ESPON 1.1.2

Urban-rural relations in Europe

Final Report

Lead Partner

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Project partners:

- Centre for Urban Development and Environmental Management (CUDEM), Leeds Metropolitan University
- OTB Research Institute for Housing, Urban and Mobility Studies, Technical University of Delft
- TAURUS - Institute at the University of Trier
- TERSYN Agence Européenne Territoires et Synergies
- Centre for Geographical Studies (CEG) University of Lisbon
- Regional Development and Policy Research Unit (RDPRU), University of Macedonia
- Economic and Financial Studies and Quantitative Methods (Sefemeq), Faculty of Economics, University of Rome Tor Vergata
- National Institute for Regional and Spatial Analysis (NIRSA), NUI Maynooth
- Austrian Institute for Regional Studies and Spatial Planning (ÖIR)

Subcontractors:

- Nordregio
- Mcrit

Observing partners:

- VÁTI, Hungarian Public Company for Regional Development and Town Planning
- Ljubljana Urban Institute (LUZ)

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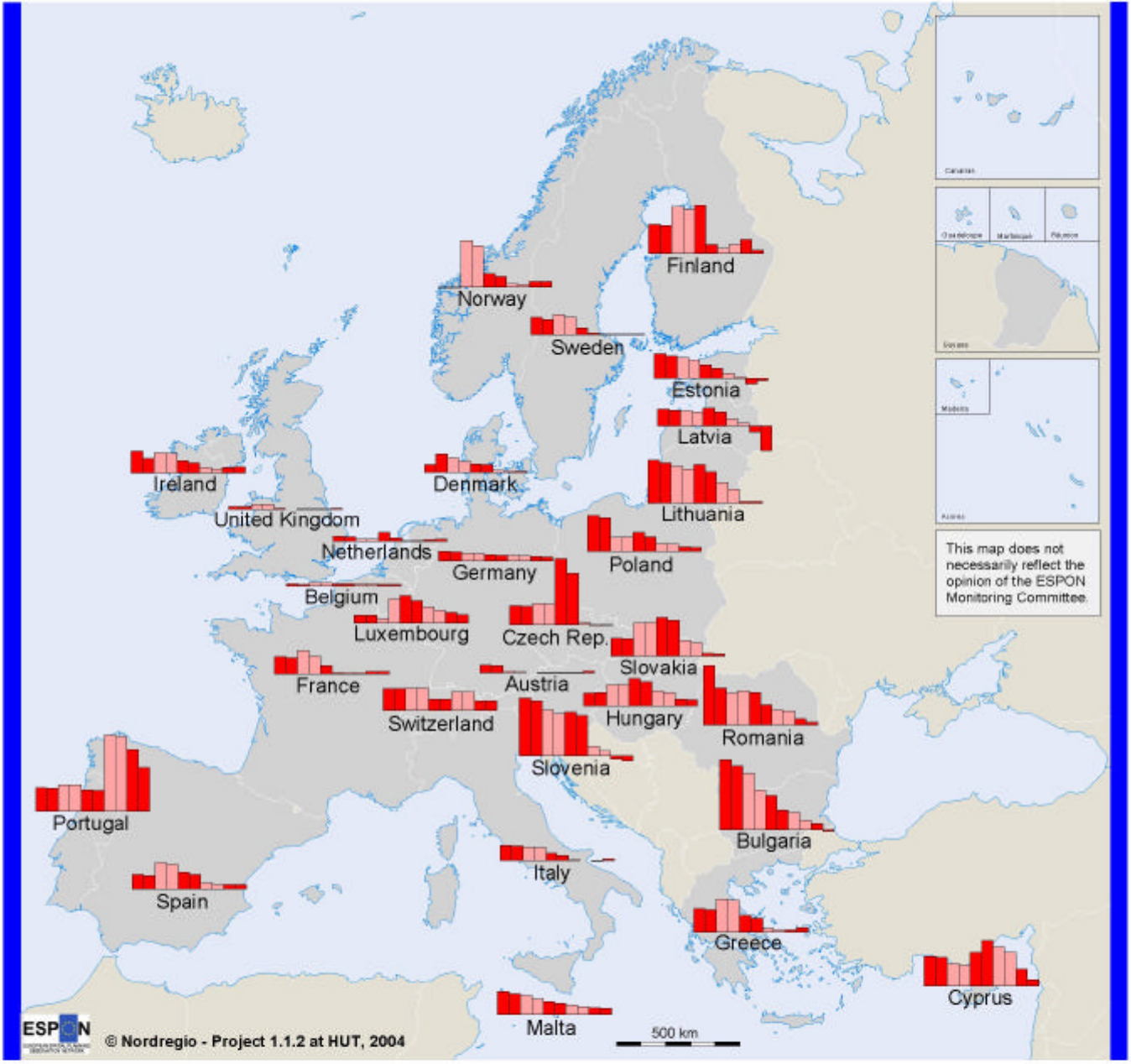
Urbanisation

- ***Demographic*** change
- ***Structural*** change of the economy
- ***Behavioural*** patterns, life styles, images and ideas
- ***Differential urbanisation***: cyclical development (polarisation, polarisation reversal)



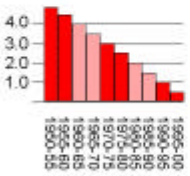
Average annual rate of change of percentage urban population 1950-2000

Geographical Base: Eurostat GISCO

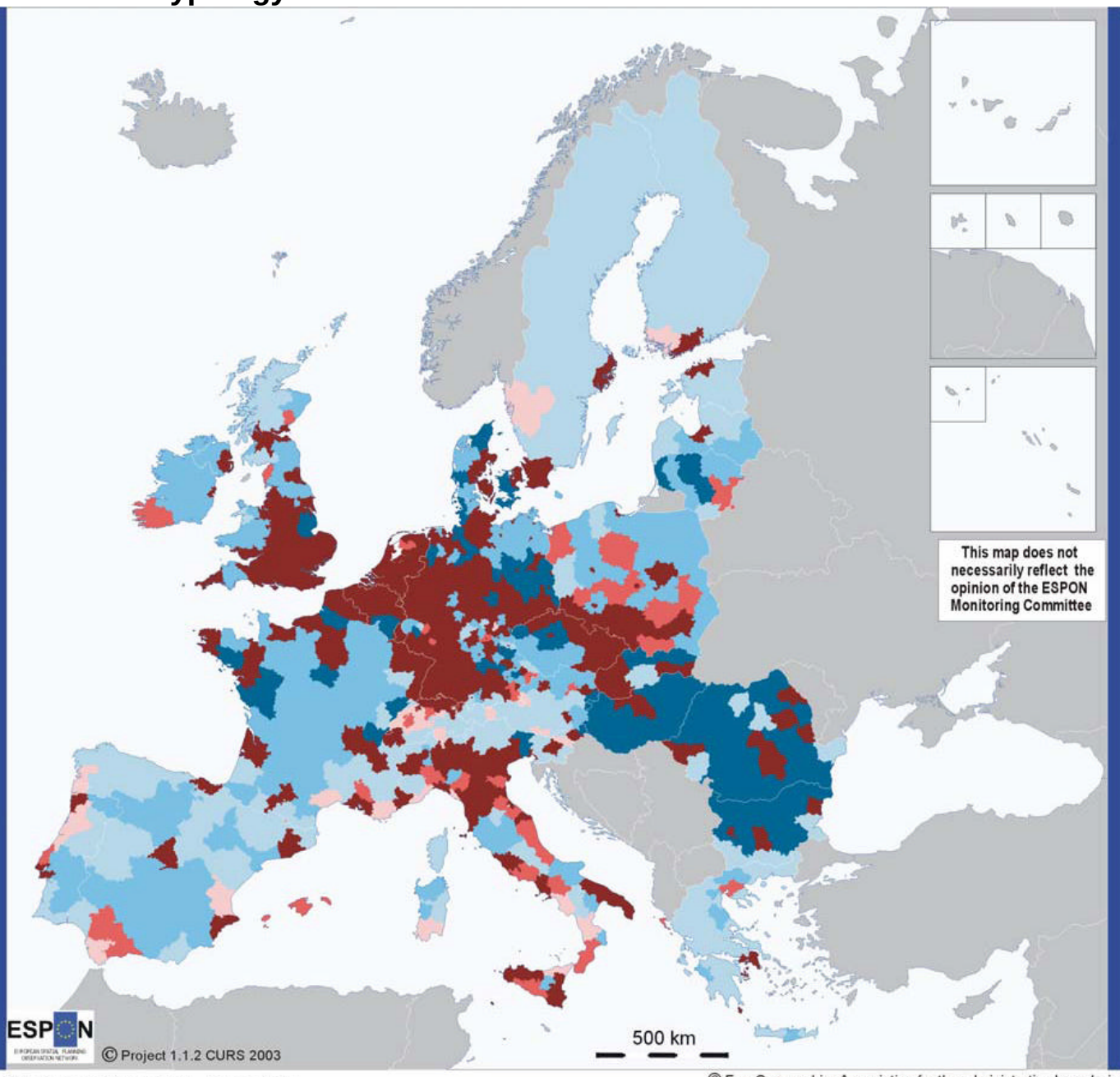
Origin of data: UN World Urbanization Prospects - The 2001 Revision

Source: Nordregio

Rate of change of % urban population:



Urban-rural typology



Urban-rural typology, based on population density, FUA ranking and land cover

- **High urban influence, high human intervention**
- **High urban influence, medium human intervention**
- **High urban influence, low human intervention**
- **Low urban influence, high human intervention**
- **Low urban influence, medium human intervention**
- **Low urban influence, low human intervention**

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statistical Offices, National experts
Source: Nordregio, ESPON Data Base

Population density:
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference:1999

Land cover types:
Origin of data: EEA, Corine Land Cover 90

Source: ESPON Data Base

The criteria for urban influence:
- Population density above the average (107 inhabitants/km^2 in EU25+4)
- And/or at least a European level functional urban area (based on typology made by ESPON Action 1.1.1)

Degree of human intervention is estimated through the average shares of land covers (in EU23+3, no data on Cyprus, Malta and Norway):
High human intervention: at least the share of artificial surfaces above average (3,48%)
Medium human intervention: at least the share of agricultural land above average (59,99%)

