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CHAPTER 3

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

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

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III CONCEPTUAL FRAMEWORK

III.1 Definitions of rural

III.1.1 Introduction

Chapter III reviews the conceptual framework of rural development indicators selected by various international organizations one by one. Each of the sub-sections of the chapter starts with the work carried out by the OECD followed by that of the other organizations. In order to avoid repetition of common features and issues that have been accounted for in the OECD sub-section, they will not be repeated again in the successive sub-sections covering the other organizations. This approach implies that the OECD write-up will be substantially more extensive, which should not be taken as an indication of any qualitative or quantitative preference for the OECD material.

III.1.2 OECD

The design of the territorial scheme, which provides the geographic grids for the collection, aggregation and presentation of statistical data, is of key importance for all kinds of rural analysis. The territorial scheme applied by the OECD distinguishes two levels of geographic detail: **local communities** and **regions** (OECD, 1996).

It also defines **rural area** as a local community with a population density **below 150 habitants/km²** (500 in the case of Japan) (OECD, 1994).

Replies to an OECD Rural Data Survey and an evaluation of other sources, lead to the following observations (see also Annex 1):

- ◆ **The notion of "rural" is universally used by OECD Member countries.** It describes certain parts of the country that are characterized by a relatively low number or density of population, or by certain socio-economic features (OECD, 1996).
- ◆ **An official definition of "rural" does not always exist.** Definitions used vary significantly. In most cases they treat rural as a residual category. In this instance, it is defined negatively in the sense of not being "urban" or "agglomerated", rather than being explicitly specified by its own properties

When analysing the different national approaches in defining "rural" it is appropriate to distinguish the following three aspects:

- ◆ The size of the territorial units and the level of geographic hierarchy;
- ◆ The criteria used to characterize the units at the respective levels;
- ◆ The quantitative thresholds used to define the boundary between rural and other areas (OECD, 1996).

The basic territorial units used in national definitions of "rural" vary considerably in, size, both with regard to population and area. For example, French

Communes – the smallest administrative units in Europe – have an average population of 1500 inhabitants and a surface area of 15 km², English Districts encompass 118000 inhabitants in areas of more than 500 km². Counties, which in the United States are based as the basic building blocks for rural analysis, have an average population of 80,000 inhabitants and their surface area covers almost 3,000 km². In terms of area, these American Counties are much smaller in the East than in the West (OECD, 1996).

As a simplification, one can roughly, distinguish two levels of territorial hierarchy used for rural classification and analysis. If Member countries try to identify homogeneous “rural” areas as being distinct from “urban” places, they tend to use as statistical building blocks small geographic units at the local community level. On the other hand, larger geographic units at regional level are used where the emphasis is on analysing functional relations. Usually these larger zones cannot be classified in terms of either rural or urban but as more or less rural, according to their **degree of rurality**.

A priori, neither level of territorial detail is more appropriate than the other. The “right” choice will depend on the analytical purpose or on the policy problems that have to be solved. Consequently many Member countries apply both territorial grids.

An additional, difficulty arises from the fact that in most Member countries the territorial grids do not persist over longer periods of time. **Boundaries are frequently changed**, often as a consequence of administrative reforms. Also a given unit may be reclassified due to changes in population, making time series analysis on the basis of aggregated rural data particularly difficult, if not impossible.

Member countries use a **wide range of criteria** for the designation of “rural” areas. For example:

- ◆ Size of population (total or agglomerated, absolute or relative);
- ◆ Population density (in relation to total or to usable area);
- ◆ Commuting intensity (towards major cities or labour market centers);
- ◆ Share of agriculture (either in employment or in value added) (OECD, 1996).

The choice of criteria used to identify “rural” areas is not independent of the size or hierarchical level of the territorial units to which they are applied. To define “rural” at the local community level, most countries use a population size criterion. For larger functional or administrative regions, which in most cases will include at least some “urban” elements, criteria such as density and distance or others such as economic base are more commonly applied (OECD, 1996).

Even when the same criteria are used, the thresholds set for defining the border-line between rural other categories vary considerably. For population, size of the agglomerated units, the limits used by Member countries vary between 1,000 (Australia and New Zealand) and 10,000 (Italy); 2,000 is the most common threshold.. The share of agricultural employment, considered as minimum condition

for classifying an area as “rural”, differs between 1.5 per cent (Luxemburg) and about 20 per cent in Greece.

It is clear that the use of alternative definitions will not only yield different results with regard to the scope of rural areas but will also create different pictures of their problems and perspectives:

- ◆ If the share of “rural” population in France were to be calculated using the French, Italian, Spanish and Greek definitions, the respective percentages would be: 27, 51, 30 and 27. None of these definitions or their results, not even the French, could be considered the “right” one (OECD, 1996).
- ◆ In the United States, rural analysis relies on two different definitions. The one distinguishing “rural” from “urban” places, the other “metropolitan” or “metro” from “nonmetro” counties. Both definitions result in roughly similar numbers of residents, 22 per cent and 27 per cent of the total US population. The overlap, however, is small; only about 50 per cent of the “rural” population live in “nonmetro” counties.
- ◆ In Canada, the “official” definition of “rural” applies to individuals that live outside centres of 1,000 or more population. One-third of these “rural” individuals are living within the commuting zone of “larger urban centres” (specifically, Census Metropolitan Areas with an urban core population of 100,000 or more or a Census Agglomeration with an urban core population of 10,000 to 99,999). Thus, these individuals are “rural” in the sense of living outside a centre of 1,000 or more – but from labour market perspectives, they are living with the commuting distance of a larger urban centre and for this purpose they might be classified as “metro”.

As these few examples show, there is more than one “correct” definition of rural. 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 (OECD, 1996).

Since the review of national approaches showed that “rural” is often considered as the corresponding residual to “urban”, it was investigated whether OECD could base its definition of “rural” on past OECD attempts to describe “urban”.

OECD statistics on urban population revealed the following results:

- ◆ Two different approaches to measure “urban” can be identified: the one focusing on Urban Communities, the other dealing with Urban Areas and their Urban Centres.
- ◆ Population size was the decisive criterion in both approaches;
- ◆ The share of “urban” population reported by the two projects differs considerably.

- ◆ The ranking of OECD Member countries by share of urban population varies according to the sources used.

