes are crucial if meaningful comparisons are to be made between countries. They are also important to the establishment of general patterns that hold true for a range of countries. The Handbook helps fill this major information gap by setting out principles and pointing to good practice.

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

I INTRODUCTION AND BACKGROUND

I.1 Background to the Handbook

I.1.1 Why is the Handbook being produced?

Over the past couple of decades rural development has become a priority area for governments and international organizations. The background to setting the priorities may differ between countries.

Among the **developed countries** (in the present text often referred to as the OECD countries) the focus is on how to ensure that people in such areas have good living conditions and opportunities and that rural areas are not de-populated. It also recognized that “*living rural areas*” play an important role for the environment at large and for the recreation and well-being of the urban population. Funding for rural development has so far been channelled mainly through support for agriculture, much of which is aimed at ensuring an equitable income level for the agricultural population. Notwithstanding the fact that the size of the agricultural population is generally small and dwindling,¹ this support is of quite remarkable proportions. Almost half of the EU budget, for instance, is still devoted to agriculture, although broader support for rural development is about to increase. Because of this there is a policy need to monitor the income situation of agricultural households both from the perspective of monitoring sectoral performance as well as its impact on rural development. Some analysts argue, however, that public funding for agriculture is not always a blessing for rural development because it might, when production and productivity targets are set, encourage the adoption of labour saving technology, which has exacerbated rural depopulation. Instead, they argue that a proactive rural policy should focus on ensuring equal access and equal quality of education and health and on improving other infrastructures.

The policies described above are of course to a varying degree also valid for the **developing countries**. In addition to these generic agricultural policy elements, many developing countries have a special focus on rural poverty and it is a fact that most of the rural populations are either directly or indirectly dependent on agriculture. In the UN Secretary General’s report to the 2003 meeting of the Economic and Social Council (ECOSOC) of the United Nations it was stated that:

“Three quarters of the world’s poor live in rural areas of developing countries and depend mainly on agriculture and related activities for their livelihood. In 2025, when the majority of the world population is expected to be urban, 60 per cent of poverty will still be rural. Thus, the millennium development goals of halving the proportion of people living on less than a dollar a day and the proportion of those who suffer from hunger by 2015 cannot be achieved unless rural poverty is urgently reduced” (UN, 2003).

Having recognized the high priority given to rural development policies, it is of course obvious that there is strong demand for statistics and indicators for monitoring rural development targets. In particular, there is a requirement for statistics on the incomes of rural and agriculture households, benchmarked against urban households and/or all households. Policy is likely to be more effective if the design and operation of

¹ In the OECD area, national shares of agricultural employment range from over 20% in Turkey, Greece and Mexico to less than 5% in most other countries. However, it should be noted that in addition to farm employment there are many other activities up-stream and down-stream that depend on primary agricultural production (OECD, 1994a), e.g. food processing industries.

programmes are based on reliable information about the extent of the problems the policy is attempting to tackle and how they are changing over time.

A strong contrast exists between the statistical provision for, on the one hand, agriculture as an economic activity and, on the other, rural policy. In most countries there is a strong and long-established system of **agricultural statistics**, with government agricultural departments often acting as the supplier as well as the main user. The basic data have come from a range of surveys and (increasingly) administrative records. The focus of agricultural statistics has been quite narrow, concentrating on the production of agricultural commodities (volumes, prices, values etc.), the use of resources in this process (variable inputs, labour, land etc.) and the residual rewards. In many countries the statistical systems have been slow to recognize that household-firms, that comprise the numerically dominant form of institutional unit in farming, are increasingly engaged in other economic activities, which they combine with agriculture in various ways (Hill, 2000).

In contrast, until very recently **rural statistics** have been weaker and highly fragmented (Hill, 2003). Often there is no single department having the responsibility, so that commentators find themselves gathering data from a wide range of sources - official statistics as well as many different non-official or private sources - many of which are not on a compatible basis.² It is clear that statistics for rural areas must go **beyond agriculture** and cover many economic, social and environmental parameters for rural residents, businesses and resources.