Typology of urban-rural characteristics

- 6 types of regions
- Degree of **urban influence**, degree of **human intervention**
- Type 1: ***19***% of the total area, ***60***% of the total population, ***72***% of the total GDP
- Urban types (1-3): ***27***% area, ***69***% pop., ***78***% GDP

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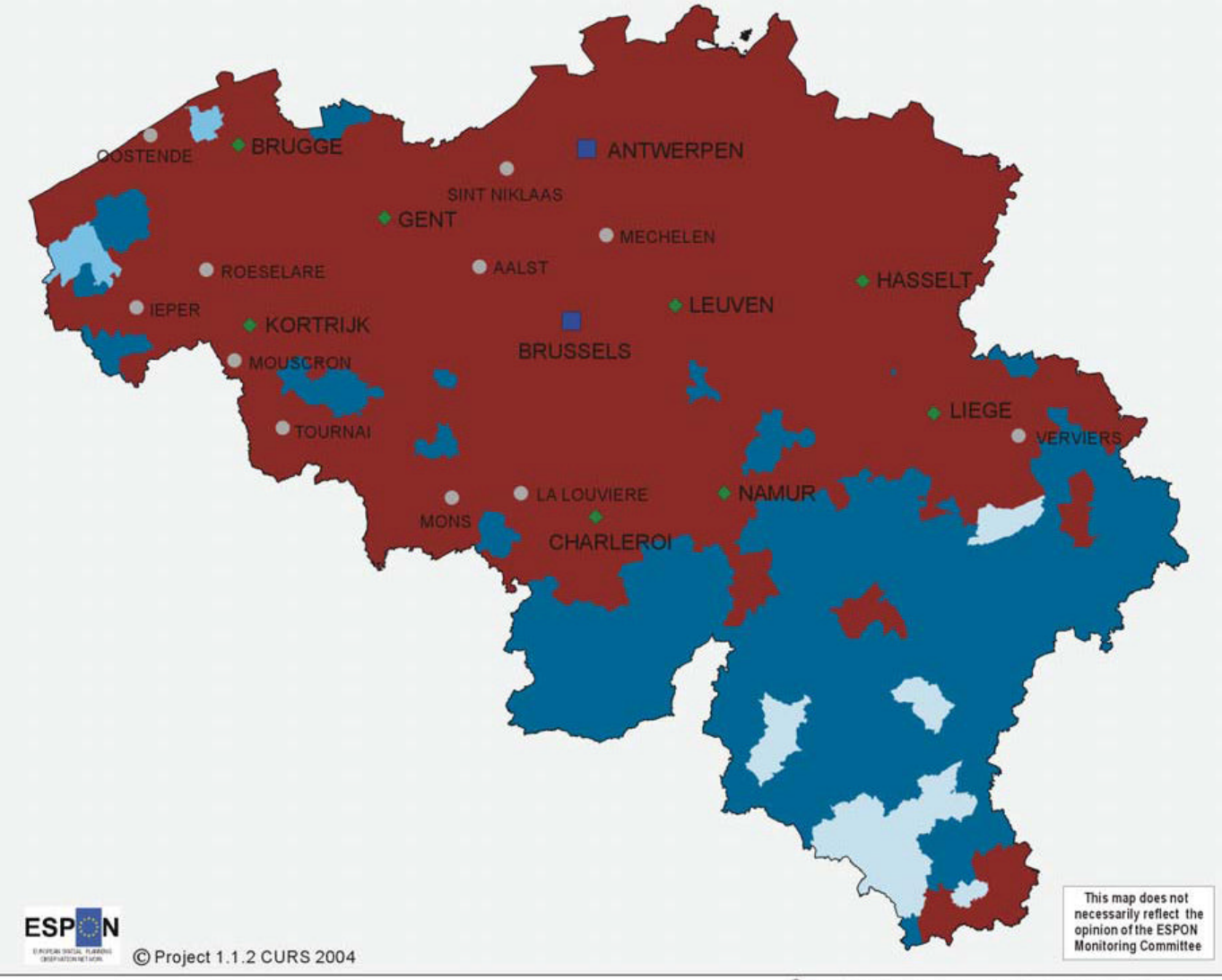
Urban-rural typology in Belgium at NUTS5 level, based on EU 23+3 averages



rban-rural typology in Belgium at NUTS5-level, ased on EU 23+3 averages

High urban influence, high human intervention	(487)
Low urban influence, high human intervention	(88)
Low urban influence, medium human intervention	(3)
Low urban influence, low human intervention	(11)

Land cover:
Origin of data: Corine Land Cover 90

Population:
Origin of data: National Statistical Office
Time reference:2000
Source: CURS

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statis Offices, National experts
Source: Nordregio, ESPON Data Base

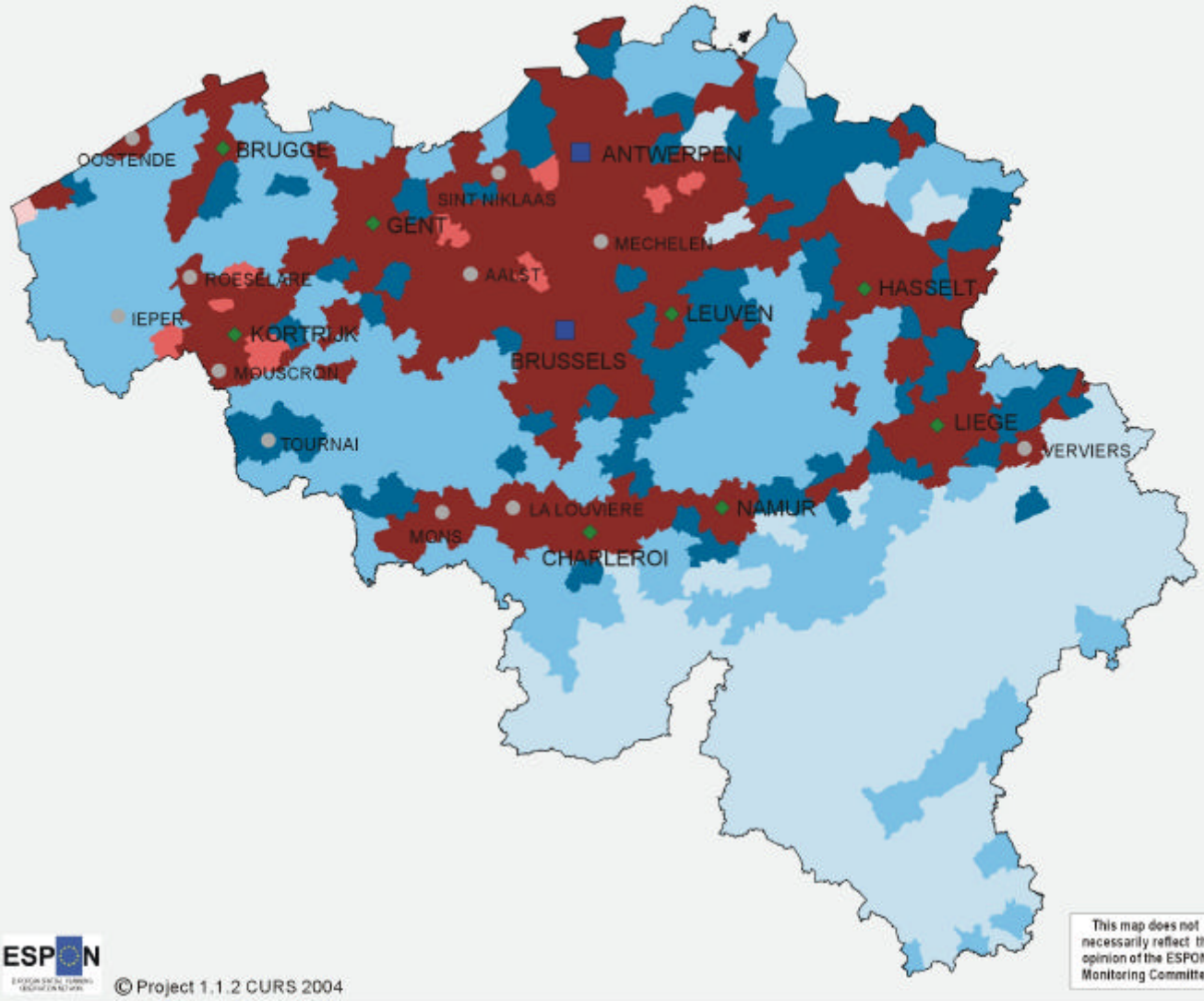
ypology of Funtional urban areas (from ESPON Action 1.1.1)

- **European/Global**
- **National/Transnational**
- **Local/Regional**

he criteria for urban influence:
Population density above the average (107 inhabitants/km^2 in EU25+4)
And/or at least a European level functional urban area (based on typology made by ESPON Action 1.1.1)

egree of human intervention is estimated through the average shares of land covers EU23+3, no data on Cyprus, Malta and Norway):
gh human intervention: at least the share of artificial surfaces above average (3,48%)
edium human intervention: at least the share of agricultural land above average (50,36%)
ow human intervention: only the share of residual land use above average (46,16%)

Urban-rural typology in Belgium at NUTS5 level, based on national averages



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This map does not necessarily reflect the opinion of the ESPON Monitoring Committee

rban-rural typology in Belgium at NUTS5-level
ased on national averages

High urban influence, high human intervention	(239)
High urban influence, medium human intervention	(9)
High urban influence, low human intervention	(1)
Low urban influence, high human intervention	(77)
Low urban influence, medium human intervention	(179)
Low urban influence, low human intervention	(84)

Land cover:
Origin of data: Corine Land Cover 90

Population:
Origin of data: National Statistical Office
Time reference:2000

Source: CURS

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statis
Offices, National experts
Source: Nordregio, ESPON Data Base

ypology of Funtional urban areas (from ESPON Action 1.1.1)

