ESPON

# LP3LP
# Landscape Policies for the Three Countries Park

Targeted Analysis 2013/2/21

Annexes to the Interim Report | 31/12/2012
(Revision 27/03/2013)

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This report presents the interim results of a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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This basic report exists only in an electronic version.

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## I) Future challenges for 3LP / 3LP in ESPON studies

### *Acting between intensification of land use and economic diversification*[1]

The European Landscape Convention acknowledges the fact that the transformation of landscapes is accelerated by the main sectors of economy (agriculture, forestry, industrial, mineral production, tourism and recreation), by regional and town planning, transport, infrastructure and at a more general level, by changes in the world economy. Territorial Agenda 2020 is stressing the importance of the diversity of territories, the need for a place-based approach to policy making, the integrated functional area development in order to protect and develop cultural and natural landscapes. The "Roadmap to a Resource Efficient Europe", Flagship initiative under the Europe 2020 Strategy, aims at reducing land take for housing, industry, roads or recreational purposes to zero at the horizon of 2050.

In that respect, the landscape issues are related to the dynamic relationship between economic activities and land use, i.e. land cover and intensity of land use. The latter represents the most acute change in land use in Europe. Between 1990 and 2006, the share of artificial surfaces has increased by 8.8% to reach 4.4% of the EU territory. The territorial dynamics contributing to the land artificialisation are the residential development in extension of existing urban areas or in relation with communication infrastructures, the development of new infrastructures (transport, industries, agriculture and leisure). These dynamics lead to increased territory fragmentation that alters the efficiency of the green and blue networks, to a standardisation of the townscape (town entrance, commercial centres, residential areas, motorway junction) leading to a loss of identity.

In the non-urban areas, even though the overseas competition for food and fibre has been resisted through agricultural price support policies, the shift in balance away from primary activities towards secondary and tertiary activities is at work for many decades in most European regions. Less competitive farms are further compensating their incomes through product differentiation, niche marketing, commodification of public goods and also the provision of rural leisure and tourism services. Land, landscapes, natural environment but also wider culture and heritage assets become important factors of local diversification. In some regions, this "countryside consumption" may play a major role in the local economy and goes beyond farming pluriactivity. Trends like the standardization associated with globalisation, the modernisation of

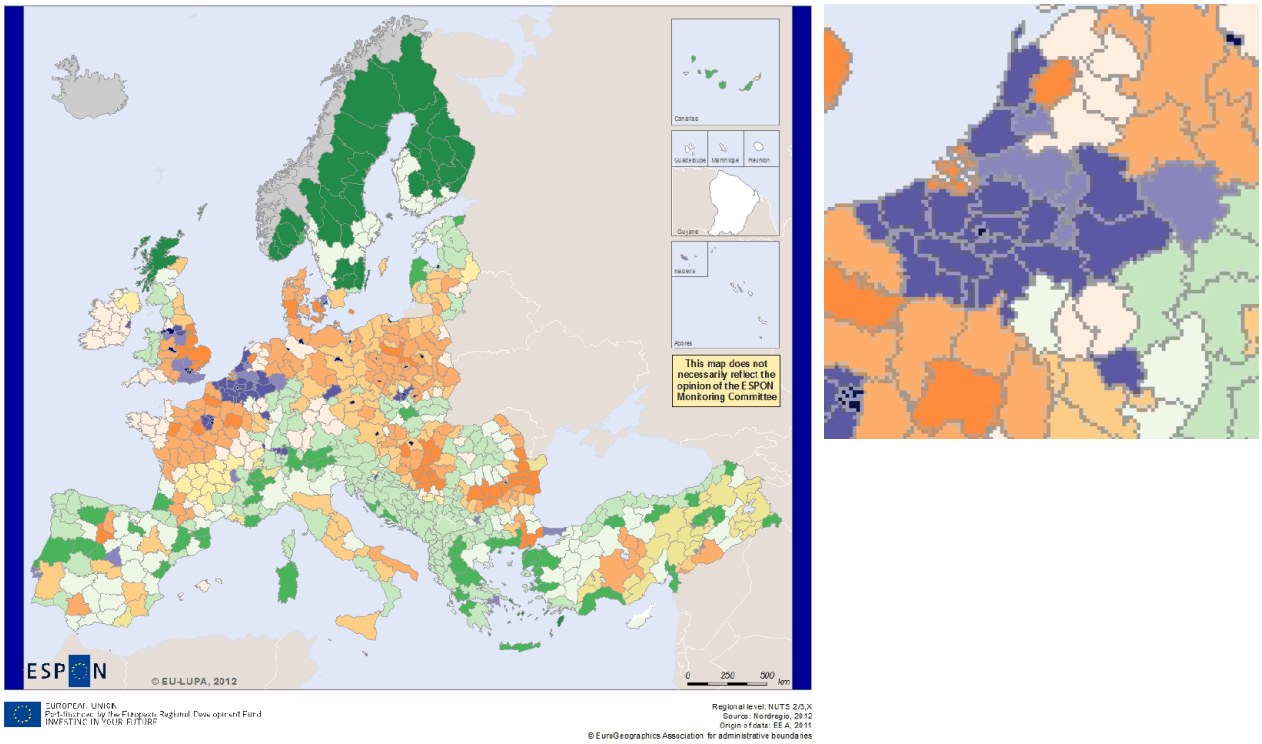
[1] [1] Based on EU-LUPA, EDORA

agriculture and of local industries along with counter urbanization endanger the supply of authentic experience of natural and cultural assets. This issue is particularly crucial in regions experiencing a high pressure of urban sprawl.

Based on the CORINE Land Cover classification (CLC) as well as the Land cover Flows (LCF), the EU-LUPA typology maps several land-use related characteristics such as the prevailing land use type and exploring the land use changes in terms of their amplitude, the types of change and if they are leading to an intensification or an extensification of land use.

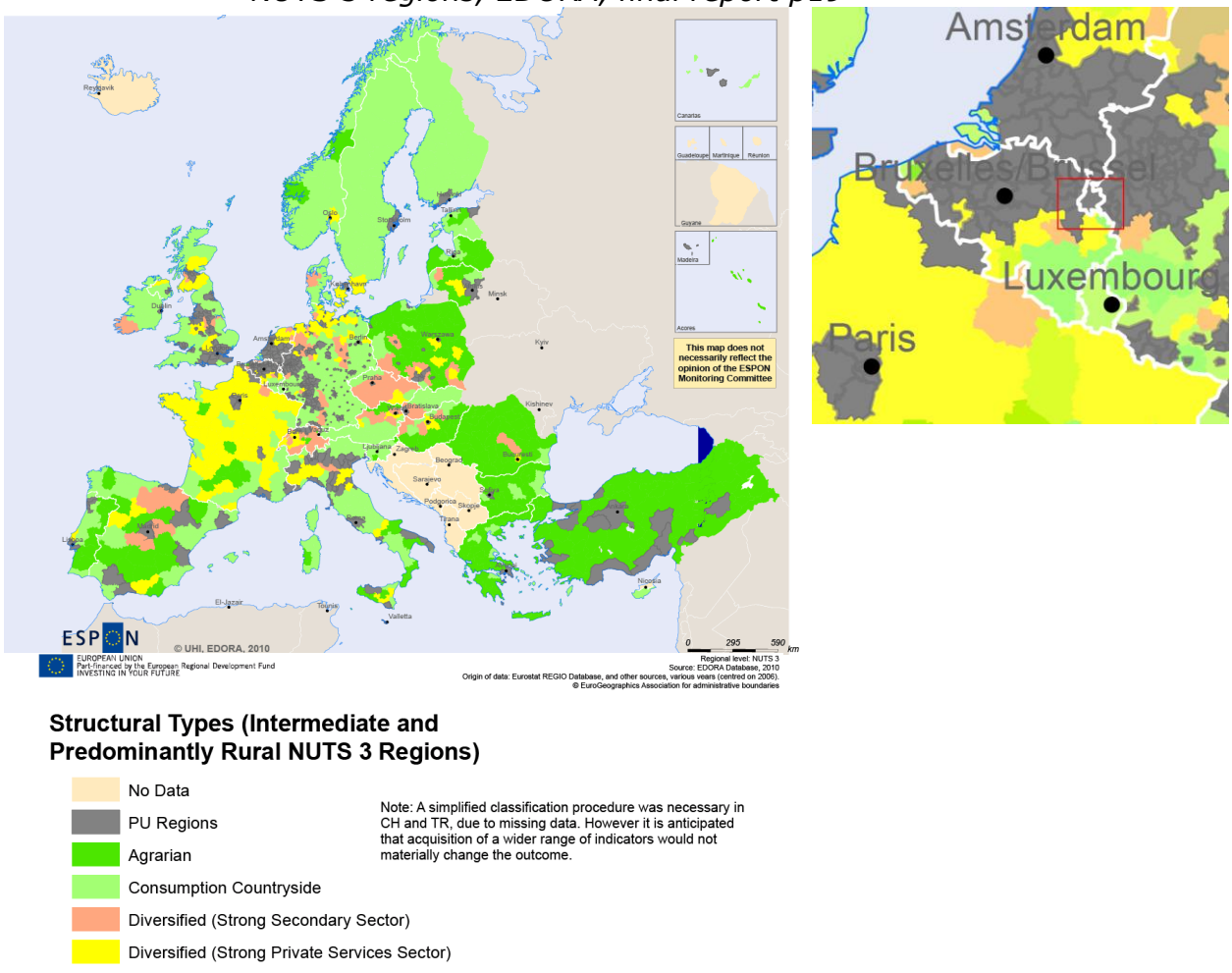
Several conclusions arise from these results: the 3LP is located in the very few European NUTS 3 regions characterised by a high urban and infrastructural related land. All NUTS3 regions of the 3LP are part of the "suburban areas" category except Zuid Limburg (NL) which is part of the "suburban and periurban areas" category. The "suburban areas" category is characterised by 20.8% of artificial surfaces (16.6 % for the "suburban and periurban areas" category) and a predominance of agricultural land (around 55% of the land) and forests and semi-natural areas (from 19% for the suburban category to 25% of the land for the suburban/periurban category).

*Map. 1: Prevailing characteristics of land use in Europe (1990-2006), EU-LUPA, final draft report p29*




Regional ESPON typologies as well as EDORA typology consider the 3LP territory as a predominantly urban region. It is however located at the direct boundary with less urbanised areas to the south: a first crown of intermediate urban-rural areas characterised by a diversified economic activity: most the products and services are issued from the secondary sector and private service sector. A second crown, more rural but still related to the polycentric pattern of cities, is located further south and its main economic orientation is countryside consumption, i.e. tourism activity, access to natural areas and a high share of pluriactive, diversified and multifunctional small scale farming.