The present Handbook illustrates some key steps in setting up **a system of rural statistics**. While *ad hoc* research exercises that collect data and publish results relevant to specific policy aims have value, particularly when there is an information vacuum, these are likely to involve many different sets of definitions and approaches, preventing easy integration and synthesis. Methodology designed for a single purpose is unlikely to be well suited for others. In contrast, what was looked for here was the basis of a system for rural statistics in which there is a degree of commonality of methodology that permits the combination of data sources. Such a system, which probably needs to be built-up over time, is intended to be capable of providing answers to a range of policy questions by the flexible use of accumulated data.

In assembling such a system of rural statistics five main issues need to be addressed. These are:

- **Coverage of rural statistics**, in the sense of determining what aspects of rural areas should be described, what are the appropriate indicators for each, and consequently what data are needed.
- **Finding what data exist, who are the owners, and how they are accessed**. Comparing this list with what is needed gives an idea of where gaps in data exist, which in turn can lead to proposals for filling them.
- **Choice of variables, time periods and basic geographic units** for data aggregation, and the classification of these units into rural and non-rural.
- **Data acquisition and management**: reviewing organizational issues that need to be addressed when considering the establishment of a system of rural statistics by bringing together data sets from across government.

² Official statistics are a specialized form of quantitative information; their distinguishing characteristics being that they are generated by the public sector, involve data collection, and are typically repeated at intervals. Principles of quality in public statistics can be summarized as relevance, objectivity, transparency, accuracy, timeliness, comparability over time, and accessibility (Hill, 2003).

- **Structure for the management** of the statistical collection, tabulation and publication of the statistics.

In the specific subject of producing statistics on the income situation of agricultural households a further set of issues have to be tackled. These include:

- **Defining the household** in terms of the membership and the criteria for belonging to it, which determines the individuals whose incomes are aggregated when creating income indicators at the household level.
- **Classification of households** into those that are agricultural and those that belong to other socio-professional groups.
- **Defining income** for which measurement is to take place (total income, disposable income, money income etc.) and, where statistics on wealth are to be produced, the appropriate concept to be used.

International organizations have already done a considerable amount of work on rural statistics. In a series of reports starting as early as in the middle of the 1980s, the **OECD** has developed a system for international rural development statistics (see list of references). Not all of this, however, is applicable to developing countries. These have received attention from the **United Nations, FAO, and the World Bank**, among others. In Europe, considerable work has been carried out by **Eurostat** which, as a result of the new rural development regulation (to operate 2007-13), is being accelerated and lifted above the agriculture dimension. In the more specialised area of statistics on the income situation of agricultural households, **Eurostat** has constructed a methodology that has been applied at sector level and has tackled many of the issues that would also need attention in any microeconomic approach. The **OECD** has reviewed what information exists on farm household income and has highlighted the differences between approaches and definitions that are found among its Member Countries. In particular the **Canberra Group** of experts on household income statistics (comprising *inter alia* representatives of the **Luxembourg Income Study (LIS)**, Eurostat, the **International Labour Office (ILO)**, OECD and the World Bank), have developed and published recommendations that, while not dealing explicitly with agricultural households, are likely to form the methodological foundation of future international work, and this Handbook has taken due regard of these proposals (Canberra Group, 2001).

As for **national organizations** - national statistical offices and other agencies responsible for monitoring rural development - there are **large differences** between countries concerning the definition of rural areas, choice and definition of indicators as well as how far they have moved towards setting up a system of rural development statistics. In this context the issue of **scope** is becoming increasingly important. Most countries think of their statistical program in a national sense. The emergence of the global economy and cross-border environmental concerns means that statisticians need to consider the international situation. In simple terms, data need to be additive and comparable across countries, which means that the basic metadata must be the same. A similar disparity of approach is experienced at national level with regards to statistics on agricultural household incomes, though within the European Union the framework of a harmonised methodology now exists.

The **objective** of this Handbook is to **consolidate** work done by international organizations, **highlight** where differences occur and as far possible to **fill gaps**. A special focus is also put on the **quality** of rural statistics and indicators, including those relating to the income of agricultural households. A salient feature of rural areas and their associated problems is that they can differ very significantly not only between countries but also within the same country. It is therefore not advisable to prepare a handbook that is prescriptive but rather one that, through drawing on international and national experiences, can **highlight**

good practices. At a practical level, a secondary objective is to make an **inventory** of national rural development statistics, with a particular focus on income measures. The overarching aim is to enable the **benchmarking** of ways of collecting data and constructing indicators so that they can be used to assist policy discussion and design.