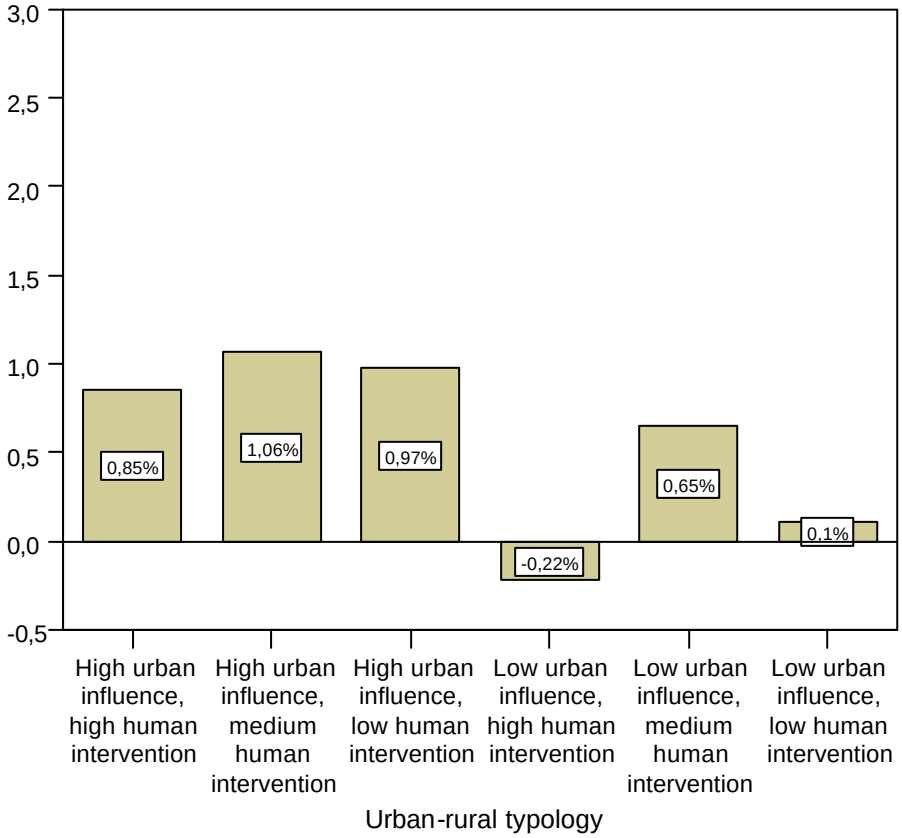
European/Global
National/Transnational
Local/Regional

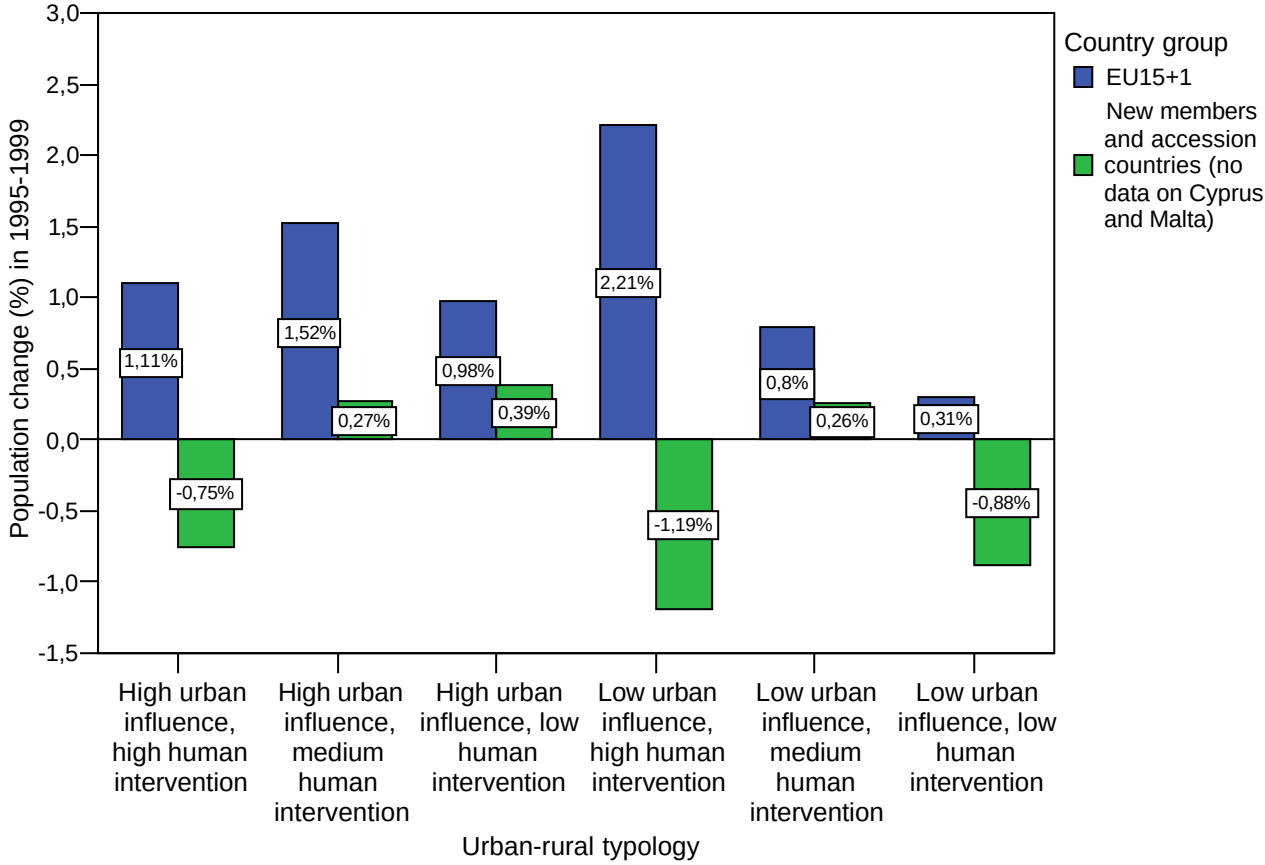
he criteria for urban influence:
Population density above the average (336 inhabitants/km^2 in Belgium)
And/or at least a European level functional urban area (based on typology made by ESPON
Action 1.1.1)

egree of human intervention is estimated through the average shares of land covers (in Belgium):
gh human intervention: at least the share of artificial surfaces above average (19,21%)
edium human intervention: at least the share of agricultural land above average (58,64%)

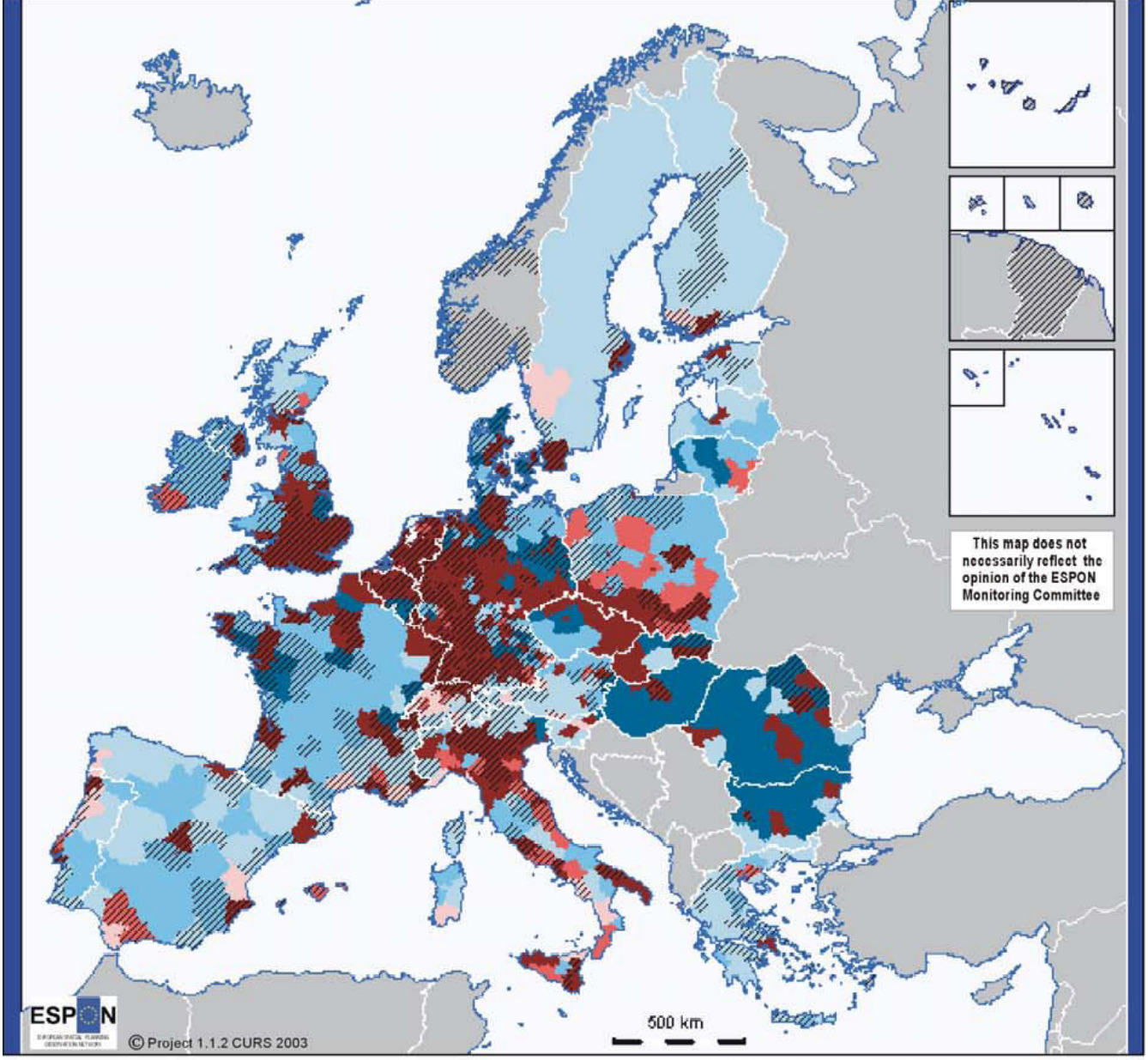
The flexibility of the model

- Possible to apply on ***various territorial levels*** by change of ***territorial unit*** (NUTS-level) and ***averages*** applied





Population change from 1995 to 1999 in relation to urban–rural typology



Urban-rural typology, based on population density, FUA ranking and land cover

- High urban influence, high human intervention
- High urban influence, medium human intervention
- High urban influence, low human intervention
- Low urban influence, high human intervention
- Low urban influence, medium human intervention
- Low urban influence, low human intervention

Population change (%) from 1995 to 1999
(EU23+4 average is 0,72%, no data on Cyprus and Malta)

