



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 14.7.2004
SEC(2004) 931

Annex III - Methodology

COMMISSION STAFF WORKING DOCUMENT

**Proposal for a Council Regulation on support to Rural Development by the
European Agricultural Fund for Rural Development**

EXTENDED IMPACT ASSESSMENT

{COM(2004)490 final}

ANNEX 3 : METHODOLOGY

1. RURAL CHARACTER OF THE COMMUNES BASED ON LAND COVER.

DG AGRI is developing a method to evaluate the importance of the “policy area” of the rural development policy. As this policy covers agriculture, forestry and natural areas, these categories of land coverage (or land use) are considered to have a rural character. Inland water bodies (lakes, etc) have also been taken into account through a special treatment (see later).

In order to determine the land use, the CORINE Land Cover database (CLC1990 – 100x100 m grid) for the 25 EU Member States has been used using 44 classes of the 3-level CORINE nomenclature. The CLC90 does however not contain Sweden, Cyprus and the eastern part of Greece. In order to cover these territories, the PELCOM (Pan-European Land Cover Database)¹ was used (1x1 km grid) with its 10 major classes. As PELCOM database is less detailed in terms of accuracy and of land cover categories, results for Sweden, Cyprus and eastern Greece are rougher than for other Member States.

Each grid cell is being appointed to a ‘commune’ on condition that its centroid lies within a ‘commune’. The value (‘land cover class’) of the grid cell becomes then an attribute of that ‘commune’. Only a few of the 108.000 communes do not contain any grid cells as none of the centroids of these grid cells fall within the ‘commune’.

Corine and Pelcom land cover classes have been reclassified into ‘forestry’, ‘agricultural area’, ‘natural area’, ‘inland water’, ‘sea’ or ‘artificial’ as shown in the tables a and b below.

For statistical analysis and policy purposes, it is necessary to relate the land use to administrative units. The more detailed level available is LAU2² that corresponds for instance to ‘commune’ in Italy or ‘Gemeinde’ in Germany.

The general rule is to classify a ‘commune’ as rural if at least 90% of its area is covered by agriculture, forestry or natural areas. As the character ‘rural / non-rural’ of inland water bodies is not evident, different approaches have been tested to take this area into account for countries where lakes are important (i.e. Ireland, Sweden and Finland)³. The method finally adopted is (1) to include 50% of the area of inland water bodies’ in the rural area and (2) to deduce the other 50% from the reference area of the commune used to calculate the share of rural area⁴.

¹ The PELCOM project was a shared cost action under the Environment & Climate section of the European Union 4th Framework RTD Programme. PELCOM (EC contract ENV4-CT96-0315) is a shared-cost RTD project funded by the Environment & Climate Programme of the Fourth Framework Programme (1994-1998) under Area 3 entitled "Space techniques applied to environmental monitoring and research".

² LAU : Local Administrative Unit; LAU2 = formerly known as NUTS5

³ In further work, this method will be generalised to all member states.

⁴ Example for an hypothetical commune

Agriculture 500 ha, Forest 150 ha, Natural 100 ha, Water 100 ha, Urban 200 ha => Total = 1 050 ha

For Belgium, as the polygon used in CORINE is of a different size, the accuracy is different. For this reason, a threshold of 80% has been empirically defined to replace the 90% threshold used for other Member States.

For France, as the size of the commune is very small, this evaluation has been made at the canton level (LAU1 – ex NUTS4) instead of the commune level.

2. RURAL / URBAN CHARACTER OF NUTS-3.

Since the lowest level at which most socio-economic statistics are available is NUTS-3, it is necessary to define a rule to define the rural character of NUTS-3. Work is still going on in DG AGRI to base this method on a combination of land cover and population density approaches. In the meantime, it has been decided to use the OECD definition based on population density. This definition has proven to be useful in making international comparisons of rural conditions and trends.

The OECD identifies local areas (municipalities) as rural if the population density is below 150 inhabitants per square kilometre.

At regional level (NUTS 3) the OECD distinguishes:

- Predominantly rural regions: over 50% of the population lives in rural communes (with less than 150 inhabitants/ km²)
- Significantly rural regions: 15 to 50% of the population living in rural communes.
- Predominantly urban regions: less than 15% of the population living in rural communes.

Thanks to the collaboration of GISCO team of Eurostat, the most up-to date figures – even if not 100% completed and checked - concerning 2000 population census at the commune level have been used. Where this information was not available, the rural character has been defined directly at the regional level on the basis of population surveys (average 1999-2001) with the following rule⁵:

- Predominantly rural regions: population density < 100 inhabitants/ km² 50% of the population lives in rural communes (with less than 150 inhabitants/ km²)
- Significantly rural regions: population density between 100 and 240 inhabitants/ km².
- Predominantly urban regions: population density > 240 inhabitants/ km².