I.1.2 Who is the Handbook intended for?

International handbooks in the field of economic statistics have traditionally been intended to provide guidance about concepts, definitions, classifications, coverage, valuation, the recording of data, aggregation procedures, formulae, etc. They have been intended mainly to **assist compilers of the relevant statistics** in individual countries. This Handbook has the same principal objective.

The Handbook is also intended for the benefit of a **wide range of users of rural development statistics and of household income measures**, such as government and academic economists and policy analysts, regional and local agencies and their experts and participants in multilateral trade negotiations on agriculture. Rural statistics and income measures are key information for policy purposes. They attract a great deal of attention from the media, governments and the public at large in most countries. This Handbook is therefore also intended to promote greater understanding of the properties of these statistics, what they are attempting to measure and the underlying economic and statistical theory.

The resulting Handbook is unavoidably voluminous. As the various kinds of readers may have different interests and priorities, it is not possible to devise a sequence of chapters that suits all. Many readers may be interested in only a selection of chapters. Indeed, international handbooks are not necessarily intended to be read from cover to cover in the order set out, being more of the nature of reference material.

I.1.3 The role of statistics

It is generally accepted that **statistics should be policy driven**. In a first step, statistics have to provide all necessary elements allowing policymakers to analyse the situation easily and correctly in order to identify policy needs. In a second step, once policies have been formulated, statistics have the function of monitoring the effects of specific policies. This allows policymakers, in turn, to evaluate the policies and adapt them if necessary.

In the ideal case - for step two - statisticians should be able to provide as quickly as possible the necessary elements to policymakers to confirm their general policies or to warn them that certain policy measures do not show the desired effect(s). This calls for quickly reacting indicators.

The quality of indicators

Statistical indicators are the tools that allow the formulation of policies and the monitoring of changes/development/progress of those policies. Indicators should fulfil the following criteria:

- They should be relevant;
- They should be simple and easily understandable;
- They should be problem oriented;
- They should be clearly defined;
- They should be based on the same statistical units;
- They should result in conclusions easily communicated to policymakers;
- In the ideal case, they should react rapidly to changing situations.

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

- They often depend on available data, because financial resources are limited in almost all countries. Therefore it is necessary to exploit all kind of available data and sources in the first place.
- 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. Indicators addressing specific problems for particular rural areas are less likely to be developed.

There is a broad spectrum of issues to be assessed within the social, economic and environmental fields of rural development. It could be argued that any indicator at the national level could be developed for rural areas.

Data sources to be used

The basic information for indicators for rural development and agricultural household income could originate from a variety of sources, each having their own advantages and disadvantages. **Censuses** give very useful information because the sample size is generally large (perhaps a total coverage). But normally censuses are performed only periodically and are separated by large time intervals, which make it difficult to construct appropriate time series. Nevertheless, they are very helpful in establishing a base line. **Sample surveys** are normally carried out with a higher frequency but the sample size makes it difficult to draw conclusions for small geographical units because the statistical significance is not good enough (e.g. the EU Labour Force Survey mainly gives statistically relevant results for NUTS2 areas).³ The use of **administrative data** for the purposes of generating rural development indicators is not that common yet but it seems that their importance is growing, and tax records are already used in some countries to generate income data for farm operators. If the relevant registers are well kept and also well linked this is a very powerful tool. **Geo-referencing of data**, more a mechanism for linking sources than one in its own right, can be very helpful in the calculation of certain indicators. However, current cost considerations mean that this can only be used for robust information like locations of schools and hospitals.

The geographical unit / reporting unit

In order to combine information from different sources the statistical reporting unit has to be defined. This has to be the same for all information used, be it a census, a survey or administrative data. Examples of a consistent unit are the individuals (using a personal identity number) that enable various datasets to be combined in the income statistics registers of several Scandinavian countries, and the Geographic Information System (GIS) locator that can bring physical and environmental data together (as practiced in the UK). For comparability purposes, it is necessary to be able to define and delimit rural areas so that, for example, the employment rates or incomes of rural households can be compared with those of urban dwellers. An internationally accepted concept of rurality is the OECD approach, based on the NUTS system which uses communes as the basic geographical building block. The ways of defining and applying definitions of rural are described in a later chapter.