- 0,73 - 100 % (612 NUTS3 regions)
- -42 ,91 - 0,72 (714)

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statistical Offices, National experts
Source: Nordregio, ESPON Data Base

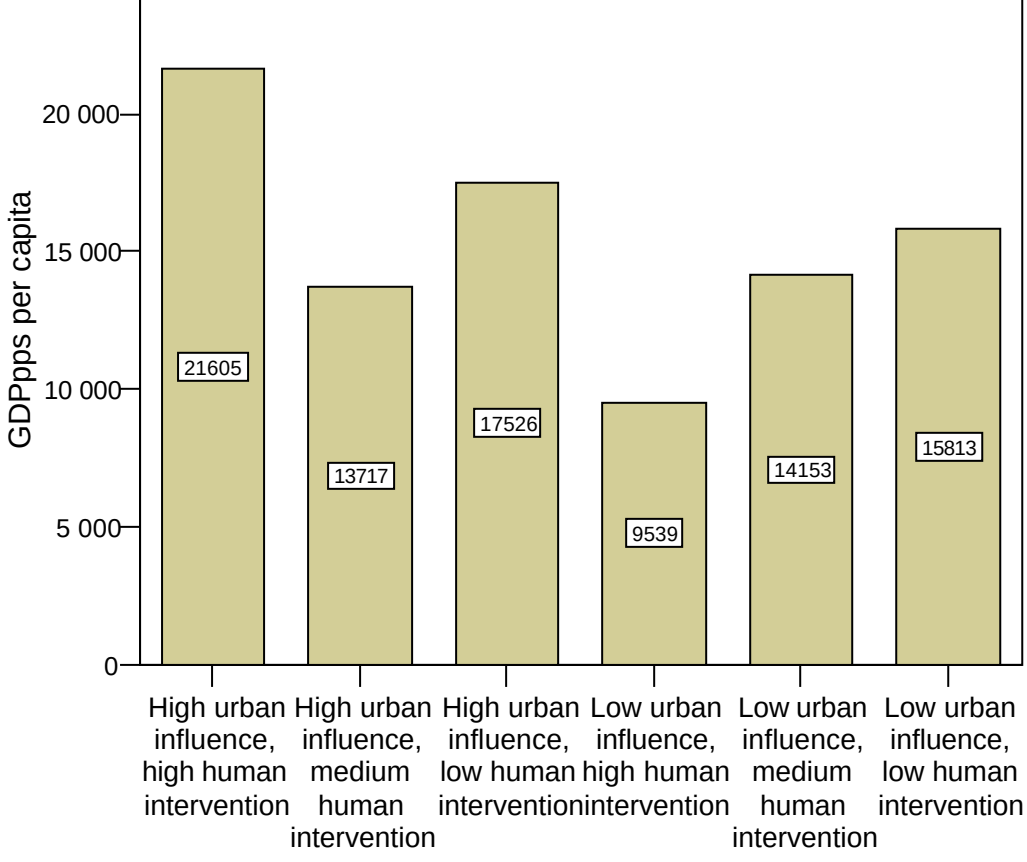
Population density and population change:
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference:1999

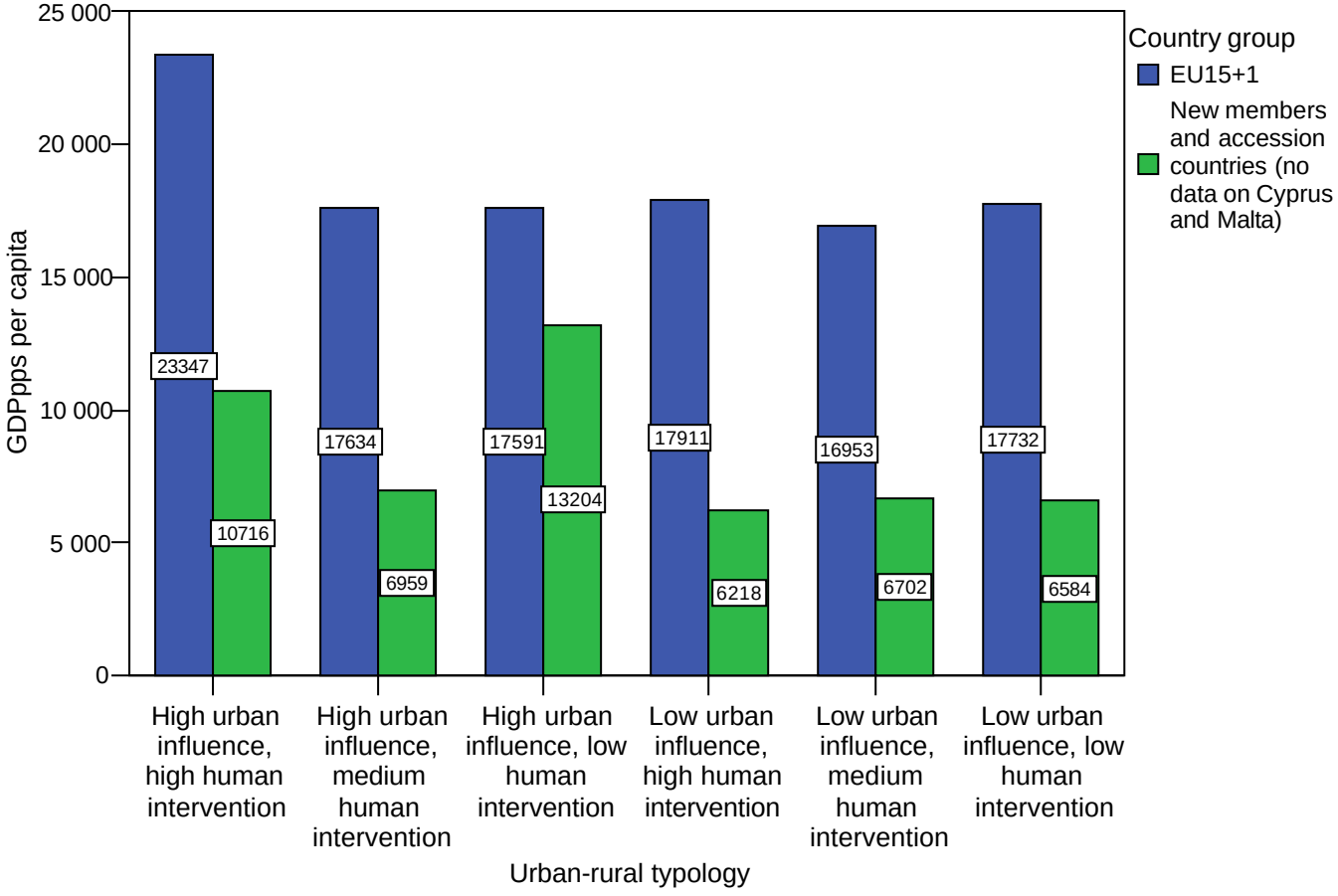
Land cover types:
Origin of data: EEA, Corine Land Cover 90

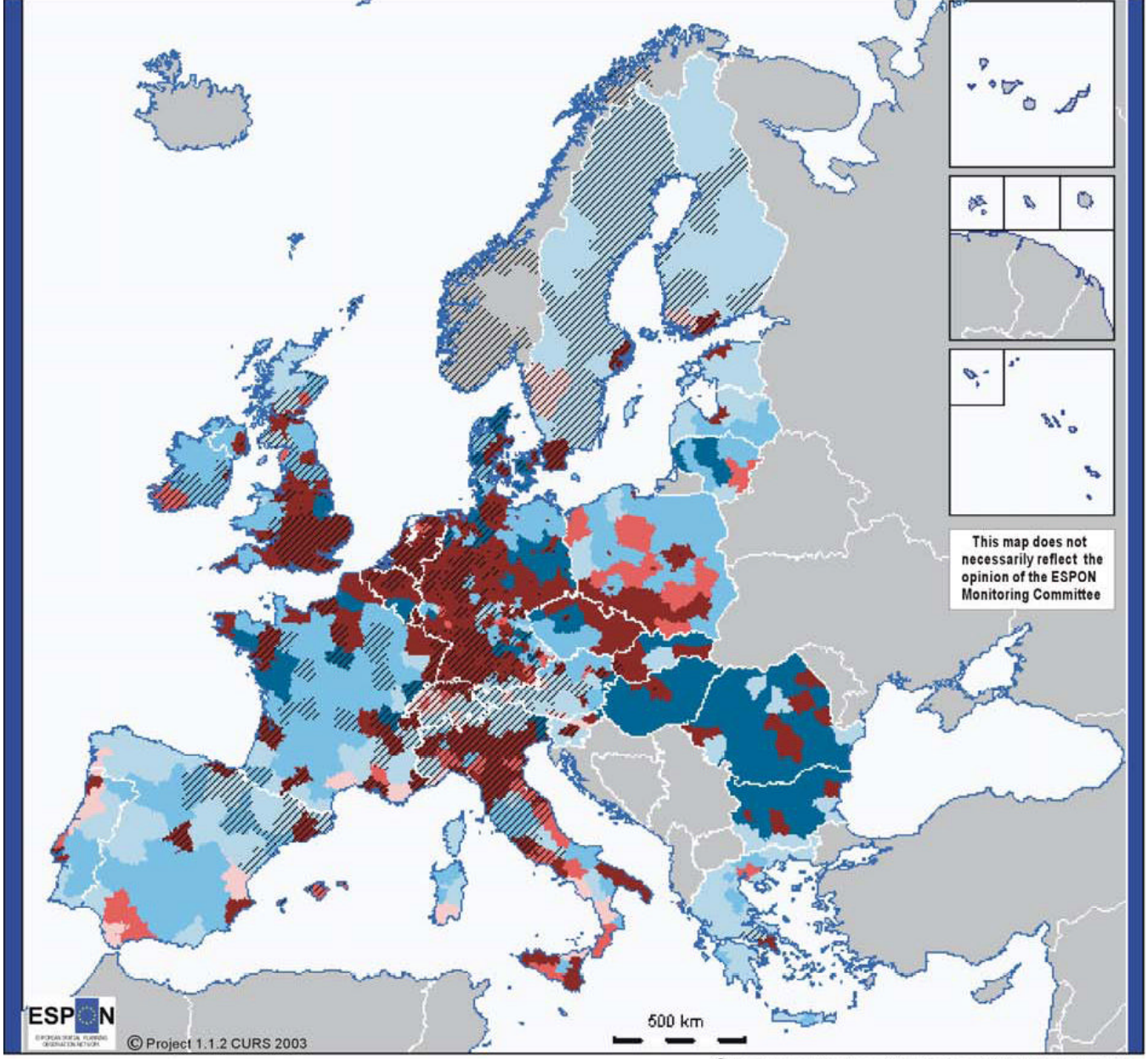
Source: ESPON Data Base

The criteria for urban influence:
- Population density above the average (107 inhabitants/km^2 in EU25+4)
- And/or at least a european level functional urban area (based on ranking made by ESPON Action 1.1.1)