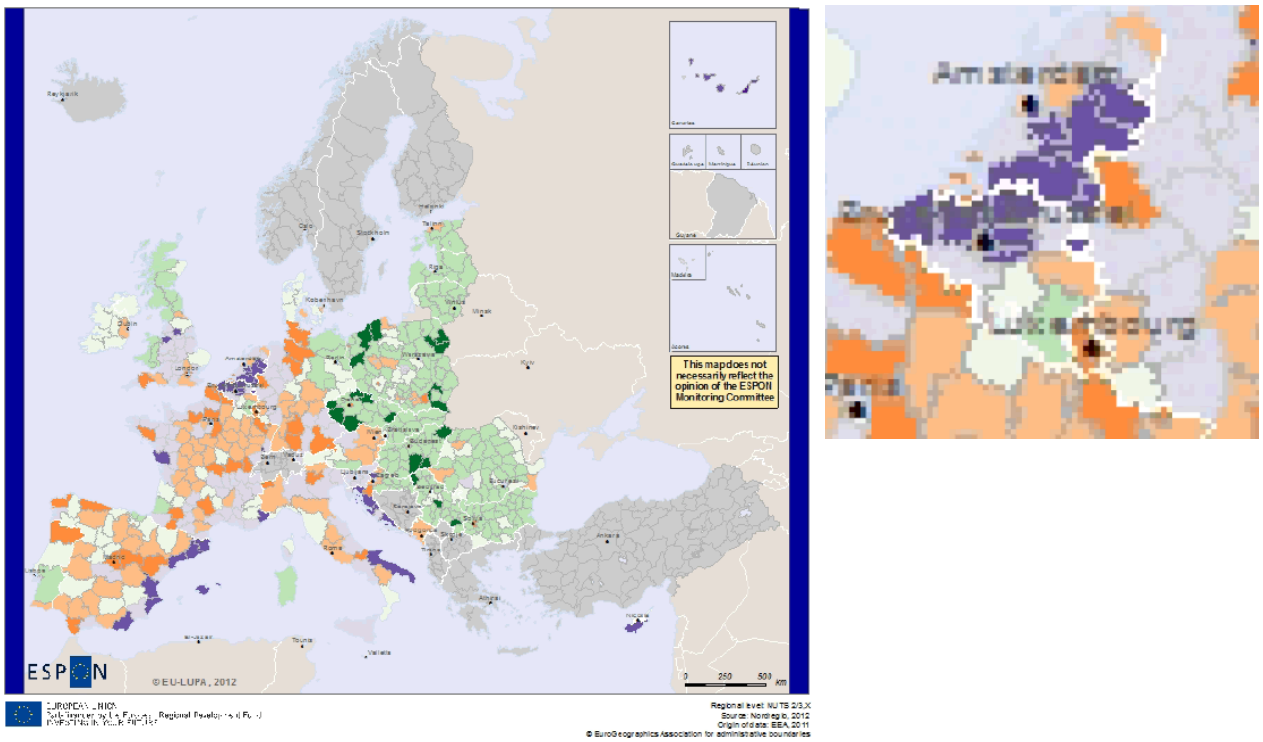
*Map. 2: Structural types of the Intermediate and predominantly rural NUTS 3 regions, EDORA, final report p19*




Based on the Corine Land Cover, EU-LUPA defines an intensity index. It starts from the assumption that the ordering of the CLC is representative of land use intensity[2]. It is thus possible to characterise the level of land use intensity and its evolution across time (land use "intensification"). The scale of land use intensity goes from "minus 0.35" (High extensification due to forest and agricultural changes but specifically the withdrawal of farming) to 4.69 (Very high intensification with artificial surfaces mainly replacing natural areas). The processes at hand in the 4 NUTS 3 regions of the 3LP are of different nature and intensity.

[2] To illustrate that concept, CLC 111 (continuous urban fabric) is classified as the most intensive land use and CLC 34 (glacier and perpetual snow) is classified as the most extensive land use.

*Map. 3: Land use change typologies (1990-2006), EU-LUPA, final draft report p34*




Four NUTS3 region straddle the 3LP area : Zuid-Limburg (NL), Limburg (BE), Nordrhein-Westfalen (DE) and Liège (BE). The land use characteristics of the regions are given hereunder :

Zuid-Limburg (NL) is part of the Land use change type "Very high intensification due to specific areas of residential and economic sprawl" – Cluster 9. Only 9 out of the 561 NUTS 3 regions are part of that type and their land use changes are dominated by urbanization process accounting though for a low average amount of land change, only 1.1 % of the region. The average intensification of land use is high (2.45) and the dominant land cover flows are

- Lcf3 sprawl of economic sites and infrastructures (0.44% of the region)
- Lcf2 urban residential sprawl (0.26% of the region)
- Lcf5 conversion from forested & natural land to agriculture (0.15% of the region)
- Lcf4 agricultural internal conversions (0.13% of the region)

Limburg (BE) and Nordrhein-Westfalen (DE) are part of the "Medium high intensification due to diverse urban processes" – clusters 1 and 4. Some 107 out of the 561 NUTS 3 regions are part of that type and their land use changes are dominated by 4 equal land use changes totalizing a share of land change of 2.5% of the region. The average intensification of land use is medium (1.09 to 1.4) and the dominant land cover flows are

- Lcf2 urban residential sprawl (0.36% to 0.52% of the region)
- Lcf3 sprawl of economic sites and infrastructures (0.53% to 0.58% of the region)
- Lcf4 agricultural internal conversions (0.26% to 0.50% of the region)
- Lcf7 forests creation and management (0.56% of the region)

Liège (BE) is part of the "Medium intensification dynamic mix between agricultural and forest changes with urban sprawl" – cluster 7. Some 87 out of the 561 NUTS 3 regions are part of that type and their land use changes are dominated by 2 land use changes: agricultural internal conversions (lcf4 - 0.8% of the region) and forest creation and management (lcf7 – 1.5% of the region). The total percentage of land change is important (3.6%) but the intensification is low (0.6). The other important land cover flows are

- Lcf2 urban residential sprawl (0.17% of the region)
- Lcf3 sprawl of economic sites and infrastructures (0.37% of the region)
- Lcf5 conversion from forested & natural land to agriculture (0.25% of the region)
- Lcf6 withdraw of farming (0.2% of the region)

In conclusion, the evolution of land use of the 4 NUTS 3 regions the 3LP is part of is characterized by an important artificialisation of the land (land uptake from non urban land by residential buildings (lcf2) or by economic sites and infrastructures (lcf3)). The values of average land change during the 1990-2006 period vary from 1.1% in the clusters corresponding to

Limburg (BE) and to Nordrhein-Westfalen (DE) to 0.7% (Zuid Limburg) and 0.54% (Liège (BE)).

The changes concerning agricultural areas (agricultural internal conversions (lcf4) and conversion from forested & natural land to agriculture (lcf5)) are present in all 4 regions but vary in intensity, from very low in clusters corresponding to Zuid-Limburg, medium for Limburg and Nordrhein-Westfalen and important in Liège.

The changes concerning forests (forest creation and management (lcf7)) but also withdrawal of farming (lcf6) follow the same trend than the changes concerning agricultural areas.

The main impacts of land use intensification on the core qualities of the 3LP are numerous. In terms of relief, intensification of land use and especially the sprawl of economic sites and infrastructure, is putting a pressure the fringes of urbanised areas and flat areas like valley floors or plateaux, close to main road networks. The 3LP is located in a predominantly urban area with a predominantly rural area with countryside consumption-oriented economy further south (with an urban-rural diversified economic activity area as a transition). Competing activities (intensive agriculture, housing development, infrastructures and commodification of public goods) need to find their balance within and between each of these areas. Urban development is usually occurring at the detriment of greenfield sites instead of reusing urban land[3]. This process, even though it accounts for a small share of the region, has a negative impact on the green character of the landscape and on water management hence reducing flood control.

### *Climate change mitigation and adaptation[4]*

The fossil fuel society we are living in is already responsible for many landscape changes (communication network, urban and industrial sprawl, intensification of agriculture, etc.) that are occurring at a significant rate. It has another less predictable impact on climate that will affect unevenly the whole EU territory.

The anthropogenic greenhouse gas emission contributes to global warming and climate change. This contribution along with natural climatic variation lead to changes in temperature, precipitation, wind humidity combined and also in the intensity and frequency of extreme events.

Climate change can only be prevented by cutting greenhouse gas emissions and thus entering in a global low-carbon economy. This

[3] this challenge has been pointed out in the Leipzig Charter on sustainable cities (2007)

[4] [4] Based on ESPON Climate, RERISK

strategy is called **mitigation** and is therefore the first imperative part of the challenge. But, as climate change is already happening, an unavoidable complement but in no way an alternative to mitigation measures is needed: **adaptation actions**. They are aiming to reduce risk, to increase coping capacity and to build adaptive capacity (infrastructures, technology, institutional capacity and efficiency...).

The White paper has adopted a phased approach with a first phase (2009-2012) focusing on developing the knowledge base on climate impact and vulnerability[5] and an integration of the adaptation into EU policies. The second phase is starting in 2013 and will define a comprehensive EU adaptation strategy. Even if most adaptation measures should be taken at national, regional or local level, coordinated EU action will be needed in certain already integrated sectors like agriculture, water, biodiversity, fisheries and energy or when the impacts transcend the boundaries of individual countries. The challenge of climate change has been widely publicized in the reports of the Intergovernmental Panel on Climate Change, or IPCC, the Stern Review and EU White Paper "Adapting to climate change: Towards a European framework for action". Climate change is also part of the 5 main targets of EU2020 – the 20-20-20 targets (GHG reduction, energy from renewables and increase in energy efficiency). At the international level, the EU is involved in the Durban Platform for Enhanced Action process, aiming at defining a global legal framework for climate action covering all countries. This new framework will be drawn up and adopted by 2015 and implemented from 2020.

Economic activities especially sensitive to climate change are agriculture and forestry because of significant changes in quality and availability of water resources and higher probability of extreme climatic events. The main concern for agriculture in southern Europe arises from water shortages which will lead to both high yield variability and shrinkage of the usable agricultural area. In comparison, Northern Europe agriculture will be less intensely affected but will nevertheless have to face higher risk of flooding, erosion, nutrient losses and depletion of soil organic matter, higher risk of pest and disease. Some positive effects may even be experienced like an expansion of appropriate areas for crop cultivation, higher crop production and opportunities to cultivate new crop and varieties. (EDORA, WP8, p392).

Higher temperature combined with changes in the seasonal distribution of precipitation (decreasing rainfall in summer, increasing rainfall in winter), extreme climatic events like storms will strongly affect ecosystems:

[5] The vulnerability of a region to climate change will be based on its exposure, on its sensitivity to climatic events and on its adaptive capacity.

modification of the distribution of plants and animals, of the growth patterns (forests) causing a highest vulnerability to pests and wind damage, development of invasive alien species leading to new ecosystems, modification of the distribution of forest and wild fire risks, etc.