³ NUTS = Nomenclature of Statistical Territorial Units.

I.2 What is rural development and why is it a policy area?

The starting point for statistics intended to inform decision makers and other stakeholders must be the nature of the underlying policies. Some attention therefore has to be given at the outset to what constitutes rural development and the problems that it is attempting to address.

Rural development used to be a sectoral issue with agriculture as the main focus. In many developing countries agriculture is still the corner stone of the rural economy. In the OECD countries, on the other hand, it has more and more become a **territorial concept**, dealing with spatial differences in problems and perspectives, opportunities and options (OECD, 1995). It is also a **multisectoral concept**, concerned with a wide range of demographic, economic, social and environmental issues. It stresses the importance of cross-sectoral, horizontal integration of activities and policies. Finally, rural development is a **dynamic concept**, concerned with medium to long term changes and adjustments in technology and ecology, economy and society. Rural indicator should therefore provide information on a variety of economic and social factors.

A large part of rural development is concerned with a process of ensuring that the population distribution doesn't get too skewed towards urban areas. To prevent this, analyses of **demographic pressures, employment, job creation and economic well-being** are of course issues at the forefront of rural development. Rural development policies are important elements within the overall package of long-term national development strategies that can preserve employment and create new jobs and thus prevent depopulation of whole areas. However, there has also been a recent shift in thinking away from the idea of development as a process mainly or entirely linked with **economic growth** to one based on increases in the **quality of life**. In fact, some rural areas contribute to the quality of life of society as a whole because they contain important public or quasi-public goods such as a clean environment, attractive landscapes and cultural heritage (OECD, 2001).

Common problems of rural areas in OECD countries

It is obvious that the problems rural areas face in the OECD Member States are as diverse as the rural areas themselves. However, there are certain commonalities arising from the intrinsic characteristics of rural areas that should be addressed at any level, be it national or international. These commonalities can be used to guide what statistics are needed.

The traditional **economic base** of rural areas was the primary sector, especially agriculture. Thanks to great progress in farming systems and mechanization only a small percentage of the workforce of most OECD countries is now occupied in this sector. In almost all rural areas, businesses in the secondary and/or tertiary sector can be found. Often they are related directly or indirectly to the agricultural activities in the area (for example, agricultural machinery repair and maintenance, supply of farming inputs such as seeds or fertilisers and establishments processing agricultural products from the area). A more fundamental diversification of the economic base would mean establishing businesses less dependent on local agricultural activities. Small enterprises seem to be an option for achieving this independence, even when taking into account that economies of scale are difficult to build up. Extending the economic base requires a workforce equipped with suitable **human capital** (skills, education etc.), for which farming may not be a suitable preparation.

Rural areas have historically provided the work force needed to build urban environments and to operate urban factories. This **migration** of (mainly) young people out of rural areas has continued in the recent past, encouraged by policies concentrating on investment and employment at a limited number of urban centres. **Depopulation** of rural areas has been further accentuated by efficiency improvements in

farming in combination with the lack of alternative off-farm employment in some rural areas. On the other hand, **repopulation** of rural areas is also observed over the last decades. Decentralisation of certain types of economic activities towards the periphery, the attractiveness of the countryside coupled with better transport facilities (private car ownership, public transport infrastructure etc.) for commuting to urban centres as well as retirement migration are reasons contributing to the repopulation of certain rural areas. However, the combination of these developments may mean that a **structural imbalance** develops in the demographic profile, with a predominance of elderly people and a relative deficit of younger ones. A “viable” age structure is a precondition for developing an area; the area could lose population simply because the birth rate cannot match the death rate (natural population loss). There may be implications for the need for, and provision of, health, education and other services and the amount of human and social capital available to the local community.

Characteristics often associated with rural areas are **high poverty rates** and **social exclusion**. These depend on a number of factors (financial poverty, social transfers, life expectancy, long-term unemployment etc.). Accessibility can be assessed as an absolute and as a relative concept. Here accessibility is interpreted in broad terms. It may refer to the transportation infrastructure allowing residents to commute, people to visit rural areas for recreation and businesses to have easy access. It refers also to the accessibility of services and social infrastructure associated with a modern society.