The limitations of these statistics, at least for the purposes of rural analysis, can be demonstrated by a few examples. According to the OECD Urban Affairs statistics, only 18 per cent of the Dutch population live in urban areas – the Netherlands being the most densely populated Member country in OECD – whereas the share of urban population is 38 per cent in Greece and 50 per cent in Canada. According to the Social Indicators statistics, Sweden and Denmark are ranked amongst the most urban OECD Member countries, with urban populations of more than 80 per cent. Italy with 53 per cent and the Netherlands with 66 per cent show up as being the least urban countries (OECD, 1996).

The definitions used may be considered reasonable for urban analysis. For rural analysis they seem to be a false starting point. Three main conclusions can be derived from this short review:

- ◆ “Rural” cannot be well defined as the residual of “urban”;
- ◆ Population size alone is not a sufficient criterion for describing “rural”;
- ◆ Statistics that are not based on commonly applied definitions tend to produce seriously inconsistent results (OECD, 1996).

Territorial Coverage

To cover the entire territory of the Member countries and not just their rural part is appropriate for various reasons. Even when focusing on rural analysis, the underlying territorial database should be structured neutrally, in such a way that it can also be used for other purposes, such as for urban or regional statistics. The database should, in principle, allow for **alternative groupings** of areas according to multiple analytical needs.

Also, from a purely rural perspective, there are good reasons for covering the entire territory. 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 the consistency of the results be confirmed (OECD, 1996).

Hierarchical Levels

Within Member countries, the OECD scheme distinguishes two hierarchical levels of geographic detail:

- ◆ Local Community Level

At this level, the territorial grid is very detailed. It consists of small, though not necessarily the smallest possible, basic administrative or statistical units. Rural analysis is usually based on these local units when it is concerned with characteristics of “homogeneous” areas that can be classified as being **either rural or urban**.

◆ Regional Level

Here the territorial grid is less detailed. The geographic building blocks are larger administrative units or functional zones, such as provinces or labour market areas. At this level, the emphasis of rural analysis is on functional relations and on the wider context in which rural development takes place. **Regions can usually be characterised only as being more or less rural.**

This distinction between two hierarchical levels of territorial detail is central to the conceptual approach. Without this distinction, it would be impossible to accurately describe the complexity of rural problems in the various national and regional contexts. A too narrowly designed scheme for territorial analysis would not **properly reflect the diversity** of analytical and policy perspectives concerning rural development both within and between Member countries.

Within Member countries, local and regional administrations perceive rural issues and implement rural policies mostly with reference to the geographic detail at the local community level. National, as well as supra-national administrations often deal with rural issues at the more aggregate regional level (OECD, 1996).¹

Criteria for Classification

For the purpose of rural analysis, the geographic units must be grouped into different types. In doing so, it is crucial not to confuse two logical steps:

- ◆ First, to identify the object of observation – rural population and area; and
- ◆ Second, to describe their status and development.

Since rural is about people and territory, OECD selected population density, calculated as inhabitants per square kilometre, as the most relevant and practical criterion for identifying **rural at the level of local communities**. Population density reflects characteristics of settlement, distance and even intensity at communication and land use.

Population density is a concept that is both intuitive to the users and simple to calculate for the providers of rural indicators in all Member Countries. Whatever the specific national or regional contexts may be, rural areas will always, have a lower population density than urban areas. Contrary to a population size criterion as applied in most national definitions, the use of population density as the classification criterion for local community units neutralises some of the distorting effects of the remaining differences in the size of these units.

Population density also has the advantage of being policy neutral. It does not refer to any specific perception of what the rural problems and potentials are. In an

¹ In total, the territory of the 24 OECD Member countries has been structured into more than 50,000 local communities and over 2,000 regions (OECD, 1996).

OECD-wide context rural cannot automatically be considered as in decline, poor, agriculture-based or peripheral.

Once rural is neutrally defined, the performance of rural areas can be measured by the use of indicators. With descriptions provided by the indicators, it may be of interest to create problem- or policy-related typologies. This should not be confused, however, with the question of what is “rural” as such. It would be misleading to embed preconceived outcomes of rural analysis in the very definition of rural.

To distinguish between rural and urban communities, not only must the classification criterion be selected but also a quantitative threshold has to be determined. The density threshold was set at 150 inhabitants per square kilometre for Europe, North America, Australia and New Zealand, and 500 inhabitants per square kilometre for Japan. Setting thresholds always involves some arbitrary judgment. The decision to use 150 (in the case of Japan 500) as the dividing line was, however, based on a series of considerations.

The analysis of the national distributions of local communities by density class showed that for most countries changing the threshold to 100 or 200 inhabitants per square kilometre would not lead to major changes in the share of rural population. Only for a few countries would the ranking by share of rural population be different.

Under OECD’s working definition, rural areas are homogeneous in one dimension: their density is relatively low. This does not mean, of course, that their problems and perspectives are homogeneous. On the contrary, rural areas in OECD are heterogeneous in several dimensions and it is an important task to understand this diversity further. The differences cannot, however, be explained only by the characteristics of the rural areas themselves. They often result from the type and intensity of relationship the rural communities have to other places in the wider region of which they are a part (OECD, 1996).

III.1.3 European Union

So far EU does not have a harmonized definition of what is rural. In a Eurostat working paper it was proposed to use population density alone as the distinguishing factor of ‘rural’ with a threshold of 200 inhabitants per km².² Had the OECD definition of 150 inhabitants been used for example, over fifty percent of the NUTS 3 regions would have been excluded from the analysis.³ In some respects, therefore, 200 inhabitants per km² represented a compromise between the various definitions of ‘rural’ and the data available. From 455 NUTS regions at NUTS 2 or 3 level

² Vidal, C., Eiden, G. And Hay, K. Agriculture as a key issue for rural development in the European Union. Conference on Agricultural and Environmental Statistical Applications in Rome (CAESAR), Rome, 2001 www.unece.org/stats/documents/ces/ac.61/2001/wp.2.e.pdf

³ In principal all variables available at Eurostat refer to the Nomenclature of Territorial Units for Statistics (NUTS [1995 and 1999]). In order to ensure that regions of comparable size are analysed, the statistical data refers to NUTS 3 level, except for Germany, Belgium and The Netherlands where data is related to NUTS 2 regions (Vidal et al., 2001).

composing the entire territory of the EU 355 were included in this analysis. [Vidal et al., 2001]. If the 150 inhabitants per km² approach is applied to the 1214 NUTS 3 regions of EU 25 using census 2001 data mainly (for 59 NUTS 3 regions 1991 data had to be used), the following result is obtained:

- ◆ 385 NUTS 3 regions (32 %) are classified as “predominantly rural”,
- ◆ 424 NUTS 3 regions (35 %) are classified as “significantly rural” and
- 405 NUTS 3 regions (33 %) are classified as “predominantly urban” regions [34](Eurostat E4, 2004).