Degree of human intervention is estimated through the average shares of land use (in EU23+3, no data on Cyprus, Malta and Norway):
High human intervention: at least the share of artificial surfaces above average (3,48%)


GDPpps per capita
20 000
15 000
10 000
5 000
0
21605
13717
17526
9539
14153
15813
High urban influence, high human intervention
High urban influence, medium human intervention
High urban influence, low human intervention
Low urban influence, high human intervention
Low urban influence, medium human intervention
Low urban influence, low human intervention
Urban-rural typology


GDPpps per capita
25 000
20 000
15 000
10 000
5 000
0
23347
10716
17634
6959
17591
13204
17911
6218
16953
6702
17732
6584
High urban influence, high human intervention
High urban influence, medium human intervention
High urban influence, low human intervention
Low urban influence, high human intervention
Low urban influence, medium human intervention
Low urban influence, low human intervention
Urban-rural typology
Country group
EU15+1
New members and accession countries (no data on Cyprus and Malta)



Urban-rural typology, based on land use, population density and FUA -ranking

- High urban influence, high human intervention
- High urban influence, medium human intervention
- High urban influence, low human intervention
- Low urban influence, high human intervention
- Low urban influence, medium human intervention
- Low urban influence, low human intervention

GDP_{PPS} per capita (EU25+4 average is 18 607 euros/capita)

	18 608	- 94 324	(601 NUTS3 regions)
	2 310	- 18 607	(709)

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statistical Offices, National experts
Source: Nordregio, ESPON Data Base

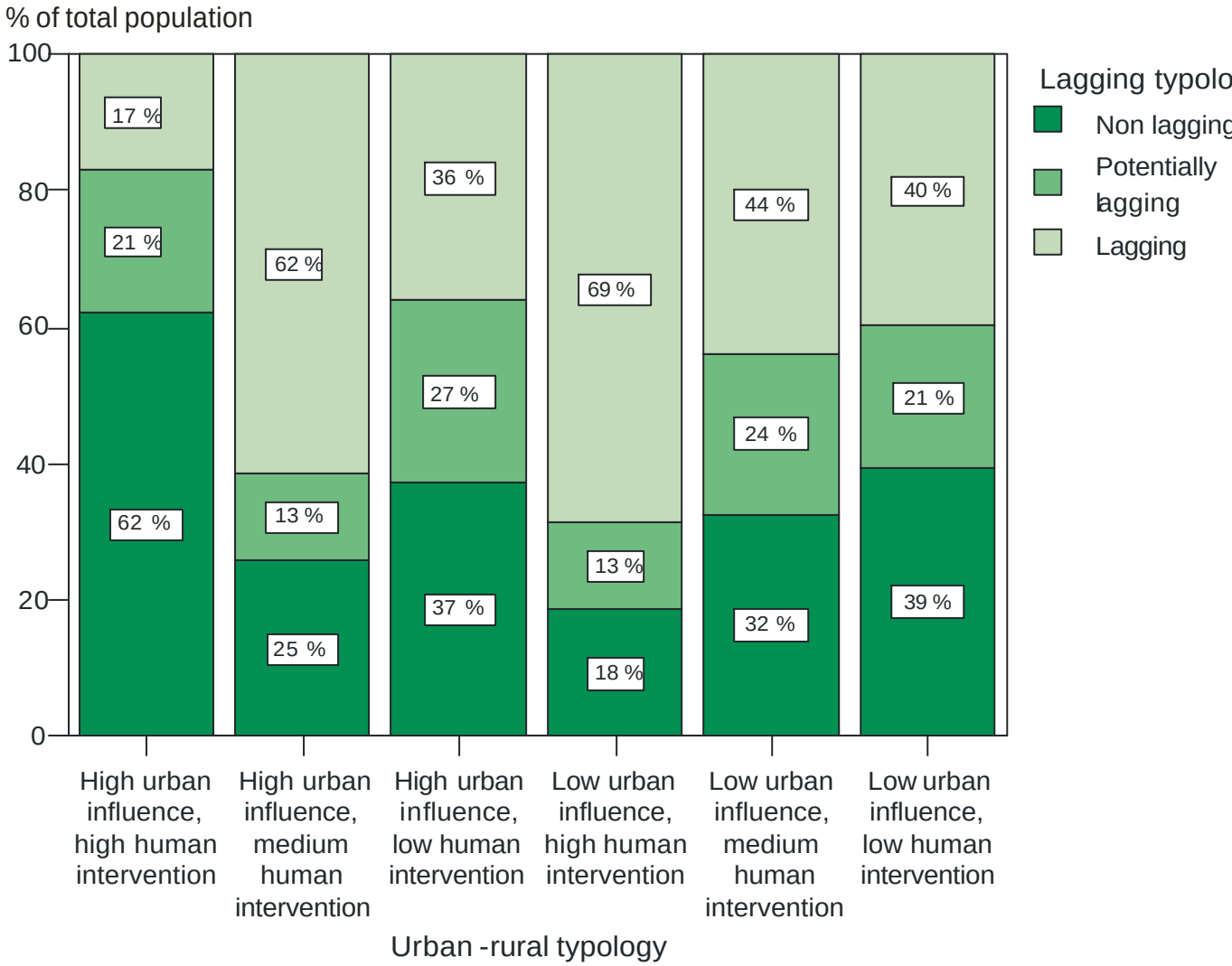
Population density and GDP_{PPS} per capita::
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference:1999

Land cover types:
Origin of data: EEA, Corine Land Cover 90

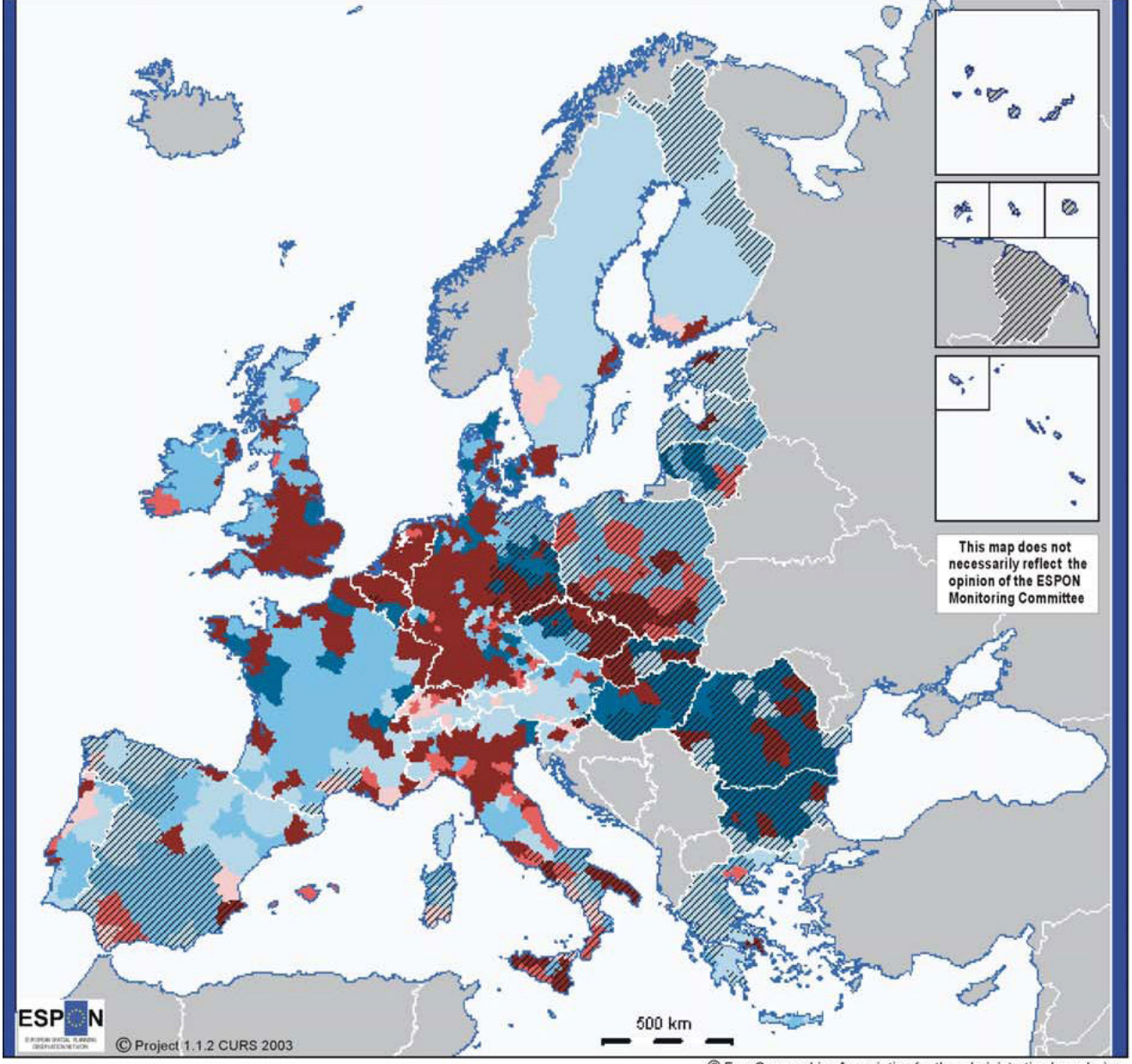
Source: ESPON Data Base

The criteria for urban influence:
- Population density above the average (107 inhabitants/km^2 in EU25+4)
- And/or at least a european level functional urban area (based on ranking made by ESPON Action 1.1.1)

Degree of human intervention is estimated through the average shares of land use (in EU23+3, no data on Cyprus, Malta and Norway):
High human intervention: at least the share of artificial surfaces above average (3,48%)