Thus, despite important economic and demographic challenges, **rural areas are not necessarily synonymous with decline** and a wide range of economic performances can be observed (see Box 1.1). There are rural areas with remarkable success, for which the OECD (2001) gives the following reasons:

- Urban manufacturing and service industries started to relocate to suburban and rural green-field sites.
- Sustained endogenous development has also been observed, including dynamic SME clusters and industrial districts, development of diversified agro-industries, and rural tourism.
- Residential location decisions place increasing emphasis on quality of life factors, including proximity to open countryside and natural amenities.
- Increased demand on the part of urban dwellers for amenities in rural areas.

It is worth noting that the declining employment opportunities provided by primary industries (largely agriculture) in OECD countries is also seen in many of the upper-middle-income developing countries (e.g. the so-called NICs and the OPEC Members) (OECD, 2001).⁴

Developing countries

Even though many developing economies are becoming more and more urbanized, according to the UN Population Division the rural population still comprised 59.5% of the total population in less developed regions in 2000 (with an estimate of 56.8% for 2005) and in the least developed economies the share was even higher at 74.8% in 2000 and 72.3% in 2005. Despite ongoing structural transformations in many of

⁴ Organization of the Petroleum Exporting Countries (OPEC); The NICs is a group of fast developing countries known as 'Newly Industrialized Countries'.

The World Bank classification is:

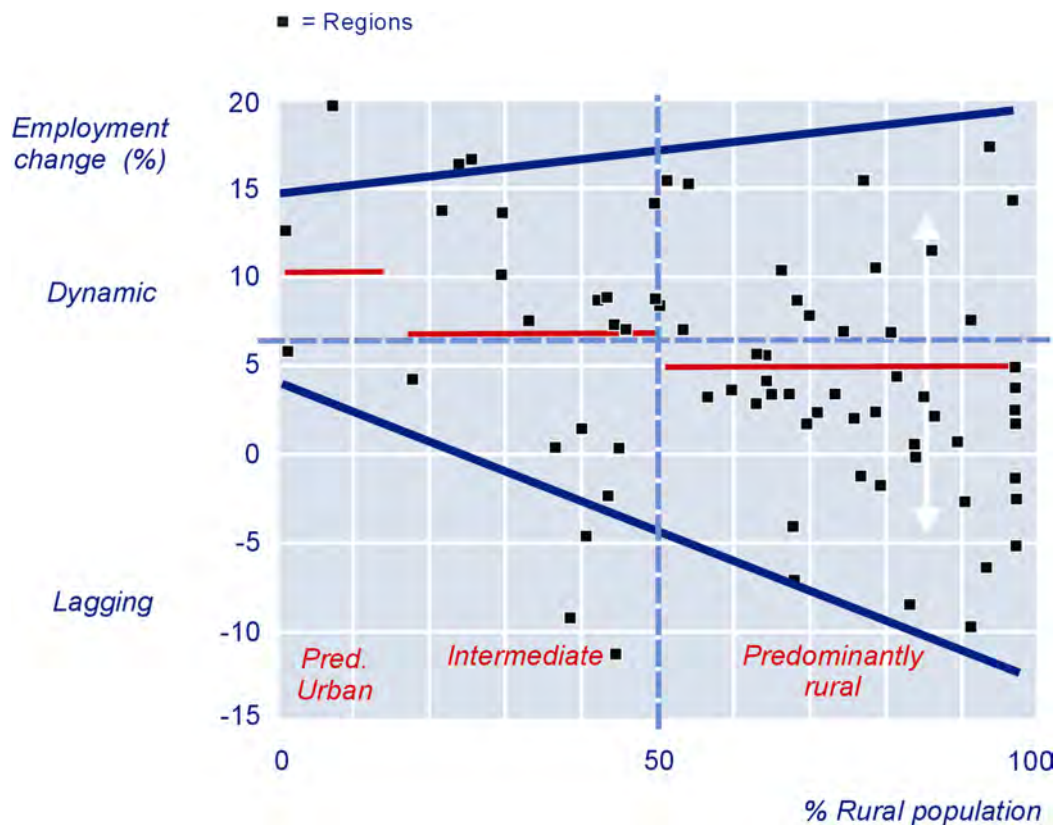
- 1) high-income economies – per capita GNP \$9,656 or more
- 2) upper-middle income economies – per capita GNP \$3,126 - \$9,655
- 3) lower-middle income economies – per capita GNP \$786 - \$3,125
- 4) low-income economies – per capita GNP \$785 or less.

these economies, around 75% of the poor still live in rural areas (IFAD, 2001) and the agricultural sector employs 40% of developing countries' workers and contributes over 20% of their GDP (ILO, 2004a).