However, one official EU spatial concept exists for the Labour Force Survey (LFS) and will also be used for the Survey on Income and Living Conditions in the EU (EU-SILC). This concept is called “Degree of urbanisation“. It distinguishes between densely, intermediate and thinly populated areas. The different areas are defined as follows:

- a. Densely populated area: contiguous set of local areas (communes) with a population density of at least 500 inhabitants per km² and a total population of 50,000 or more.
- b. Intermediate area: contiguous set of local areas (communes) with a population density of at least 100 inhabitants per km² and a total population of 50,000 or more or being adjacent to a densely populated area.
- c. Thinly populated area: contiguous set of local areas (communes), not belonging to a) or b).

As long as no official definition is available, Eurostat will partly base its work on this concept.

In the Hay’s report (see chapter V), it is also suggested that only data at a NUTS 3 level or lower (NUTS4/LAU1 or NUTS5/LAU2) should be used. A further option is to further categorise into **rural and non-rural NUTS 3 regions**. This could result in even more representative NUTS3 data, when combined with a population density threshold (Hay, 2001). However, it has to be kept in mind that certain urban centres fulfil important functions for their rural hinterland and vice versa, e.g. functional interdependence might be present. Such “country towns” should be covered by the term rural.

In summer 2004, in the context of the preparation of the post 2006 programming period for rural development programmes, DG AGRI made an attempt to use land cover data to distinguish rural from non-rural areas. The importance of agricultural land, forests and natural areas for land use in the EU appears from the fact that combined they make out 90% of the territory of the EU-25. To link to a territorial administrative unit and illustrate the potential policy area in EU-25, the land cover approach was applied at ‘cantonal’ (in France) or communal level (LAU 1 or 2, ex NUTS 4 and 5). Municipalities, which have at least 90% or more of their territory classified as agricultural, forestry or natural, were flagged as rural. Areas with more

than 10 % of their territory not belonging to agricultural land, forests or natural areas were classified as non-rural or urban municipalities (EU, 2004).

III.1.4 The World Bank

Definition of Rural Development. From a developing country perspective, rural development could mean the improvement of the economic and social well-being of the rural population, including provision of voice in the political decisions that affect all aspects of their lives. The objective of rural development would be to foster rural economic growth, which is pro-poor and environmentally sustainable. While agriculture is central to the livelihood of rural population, the rural economy is more than agriculture. It includes forestry and fisheries production and other non-farm economic activities that take place in non-urban areas. It should also foster an enabling environment for broad-based and sustainable rural growth; improve social well-being, managing and mitigating risk, and reducing vulnerability; and enhancing the sustainability of natural resource management. Rural development encompasses, therefore, all aspects of human activities, including economic, social, political, institution and governance, and sustainable natural resource management that take place in the rural space.

III.1.5 FAO

Rural development has been for many years recognized as an essential element in the eradication of poverty, hunger and malnutrition. The World Conference on Agrarian Reform and Rural Development (WCARRD) held in Rome in 1979 provided the impetus for the work on rural development statistics for the next decade. The World Conference recommended under Section ID (i) dealing with monitoring and evaluation that countries:

- ◆ Collect on a regular basis quantitative data and develop appropriate indicators on a number of specific items pertaining to the progress of agrarian reform and rural development;
- ◆ Establish benchmarks relating to the indicators for the years around 1980; and report on changes pertaining to these indicators at every other FAO biennial Conference.

The Programme of Action also recommended that the United Nations organizations, with FAO as the lead agency, consider the adoption of specific measures to assist countries in the above-mentioned tasks.

The FAO Statistics Division has started work on reviewing the underlying definitions and statistical frameworks for evaluating and monitoring rural development. Current work is focusing on developing a definition of rurality that provides a better basis on which to develop indicators. Current definitions focus on population related concepts (rural – urban) and these definitions are proving to have little value in developing countries where spatial concepts are more important in evaluating and monitoring progress to the overall goal of measuring rural welfare. In this context, FAO is developing a rural definition that uses spatial aspects of rurality on a rural – urban continuum concept. Indicators which use distance as a dimension

will be evaluated in the development of a statistical framework for rural development, i.e. distance to markets, distance to employment, health services, education etc. The FAO rural development statistical framework will include between 15 and 25 indicators.

III.2 Typologies

III.2.1 OECD

A **typology of regions** is based on their degree of rurality according to their share of regional population living in rural communities. The typology selected by the OECD follows a two step procedure. In a first step communes are divided into rural and non-rural ones depending on their population densities using the figure of 150 inhabitants per square kilometre as the threshold value. The second step qualifies the regions (on NUTS3 level) as follows:

- ◆ **Predominantly rural** – more than 50% of the population in rural communities;
- ◆ **Significantly rural** – between 15 and 50%;
- ◆ **Predominantly urban** – below 15% (OECD, 1994).

Rural areas within each type of region retain the defining characteristics of their rurality – low population density – but they differ with regard to the regional context in which they are placed.

The **criterion** used to create the typology at the regional level is the share of the population of the region living in rural communities, as defined above. Thus, the typology reflects the **degree of rurality** of the whole region (OECD, 1996).

About a third of the OECD population lives in rural communities that cover over 90% of the OECD territory. About a quarter lives in predominantly rural regions (OECD, 1994).

Refinements

The geographic scheme shown here can serve as a tool to structure the OECD territory and generate internationally comparable data. No doubt, however, it could and should be refined and improved in the course of future work. It has already been discussed extensively:

- ◆ The interdependence of the size of the geographic units and classification threshold in defining rural;
- ◆ The options for alternative or more comprehensive sets of classification criteria;
- ◆ The implications of selecting modulated rather than uniform thresholds (OECD, 1996).

The descriptive quality of the results generated by the OECD scheme not only depends on the selection of the classification criteria and thresholds but also on the detail of the territorial grids to which they are applied. With regard to this interdependence in the choice of the geographic units and the thresholds, it was concluded that efforts should be concentrated more on establishing equivalent grids than on modulating thresholds (OECD, 1996).

It is evident that the sub-national units and the characteristics of the territorial grids vary among Member countries. In an international context, however, the **equivalence of territorial grids** cannot simply be judged on average data for population and area. The choice of grids should always reflect what is considered a reasonable regional or local community context for rural analysis and policy. Not surprisingly, the perception of what might be the appropriate area size for territorial units differs considerably between countries like Australia or Canada at the one extreme and most European countries or Japan at the other.