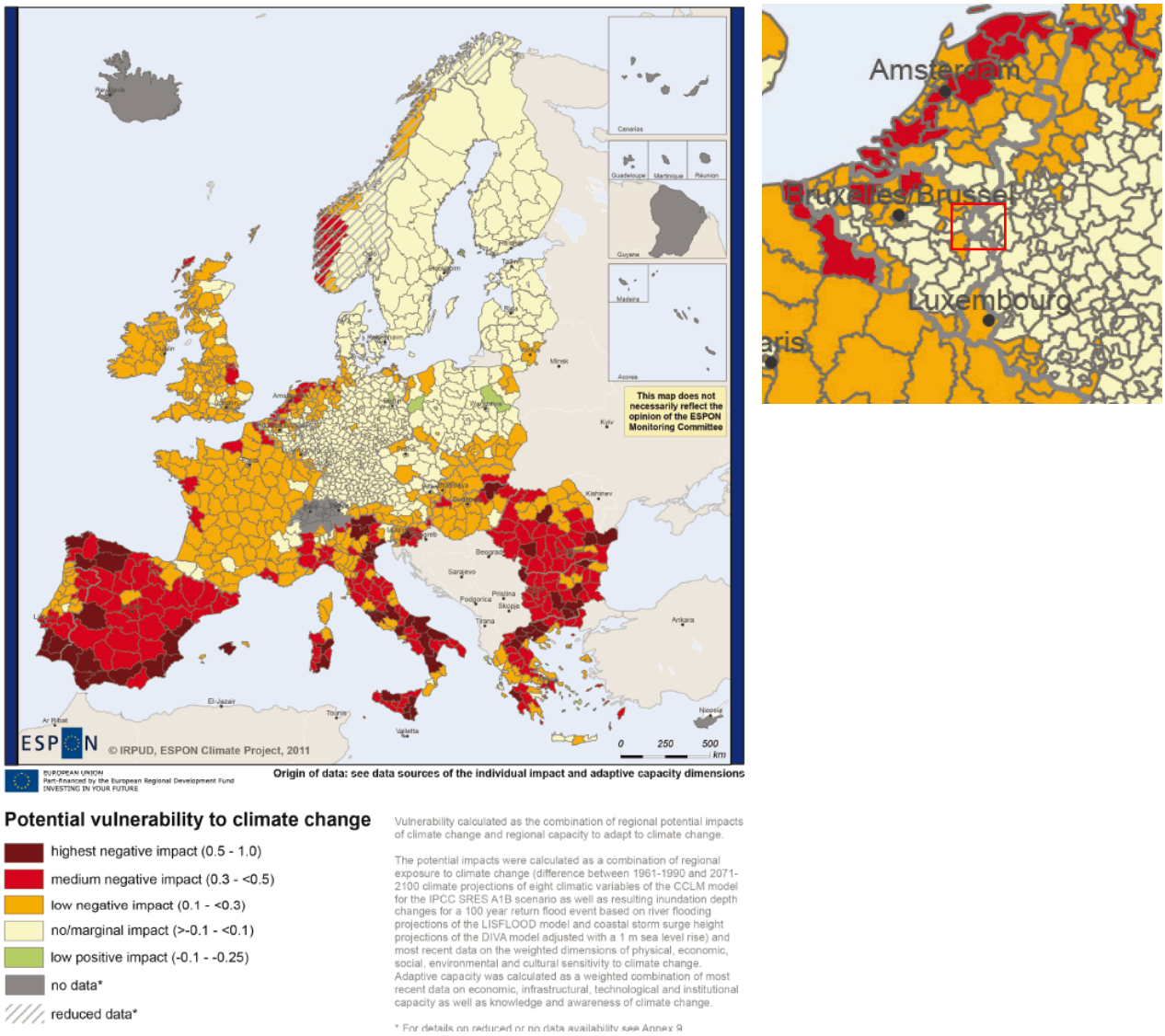
As stated in the ELC Meetings, tourism (summer and also winter tourism) being highly dependent on specific climatic conditions may also be affected negatively or positively according to the region. The energy sector will be highly affected in both demand (households and service sector heating and cooling) and supply (decreased precipitation and heat waves are also expected to influence negatively the cooling process of thermal power plant).

According to Ribeiro et al. two particular sectors stand out, namely health effects of climate change and landscape management in terms of flooding, sea level rise, soil erosion, drought and fire hazard. The interactions between climate change and European landscapes and ecosystems are numerous and complex. Apart from direct impacts of climate change like coastal flooding, river flooding, retreat of glaciers, disruption of ecosystems, other types of interaction include the efforts to mitigate and to adapt to these changes by human action and also the interactions between these impacts with other effects of human land use (nature protection, urban sprawl, agricultural intensification).

Some measures may affect landscape in an obvious way like the development of renewable energy infrastructures (wind turbines, solar power plants or individual energy infrastructure) or in a more subtle way like the improvement of water and ecosystems management, the change in soil carbon management in agricultural and natural systems, the development of bio-fuel crops, of biomass, the use of fuel wood. The improvement of energy efficiency may also affect the identity of the built heritage.

According to ESPON Climate, there is a European North-South gradient in terms of climate change exposure, with the 3LP being moderately exposed to most of the climatic variables such as temperature, precipitation, evaporation, river inundation, coastal inundation. The aggregated potential negative impact for the 3LP is marginal to low. Combined with a high capacity to adapt to climate change, the 3LP is categorized in the regions having no or marginal vulnerability to climate change.

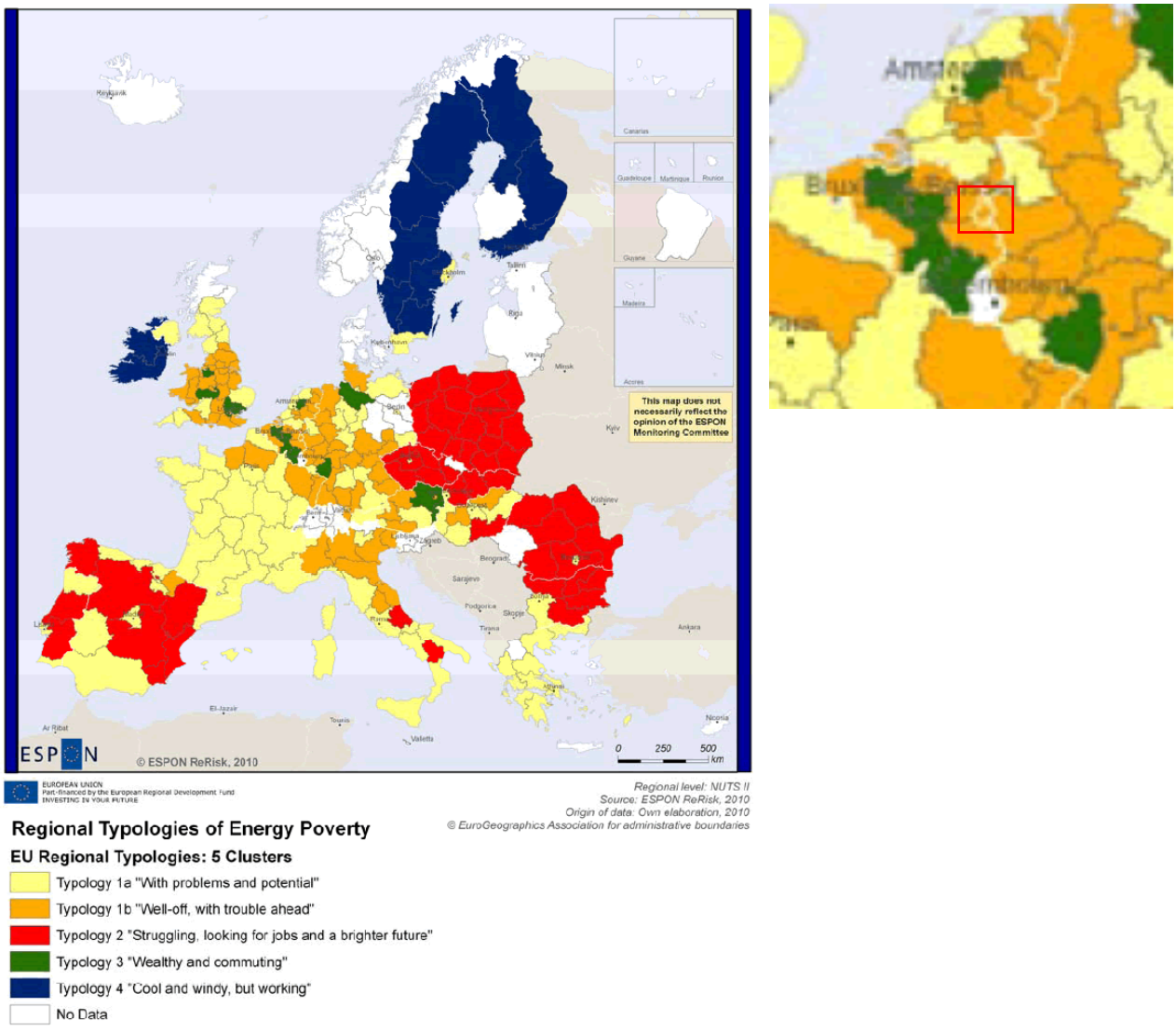
*Map. 4: Potential vulnerability of European regions to climate change, ESPON Climate, final report p24*




Another important issue linked to the fossil fuel industry is the vulnerability of our societies to the rise of energy prices. It has been assessed in ESPON ReRisk research against three factors : specialisation of the region in high energy spending industries, region's dependence on motorised transport (both employment and transport use) and the region's social vulnerability (people having problems paying their energy bills). According to the Rerisk typology, the 3LP is attached to the category called "well-off with troubles ahead": those regions are located in the most densely populated regions of central Europe, highly industrialised, characterised by a medium level of employment in high energy spending industries that used to be a cornerstone of the economies, but are now in the process of being replaced by more knowledge-intensive activities, higher than average number of workers

commuting between the regions, high level of disposable income. Some regions are rural and semi-rural in relation to coastal, mountain or close to major urban centres, providing potential for tourism and second homes. The regions of that type have a few options for alternative energy as they are characterised by both low wind power and low PV potential.

*Map. 5: Regional typologies of Energy poverty, ReRisk, final report p44*




Even if the EU adaptation framework is developing a European adaptation strategy for 2013, most of the European countries have already developed a National Adaptation Strategy (PEER 2009, EU CLIMATE ADAPT). Because certain impacts transcend borders of individual states, such as with river basins, strategies and actions are also planned across countries in the EU. The European Commission (DG REGIO) has defined and agreed with its Member States, 13 regions for transnational co-operation. LP3LP is part of

the North-West Europe (NWR)[6]. In that context "Sic Adapt !", a Strategic Initiative Cluster (SIC) has issued policy recommendations based on the analysis of adaptation tools and measures implemented by eight Cluster projects across four fields of action:

- Built environment (urban and regional)
- Water environment (rivers, urban water management, coastal / marine)
- Natural environment (forest / nature / agriculture)
- Social environment (society / behaviour change)

The analysis of the measures, defined as specific location oriented, operational, often sector-specific actions with tangible results, gives an idea of their action fields, their spatial scope and target groups. Two third of the project's measures are focusing on the issues of river flooding / heavy rainfall and one third on the issues of drought and heat/heat wave. Wind, storm, fire, sea level rise are seldom addressed by the projects. The types of landscape targeted by these measures are equally split between urban areas/city centres, river catchments and a group gathering rural areas (village and agriculture) and, in a lesser extent, forest and suburban areas.

The issues raised by the energy paradigm and the strategies about climate change should have in the following years a major impact on landscape in most EU regions. Concerning the 3LP, these issues tackle all of its core qualities.

Extreme climatic events like storms and heavy rains will impose a better protection of soils against erosion : improvement of the soils carbon content, extension of cover crop on agricultural land, less tilling on slopes, development of hedges on slopes, protection and restoring bogs, swamps and mires that act as efficient carbon sinks. In that respect, water management is a major issue in the 3LP area. Historically, the experience in water management is a strong asset of the 3LP. Several approaches are adopted and have all very important impacts on landscape: from the construction of dams to more integrated strategies like rewetting of valley floors and delocalisation of agriculture activity.