Lagging typology (from ESPON Action 2.1.1.) in relation to urban–rural typology



Urban-rural typology, based on land use, population density and FUA -ranking

- **High urban influence, high human intervention**
- **High urban influence, medium human intervention**
- **High urban influence, low human intervention**
- **Low urban influence, high human intervention**
- **Low urban influence, medium human intervention**
- **Low urban influence, low human intervention**

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statistical Offices, National experts
Source: Nordregio, ESPON Data Base

Population density, GDP per capita and unemployment rate:
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference:1999

Land cover types:
Origin of data: EEA, Corine Land Cover 90

Source: ESPON Data Base

Typology of lagging regions by project 2.1.1
Based on GDP per capita and unempolyment rate

Lagging regions	**(343 NUTS3 regions)**
Potentially lagging or non lagging regions	**(256 and 730 NUTS3 regions)**

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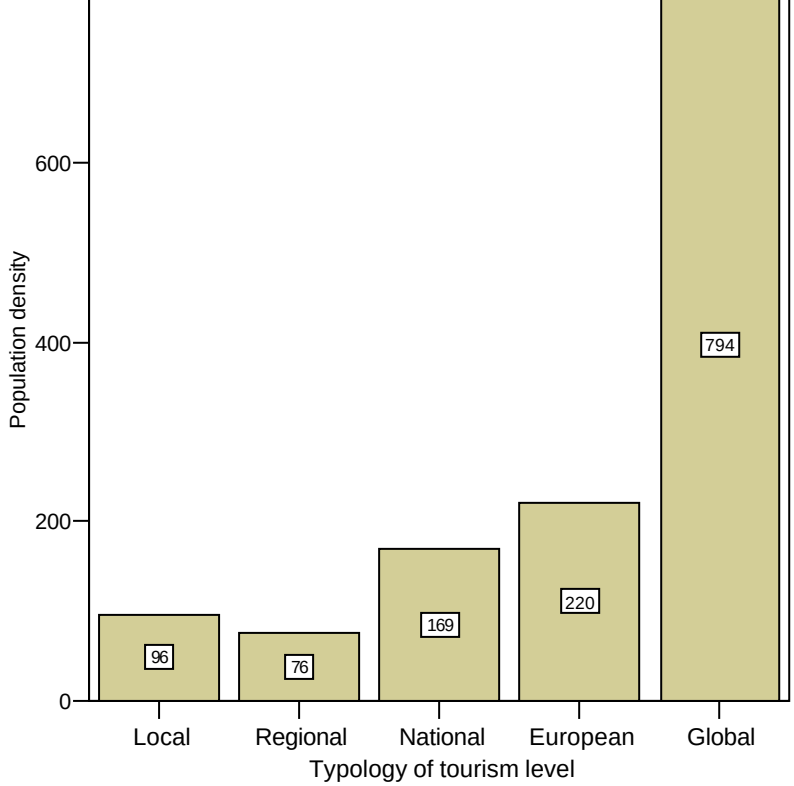
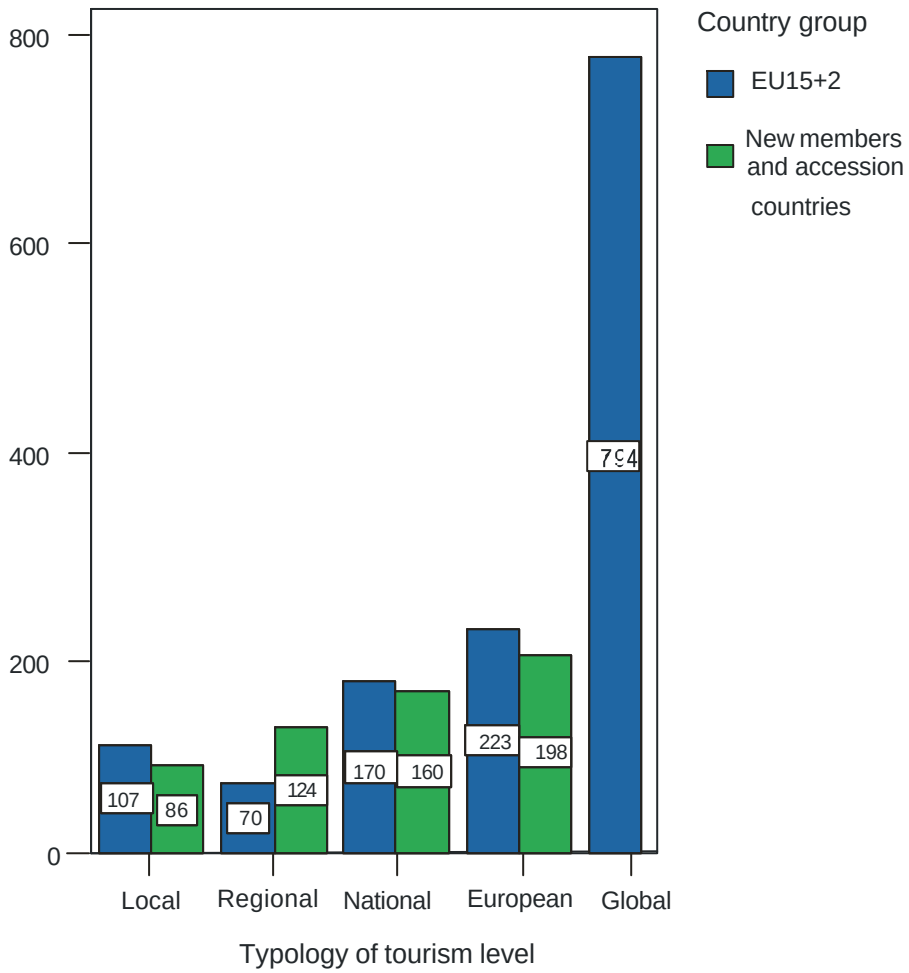
- Population density above the average (107 inhabitants/km^2 in EU25+4)
- And/or at least a european level functional urban area (based on ranking made by ESPON Action 1.1.1)

Degree of human intervention is estimated through the average shares of land use (in EU23+3, no data on Cyprus, Malta and Norway):
High human intervention: at least the share of artificial surfaces above average (3,48%)



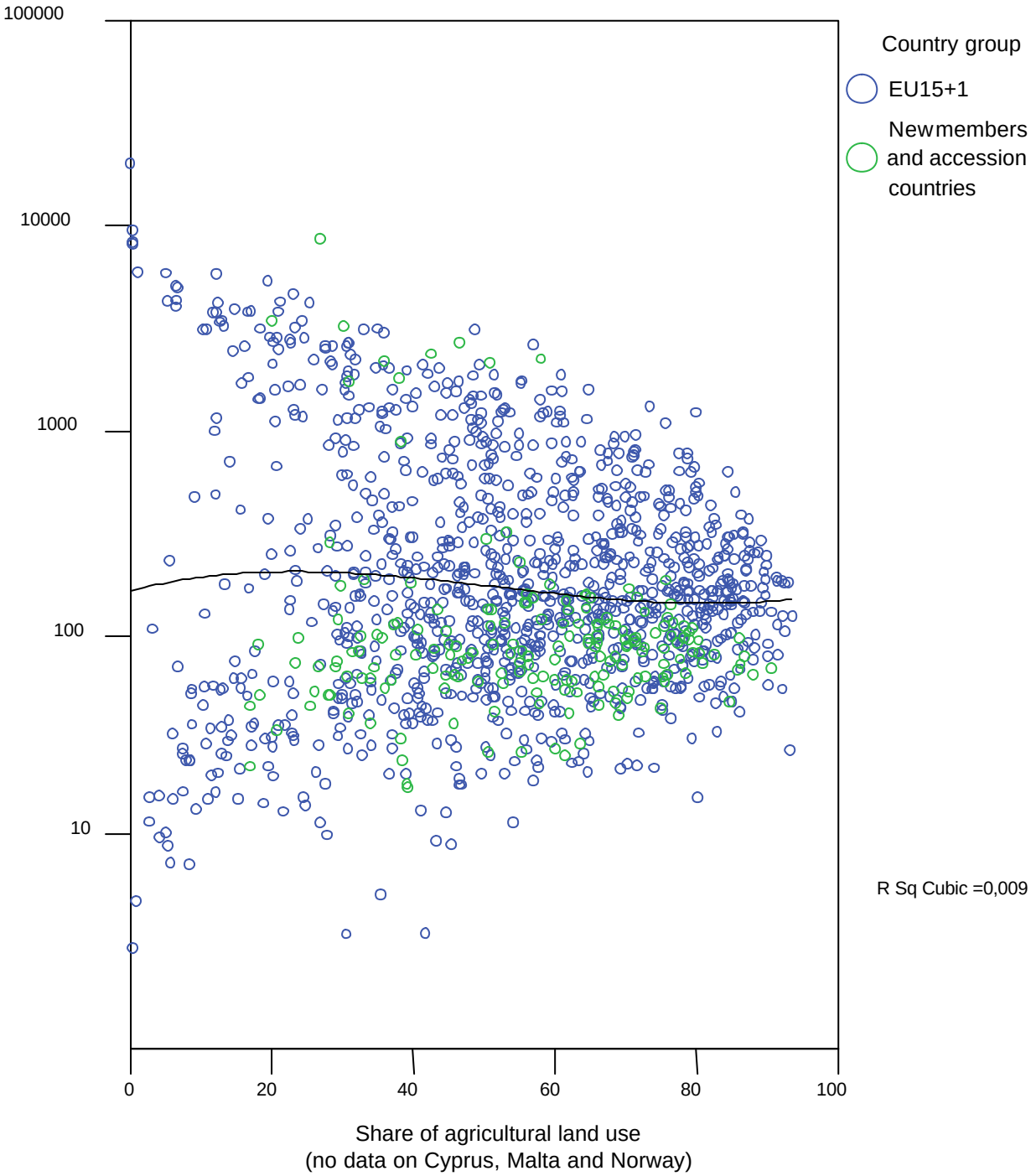


Level of tourism (from ESPON Action 1.1.1.) in relation to population density.