Topography, history and administrative tradition, language or other cultural distinctions have often created territorial entities which are small in area and population but which are nevertheless appropriate units for description of rural problems and policies. In any case, in selecting the territorial grids a balance must be found between the aim of reflecting diversity and the risk of ignoring important functional relations.

Whereas at the local community level all Member countries applied a single criterion for the classification of geographic units (**population density**), at the regional level, in addition to the main criterion (**regional share of rural population**), also a secondary criterion (**size of the urban center**) was used. Regions with a centre of more than 500,000 inhabitants are usually better characterised as predominantly urbanised. With an urban centre of more than 200,000 inhabitants, it becomes reasonable to classify regions at least into the intermediate category of significantly rural regions. For some Member countries application of this **secondary criterion** resulted in a marginal change in classification of some regions which, according to their share of rural population, would otherwise have shown up as predominantly or significantly rural.

The additional criterion of urban center size shifts the distribution by type of region towards the urbanised end. At the other extreme, for regions with a very low density – e.g. below 10 or even 5 inhabitants per square kilometre – it might be reasonable to create an additional category or a sub-category of the predominantly rural areas. The characteristics and perspectives of these **very low density regions** – mostly located in Australia, Canada, and parts of the United States but also in the northern parts of Scandinavia – will probably be quite distinct from these of the predominantly rural regions in the EC. In addition, these regions are usually also very remote from any urban agglomerations. Since, this fourth type of region would probably only be relevant for a limited number of Member countries, it was decided not to introduce it in the tables of this report. Further details could, however, be of interest in future stages of the Project's work.

In, the attempt to apply the common approach to all Member countries, particular attention was paid to the specific conditions of the **Japanese rural areas**. Japanese farm structure, and as a result agricultural population density, is very distinct from that of other OECD Member countries. Japan is not only one of the three OECD countries where average national population density exceeds 300 inhabitants per square kilometre but in addition its settlement pattern is extremely diverse. While the population tends to live concentrated in certain parts of the country, other parts remain unpopulated. Mountains and islands create many natural barriers that limit accessibility. After intensive explorations, it was decided to use the same criteria and methodologies but to apply a higher density threshold of 500 inhabitants per square kilometre (OECD, 1996).

Some results: Rural Communities – Population and Area

About one third of the total OECD population, 250 to 300 million people are living in rural communities, occupying over 90 per cent of the territory. National shares differ, of course, ranging for the rural population from just under 10 per cent in the Netherlands and Belgium to about 60 per cent in Finland, Norway and Turkey; and far the rural area, from about 35 to almost 100 per cent. For most Member countries, the results for rural population and area as defined by the Project differ from those based on national definitions. They are, however, intuitive in an OECD context where international comparability is necessary

In some Member countries, the rural area is very large but only a small fraction of the population live there. In others, the rural population is large and more equally distributed. Whereas for OECD as a whole the ratio of the rural shares in population and in area is about 1:3, it is less than 1:2 in Turkey or Norway and as much as 1:5 in New Zealand (OECD, 1996).

Three Types of Region – Degrees of Rurality

Table III.1 shows the spatial distribution of total population and area by the three types of regions. On average, one quarter of the OECD population dwell in predominantly rural regions. These are those regions, where the majority of people live in rural communities. At the other extreme, about 40 per cent of the OECD population is concentrated in 3 per cent of the territory in predominantly urbanised regions. The remaining one third inhabit the significantly rural, intermediate regions. It should be remembered that even in the predominantly urbanised regions a certain share of the population, up to 15 per cent, live in rural communities and that in the predominantly rural regions part of the population live in urban places (OECD, 1996).

Information on the differences in the territorial distribution of population between the three types of region provides another insight into the spatial organisation of Member countries. The graphical presentation in the form of a triangle in figure III.1 gives an overall impression of the national differences in the degree of rurality at the regional level.

For many OECD countries – in particular the Netherlands, Belgium, Germany, the United Kingdom and Switzerland – the population share increases from

predominantly rural to predominantly urbanised regions. For Austria and the Scandinavian countries, however, the opposite is the case. Here, less than a quarter of the population live in predominantly urbanised regions. In other Member countries – France and Spain – the largest share of population is in the intermediate, significantly rural regions. Conversely Ireland, Iceland, Greece and Portugal but also Canada and Australia have a dual structure with greater shares of their population inhabiting the rural and urban extremes and only a smaller fraction living in the intermediate regions.

This simple comparison already reveals certain commonalities and differences in settlement pattern shared by different groups of Member countries. It facilitates a better understanding of their perceptions of rural and their respective policy approaches (OECD, 1996).

Table III.1
Typology of regions by degree of rurality:
share of population and area in national totals*

| Country | Population | | | Area | | |
|-----------------------|-----------------------------|-----------------------------|---------------------------------|-----------------------------|-----------------------------|---------------------------------|
| | Predominantly rural regions | Significantly rural regions | Predominantly urbanised regions | Predominantly rural regions | Significantly rural regions | Predominantly urbanised regions |
| | National total = 100 | | | National total = 100 | | |
| Australia | 23 | 22 | 55 | 92 | 8 | 0 |
| Austria | 40 | 39 | 22 | 71 | 28 | 1 |
| Belgium | 2 | 17 | 81 | 15 | 28 | 57 |
| Canada | 33 | 23 | 44 | 95 | 4 | 1 |
| Denmark | 39 | 38 | 23 | 68 | 31 | 1 |
| Finland | 47 | 32 | 21 | 83 | 16 | 1 |
| France | 30 | 41 | 29 | 61 | 34 | 5 |
| Germany | 8 | 26 | 66 | 19 | 39 | 42 |
| Greece | 47 | 18 | 35 | 81 | 16 | 3 |
| Iceland | 35 | 8 | 57 | 75 | 24 | 1 |
| Ireland | 62 | - | 38 | 91 | - | 9 |
| Italy | 9 | 44 | 47 | 26 | 54 | 20 |
| Japan | 23 | 34 | 43 | 59 | 33 | 8 |
| Luxembourg | - | 100 | - | - | 100 | - |
| Netherlands | - | 15 | 85 | - | 34 | 66 |
| New Zealand | - | 61 | 39 | - | 95 | 5 |
| Norway | 51 | 38 | 11 | 84 | 16 | 0 |
| Portugal | 35 | 24 | 41 | 81 | 13 | 6 |
| Spain | 19 | 46 | 35 | 55 | 39 | 6 |
| Sweden | 49 | 32 | 19 | 88 | 10 | 2 |
| Switzerland | 14 | 25 | 61 | 54 | 29 | 17 |
| Turkey | 58 | 30 | 12 | 82 | 17 | 1 |
| United Kingdom | 15 | 17 | 68 | 52 | 22 | 26 |
| United States | 36 | 34 | 30 | 85 | 10 | 5 |
| EC average | 17 | 31 | 52 | 49 | 34 | 16 |
| OECD average** | 28 | 32 | 40 | 87 | 10 | 3 |

Source: OECD. Creating rural indicators for shaping territorial policy. Paris, 1996.