Rural area : $500 + 150 + 100 + 100/2 = 800$ ha

Reference area : $1\ 050 - 100/2 = 1000$ ha

$800 / 1000 = 80\% \Rightarrow$ commune classified as 'urban' (or non rural) as the share of rural areas is lower than 90%.

⁵ The levels have been defined following an analysis of the statistical distribution of density in predominantly rural, significantly rural and predominantly urban in regions where information was available at the commune level.

This rule has also been applied when statistics were only available at nuts-2 level (e.g. labour force). This is why classification of areas can be different at nuts-3 and nuts-2 level.

Table a: CORINE reclassification

LEVEL 1	LEVEL 2	LEVEL 3	Reclassification :	
1. ARTIFICIAL SURFACES	1.1 Urban fabric	1.1.1 Continuous urban fabric	Artificial	
		1.1.2 Discontinuous urban fabric	Artificial	
	1.2 Industrial, commercial and transport units	1.2.1 Industrial or commercial units	Artificial	
		1.2.2 Road and rail networks and associated land	Artificial	
		1.2.3 Port areas	Artificial	
		1.2.4 Airports	Artificial	
	1.3 Mine, dump and construction sites	1.3.1 Mineral extraction sites	Artificial	
		1.3.2 Dump sites	Artificial	
		1.3.3 Construction sites	Artificial	
	1.4 Artificial, non-agricultural vegetated areas	1.4.1 Green urban areas	Artificial	
		1.4.2 Sport and leisure facilities	Artificial	
	2. AGRICULTURAL AREAS	2.1 Arable land	2.1.1 Non-irrigated arable land	Agricultural
			2.1.2 Permanently irrigated land	Agricultural
			2.1.3 Rice fields	Agricultural
2.2 Permanent crops		2.2.1 Vineyards	Agricultural	
		2.2.2 Fruit trees and berry plantations	Agricultural	
		2.2.3 Olive groves	Agricultural	
2.3 Pastures		2.3.1 Pastures	Agricultural	
2.4 Heterogeneous agricultural areas		2.4.1 Annual crops associated with permanent crops	Agricultural	
		2.4.2 Complex cultivation patterns	Agricultural	
		2.4.3 Land principally occupied by agriculture, with significant areas of natural vegetation	Agricultural	
		2.4.4 Agro-forestry areas	Agricultural	
3. FOREST AND SEMI-NATURAL AREAS		3.1 Forests	3.1.1 Broad-leaved forest	Forest
	3.1.2 Coniferous forest		Forest	
	3.1.3 Mixed forest		Forest	
	3.2 Scrub and/or herbaceous vegetation associations	3.2.1 Natural grasslands	Forest	
		3.2.2 Moors and heathland		
		3.2.3 Sclerophyllous vegetation	Forest	
		3.2.4 Transitional woodland-shrub	Forest	
	3.3 Open spaces with little or no vegetation	3.3.1 Beaches, dunes, sands	Natural	
		3.3.2 Bare rocks	Natural	
		3.3.3 Sparsely vegetated areas	Natural	
		3.3.4 Burnt areas	Natural	
3.3.5 Glaciers and perpetual snow		Natural		
4. WETLANDS	4.1 Inland wetlands	4.1.1 Inland marshes	Natural	
		4.1.2 Peat bogs	Natural	
	4.2 Maritime wetlands	4.2.1 Salt marshes	Sea	
		4.2.2 Salines	Sea	
		4.2.3 Intertidal flats	Sea	
5. WATER BODIES	5.1 Inland waters	5.1.1 Water courses	Water	
		5.1.2 Water bodies	Water	
	5.2 Marine waters	5.2.1 Coastal lagoons	Sea	
		5.2.2 Estuaries	Sea	
		5.2.3 Sea and ocean	Sea	

Table b: PELCOM reclassification

Nr	Class name	Code	Reclassification
1	Coniferous forest	11	Forest
2	Deciduous forest	12	Forest
3	Mixed forest	13	Forest
4	Grassland	20	Agricultural
5	Rainfed arable land	31	Agricultural
6	Irrigated arable land	32	Agricultural
7	Permanent crops	40	Agricultural
8	Shrubland	50	Natural
9	Barren land	60	Natural
10	Permanent Ice&Snow	70	Natural
11	Wetlands	80	Natural
12	Inland waters	91	Water
13	Sea	92	Sea
14	Urban areas	100	Artificial
15	Data gaps	110	
16	Out of scope	111	