The modification of growth patterns, of the distribution of plants including alien invasive species, animals but also of pests and diseases may affect the local ecosystems in a scale that is difficult to foresee. It may however induce profound modifications of the current green structure.

[6] North West Europe (NWE) is a cooperation zone of eight countries: France, Belgium, Netherlands, Luxembourg, Germany, United Kingdom, Ireland, and Switzerland.

In line with the new energy paradigm, the competitiveness of industries with high energy costs may be at risk in a context of high energy prices and lead to factory shutdowns. A strategy to preserve the industrial heritage has to be implemented in order to preserve the buildings, avoid looting of their content and ensure the conversion of the site.

The smart, sustainable and inclusive growth objective leads to improve aspects like buildings energetic performances, density of housing development to promote public transport and reduce the need for commuting, integration of sustainable and resilient principles in urban design. Landscape will benefit from some of these new orientations, like the objective of restraining urban sprawl. Other orientations will modify the urban and architectural local identity.

### *Demographic attractivity*[7]

Demographic trends in Europe are expected to be an important challenge in the coming future as highlighted notably in the DEMIFER project. The most important force behind European population change is international migrations where at the regional level, changes through migrations consist also of internal migrations between regions within individual countries. Contemporary societies are indeed characterized by an increasing human mobility, especially in recent decades. The old pattern of migrations from poor to rich countries has changed toward a mobility shaped by connection between places rather than by borders between states and taking place within a series of global networks (transnational companies, informal economic network, diaspora, scientific network…). Other challenges, still in a demographic perspective, are the decreasing population growth, increasing proportions of the elderly and the declining population. Those dynamics strongly influence labour markets, healthcare expenditure and social security systems i.e. regional economic growth and competitiveness.

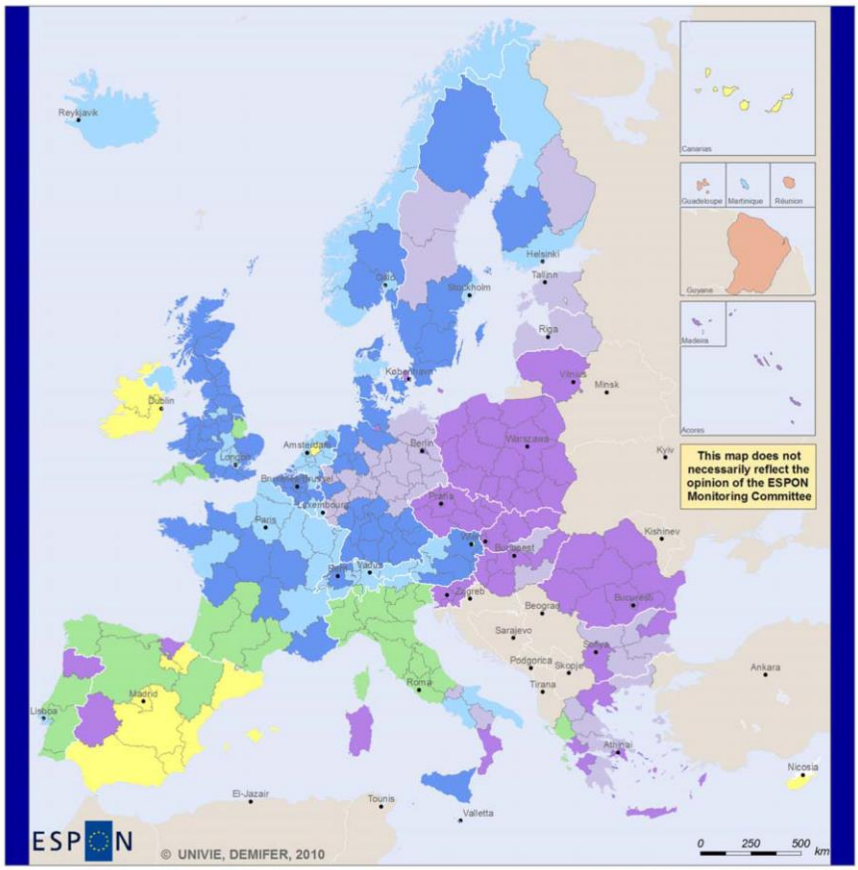
Human mobility and migrations vary according to regions since their territorial assets and actors differ. The main orientations of European territorial development policies go toward a more balanced development of the regions in order to reduce disparities (Europe 2020, 5$^{th}$ Cohesion report, ESDP). The ATTREG project shows that there is no simple relationship between increases in attractiveness and economic growth. Much depends on the forms of territorial capital present and how they are utilized. In that perspective, landscape quality must be seen as a factor of attractiveness as it is assumed that characteristics of places depend (among other things) on its constituting natural and environmental, social and cultural components. The environmental capital is richer in regions

[7] Based on ATTREG, DEMIFER, ESPON 1.3.3, METROBORDER, TIGER

characterized by high standards of landscape management. Landscape is therefore considered as a response for enhancing attractiveness and being part of competitiveness. A region with outstanding cultural features (good universities, high levels of quality of life, aesthetically inspiring and well-preserved landscapes) is capable of attracting the top skilled workers and the best creative talents; on the other hand, these contribute to further growth and diversity of the cultural fabric of the region. The landscape diversity that is characterizing the 3LP can be conceived as a factor of attraction that can be utilized to generate growth. Attractiveness through landscape has to be managed, and is a concept that shapes the territorial governance process itself, most notably the mobilization process.

In 2005, the overall demographic status of the 3LP, based on the DEMIFER typology, was equal to "euro standard" (the typology is based on four key variables: the share of the age groups 20 to 39 years and 65 years and over in 2005, as well as the annual average natural population increase and net migration rate during the period 2001 to 2005). Close to the average of ESPON space, the age structure is slightly older, a stagnating natural population balance and a positive net migration rate are prevalent. These regions are mainly found in Northern and Western Europe. Peri-urban rural regions of which 3LP is part of, have managed to attract large number of people throughout the period 2001-2007. Net migration for that period place the area in an intermediate position as it is the case for the whole central and densely populated part of the European "Pentagon" of London, Paris, Milan and Hamburg. If taking into consideration also the total visitor arrival rates, and according to the ATTREG regional typology, 3LP is described as a region with average net migration and visiting flow rates, along with 157 regions in Europe where net migration rates and arrivals rates are positive but small. METROBORDER results are in the same line, stating that Aachen-Liège-Maastricht MUA population (Morphological Urban Area) increased from 1 577 649 in 2001 to 1 588 592 in 2006 (+0.1%) and the FUA population (Functional Urban Area) increased from 1 990 946 in 2001 to 2 005 498 in 2006 (+0.1%). It has to be noted that during the past 15 years, growths between the three countries have become different with each other's, as Dutch municipalities lost population. The demographic growth of 3LP is far behind other CBPMRs (Cross Border Polycentric Metropolitan Regions) such as Lille (+0.8%, +0.8%), Vienna-Bratislava (0.8%, +0.7%), Luxemburg (+1.5%, +1.1%), or Geneva (+1.3%, +2%) but better than Saarbrücken (-0.5%, -0.4%), Basel (-0.4%, -0.2%) or Katovice-Ostrava (-1.1%, -1.7%).

*Map. 6: Typology of demographical status in 2005, DEMIFER final report p10*





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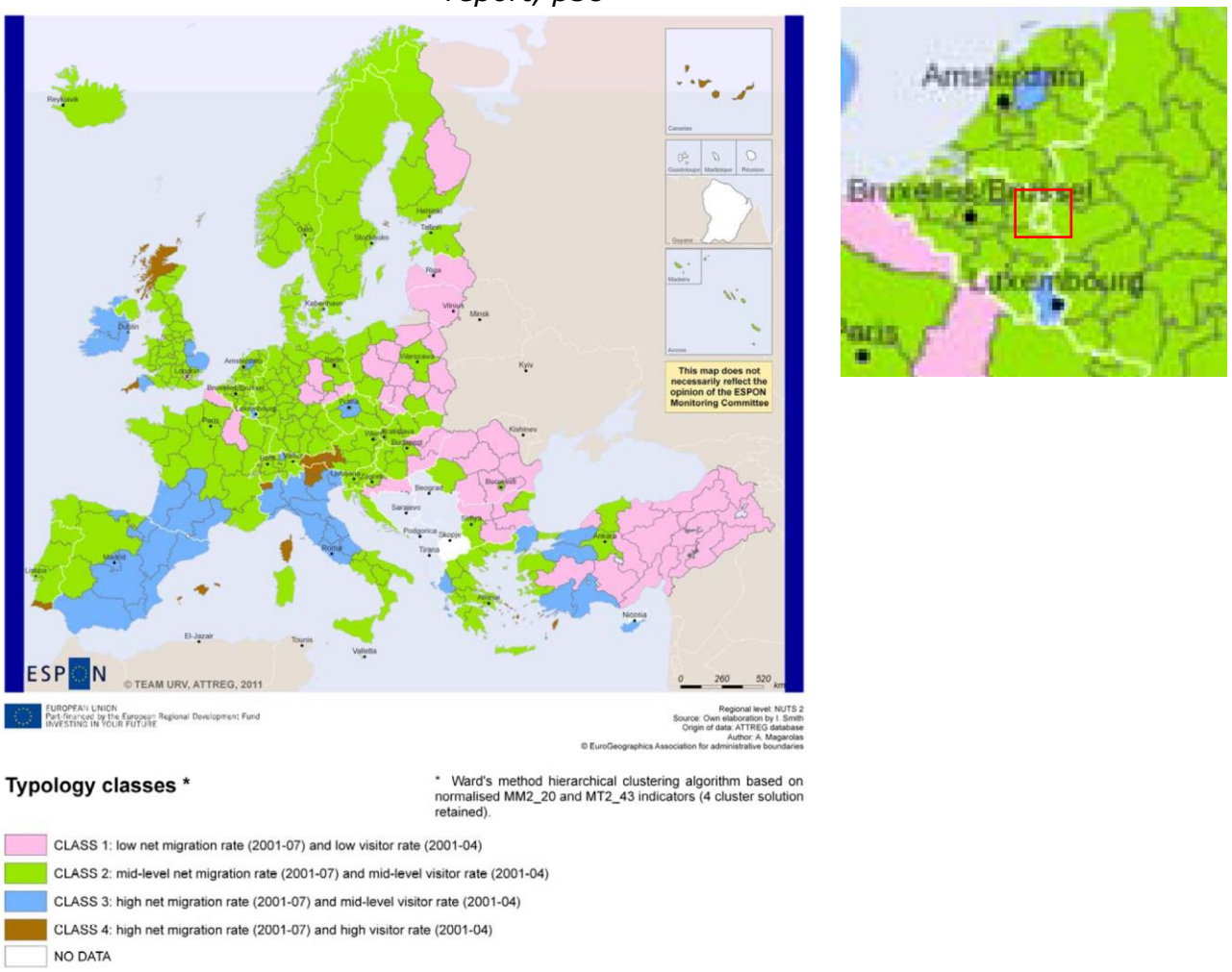
Regional level: NUTS 2, except UKI NUTS1
Source: ESPON 2013 Database 2010
Origin of data: Eurostat, NSIs 2008/09
© EuroGeographics Association for administrative boundaries