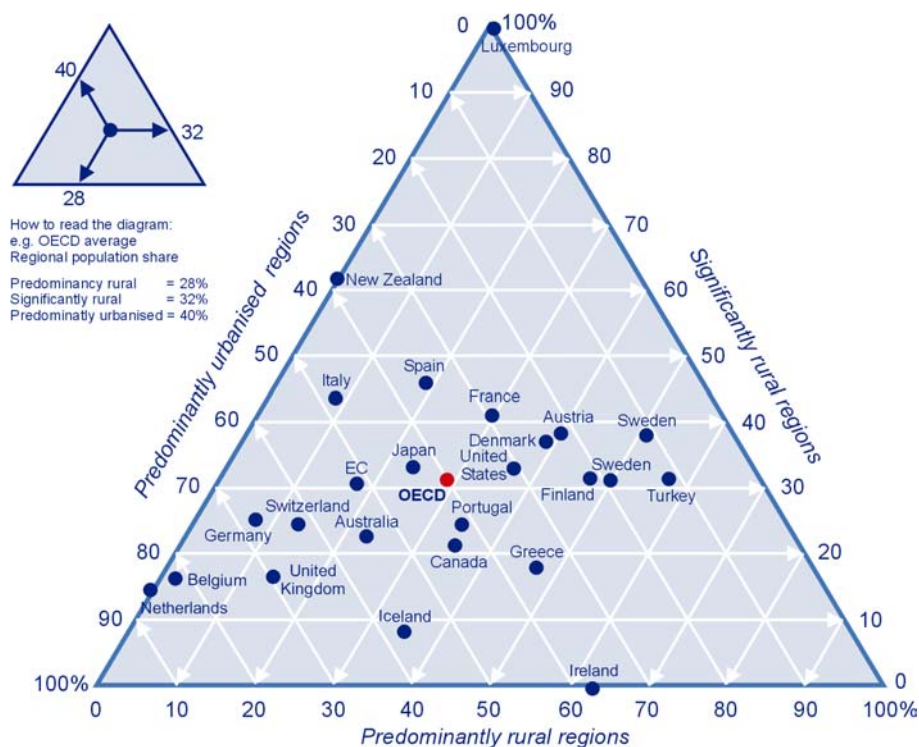
“Rural” communities = local communities with population density below 150 inhab./km², 500 inhab./km² in the case of Japan. For explanation see Annex 2.

Typology of regions according to the share of rural population: “predominantly rural” = more than 50%; “significantly rural” = 15-50%; “predominantly urbanised” = below 15%.

çİ. Calculations based on most recent data available.

** Japan not included; see note above.

Figure III.1
Distribution of population by type of region
(Regional populations share in national totals, %)



Source: OECD. Creating rural indicators for shaping territorial policy. Paris, 1996.

Two-Level Approach – An Explanation

Since the use of two levels of geographic hierarchy is central to the analytical concept, it seems appropriate to explain in further detail the importance of taking such an approach.

The **appropriate level for territorial analysis** always depends on the question under review. If, for example, territorial differences in employment opportunities are to be assessed in an economic policy perspective, information should be made available at the regional level. In fact, unemployment rates are usually reported at that level rather than at the local community level. The implicit premise is that within reasonable distances workers should be prepared to commute between their place of residence and the place of work. This may imply commuting from a rural to an urban area.

It would not be a realistic rural policy objective to provide jobs for rural citizen only in their own, or even only in rural communities. A reasonable aim would be for rural citizens to find jobs within an acceptable commuting distance from where they live. The place of work could well be urban but it should be within the same region or labour market area. The distinction between three types of region, however, allows an analysis of job opportunities under the different regional conditions.

The fact that unemployment rates at the local community level are usually not considered as an appropriate measure in judging economic policy performance does not, of course, mean that such figures would not be of interest in a different policy context. From the perspective of social policy, for example, it might be relevant to know whether there are rural/urban differences in crime and suicide rates and to what extent these rates correlate with unemployment.⁴

A **numerical example** may help to underlie the advantages or even the need for a two level approach. In Germany, the total population grew by 1.7 per cent from 1980 to 1990. At the local community level, when growth is measured for both the total rural and the total urban populations, the picture looks rather bad for rural; the growth rate for the urban population was almost double that for the rural population (1.9 per cent as compared with 1.0 per cent). At the regional level, however, it was the predominantly rural regions, which had the highest increase (2.2 per cent), much higher than that in the significantly rural regions (0.6 per cent) and even slightly larger than in the predominantly urbanised regions (2.1 per cent) (OECD, 1996).

This example shows clearly that the results of rural analysis and the consequent policy conclusions can be quite different, depending on the choice of the territorial level at which rural conditions are analysed. Taking the example even further, both aggregated views may be misleading. Only by pursuing the analysis at both levels, thus allowing the six different types of area to be distinguished, can a clearer picture be gained.

A closer look shows that the good performance of the predominantly rural regions is due to a very high growth rate in their urban communities; at 6.0 per cent they had by far the highest increase in population. But also the rural communities in the predominantly rural regions did better (1.5 per cent) than the average rural communities (1.0 per cent) and almost attained the average growth rate of the national total (1.7 per cent). The fastest growing rural communities were those in the predominantly urbanised regions (1.8 per cent) almost reaching the growth rate of the urban communities in those regions (2.2 per cent). The stagnating rural communities were in fact those in the intermediate, significantly rural regions (0.2 per cent). In these regions, growth in the urban communities was not much better either (0.8 per cent) (OECD, 1996).

These few results generated for only one simple but important indicator – population change – may give an idea of the complexity of rural development issues and of the need for different strategies for different rural areas, depending on their specific regional contexts. [6]

III.2.3 European Union

So far no official typology for the European Union exists, however several attempts were made in the past e.g. adapting the OECD typology for certain purposes (Vidal et al, 2001).