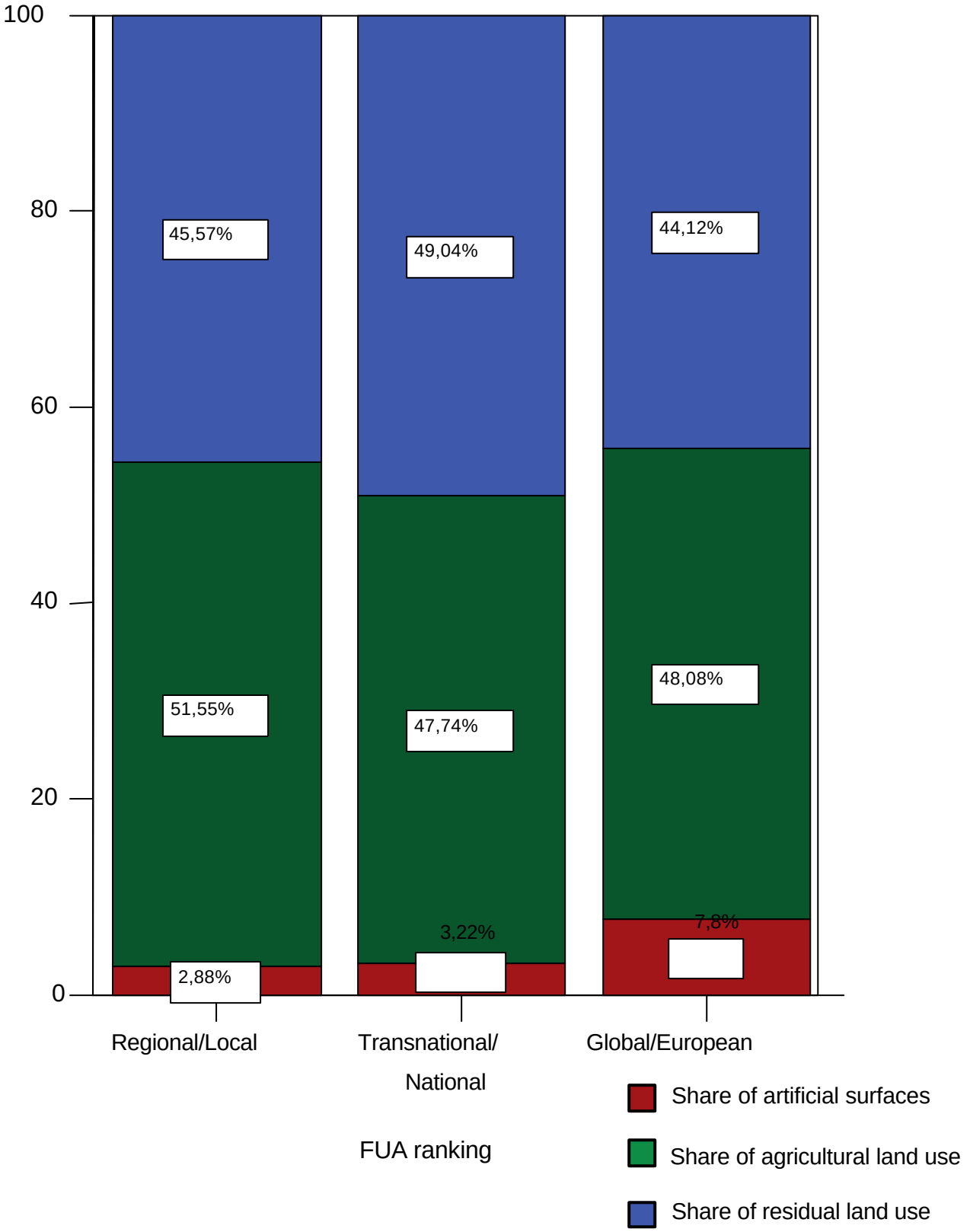
Rural restructuring

The ***post-productive*** countryside:

- quality food, public amenity space, space for housing, spaces of environmental protection
- the commodification (valorization) of rural assets



Share of agricultural land use in relation to population density



FUA ranking in relation to the shares of different land cover types in EU 23+3 (FUA typology by ESPON Action 1.1.1).

Structural properties of Europe

The ***share of agricultural*** land is stable regardless regional type:

- ***local*** food production could be encourages
- agricultural land provides for ***recreational*** facilities across Europe

The ***share of artificial surfaces*** per capita indicates the ecological state of a territory

The ***share of artificial surfaces per GDP*** indicates ***sustainability*** of a territory

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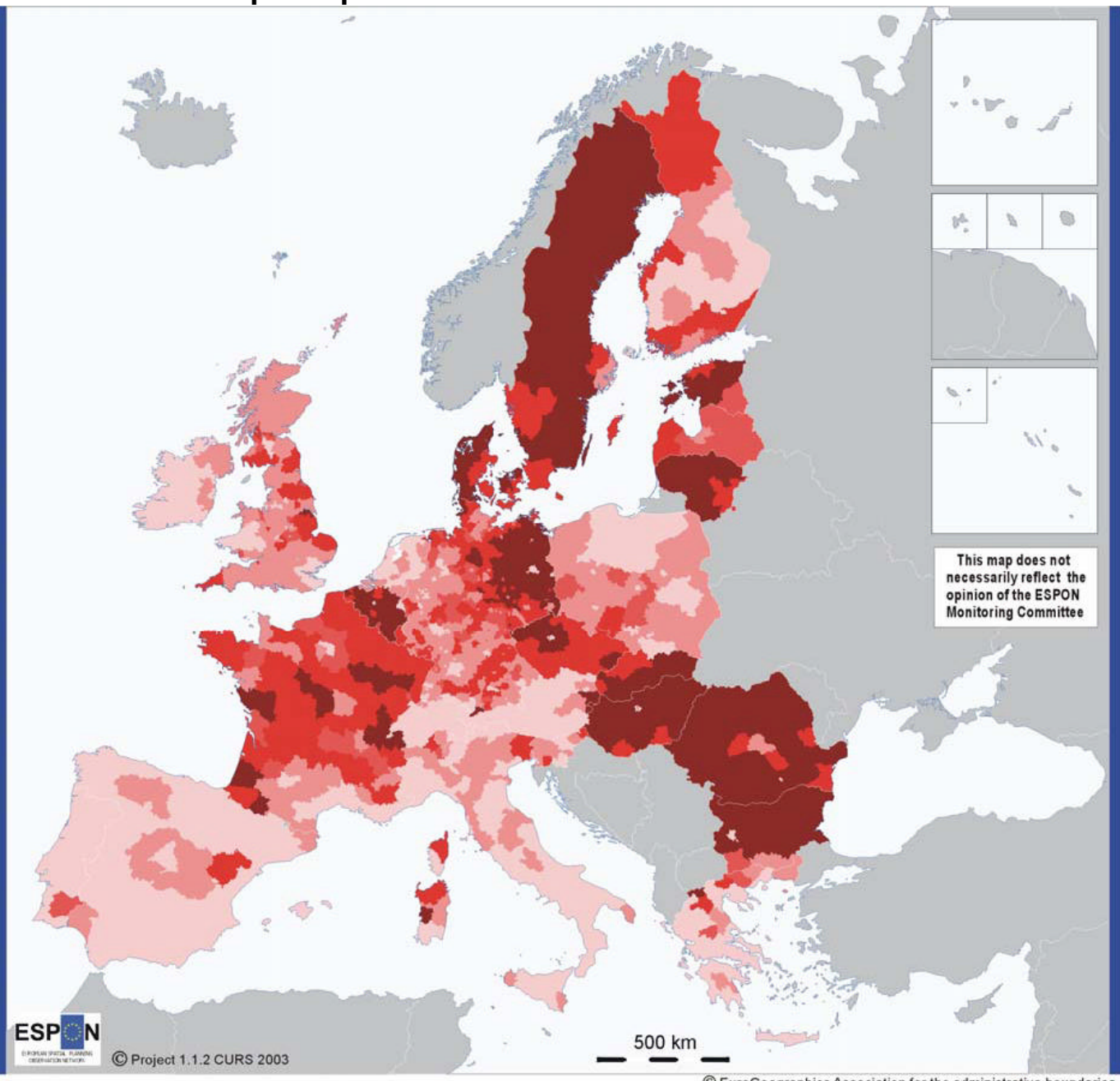
Artificial surfaces per capita



Artificial surfaces (km²) per 1000 inhabitants in NUTS3 regions

0 ,48 - 1 ,33	(228 NUTS3 regions)
0 ,36 - 0 ,47	(228)
0 ,33 - 0 ,35	(75)
0 ,25 - 0 ,32	(380)
0 - 0 ,24	(380)

