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. Each of the subsections 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 subsection, they will not be repeated again in the successive subsections 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 a **rural area** as a local community with a population density **below 150 habitants/km^2** (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 relative1y 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 to 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, which are the smallest administrative units in Europe, have an average population of 1,500 inhabitants and a surface area of 15 square kilometres while English Districts encompass 118,000 inhabitants in areas of more than 500 square kilometres. Counties, which in the United States are used as the basic building blocks for rural analysis, have an average

population of 80,000 inhabitants and an average surface area of almost 3,000 square kilometres. 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 small geographic units at the local community level as the statistical building blocks. On the other hand, larger geographic units at the 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 remain constant 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 usable area);
- Commuting intensity (towards major cities or labour market centres);
- 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 boundary between rural other categories vary considerably. For population, the size of the agglomerated units used by Member Countries varies 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 the minimum for classifying an area as rural differs between 1.5% (Luxemburg) and about 20% (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 results would be: 27%, 51%, 30% and 27%. None of these definitions or their results, not even the French one, should 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 differentiating "metropolitan" or "metro" from "nonmetro" counties. Both definitions result in roughly similar numbers of residents, 22% and 27% of the total United States population. The overlap, however, is small with only about 50% of the "rural" population residing 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 a labour market perspective, they are living within commuting distance of a larger urban centre. From this perspective 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", studies have been conducted into whether the 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 measuring "urban" can be identified: 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% of the Dutch population live in urban areas – the Netherlands being the most densely populated Member Country in the OECD – whereas the highest share of urban population is attributed to Canada (50%) and Greece (38%). In contrast, 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%. Italy with 53% and the Netherlands with 66% 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

There are various reasons why it is appropriate to study the entire territory of the Member Countries and not just their rural parts. 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 consistency of 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 characterized 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 their 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:

- Identify the object of observation – rural population and area;
- Describe their status and development.

Since rural is about people and territory, the 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 of communication and land use.

Population density is a concept that is both intuitive to users and simple for providers of rural indicators in all Member Countries to calculate. Whatever the specific national or regional contexts may be,

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[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).

rural areas will always have a lower population density than urban areas. Contrary to the population size criterion that is 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 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 rural problems and potentials. In an 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 "rural" is. 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 kilometres 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 the rural population. Only for a few countries would the ranking by share of rural population be different.

Under the 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 the 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 the 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 square kilometre (Vidal *et al*., 2001). Had the OECD definition of 150 inhabitants been used, for example, over fifty per cent of the Nomenclature of Territorial Units for Statistics (Level Three) (NUTS 3) regions would have been excluded from the analysis.[2] In some respects, therefore, 200 inhabitants per square kilometre represented a compromise between the various definitions of 'rural' and the data available. From 455 NUTS regions at the NUTS 2 or 3-level comprising the entire territory of the EU, 355 were included in this analysis (Vidal *et al*., 2001). If the 150 inhabitants per square kilometre approach is applied to the resulting 1,214 NUTS 3 regions in the EU 25 and if 2001 census data is mostly used (for 59 NUTS 3 regions 1991 data had to be used), the following result was obtained:

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[2] In principle, 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).

- 385 NUTS 3 regions (32%) are classified as "predominantly rural";
- 424 NUTS 3 regions (35%) are classified as "significantly rural";
- 405 NUTS 3 regions (33%) are classified as "predominantly urban" regions.

However, another 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 urbanization." 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 square kilometre 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 square kilometre 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 report (see Chapter V), it is also suggested that only data at a NUTS 3 level or lower (NUTS4/Local Administrative Unit 1 (LAU 1) or NUTS5/Local Administrative Unit 2 (LAU 2) should be used. Another option is to further categorize 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, 2002). However, it has to be kept in mind that certain urban centres fulfil important functions for their rural hinterland and vice versa. In other words, 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, the Director General for Agriculture (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 derives from the fact that combined they constitute 90% of the territory of the EU 25. In order to link to a territorial administrative unit and illustrate the potential policy area in the EU 25, the land cover approach was applied at the 'cantonal' (in France) or communal level (LAU 1 or 2, or NUTS 4 and 5). Municipalities which had at least 90% 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 (EC, 2004).