⁴ OECD now uses the term “intermediate” instead of “significantly rural”.

In the PAIS report (see chapter V), it is said that if one wants to move away from typologies based on spatial criteria, there are more sophisticated rural typologies based on structural approaches that take into account a variety of characteristics to describe rural areas.⁵ [12] A number of multivariate analyses of a broad range of socio-economic indicator variables have been used to develop more sophisticated definitions of rurality at national and European levels. Reference is also made to a multivariate index of rurality, based primarily on Census data (Bryden, 2001).

Similar structural approaches to rural-urban classifications have been used for targeting resources to rural areas. In demarcating areas for Objective 2 Structural Fund assistance, for example, **rural areas are defined by either (low) population density or a percentage share of the workforce employed in agriculture** (Bryden, 2001).⁶

DG AGRI tried recently to combine the OECD population density method and a land cover method and came up with a first proposal combining the two approaches (DG AGRI, in press). However, for the time being this has to be seen as a pure academic exercise, which probably will be continued (Vard et al., 2005). [Utilisation of CORINE land cover for identifying the rural character of communes and regions at EU level.]

The relationships between rural and urban areas extend beyond labour market flows however, as explored by the Study Programme on European Spatial Planning (SPESP). They include home-work relationships, rural areas as urban consumption landscapes, rural areas as suppliers of natural resources for urban areas and central place dynamics. The SPESP identifies **a six-fold typology of European territories** based on population statistics and taking its point of departure from urban and rural relationships, although utilising normative regions. Using NUTS II and III data, territories are distinguished on the basis of **urbanisation rate, rural population density, the degree of contrast in the distribution of settlement size, average distance to urban settlement, the primacy of the largest city and the size of the largest centre**. The study stresses that more refined typologies are needed (NUTS IV and V) to be relevant for the analysis of sparsely populated areas where relationships are formed between small and medium-sized towns and rural areas (Bryden, 2001).

III.3 Requirements on indicators and their assessment

III.3.1 Introduction

Indicators are statistical variables that help to transform data into relevant information. Indicators have meaning within defined conceptual frameworks and for

⁵ The overall objective of the PAIS (which is the acronym of Proposal on Agri-Environmental Indicators) project is to contribute to the on-going development of Agri-Environmental indicators of the European Commission, as outlined in COM (2000) 20 and COM (2001) 144. A specific focus of the PAIS project is put on the following three indicator themes: Landscapes, Agricultural practices, and Rural development.

⁶ For explanation of Objective 2 Structural Funds, see section I.4.2 (xvi).

specific analytical or administrative purposes. To provide meaningful information, they have to be interpreted in the context of these frameworks and purposes.

Indicators can be powerful tools for analysis, planning and monitoring if the trade-off between their strength – reduction of complexity – and their weakness – (over-)simplification – is carefully considered. Thorough interpretation, therefore, is a necessary prerequisite to any reasonable indicator use. Often indicators can be interpreted adequately only as part of a more comprehensive set of indicators.

Without explicit reference to a specific analytical task or policy objective, indicators are just statistical data or variables that provide only potentially useful information. The underlying logic relating certain statistical data to specified purposes must be based, at the very least, on a hypothesis, if not on a more elaborate theory or model. In fact, often indicators can be seen as a first attempt to structure complex interrelationships that may, in the end, help to formulate more sophisticated theories (OECD, 1996).

Indicators on rural development need to be based on **(1) published statistics** that are **(2) consistently collected** in **(3) comparable areas**, using the **(4) same unit** of measurement and based on a **(5) clear definition**. Indicators should also be sensitive to changes and trends over time that can inform future policy direction. To meet these demands, descriptive indicators for rural development often involve re-valuing well-known concepts and data sets in the rural policy context. In some cases, this process is accompanied by a definition of ‘rural’ (Bryden, 2001).

In particular the following three questions should be addressed in the selection process:

- ◆ What are the basic requirements for the construction of any indicator?
- ◆ What are the specific rural development dimensions that have to be captured by rural indicators?
- ◆ What are the purposes of collecting and providing international indicators? (OECD, 1996).

In this context particular attention must be paid to the quality of statistical data and their sources, availability of meta data and suitability for international benchmarking

III.3.2 OECD

The OECD has formulated the following requirements on rural indicators:

Communication: OECD rural indicators shall enable Member countries to better communicate and discuss their national rural development problems and prospects.

Comparison: OECD rural indicators shall facilitate the identification among Member countries, of similarities and differences in rural development based on comparable statistics, so that a fruitful exchange of views and experience is possible.

Co-operation: OECD rural indicators may even encourage Member countries to co-operate in the design and assessment of their rural, development strategies.

The Project on Rural Indicators will provide information on sub-national (rural) areas in a multi-national (OECD) context. It aims to establish a consistent information basis for systematic general description as well as for cross-national analysis of rural conditions and trends, which form the background for the design, implementation and impact of rural policies in OECD Member countries.

OECD indicators should not be considered as imposing uniform concepts at the national level but rather as helping to provide a common language that allows international communication of similarities and differences. To meet this task.

- ◆ The statistics on which the calculation of indicators is based must be harmonized and comparable to the degree needed to make international communication meaningful.
- ◆ The results generated from these sources should be sufficiently differentiated and specific to the degree that they adequately reflect the whole range of territorial variety and distinctiveness.

From the above considerations OECD derived three basic principles, which are important for any attempt to develop and operationalise a set of indicators:

- VI. **Relevance:** To be relevant, indicators must serve a **clearly defined purpose**. Thus, the analytical and/or policy objectives for developing and using the indicators should be specified. Consideration of the relevance of indicators always implies an identification of their potential users. For those indicators that are designed to shape, implement or monitor policies, relevance also implies taking into account the administrative context, whether (inter-)national, regional or local, in which they can. Usefully be interpreted.
- VI. **Reliability:** To be reliable, indicators must have a **sound scientific basis**. The reliability of indicators and their underlying analytical concepts depends on the quality of the theoretical foundations or models on which they are based: Validity of measurement must be ensured. As far as possible, the explanatory power of the indicator should be intuitive to potential users and not only to trained specialists in the field. This is more likely to be achieved if the measurement is as direct and close as possible to the observed phenomenon:
- VI. **Realisability:** To be realisable indicators must **be built on available statistical data**. Availability depends on the operationality of the analytical concept, on the type of data source, and on the possibility of assembling data within reasonable limits of time and resources. Realisability thus focuses on the producers of indicators and on the feasibility of data collection and processing (OECD, 1996).