| | | | | | Age Group 20-39 (%) | | | Age Group 65+ (%) | | | Natural Population Increase (per 1000) | | | Net Migration (per 1000) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2005 | | | | | | average per annum 2001-2005 | | | | | |
| Type | Classification | Cases | Population | | avg | min | max | avg | min | max | avg | min | max | avg | min | max |
| 1 | Euro Standard | 79 | 127 915 217 | 25.41% | 25.68 | 22.57 | 28.72 | 17.46 | 15.33 | 20.30 | 0.01 | -2.67 | 2.47 | 3.43 | -2.11 | 9.36 |
| 2 | Challenge of Labour Force | 61 | 116 767 795 | 23.20% | 30.43 | 28.33 | 33.84 | 14.51 | 10.60 | 18.96 | -0.78 | -4.76 | 2.89 | 0.08 | -7.35 | 9.19 |
| 3 | Family Potentials | 55 | 104 556 600 | 20.77% | 28.15 | 24.80 | 36.32 | 14.57 | 11.13 | 16.96 | 3.72 | 1.06 | 9.00 | 2.12 | -3.51 | 9.59 |
| 4 | Challenge of Ageing | 33 | 63 838 208 | 12.68% | 26.87 | 21.52 | 31.19 | 20.83 | 18.51 | 26.51 | -1.74 | -6.19 | 1.43 | 9.42 | 4.14 | 16.99 |
| 5 | Challenge of Decline | 38 | 50 166 688 | 9.97% | 26.32 | 21.47 | 30.04 | 19.49 | 15.89 | 22.55 | -3.39 | -10.35 | -0.59 | -1.20 | -11.25 | 3.70 |
| 6 | Young Potentials | 15 | 38 542 821 | 7.66% | 32.26 | 29.36 | 35.86 | 14.45 | 8.70 | 19.03 | 3.61 | -0.15 | 9.78 | 17.10 | 9.96 | 26.30 |
| 7 | Overseas | 5 | 1 555 069 | 0.31% | 30.40 | 27.02 | 32.55 | 9.04 | 3.71 | 11.81 | 13.56 | 8.40 | 25.28 | -1.78 | -8.18 | 9.07 |
| EU27+4 | ESPON Space Average | 286 | 503 342 399 | 100% | 27.82 | 21.47 | 36.32 | 16.63 | 3.71 | 26.51 | 0.33 | -10.35 | 25.28 | 3.16 | -11.25 | 26.30 |

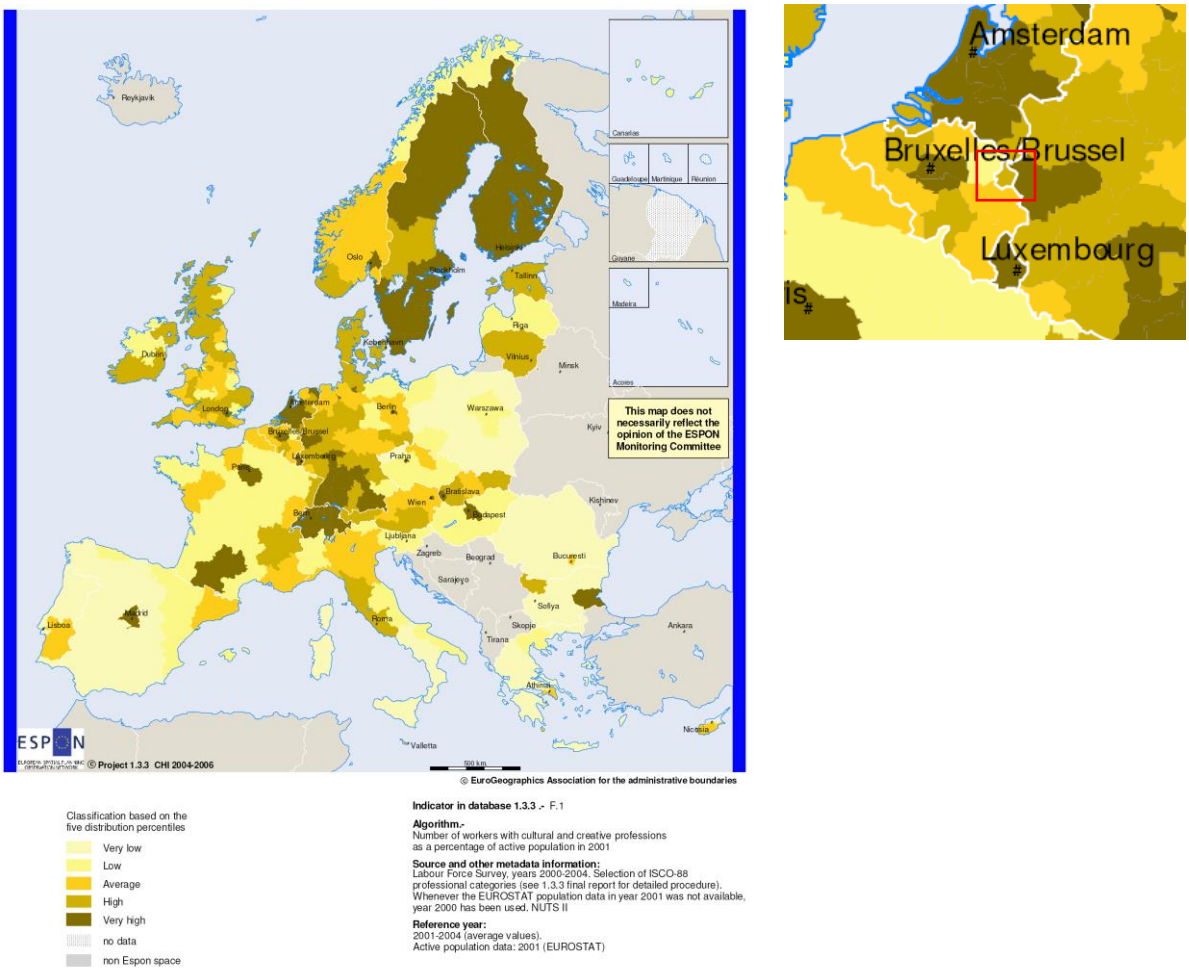
No data

*Map. 7: Regional typology by types of flows attracted, ATTREG final report, p58*



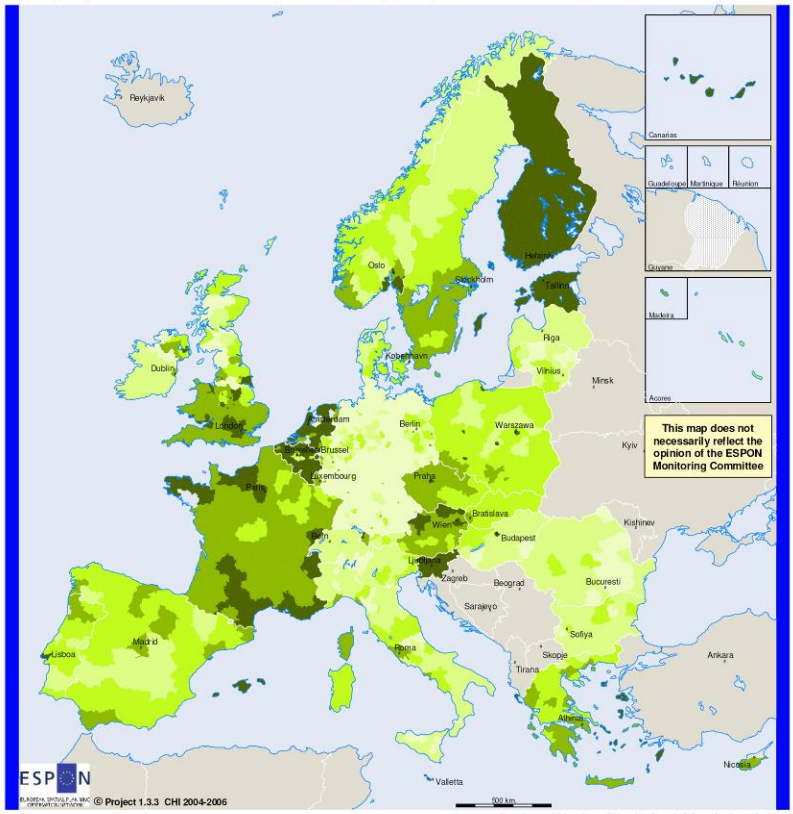

According to the ATTREG project, attractiveness can be weakened if attraction of flows is not embedded in local context. ESPON 1.3.3 project gives interesting elements by introducing the notion of Cultural Heritage and Identity (CHI). According to the authors, CHI can be considered as the result and the engine of the social and economic dynamics of the community rather than a static set of features of the territory. It implies that CHI does not simply "exist" but it has to be continuously (re)-produced, (re)elaborated through cultural/social practices and is therefore intimately linked with civil society. The potential of (re)production is evaluated against the "intellectual capital" of the region, that is the extension of the "capacities" on which the region can count to further its heritage and identity or, else, to dynamize it and valorize it. Mapping the share of local workers engaging in cultural professions is a way of estimating how embedded culture is in local production system. 3LP gives a diversified picture where German and Netherland sides show respectively very high and high values, Belgian part is low to average.

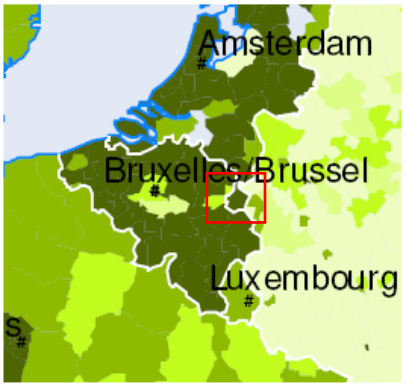
*Map. 8: Culture related jobs as a share of local active population, ESPON 1.3.3, p20*




Benelux has a long history of protection of environment, culture and cultural landscapes, showing therefore a high density of protected cultural landscapes and heritage conjuncts. Confronted with the user pressures (both local population and tourists, see ESPON 1.3.3 typology), the 3LP is located between an area of low to very low pressure (Belgium and Netherlands) and an area of very high pressure (Germany). When confronted to the potential multimodal accessibility (see ESPON 1.3.3), central Europe starting from Denmark, Belgium, Netherlands and towards Switzerland to North Italy is characterized by a high to very high accessibility and a high density of tangible heritage.