III.1.4 FAO

Rural development has for many years been 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 and these definitions are proving to have little value in developing countries where spatial concepts are more important in evaluating and monitoring progress towards the overall goal of measuring rural welfare. In this context, the 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 context of creating a statistical framework for rural development, i.e. distance to markets, 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 the share of their population living in rural communities. The typology selected by the OECD follows a two-step procedure. In the first step communes are divided into rural and non-rural 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 live 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. The following have 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 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**), a secondary criterion (**size of the urban center**) was used. Regions with a centre of more than 500,000 inhabitants are usually better characterized as predominantly urbanized. 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.

The additional criterion of urban centre size shifts the distribution by type of region towards the urbanized end. At the other extreme, for regions with a very low density – below ten or even five 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 those 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 Handbook. Further details could, however, be of interest in future stages of the Project's work.

In the attempt to apply a 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 be 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% of the territory. National shares differ, of course, ranging from a rural population of just under 10% in the Netherlands and Belgium to about 60% in Finland, Norway and Turkey while the rural area varies from about 35% to almost 100%. 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 lives there. In others, the rural population is large and more equally distributed. Whereas for the OECD as a whole the ratio of the rural-to-urban population 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% of the OECD population is concentrated in 3% of the territory in predominantly urbanized regions. The remaining one third inhabits the significantly rural, intermediate regions.[3] It should be remembered that even in the predominantly urbanized regions a certain share of the population, up to 15%, 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 organization 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 urbanized regions. For Austria and the Scandinavian countries, however, the opposite is the case. Here, less than a quarter of the population live in predominantly urbanized regions. In other Member Countries - France and Spain, for example - the largest share of population is in the intermediate, significantly rural regions. Conversely, Ireland, Iceland, Greece and Portugal and also Canada and Australia have a dual structure with a greater share of their population inhabiting the rural and urban extremes and a smaller fraction living in the intermediate regions.

Even this simple comparison reveals certain commonalties and differences in settlement pattern amongst Member Countries. It facilitates a better understanding of their perceptions of rural and their respective policy approaches (OECD, 1996).

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[3] The OECD now uses the term "intermediate" instead of "significantly rural".

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

Country	Population			Area		
	Predominantly rural regions	Significantly rural regions	Predominantly urbanized regions	Predominantly rural regions	Significantly rural regions	Predominantly urbanized 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./km^2, 500 inhab./km^2 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 urbanized" = below 15%.

*   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,%)
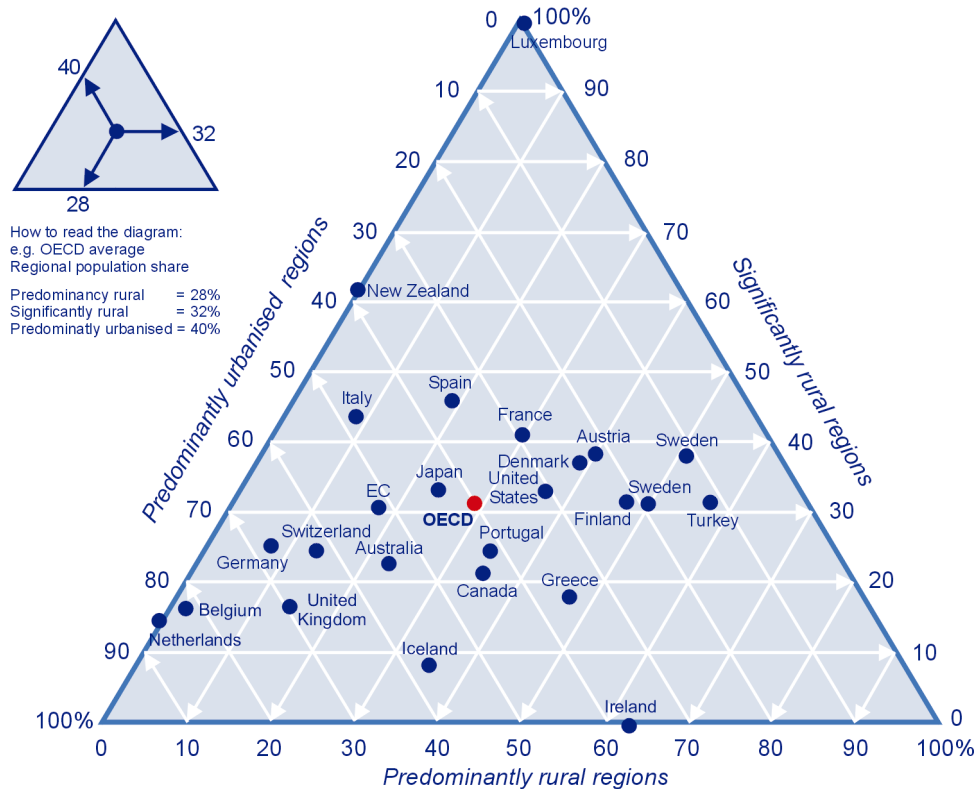
Source: OECD. "Creating rural indicators for shaping territorial policy". Paris, 1996.