Box I.1 Variation between regions in the OECD

The OECD (1994b) has found that urban areas generally showed higher employment growth than intermediate regions, which in turn had higher average growth than predominantly rural areas. There are, however, predominately rural regions that grew faster, and urban regions that grew slower, than the national average. Having said this, it should be noted that the spread in growth was much higher in predominantly rural regions than in the other two types of regions.

Figure I.1
Illustration of the spread in the performance of employment change for different types of regions



Source: OECD (1994) Creating Rural Indicators for Shaping Territorial Policy.

In terms of employment, in 65 out of the 162 developing economies for which employment data are available by sector, agriculture is still the main employer.⁵ This is especially the case in sub-Saharan Africa, where on average more than six out of ten people work in this sector. The share is also high in Asia where around five out of ten people work in agriculture. In contrast, in the Middle East and North Africa the figure is only two out of ten and in Latin America and the Caribbean only between one and two out of ten people. In the Middle East and North Africa, this is mainly the result of the low share of agricultural employment in the oil-producing economies. In Latin America and the Caribbean, the figure masks a wide range of differently structured economies, but for many economies in the region agriculture still plays an important role in terms of employment (ILO, 2004a).

The **diversity in development experiences** seen for OECD countries can also be found amongst the developing countries. African countries have shown that they can produce at a global level and compete on world markets. Mauritius, for instance, has been successfully exporting shrimps; Kenyan flowers are sold on London markets while Senegalese vegetables are offered in Parisian grocery stores. Fifteen countries, including Uganda, Ethiopia, and Burkina Faso, have been growing on average by more than 5% per year since the mid-1990s. Previous growth spurts were sporadic and didn't trickle down to all levels of society. Although a third of Africa has been growing at 5%, this growth is only just enough to keep the countries afloat and the number of poor people from rising. The growth would have to increase to some 7% to help lift the region out of poverty (World Bank, 2005).

I.3 Rural development - policy objectives

Policies are normally designed to solve identified problems or, if a proactive approach is chosen, to avoid certain problems from developing. 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**. A successful rural development policy may be seen as one that should allow 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.⁶

⁵ There is a correlation between the availability of data and GDP per capita; the poorer an economy is, the less likely it is to report data. Given this fact, it is also likely that the share of agriculture-dominated economies would be much higher if data were available for all developing economies.

⁶ The term "youth" applies to persons between 15 and 24 years old (ILO, 2004b). The ILO (2004b) report focuses on policymaking, the overview of the position of youth in the labour market as well as the discussion of the causes of the problems and disadvantages they face. For more extensive analysis of these issues, see O'Higgins (2001) and Blanchflower (1999).

<http://www.ilo.org/public/english/employment/strat/yen/download/guidelines.pdf>

For more information about the central features of the Secretary-General's "Youth Employment Network," created following the Millennium Summit, and which is a partnership between the UN, the World Bank and the ILO, see <http://www.ilo.org/public/english/employment/strat/yen/>

Finally, see article 2 of the ILO Convention No.182 on "Worst Forms of Child Labour Convention" which states: "For the purposes of this Convention, the term "child" shall apply to all persons under the age of 18."

Source: http://home.iprolink.ch/fitbb/TRADE_UNION_RIGHTS/ILO_Convention_182.html

- 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.

The first part of this Handbook (Chapters II to VII) is devoted to issues in the generation of statistics appropriate for use in the context of rural development. The second part deals with the more specific measurement of the incomes and wealth of agricultural households. Some explanation of this is needed at this stage.

I.4 Why a particular focus on agriculture household income and wealth?