*Map. 9: Density of protected cultural landscapes and heritage conjuncts, ESPON 1.3.3, Final report, p111.*




Classification based on the five distribution percentiles

- Very low
- Low
- Average
- High
- Very high
- no data
- non Espon space

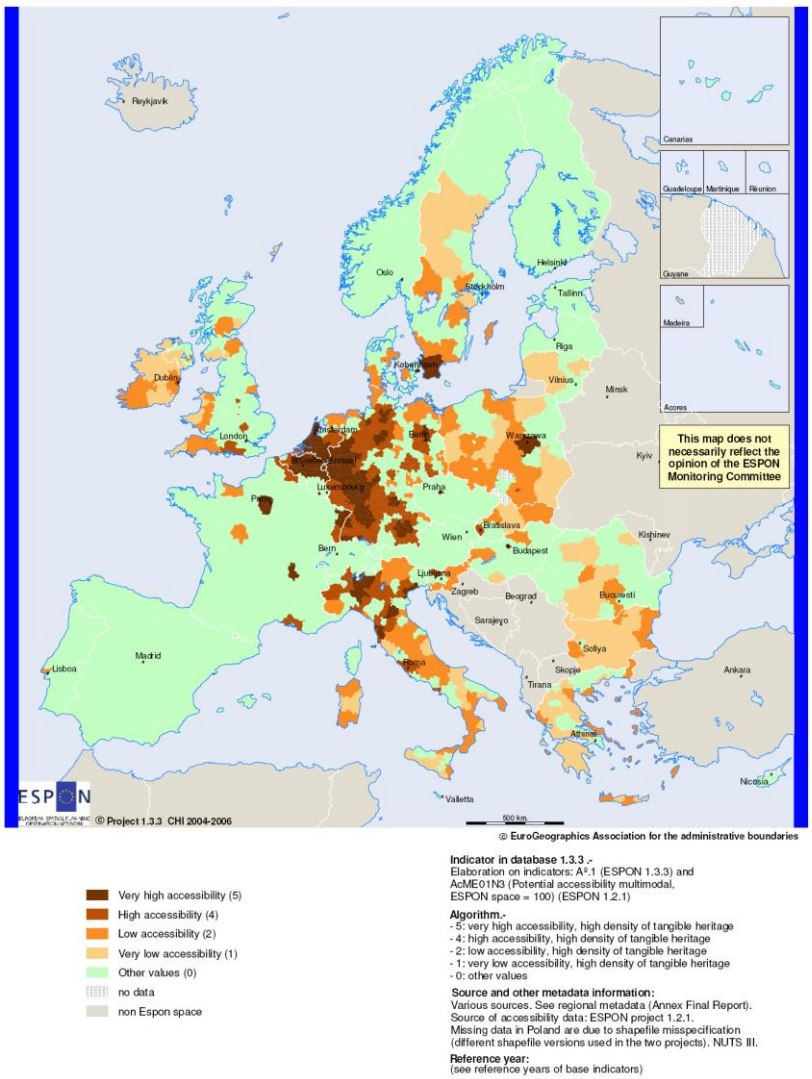
**Indicator in database 1.3.3 .-** B.1

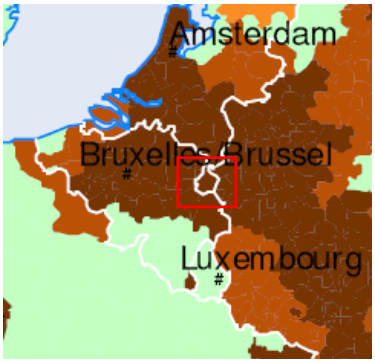
**Algorithm.-**
N. of protected conjuncts and landscapes in national lists per square Km.

**Source and other metadata information:**
Various sources. See regional metadata (Annex Final Report).
Area data from ESPON shapefile information. NUTS III

**Reference year:**
AT, BE (Wallony), CZ, DE, DK, EE, ES, FI, HU, IE, LV, NO, SE, SI, SK: 2005; BE (Brussels), BG, CH, FR, GR, IT, MT, NL, PT, RO, UK: 2004; LT, LU, PL: 2003; BE (Flanders), CY: 2002
Area data: 2005 (source EUROSTAT)

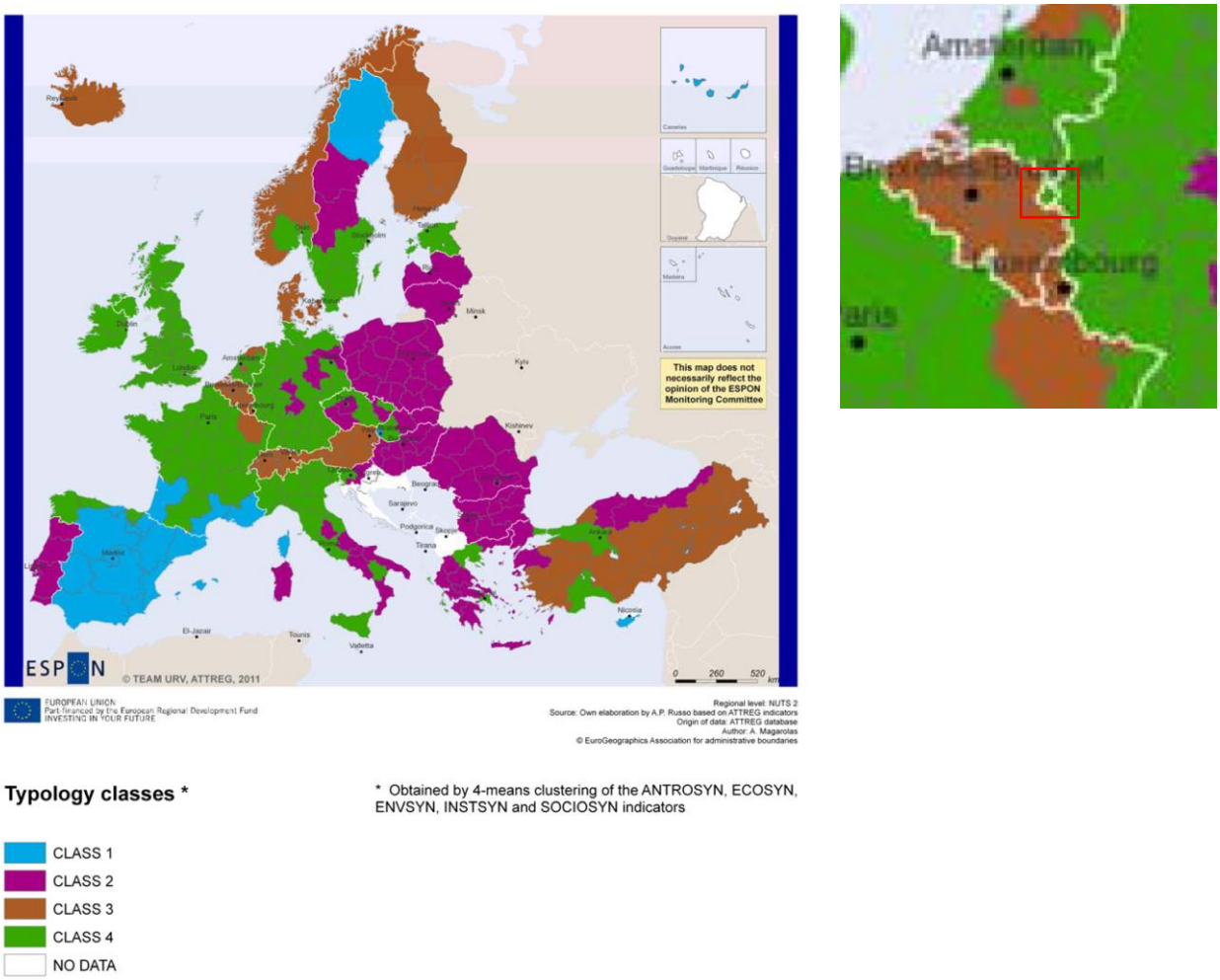
*Map. 10: Relation between multimodal accessibility and heritage density, ESPON 1.3.3, Final report, p.29*




By combining all components of territorial capital (environmental, economic and human, anthropic, social and cultural, institutional), 3LP is described in the ATTREG typology as a "dynamic region in transformation" whose main source of territorial capital is the socio-cultural one but also enjoy high levels of environmental capital, resulting potentially attractive for a certain type of lifestyle migration. Belgian side is more a region in economic transition that do not score too well in terms of environmental and socio-cultural capital but offer adequate level of infrastructure and economic stability.

*Map. 11: Regional typology by endowments of territorial capital, ATTREG final report p65*




The overall demographic of 3LP is euro standard with a stagnating natural population balance and a positive net migration rate. In terms of visiting flow rates, they are positive but small, even though there is a cultural and natural attractiveness as well as a high accessibility. The touristic infrastructure of the 3LP to accommodate these flows is of variable quality from one place to another: the tourist accommodation facilities, the transport network (public transport, cycling routes network, public access and accessibility to cultural heritage, etc.) are witnessing important differences. These touristic infrastructures benefit from thoughtful land planning and landscaping interventions.

**Reacting on suburbanization and qualifying polycentric development**[8]

Urbanization and metropolization is a key element for understanding current territorial dynamics and trends. It has been highlighted in many ESPON reports and in the major European policy documents (ESDP, Territorial Agenda, Europe 2020 strategy). In the framework of this project, the phenomenon has its importance as it deeply impact landscape directly through the urban forms of agglomerations or indirectly through related infrastructure (mainly transports inducing new settlement). 3LP area is concerned by the phenomenon as it is situated in the core of the densely populated and urbanized European "Pentagon" (London, Paris, Milan, Munich and Hamburg), which is the result of a long historical process.

Large cities are more and more seen as focal point of competitiveness, mainly regarding their insertion in international economic networks. They are considered as central nodes in a globalizing world. Their degree of insertion are however not to be considered here as it might get out of the scope of this project, but it sounds important to shed light on the core-hinterland relationships as those dynamics are more at stakes in terms of landscape dynamics and more specifically the 3LP territorial context. In terms of physical process, the relationship between cities and hinterland is illustrated by urban sprawl, which is the most important visual effect of metropolisation, leading often to homogenization of landscapes and shrinking of agricultural land. Morphological form of cities is a key issue in terms of landscape, in addition to be the driver of urban environmental sustainability (environmental stress on air quality, noise, generation of waste).

In a demographic perspective, a link can be made between position of cities in urban hierarchy and migratory process: they attract young people and expulse older active. In small cities, this process occurs at regional level and is reduced to suburbanization whether in large cities, it occurs at the national and international level.

The 3LP geographical context imposes to consider polycentricity through settlement of several agglomerations and cross border cooperation between three countries. Those elements are of paramount importance for this project and have been studied in several ESPON researches (more specifically the METROBORDER project).

From the beginning of the reflection on the developmental perspective of the polycentric cross-border structure of Maastricht, Heerlen, Aachen,

[8] Based on METROBORDER , FOCI, DEMIFER, TIGER

Liege (MHAL) in 1989 and 1990, it has been recognised that the urban areas would be the drivers of that space. This polycentric MHAL structure is to be found in the main strategic and orientation documents, at every level. The ESDP for Europe in 1999, the outlines of the Benelux Countries' spatial structures (1998), the SDER for Wallonia (1999), the RSV for Flanders as well as the German (LEP) and Dutch (POL) schemes.