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 from an economic policy perspective, information should be made available at the regional level. In fact, unemployment rates are usually reported at this 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 their 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 citizens 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 for 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.

A **numerical example** may help to underline the advantages, or even the need for, a two level approach. In Germany, the total population grew by 1.7% 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% cent as compared with 1.0%). At the regional level, however, it was the predominantly rural regions, which had the highest increase (2.2%), much higher than that in the significantly rural regions (0.6%) and even slightly larger than in the predominantly urbanized regions (2.1%) (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%) than the average rural communities (1.0 %) and almost attained the average growth rate of the national total (1.7 %). The fastest growing rural communities were those in the predominantly urbanized regions (1.8 %) almost reaching the growth rate of the urban communities in those regions (2.2 %). The stagnating rural communities were in fact those in the intermediate, significantly rural regions (0.2 %). Within these regions, growth in the urban communities was not much better either (0.8 %) (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 (OECD, 1996).

III.2.2 European Union

So far no official typology for the European Union exists despite several attempts to create one in the past - for example, adapting the OECD typology for certain purposes (Vidal *et al.*, 2001).

In the *Proposal on Agri-Environmental Indicators* (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.[4] 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**

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[4] The overall objective of the PAIS 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 directed at the following three indicator themes: Landscapes, Agricultural Practices, and Rural Development.

defined by either (low) population density or a percentage share of the workforce employed in agriculture (Bryden, 2001).

DG AGRI tried recently to use the OECD population density method and a land cover method (using Coordination of Information on the Environment (CORINE)) to come up with a first proposal combining the two approaches. However, for the time being this has to be seen as a pure academic exercise, which probably will be continued (Vard *et al.*, 2005).

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 takes its point of departure from urban and rural relationships, although it utilizes normative regions. Using NUTS II and III data, territories are distinguished on the basis of urbanization 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 of 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 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, indicators can often 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 paid to the quality of statistical data and their sources, availability of metadata 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.

- ***Cooperation***: OECD rural indicators may even encourage Member Countries to cooperate 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 multinational (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 the OECD derived three basic principles, which are important for any attempt to develop and operationalise a set of indicators:

- ***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.

- *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.

- *Realizability*: To be realizable, indicators must **be built on available statistical data**. Availability depends on the degree to which the analytical concept can be operationalized, on the type of data source, and on the possibility of assembling data within reasonable limits of time and resources. Realizability 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 set of criteria very similar to that of the OECD is used for assessing indicators. It can be summarized as follows:

- **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 it should be non-technical if the target audience is the general 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 the 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 proposed 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 within 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 harmonized definition for "rural areas" is agreed.

III.3.4 FAO

The World Conference on Agrarian Reform and Rural Development (WCARRD) held in Rome in 1979. The following properties were considered necessary for the selection of socio-economic indicators for the purpose of monitoring activities:

- 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.

III.4 Themes and set of indicators

III.4.1 OECD

If the selection 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. There are three basic dimensions of rural development, which any reasonable assessment of rural conditions and trends must take into account:

- *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 determines the overall performance and viability of economic, social and environmental systems as well as the effectiveness and efficiency of related policies.

- *Themes*: Rural development is a **multisectoral 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.

- *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.

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. Each region can then be classified as a **dynamic region** or a **lagging region**, implying performance above and below average, respectively (OECD, 1996).

Figure III.2
OECD's basic rural development indicators classified by themes

Population and migration	Social well-being and equity
Density	Income
Change	Consumption
Structure	Housing
Households	Health
Communities	Safety
	Culture and recreation
	Communications
Economic structure and performance	**Environment and sustainability**
Labour force	Topography 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.

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 report (2002), the main aim of which was to characterize 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;
- Multifunctionality of agriculture;
- Rural economic diversification;
- Innovation and enterprise;
- Policy;
- Rural environment and landscapes;
- Infrastructure and peripherality.