Agricultural households demand special attention when information on rural areas is collected for at least the following reasons:

1. Agriculture is an activity that accounts for a substantial share of the land use in many countries, so that their role in rural development is likely to carry major implications for environmental and landscape characteristics. However, in countries such as Canada, Finland, Russian Federation and Sweden forestry is the major land user. Agriculture in Canada, for instance, only accounts for 7% of land use.
2. The contribution of agriculture to economic activity is concentrated in rural areas. Indeed, the presence of agriculture (together with forestry) is a key element in the characteristic of rurality.⁷
3. Historically agriculture has been a major activity of the people that live in rural areas. While the proportion of rural residents working primarily in agriculture has declined to low levels in many of the richer industrialized countries (often less than 10%), the share is still substantial in others. Similarly, the share of total income accruing to rural residents from agriculture is typically small in industrialized countries but may still be important in others.
4. Agricultural households are a major source of the factors of production whose reallocation is an integral part of rural development. These households are often a source of labour to assist the growth of other industries, so the factors that lead to ex-migration of labour from agriculture, such as comparatively lower incomes, need monitoring. As major agents of change, particular attention has to be given to the present characteristics of agricultural

⁷ This is not necessarily the case in all countries. In Canada, for instance, 20% of all “census” farm operators live within the commuting zone of larger urban centres.

households, including the composition of their income which will reflect the extent to which they are already diversified into non-agricultural activities, both those found on the farm and off the farm, and the way that these characteristics are changing.

5. Of special significance is the level of income that farm households receive in relation to that of other socio-professional groups. This is because their relative earnings will be a major factor in determining the rate at which households leave agriculture and which resources are transferred to other operators. In many developing countries, but also in some European countries such as Poland, there is a significant portion of the agriculture population that can be characterized as constituting a pool of hidden unemployment in the sense that their contribution is rather marginal with regard to overall agricultural output. In the absence of other employment activities they probably rightly prefer to stay on their own farm or on the farm of someone else. In Poland, for instance, the number of persons working on private farms and considered redundant amounted to about 420,000 individuals, which is equivalent to almost 21% of the rural population employed in agriculture (Wikowski, 2004). Hidden unemployment primarily exists in small farms with less than five hectares (about 60% of all farms in Poland) and among persons aged 45 and above.
6. Policy for rural development has often grown out of agricultural policy. Spending on agriculture is still a dominant strand in policy intervention in rural areas. Even recent initiatives to promote rural development (such as the EU's Rural Development Regulation 1257/1999) focus on farm households as the principal agent for stimulating economic, social and environmental development.
7. In many countries a main aim of agricultural policy is to support the income of farmers and their families (see section 1.5 below). When the objective is to provide a "fair standards of living for the agricultural community", as is the case with the EU's Common Agricultural Policy, the comparability of the incomes of farm households with those of households belonging to other socio-professional groups is seen as important (Hill, 2000). Where the aim is the alleviation of poverty, again the overall income of the household is an important indicator.
8. The wealth of agricultural households is important because changes in the real value of that wealth is a form of personal income (especially when viewed retrospectively over a lifetime), and is one that is typically less heavily taxed. In agriculture the ratio between wealth and current income is often large, implying that capital gains and losses may be disproportionately significant for farmers. The level of wealth is also a source of economic status, the potential ability to consume putting farm owners into a position different from people without wealth.
9. Support provided to agriculture by government interventions typically reflects the value of land, the factor of production least elastic in supply. Consequently, the beneficiaries may be the owners of land rather than the operators of the farms. Where the farmer is also the landowner, this may not really matter (though there may be implications for the amounts of tax paid). However, where land is owned separately, the main beneficiary may be the landlord even though policy is intended to mainly to benefit the farm operator.

I.5 Agriculture households, their incomes and policy objectives

Agricultural households are important to policies directed at rural areas in two ways. First, they often form a **direct target group** of agricultural and rural development policies. In particular, concern with the living standards of the agricultural community (which comprises agricultural households), or the incomes that give rise to those living standards, is often a central objective (see review in Hill, 2000) and plays a major role in the discussion of the reform of policy (see for instance the Special Report No.14/003 by the European Court of Auditors, 2003). Examples can be found in which clear objectives are set for agricultural policy in terms of the relative income of farmers compared with other groups in society, of less detailed expressions that imply comparisons or at least the avoidance of poverty among farm families, and where the aim is to create the conditions in which satisfactory incomes can be generated by competitive producers and unacceptable instability prevented. Recently, agricultural policy has widened in many countries to include the diversification of income sources available to farmers, either on the farm or elsewhere. Many farm households are already diversified in this way, but there is seen to be room to develop such income further by vocational training, grants for investment, the provision of advice and so on. The purpose is so that, when combined with what can be earned from agriculture, the overall income position of farm families can be enhanced. This centrality of the “income objective” of agricultural policy alone would justify the development of statistics on the household incomes of farmers and their households to service that policy.