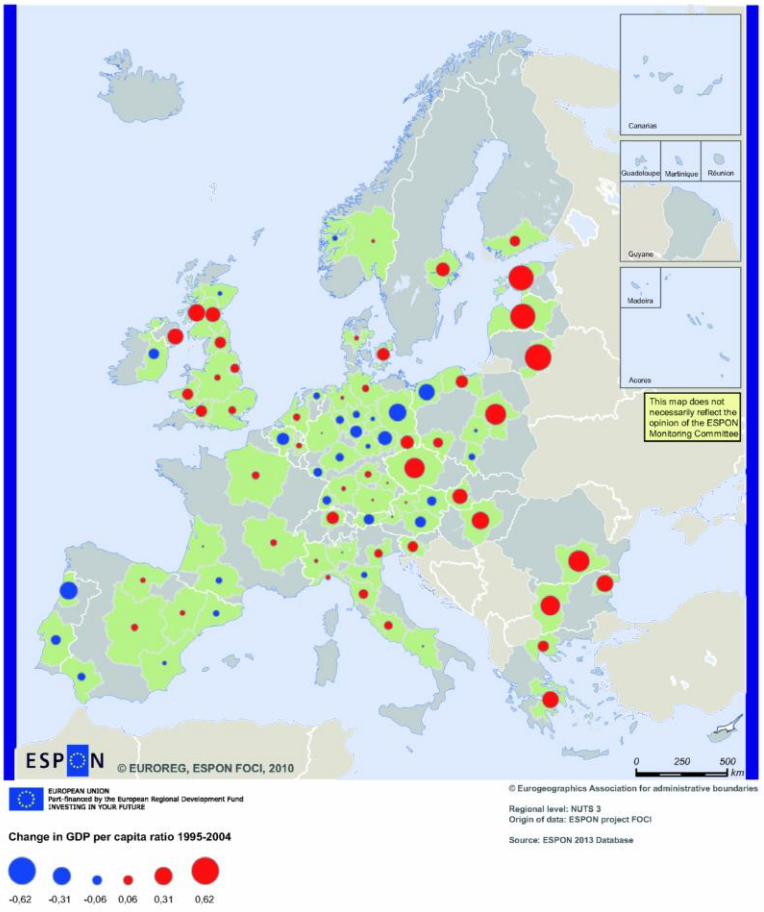
However there is no common acceptance of the polycentric concept. The definition suggested hereafter includes the various attributes that are to be found in polycentrism: *it is a grouping of separate centralities, with or without a hierarchical link, which have common functional challenges and morphological characteristics. They are interconnected by physical or virtual networks and share project governance that is devoid of any hierarchical basis. They surpass the stage of aesthetic polycentrism in order to be enshrined within a complementarity and a redistribution of means and facilities in the form of a founding co-operation, i.e. one with consequences on the organisation of the spaces and on the workings of the territories. The degree of the territories' polycentrality is not exclusively measurable in terms of economic, social, environmental or cultural performance, but is a correlation of all of those elements*[9]..

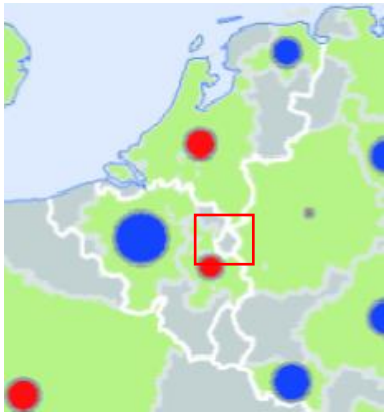
It appears that borders can be considered as an asset and that the potential of cross border regions has been underestimated so far. The importance of polycentric cross border organization in terms of economy and demographical weight make them comparable to large domestic cities.

The 3LP shows a very mixed and complex image as the area seems to enter the fourth phase of urbanization, the "re-urbanization" phase, in line with the rest of the dense and central parts of Europe. In that phase, cities are characterized by their population growth in both core and peripheries, with often higher rates in the core cities. Liège and Aachen have indeed a growing Large Urban Zone (LUZ) but the rates between core and periphery don't show the same values (decline in the periphery of Liege and growth in the one of Aachen). On the opposite, Maastricht seems to face a decline in the core and in the periphery. Smaller agglomerations of the 3LP (where data are not available in ESPON report due to the scale), are probably facing the so-called "counter urbanization" phase where a shift takes place to the urban periphery and beyond, towards the small and medium-sized town of less urbanized metropolitan surroundings, while the core area loses more people and jobs than the suburbs gain.

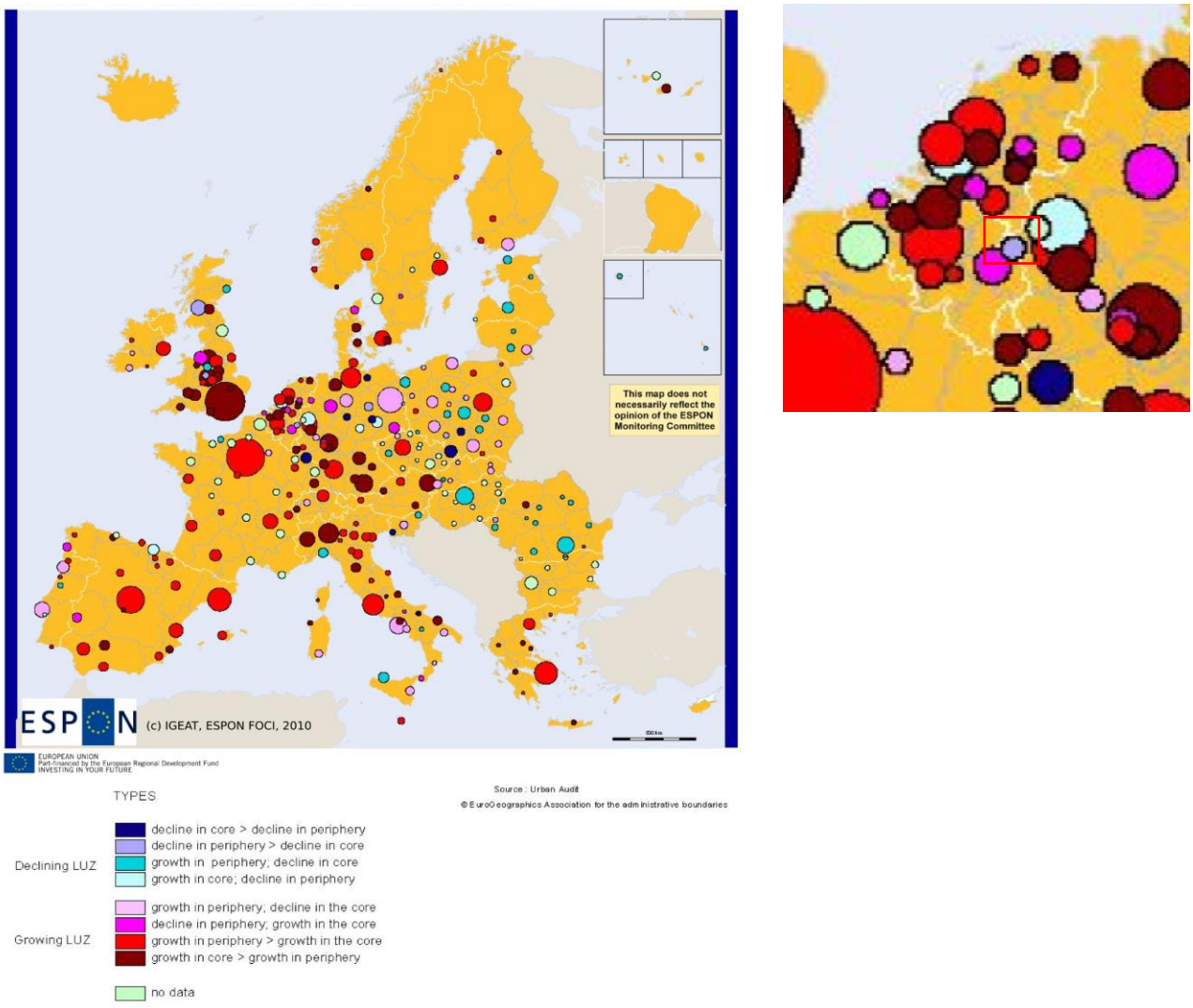
[9] Malherbe A. (2013), Le malentendu polycentrique, (in submission)

*Map. 12: Change in the disparities in the development level between the metropolis and its regional hinterland in 1995-2004, FOCI final report, p.47.*



*Map. 13: Change in the intra urban dynamics in European LUZ, in the years 2000, FOCI final report, p26*



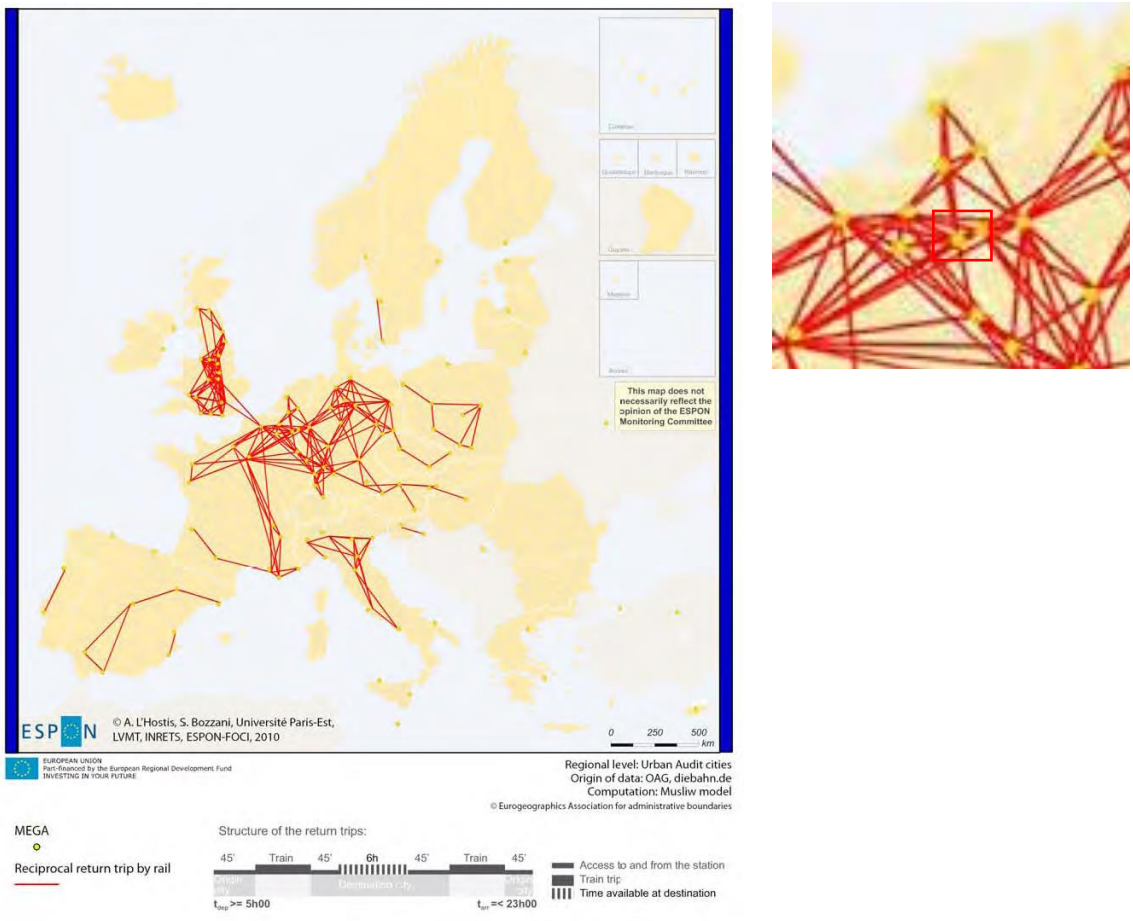

In terms of Metropolisation process (economic control, political function and connectivity), the MAHHL region (which 3LP is part of) shows a low score at EU level, as illustrated by the GaWC image - i.e the presence of economic headquarters and decision making. It can hardly be compared with other CBPMRs (Cross Border Polycentric Metropolitan Region) such as Copenhagen/Malmö or the Greater Region who perform better due to their economic position, political function and presence of airport.