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, landscape and the 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 monitor 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 policymakers 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 in this group cannot expect to raise itself out of poverty without specifically addressing poverty in rural areas (World Bank, 2000).

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 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

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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 continued productivity 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 macroeconomic policy and a supportive institutional framework are essential to growth and poverty reduction, and for the success of development activities in rural areas. Policy frameworks and good governance that enable rural people to effectively influence public decisions that affect them are needed. Public investments are also more effective if they are provided in a decentralized and participatory way.

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, 2000). 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, 2000).

In 2001, the per capita net income of Chinese rural households was 2,366 yuan, which was less than one quarter 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 individuals living in poverty 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 square kilometre 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 and development zones (Zhiquan, 2002).

Data issues

The World Bank recognizes that there are considerable data problems not only with the quality and reliability of rural data in many developing countries but also with the non-existence of vital data. Even when data are collected, most are aggregated at the national level with no possibility of breaking this down to 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, 2000).

III.4.4 FAO

Following the 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.

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

Poverty alleviation with equity:

- Income/consumption;
- Nutrition;
- Health;
- Education;
- Housing;
- Access to community services;
- Access to land, water and other natural resources;
- Access to inputs, markets and services;
- Development of non-farm rural activities;
- Education, training and extension;
- Growth.

The primary indicators are grouped according to WCARRD goals and areas of concern. Notable omissions from 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 then 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 the FAO Conference.

During the 1990's, the FAO Conference discontinued the requirement of countries to report 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.*"

III.5 Indicators – use and misuse[5]

There is no general definition of what constitutes an indicator as a special subset of statistical results in any official document at international level that would be applicable to all areas of official statistics. However, the term "indicator" is used with increasing frequency. One reason may be that the terms "statistics" or "statistical results" do not attract as much attention from users and the media as the term "indicator." The implicit undertone of the term indicator is that it is more than an "ordinary statistic," such as the size of the population or tonnes of steel produced, and as a result indicators deserve more attention than ordinary statistics.

There are several ways of approaching and defining indicators. The **first** and most evident approach to indicators is that they are simply the combination, through a defined algorithm, of two (or more) statistical results ("numbers") to form a new derived measure. The simplest form is through a numerator and denominator, e.g. as per capita ratios or percentages or other forms of shares. The two elements may be taken from the same statistics (e.g. as for growth rates), or from two different statistics. The added element of the derived measure, as compared to simply looking at the numerator and denominator separately, is the added degree of comparability; the derived measure eliminates the size effect of the denominator. This is an especially desirable property when comparing across regions or between countries, but it is also important for comparisons over time in economic statistics. With this wide characterization of an indicator, all comparisons over time based on simple indices (with a base period value as denominator) would be included

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[5] This section is taken from Brüngger (2004).

under this concept. There are more elaborate forms of algorithms to compile derived measures in official statistics, which try to eliminate effects other than size. Examples are age standardisation, constant price aggregates, or seasonal adjustments.

A **second** approach to the term indicator uses a normative interpretation, with the possibility of establishing rankings or league tables if applied to comparisons of regions, countries, or other appropriate units, for the same period.[6] Indicators are those official statistics that allow a statement of "better"/"worse" (including a quantification of the difference), both in comparisons over time and across space. To be an indicator in the first definition is a prerequisite for normative interpretation; however, not all indicators of the first definition lend themselves to a normative interpretation.

While it is important that all users of official statistics, irrespective of their stand on certain policies and priorities, accept them as authoritative measures of reality, this is particularly important for normative indicators. This is the true meaning of impartiality. This principle is also the reason why official statisticians should avoid policy prescriptive comments when disseminating normative indicators.

Normative indicators lend themselves to transformation into rankings or league tables. Opinions differ whether statistical offices, and statistical services of international organizations, should publish rankings, as opposed to a more neutral sequence of tables. Fundamentally, if the indicator is sufficiently robust, and if the data sources are of sufficient quality and comparability, there is nothing that prohibits ranking. Ranking is even used for statistics other than normative indicators, with the purpose of identifying countries or regions that are "outliers" in a certain way and where the ranking deserves further explanation and analysis.