Second, agricultural households play a major part in achieving the other aims of agricultural and rural development policies because they **control production and the use of resources**. Their response to policy signals is what determines the overall outcome of the intervention. Understanding the economic situation of agricultural households is now recognized as a key element in designing and applying policy for agriculture and rural areas (Offutt, 2002; OECD, 2002). Though, as will become evident, statistics for agricultural households are not fully developed, sufficient evidence exists to demonstrate the great policy relevance of this information.

The structure of the agricultural industry of most countries at all levels of economic development is dominated, in terms of numbers, by firms owned and operated by households (household-firms).⁸ These combine the economic functions of production and consumption and are, at the same time, social units. In many industrialized countries their numbers have been in long-term decline as the treadmill of technology lowers the real prices of agricultural commodities and makes the smaller farms unviable, in the sense that they are no longer capable of being the sole source of livelihood for their operator’s household (Eurostat, 2002). In some countries that have experienced histories of socialized or collectivized agriculture the role played by other forms of institutional unit (taking a variety of legal forms but characteristically large-scale in operation) is greater, but even there production by households often accounts for significant amounts of national output of certain commodities that can be produced on household plots.

However, a simplistic view of agricultural household-firms is both incorrect and harmful to the design of successful policy. They are **highly diverse** in many different dimensions. Attention is often focussed on the variety in size of their agricultural activities (land holdings, outputs, input uses etc.), farming types, performances, degrees of indebtedness etc. - all factors that will be reflected in the income levels from farming. But many households are also engaged in economic activities that are non-agricultural, either as waged employees (dependent activity) or as self-employed entrepreneurs (independent activity). While some non-agricultural activity may be sited on the farm, mostly this is off-farm. Households (and their members) also often receive income from property (rents from land and interest and dividends from financial

⁸ According to the EU Survey of the Structure of Agricultural Holdings (Farm Structure Survey) “Natural persons” accounted for the operation of 96% of EUR15 holdings in 2000. Only one country was below 90% - France (83%). Eurostat (various years).

assets), social transfers (pension etc.) and other sources, though, again, the incidences of these forms of income are far from uniform.

As a consequence, there is wide variation in the dependency of household-firms on agricultural activity, from 100% (with no non-agricultural income) to where farming represents only a minor income source, and in some cases a negative one (a loss). For farm dependent households the policies directed at agriculture are of obvious importance, but for those toward the other end of the dependency spectrum agricultural policy may have little relevance in terms of their incomes or activities; they will be more influenced by what is happening to non-agricultural parts of the economy, and more general regional and rural development and policies.

The wide variety of circumstances among farm households implies that a satisfactory consideration of their household income must go beyond the sector level, or group average, to include distributional information that reflects their diverse nature (Hill, 2000). It also implies that the analysis of the performance of policy need not always cover all the households that engage, to some extent, in the production of agricultural commodities. For some purposes it may be adequate to concentrate only on those for whom agriculture is the main activity or source of income, or those whose farms are above given size thresholds. Such issues are important when considering the definitions of an agricultural household and when drawing up statistics.

Some idea of the (then) perceived need for agricultural household statistics among European policymakers is given by the aims that were cited when Eurostat set up its project to improve the situation in the mid-1980s by creating sector-level statistics. The objectives were to:

1. Monitor the year-to-year changes in the total income of agricultural households at aggregate level in Member States.
2. Monitor the changing composition of income, especially income from the agricultural holding, from other gainful activities, from property and from welfare transfers.
3. Enable comparisons to be made in the development of total incomes of agricultural households per unit (household, household member, consumer unit) with those of other socio-professional groups.
4. Enable comparisons to be made between the absolute incomes of farmers and other socio-professional groups, on a per unit basis. (Methodology from the IAHS Manual of Methodology repeated as part of Eurostat (2002)).

However, sector-level statistics only provide part of the picture. To look at the distribution of income or the incidence of low-income among farm households compared to other households, at the change in income over time, and at the impact of agricultural, social and taxation policies, microeconomic data are necessary. These receive attention in the second part of this Handbook.

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