III.3.3 European Union

In the PAIS report a criteria very similar to that of the OECD is used for assessing indicators which can be summarized in the table below:

Sensitivity: An indicator should be able to respond to a broad range of conditions within an appropriate time scale and geographic scale.

Analytical Soundness: An indicator should be based on sound scientific methods.

Comprehensibility: An indicator should be in a format that the target audience can understand; for example non-technical for the public.

Relevance: The indicator should be relevant to the desired goal, issues or mission. This is particularly the case for policy related indicators. For descriptive indicators the indicator is assessed in particular light of the rural development issue to be addressed.

Reference value: The indicator should have a guidance level or benchmark against which to measure change over time.

Generality: The applicability of the indicator to the European level.

Data availability: Indication of the availability of the data at the European level.

Conceptual Requirements: Indication of how the conceptual basis of the indicator may need to be developed (Bryden, 2001).

Eurostat will exploit all available data sources and existing surveys. At the moment the focus is on exploiting the Labour Force Survey. It is also suggested to add questions and the Labour Force Survey coding to existing surveys.

Another approach to be discussed with EU Member States is to build up a data network with Member States. Member States should establish either a database for a number of variables (to be defined) or link existing databases in order to be able to extract the necessary data on NUTS 5 (=LAU 2) level if possible. The sources of these data are administrative registers or census data.

This would allow Eurostat to react in a flexible manner, once an official harmonised definition for “rural areas” is agreed.

III.4 Themes and set of indicators

III.4.1 OECD

If the development of rural indicators must be guided in part by the principles applicable to any set of indicators, it must be driven even more by characteristics that are specific to rural development. These are the three basic dimensions of rural

development, which any reasonable assessment of rural conditions and trends most take into account:

- VI. **Territory:** Rural development is a **spatial concept**. It deals with territorial differences in problems and perspectives, options and opportunities. Such differences can be considered positively (diversity) or negatively (disparities). In either case, the territorial distribution, both of potentials as much as of effects, determines the overall performance and viability of economic, social and environmental systems as well as the effectiveness and efficiency of related policies.
- VI. **Themes:** Rural development is a **multi-sectoral concept**. It is concerned with a wide range of demographic, economic, social and environmental issues. It stresses the importance of a cross-sectoral perspective and often provides an appropriate framework for the horizontal integration of various activities and policies.
- VI. **Time:** Rural development is a **dynamic concept**. It is concerned not with the mere passing of time but with concrete, historical dynamics, which are reflected in changing technological options, economic structures, or social attitudes and perceptions.

Figure III.2

OECD's basic rural development indicators classified by themes

| Population and migration | Social well-being and equity |
|-------------------------------------|--------------------------------|
| Denisty | Income |
| Change | Consumption |
| Structure | Housing |
| Housholds | Health |
| Communities | Safety |
| | Culture and recreation |
| | Communications |
| Economic structure and performance | Environment and sustainability |
| Labour force | Topgraphy and climate |
| Employment | Land use and its change |
| Employment and enterprise structure | Habitants and species |
| Sectoral share | Soils and water |
| Productivity | Air quality |
| Investment | |

Source: OECD (1994). "Territorial Indicators of Employment. Focusing on Rural Development", OECD Paris, 1996.

Any set of rural indicators, therefore, has to provide information on a variety of economic and societal subjects. It has to do so in a territorially differentiated manner and it should be capable of reflecting changes over time (OECD, 1996).

Based on the above geographical definitions, the set of basic rural indicators is classified into four main themes, see figure III.2:

For each region a “**development dimension**” can be defined as **dynamic region** versus **lagging region**, implying performance above and below average, respectively (OECD, 1996).

III.4.2 European Union

In the PAIS report the following key rural development issues are defined:

Social well-being – Quality of life: Environmental features, service availability, housing, safety, income and deprivation

Economic structure:

General:

Sectoral shares, enterprise, investment, labour force attributes, performance and competitiveness, innovation, business infrastructure.

Primary sector activity:

Multifunctionality of agriculture, diversification and productivity, financial resources.

Tourism sector activity:

Physical features of consumption, physical features of supply, employment features and other monetary features.

Demographics: Population density, change and structures, commuting patterns, cultural issues, educational attainment (Bryden, 2001).

In the Hay’s report, whose main aim is to characterise the spatial components of rural areas within Europe through the development of a set of indicators, the following ten general themes were proposed:

- ◆ Demographic Characteristics and Changes;
- ◆ Employment and Human Capital;
- ◆ Welfare, Income and Quality of Life;
- ◆ Agriculture and Structural Change;
- ◆ Multi-Functionality of Agriculture;
- ◆ Rural Economic Diversification;
- ◆ Innovation and Enterprise;
- ◆ Policy;
- ◆ Rural Environment and Landscapes;
- ◆ Infrastructure and Peripherality (Hay, 2002).

Based on the experience from the Hay report and the PAIS project, Eurostat will launch a data collection exercise involving – if possible – all Member States in order to collect data on the following themes.

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

In total, data for about 25 indicators will be collected from Member States in the first phase. It is planned to enrich the list of indicators in further phases covering topics like environment and landscape and competitiveness of agriculture.

III.4.3 The World Bank

Rural poverty is a pervasive problem in many developing countries. There is therefore a need to systematically monitoring its reduction. To this end, the World Bank uses a core set of indicators that, captures the myriad of aspects of rural development and poverty. This template of indicators is intended to be used by policy makers in accessing the performance of their country's rural development programs (see annex 5 – for the core set of indicators). Unfortunately, disaggregated urban-rural data are rarely available. In most cases national aggregated data are used.

In developing countries some 70% of the poor reside in rural areas. Therefore, a country cannot expect to raise itself out of poverty without specifically addressing poverty in rural areas (World Bank, 2000b).

The World Bank has identified a number of key factors, which drive improvements in rural well-being, and grouped them into the following categories:

1. Improvement in the rural economy. This necessitates improving agriculture productivity, fostering non-farm activities, expanding the market base, fostering the private sector, and developing the rural infrastructure.
2. Sustainable natural resource base. In most countries, rural economies are dominated by agricultural and natural resource-based activities. Many producers are already concerned about the deteriorating land and water base in their areas, and public awareness of environmental issues adds urgency to the search for solutions to conservation issues. There is therefore a general consensus that unless the natural resource-base is managed in a manner that ensures its production and environmental quality, growth in the rural economy will not be sustainable.
3. Fostering an Enabling Environment For Broad-Based and Sustainable Rural Growth. An appropriate overall macro-economic policy and a supportive institutional framework are essential to growth and poverty reduction, and for the success of development activities in the rural

areas. Policy frameworks and good governance are needed that enable rural people to effectively influence public decisions that effect them. Public investments are also more effective if they are provided in a decentralized and participatory way (World Bank, 2000b).