A **third** approach concerns those indicators that cover only a part of a target concept, which remains unmeasured within the framework of official statistics. This type of indicator can be found in areas that lack a common measurement unit such as money in economic statistics, or joules in energy statistics. Many statistical areas lack a common unit of measurement. These include social statistics (for example, health, education, quality of work or crime), environmental statistics and some new phenomena covering aspects of both economic and social statistics such as globalization, competitiveness and the information society. In this approach, the term indicator stands for something broader than what it actually measures.

A **fourth** approach concerns the so-called **synthetic indicators**. These are composite measures of individual indicators designed to give an easy overview of a complex array of indicators or statistics. Different forms and techniques of "weighting" the individual series are used.[7] The need for weighting arises from the fact that either the components are not expressed in the same measurement unit, or refer to different items where there is no obvious method of aggregation (such as prices for different commodities). While there has been some discussion about synthetic indicators in meetings of official statistics, the issue of whether, or under what conditions, such indicators are compatible with the framework of official statistics has not been given much attention.

There are no evaluative problems with synthetic indicators that use **empirical weights**, i.e. weights based on official statistics. Price and volume indices are prime examples of such indicators that are widely used in official statistics. If the single components are themselves produced according to the framework of

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[6] The World Competitiveness Yearbook (WCY) ranks and analyses the ability of nations to create and maintain an environment in which enterprises can compete (Source: http://www02.imd.ch/wcc/methodology/).

[7] An obvious example is found in the annual **Human Development Reports** (HDR), which was first launched in 1990. Since the first Report, four new composite indices for human development have been developed — the Human Development Index, the Gender-related Development Index, the Gender Empowerment Measure, and the Human Poverty Index (Source: http://hdr.undp.org/aboutus/).

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official statistics, the added step of synthesizing them through empirical weighting derived from official statistics is also within this frame, and can add considerable value to the results.

The issue is entirely different with synthetic indicators based on **subjective weights**, be they determined by policymakers, specific users, or based on expert opinions about importance. Many statisticians argue that such subjective weights are not compatible with the principle of impartiality. Official statisticians should therefore not publish such synthetic indicators under the guise of official statistics, even when the individual components are fully part of those official statistics. Aggregating with no assignation of weights is tantamount to giving equal weights to every component, but this equal weighting remains subjective unless it has an empirical or conceptual foundation.

Subjective weighting is especially problematic for international comparisons, because different countries may prefer different weighting schemes, and it is hard to see ways in which an agreement between countries on subjective weights may be reached. In practice, the "experts" from the secretariats of international organizations will impose their own subjective weights.[8]

Apart from their use in resource allocation, the main purpose of such synthetic indicators seems to be to allow unequivocal rankings, given that the separate rankings of each component may lead to different "league tables." In addition, some of these composite indicators are given bombastic labels. However, rankings produced by official statistics are not analogous to a sporting contest. A synthetic indicator implies the possibility of substitution, i.e. a "bad" ranking in one indicator can be offset by a "good" ranking in another component. In sport, this is indeed possible, but it is unlikely that we would see this substitution between the weakness of a country or region in one aspect, and the strength in another (unless these aspects are part of a common unit of measurement to be found in real life such as in economics). For national policy purposes, it is more important to identify where the strengths and weaknesses of a given country are; averaging them artificially hides this message. In contrast to other forms of aggregates, the simplicity of a single aggregate in this form of indicators is a smokescreen that dilutes the quality of the hard facts of the components by mixing them together with arbitrary subjective valuations.

It is recommended that official statisticians withstand pressures for endorsing synthetic indicators based on subjective weights, and make the components visible. If they are used, the limits of aggregation that are permitted within official statistics have to be made absolutely clear.

Synthetic indicators have become very popular outside official statistics, for comparing countries on corruption, competitiveness, etc., with some components of synthetic indicators being subjective. Official statisticians would undermine the principle of impartiality if they felt pressured by this competition to embark on the same approach.

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[8] A good example of this issue is Transparency International's annual "Global Corruption Reports," which contains a number of Corruption Surveys and Indices: The TI Corruption Perceptions Index (CPI), which ranks countries in terms of experts' perception of corruption; The Global Corruption Barometer is a survey that assesses general public attitudes towards, and experience of, corruption in dozens of countries around the world; and The TI Bribe Payers Survey evaluates the supply side of corruption - the propensity of firms from industrialized countries to use bribes in foreign countries. (Source: http://www.transparency.org/about_ti/annual_rep/index.html).

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