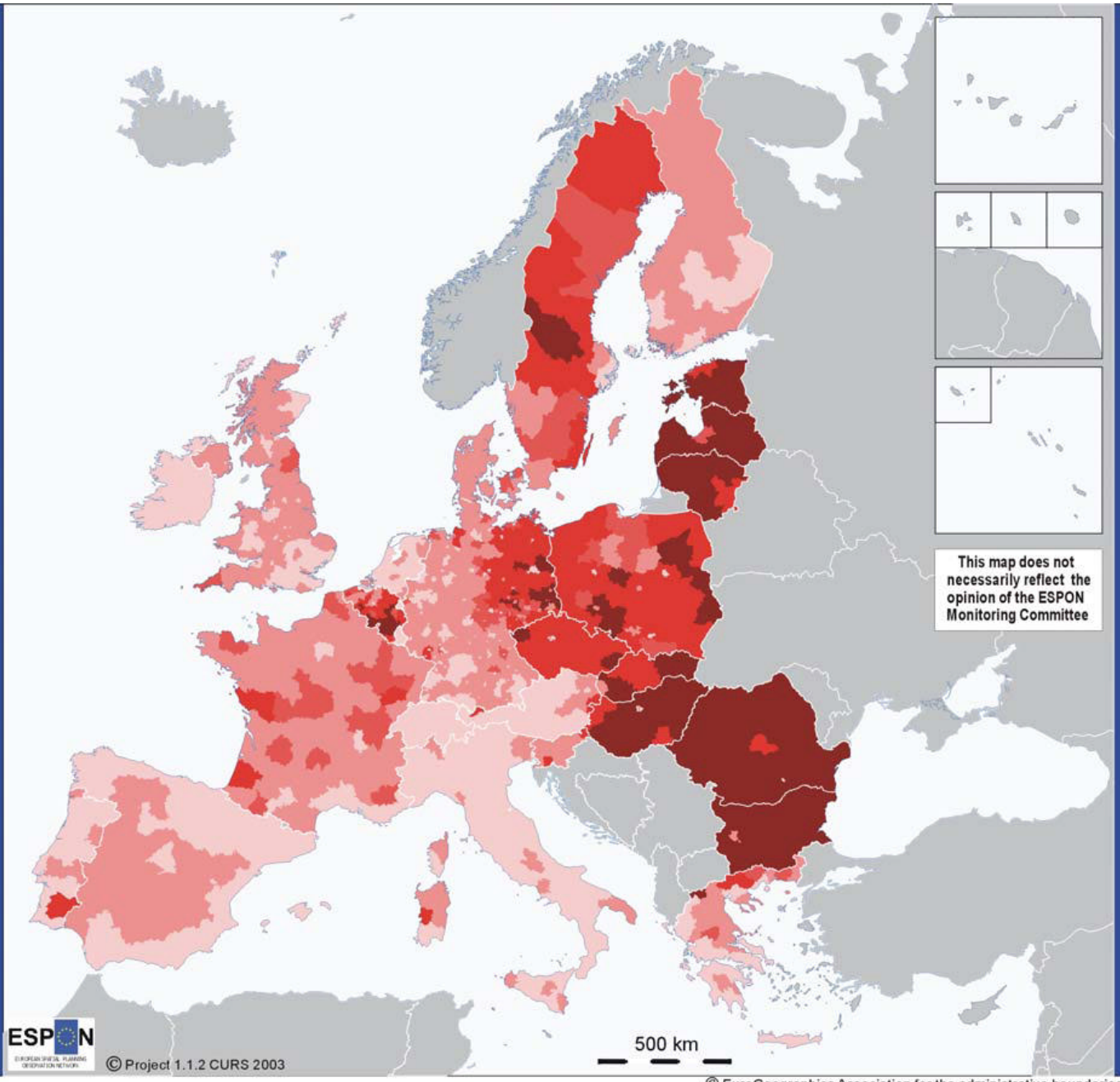
Artificial surfaces:
Origin of data: EEA, Corine Land Cover 90

Population:
Origin of data: EU15 and CC's: Eurostat
Norways and Switzerland: National Statistical Offices
Time reference: 1999

Source: ESPON Data Base

The average amount of artificial surfaces per 1000 inhabitants in EU23+3 is 0,34 km² / 1000 inhabitants (no land cover data on Cyprus, Malta and Norway).

Artificial surfaces per GDP_{PPS}



Artificial surfaces per 100 million euros of GDP_{PPS} in NUTS3 regions in 1999

- 5,4 - 28,7 (136 NUTS3 regions)
- 3,2 - 5,3 (136)
- 2,5 - 3,1 (75)
- 1,3 - 2,4 (472)
- 0 - 1,2 (472)

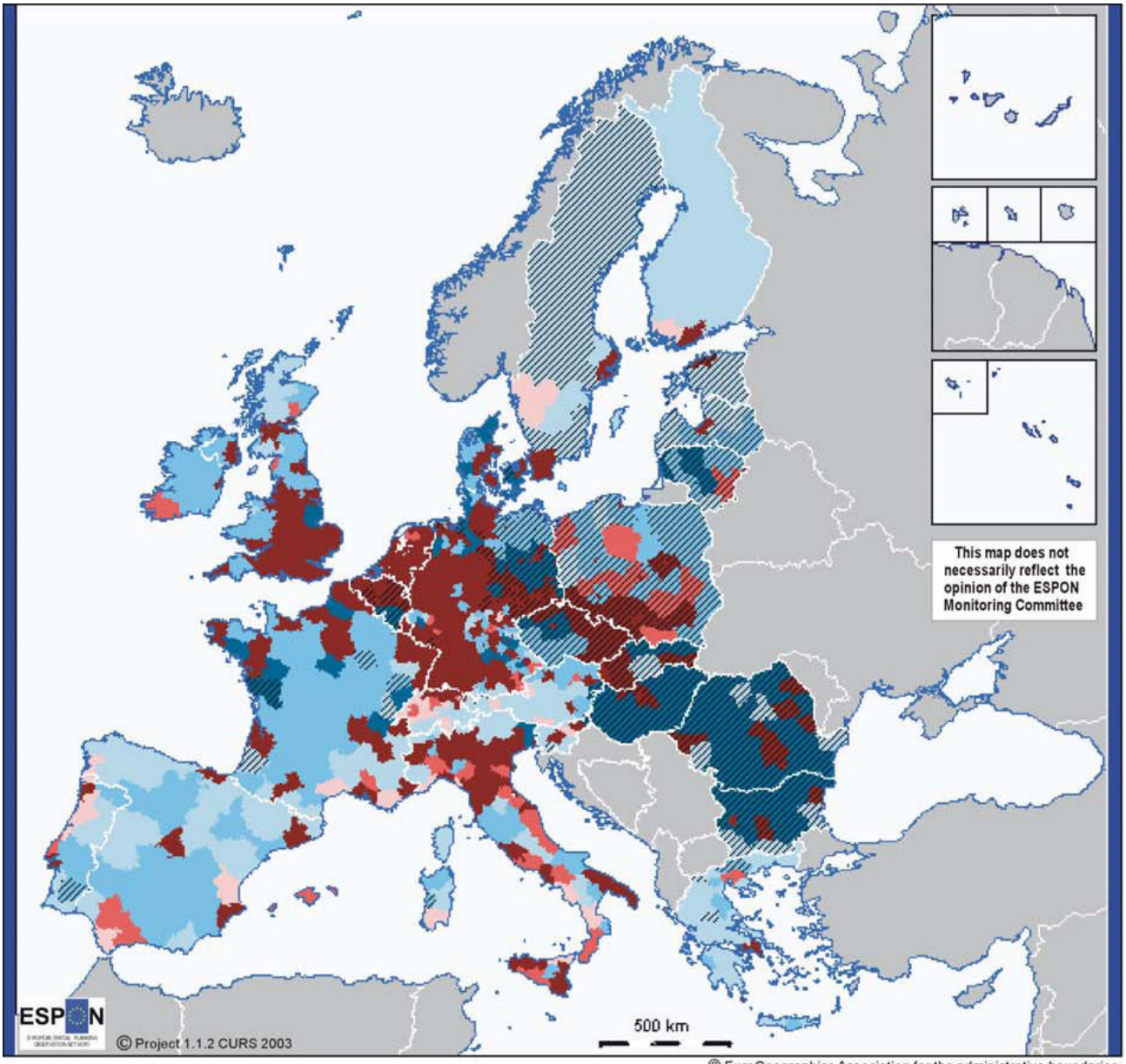
Artificial surfaces:
Origin of data: EEA, Corine Land Cover 90

GDP_{PPS}:
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference: 1999

Source: ESPON Data Base

The average amount of artificial surfaces per 100 million PPS in EU23+3 is 2,8 km2 / 100 million euros (no land cover data on Cyprus, Malta and Norway).

in relation to urban-rural typology



Urban-rural typology, based on population density, FUA ranking and land cover

- High urban influence, high human intervention
- High urban influence, medium human intervention
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- Low urban influence, high human intervention
- Low urban influence, medium human intervention
- Low urban influence, low human intervention

Ranking of Functional Urban Areas (FUAs):
Origin of data: EUROSTAT, National Statistical Offices, National experts
Source: Nordregio, ESPON Data Base

Population density and GDP_{PPS}:
Origin of data: EU15 and CC's: Eurostat
Norway and Switzerland: National Statistical Offices
Time reference: 1999

Land cover types:
Origin of data: EEA, Corine Land Cover 90

Source: ESPON Data Base

Land use sustainability (artificial surfaces per 100 million euros of GDP_{PPS}, EU 25+3 average = 2,8 km^2 / 100 million euros)

- 2,8 - 28,7 (300 NUTS3 regions)
- 0 - 2,7 (991)

The criteria for urban influence:
- Population density above the average (107 inhabitants/km^2 in EU25+4)
- And/or at least a European level functional urban area (based on typology made by ESPON Action 1.1.1)

Degree of human intervention is estimated through the average shares of land covers (in EU23+3, no data on Cyprus, Malta and Norway):
High human intervention: at least the share of artificial surfaces above average (3,48%)

Functional relations

- increased size of ***functional urban regions*** and a foreseen drop of their number
- increased spatial ***inter-connectedness*** within major urban regions
- increased wealth of ***medium-sized*** towns
- access to ***rural consumption*** space increasingly important

Improved functional relations

Benefits for urban regions:

- ***enlarged markets*** (also labour markets)
- generation of additional ***investments***

Less accessible rural regions:

- hard to ***diversify*** the economic basis
- ***population density*** of crucial importance
- economic diversification directly related to ***urban markets***

Protection of ”urban” and ”rural”?

- the ***attractiveness of the rural*** requires protection measures
- ***rural locals*** need to have access to new rural markets
- land speculation and speculative development are major sources of ***urban sprawl***
- urban containment and densification must be regarded in connection to ***livability***

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Recommendations

1. The ***structural policies*** of the **EU** need to take into account the issue urban-rural relations
2. The ***sectoral policies*** of the **EU** need to recognise the issue of urban-rural relations
3. The ***functional*** urban-rural relations can and should be improved in a variety of ways by diversifying the economy
4. The ***structural properties*** of European urbanisation provides for an unique opportunity to valorize existing enviromental assets

Main scientific achievement

- The structuring and conceptualisation of the whole ***issue***
- The ***typology***, which despite its simplicity seems to render an accurate picture of urban-rural characteristics regardless geographical scale

Further research

1. The refinement and testing of the ***typology*** on various geographical levels
2. A closer study of the current trends related to the expansion and reduced number of ***functional urban regions***
3. More detailed studies of the territorial implications of ***poly-centricity and enhanced urban-rural relations*** in various ***parts*** of Europe (Mediterranean Region, North Sea Region, Baltic Sea Region, Central-Eastern Europe, etc.)

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Networking

1. Networking with ***other ESPON projects***: the typology tested with regard to all relevant results of other projects, other co-operation as well
2. Methodological improvements in co-operation with ***subcontractors***
3. The ***Lead Partner meetings, ESPON seminars*** and ***ECP comments*** have been very usefull
4. The ***consortium***: too small resources for this activity
5. The ***Observing partners***: uncomplicated co-operation
6. The project has got a logo and ***web site*** of its own, and an internal web site as well for project partners

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