4. Improving Social Well-Being, Managing and Mitigating Risk, and Reducing Vulnerability. To improve social well-being and minimize the vulnerability of the rural poor, developing countries should endeavour to improve access to nutrition and health services, help mitigate the effects of HIV/AIDS, increase access to rural education and improve its quality, and help improve food security for the rural poor. To achieve these objectives and foster broad-based growth and sustainable management of natural resources, it is essential to promote inclusiveness and remove barriers that exclude individuals on the basis of gender or ethnicity from economic and social opportunities.

In developing countries, it is expected that agriculture will remain the foundation of the rural economy for the foreseeable future. In Sub-Saharan Africa, for instance, agriculture accounts for 30% of GDP, 40% of exports, and 70% of employment (World Bank, 2000b). Of China's total population of 1,276 million people, almost 800 million or 62.3% are living in rural areas. The first Chinese Agriculture Census showed that as many as 34% of the 230 million rural households were engaged in both agricultural and non-agricultural activities.

Improved productivity in the agriculture sector is therefore essential for economic growth and for reducing poverty whether it is China or Sub-Saharan Africa. However, this cannot be done by agriculture alone, which, in particular, the Chinese experience has shown. It has to go hand-in-hand with important contributions from non-agriculture activities and non-farm rural employment opportunities (Zhiquan, 2002; World Bank, 2000b).

In 2001, the per capita net income of Chinese rural households was 2,366 yuan, which was less than $\frac{1}{4}$ of the urban counterpart. Looking at the expenditure side, rural households accounted for only 25% of total retail sales. On the other hand, it is worth noting the tremendous success in reducing poverty in China – from some 250 million to about 30 million in just a few decades.

In China, **agriculture, rural development** and **rural residence** are considered three dimensions of an **integrated rural system**, each with a set of core indicators being monitored.

Rural areas in China are defined as a residual to urban areas, which are defined as:

- ◆ Cities, where county level government (or higher administrative level) is located, districts directly under municipal government and with population density more than 1500 persons per km² and the extension areas of districts directly under municipal government, and

- ◆ Small towns and special areas with non-agricultural population (more than 3,000 persons), including industrial and mining areas, development zones etc. (Zhiquan, 2002).

Data issues

The World Bank recognizes that there are considerable data problems as concerns not only quality and reliability of rural data in many developing countries but also the non-existence of vital data. Even when data are collected, most are aggregated at national level without possibilities of breakdown on urban-rural and regional levels.

The World Bank also stresses that improved monitoring of rural development will require a significant effort in data collection on a long-term basis. It advises against ad hoc surveys because these do not provide consistent coverage of the different aspects of rural development. Instead the World Bank proposes comprehensive household surveys and extended coverage of the agricultural censuses, focusing on family status, access to services, economic activities, production practices, expenditures and social activity. Such census should be complemented by regular panel surveys using sub-samples (World Bank, 2000b).

III.4.4 FAO

Following the World Conference on Agrarian Reform and Rural Development (WCARRD), the FAO produced Guidelines on Socio-Economic Indicators for Monitoring and Evaluating Agrarian Reform and Rural Development (1988). The guidelines were the result of extensive collaborative work by UN agencies and countries. The provisional list of indicators was made available to countries for the preparation of their reports on progress in agrarian reform and rural development to the biennial FAO Conferences in 1983 and 1987. The final guidelines were then submitted for comments to the UN agencies through members of the ACC Task Force on Rural Development (1984).

The WCARRD Programme of Action stated that the primary objectives of rural development are the eradication of poverty, hunger and malnutrition. Other contributory objectives include growth with equity, national self-reliance (especially in food), ecological harmony and the conservation of finite resources.

The following properties were considered necessary for the selection of socio-economic indicators to monitor WCARRD: relevant; valid; objective and verifiable; sensitive; feasible; timely; and simple. If an indicator was weak in one of these properties a secondary indicator was also included.

Indicators covering the following goals and areas of concern were selected (see chapter V for full list):

VI. Poverty alleviation with equity

- ◆ Income/consumption
- ◆ Nutrition
- ◆ Health
- ◆ Education
- ◆ Housing
- ◆ Access to community services

- VI. Access to land, water and other natural resources
- VI. Access to inputs, markets and services
- VI. Development of non-farm rural activities
- VI. Education, training and extension
- VI. Growth

The primary indicators are grouped according to WCARRD goals and areas of concern. One notable omission in the list of primary indicators are those related to people's participation including women's participation as they had not been fully developed at that time. It was noted that not all primary indicators would be relevant or meaningful to a particular country so that countries would have to choose among them and substitute or supplement them as necessary.

A selection was made from the primary indicators of a smaller number of "core indicators" that were considered crucial for monitoring poverty alleviation, relevant to most countries and feasible from the data collection point of view. The "core indicators" cover the levels of living items, including access to essential social services, as well as other indicators pertinent to rural conditions of life. On these indicators, countries were requested to establish benchmarks and report changes to FAO Conference.

During the 1990's, the FAO Conference discontinued the requirement of countries reporting on the WCARRD indicators on a biennial basis the focus shifted to reporting on under-nourishment. Countries however continue to use many of the indicators established in the WCARRD framework.

In 2003, the United Nations Economic and Social Council – High-level segment focused on Rural Development. The Report of the Secretary-General, Promoting an integrated approach to rural development in developing countries for poverty eradication and sustainable development (2003) provides detailed analysis of the issues facing developing countries. In particular it highlights the following elements of an integrated approach to rural development:

- ◆ Strengthening the rural economy;
- ◆ Social development;
- ◆ Sustainable use of natural resources and protection of the environment;
- ◆ Empowerment of the poor as a strategy for integrated rural development.

In summary the report states: *“Accelerated rural development is essential to achieve the internationally agreed development goals, including the millennium*

development goals. The present report provides policy recommendations on ways to promote an integrated approach to rural development, encompassing the economic, social and environmental dimensions, with a number of mutually reinforcing policies and programmes that address a broad range of issues related to rural development.”

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