In terms of functional integration (based on the interaction and convergence between both side of the border), the MAHHL region shows an asymmetric profile. Generally meaning, we note that interactions are weak. There is a slightly positive annual growth (1.1%) in cross border employees between 2000 (16 587) and 2006 (17 695). This may be explained by the fact that rates and regulations of taxation vary strongly between countries inciting people to establish themselves to the country

where they work. On the other hand, convergence within MAHHL area (based on similarity of GDP per capita and foreign citizenship of residents) is strong.

Accessibility is to be used for structuring the urban regions, as a factor of competitiveness and to facilitate access to services. As highlighted in the FOCI project, 3LP is in the core of a very high contactability area, whether by rail or air but where the former can compete with the latter.

*Map. 14: City network contactability by rail between MEGAs – return trips between 5h and 23h, FOCI scientific report p.141*




In terms of governance, it has to be said that the geographical delimitation of the 3LP is not clearly defined which make difficult choosing the institutions that should be involved in the process. Phase 3 of the project will bring more information about the governance aspects but we can already point as obstacles: the multilevel mismatch (asymmetric organization of competences on different political and administrative levels on either side of the borders) and the lack of involvement of municipal and economic actors. The geographical diversity characterizing the 3LP can play as an asset or as an obstacle to a clear cross border strategy.

## II) Polycentrism and City/Countryside Relations in ESPON's Documents and Studies

In order to continue to nurture the general understanding of the polycentric phenomenon, the results of the ESPON studies need to be referenced. The main conclusions are included hereafter, following a more profound look into the Metroborder, FOCI, Ulysses and EDORA research programmes that are directly related to the problem.

Two contradictory conclusions resulting from the economic geography emerge from ESPON's first studies on polycentrism: for some, polycentrism has a positive effect on growth and enables the territory to be structured (ESPON, 2005): for others, there is nothing to show that polycentrism exists in Europe or that it affects the attractiveness or the development of the areas concerned (ESPON, 2007). The debate has continued thereafter without being adjourned (Burger M. & Meijers E., 2012).

### FOCI

The **Future Orientations for Cities Study, FOCI**, (ESPON, 2010a), offers interim conclusions with economic growth indeed greater in the polycentric areas, even if there are few elements that enable it to be shown. This growth is above all concentrated in the big cities. Critical mass is an important wealth creation lever and acts on the competiveness of its sphere of influence. It is noted that the borders remain an obstacle to the development of interurban relations in Europe. The relations between the city centres and their hinterlands are variable and complex, and depend on their national context. The FOCI study observes polycentrism on the basis of national territories similar to those studied in the Polynet research programme (Hall P. & Pain K., 2006). It envisages the observation of polycentrism in this context alone, and not in the cross-border territories.

In the FOCI study, the co-operation typology distinguishes:

- Co-operation on basic infrastructures and services,
- Spatial planning,
- Governance, which is the most accomplished form of polycentric co-operation. It is often multilevel.

The brakes on the construction of a polycentric system include (Page 526 and following):

- Blurred areas of competence with inadequacies between the administrative borders and the financial resources,
- Competition between the partners and the mismatch between the politicians and their functional ties – the urban areas problem,
- Inconsistencies between the levels of power.

Two development scenarios have been imagined: Green Economy / improvement of the European potential - protectionism - with endogenous development in order to escape the worldwide crisis.

It is pointed out, according to the FOCI team, that polycentrism is efficient in a complementarity context. This assertion, which permeates all of the publications in the field of economic geography, where the main criterion is the presence of company-oriented services measuring the urban areas' positioning in the globalisation hierarchy, can however be called into question. This acceptance is hardly sustained by an examination of an operation or of the cohesion between medium-sized cross-border cities such as the MAHHL Cities. The polycentrism that is encountered there corresponds more closely to the ESDP's principles of territorial balance and cohesion, while taking the heritage lever into account.

Another approach prefers examining the flows for determining polycentrism's potential. However, measurement of those flows is extremely complex in the cross-border field. Despite the opening of the borders, there is little objective data concerning the actual proportion of inter-city exchanges. So nothing to date proves the existence of any cross-border polycentrism, if the FOCI conclusions are accepted. This conclusion is however nuanced by the Metroborder research

The FOCI research furthermore returns to the question by taking the typology of the Functional Urban Areas (FUA) by examining their integration potentialities (Polycentric Integration Areas – PIA). On the basis of those elements, the FOCI researchers have distinguished three types of polycentrality:

- High level - economic cooperation with a high level of infrastructures, creating a competitive network and a network of hubs and using a high level of service mechanism;
- Low level - daily commuters, low level of transport and other infrastructures and services, allowing resource-sharing between a group of cities and potentially having a critical mass through the exploitation of their complementarities in economic competition;
- Service-oriented - Co-operation in services at a sufficient level to cover all of the population's needs on a sufficient scale for achieving efficiency. (FOCI, 2010: 533).

The application of the observation method by FOCI on the basis of the distances and the relations between the head offices of the world companies and their subsidiaries and the population does not quantify the existing relations but identifies a potential already evoked in ESPON's Study 1.1.1 (ESPON, 2005). Moreover, this part of the study relates only to national cases as mentioned above (Greece, Bulgaria, and Rumania).

With regard to the FOCI study's section on urban governance policy in relation to polycentrism, there too the results of Study 1.1.1 serve as a

basis by including a cross-border urban co-operation grid showing its existence or its non-existence. The selected cases include: the Flemish diamond/Copenhagen - Malmö & Oresund/the Baltic/Vienna - Bratislava - Gyor/Saar - Lorraine - Luxemburg/Liege - Aachen - Maastricht/the Rhône-Alps network. Out of these seven cases, five are cross-border, including the MAHHL Grouping.

The analysis is based on the questioning of players who identify the strengths and the weaknesses as well as the concrete results that have been obtained. The brakes are above all institutional with a disparity of competences which are furthermore limited, which do not correspond to the administrative borders, and which have constraining financial resources. Other difficulties are identified, such as the competition between the partners, their divergent statuses, and the different links between the cities in relation to the workings of their companies. Technical obstacles such as infrastructure interruptions, language, uncoordinated data, unshared identities or varying levels of education are not propitious for the introduction of cross-border networks.

**METROBORDER**

**Metroborder** for its part is trying to identify the polycentric cross-border metropolises, by a crossing approach, by the intensity of the co-operation and by their degree of polycentrality (ESPON, 2010b). The researchers start from the fact that the potentialities of the cross-border regions are underestimated, which is already included in the founding principles of the Council of Europe of 05 May 1949 promoting cross-border co-operation. Which was to be widely shared as from the Sixties (Council of Europe, 1968).

Metroborder has looked more deeply into two cases: the Greater Region and the Upper Rhine, which are rather instances of supra-regional co-operations and has addressed five other examples, three of which are also being investigated by FOCI (Vienna - Bratislava - Brno - Gyor/Helsinki - Tallin/Copenhagen – Lille Eurometropolis /Malmö - Kortrijk - Tournai/Maastricht - Aachen). It should be said that Metroborder is considering polycentrality from various morphological, metropolitan (agreement still has to be reached on what that covers), demographic and functional perspectives. Again, a lack of data precludes a complete understanding.

The definition suggested by the Cross-Border Polycentric Metropolitan Region (CBPMR) should be retained, namely *"political constructions founded on cross-border agreements, which consider the existence of national borders as resources for increasing interaction at the local level and for the positioning of the metropolitan centre in world networks.*

*Because the CBPMR are made up of several urban centres, located on both sides of the borders, these political regional initiatives can mobilise various complementarities and assets, on various geographical scales, with a view in particular of reinforcing the potential of a morphological and functional polycentricity"* (ESPON, 2010b: 26).

This definition is a mixture of expectation and characterisation. It will be retained from it that, for Metroborder, polycentrality is limited to two aspects: morphological and functional, and that the concept of territorial competitiveness is always much present therein. In order to characterise the functional CBPMR, the ESPON 1.4.3 research indicators are used (ESPON, 2007) as well as the ORBIS, BVD and CORDIS data that was used for the FOCI Project for ranking the European cities on the basis of the 3,000 largest companies of the world and their level of establishment in the various countries that were being studied.

The MAHHL Grouping is recognised as an area of institutional cooperation, which benefits from a low flow of cross-border workers (17, 500 to be compared with the 127,000 counted in the metropolitan area of Luxemburg) and well balanced compared to the centripetal employment hubs such as Luxemburg or Basle, with somewhat inefficient cross-border public transport but with a great convergence of the GDP and of the proportion of population of foreign origin.

These two last conclusions would deserve to be discussed and specified because the wealth is unequally distributed in the MAHHL Grouping between the Dutch Limburg and the Aachen Region, which are more opulent, and the Flemish Limburg and particularly the Liege Region, which is still being rehabilitated reconversion. We will return to this point. With regard to the foreign population, its profile remains heterogeneous according to the immigration policies that have been applied at the national level (Italians in Belgium, Turks in Germany, for example).

Metroborder's most significant part is the DELPHI analysis carried out in relation to governance. The governance of the Meuse-Rhine Euregio, which encompasses the MAHHL Grouping, is regarded as being of average and asymmetrical strength. What this means in terms of the integration of urban dynamics will be seen at a later stage of this document. The MAHHL Grouping is also taken to be a local network of average strength. Recent dynamic cross-border trends have brought nuances to the classification that identifies the Lille Eurometropolis of as an example of institutionally weak symmetrical co-operation whereas it is now recognised as an EGCC with reinforced political leadership.

## ULYSSES

The latest polycentrism study carried out in the context of the ESPON programme is **ULYSSES** (ESPON, 2012), the principle of which is the use of the ESPON research results for measuring the cross-border spatial developments and their correlation with the Territorial Agenda's objectives (European Commission, 2007; European Commission, 2011), in which polycentrism always features well. The method that was used has not been applied to the Meuse-Rhine Euregio but it is nevertheless interesting to be able to examine the results and their possible transpositions.

The analysis includes four indicators: the convergence of the cross-border regions, an explanation of regional behaviours throughout the cross-border regions, the relevance of the regional scale for the analysis, and the reduction of cross-border flows in relation to the respective national flows. The borders are still found to be obstacles to the development of the hubs. Each of the cross-border regions has been mapped by identifying the development hubs (employment, training, logistical, demographic, economic) and the transport routes.

The ULYSSES study's conclusions point out that the border effect remains important in Europe, that the geographical frontier characteristics are still decisive and that the scale of application of the available data influences the result of the analyses. The disparities are still much in evidence in the border regions, but the diversities are assets. Structural funds remain fundamental in the co-operation dynamics.

For the ULYSSES researchers, there is no common spatial development basis between the border regions. For this to happen, knowledge of the territorial tendencies by all of the parties concerned is fundamental but the available data is not coherent and is to a large extent missing. Lastly, in the institutional field, political agendas are conditioning the planning of cross-border projects. Among the major elements of cross-border territorial cohesion, the ULYSSES study targets city/countryside relations. The characterisation of the polycentrality of the MAHHL Cities will be judged in the light of these findings that highlight the difficulty, whatever the region, of making the border effects and the discontinuities less distinct.

### ESPON 1.1.2.

One of the other founding principles of the ESDP relating to the Three Countries Park is to be found in city/countryside relations. Several ESPON studies have envisaged it. The first relevant study deals specifically with that theme (ESPON, 2007b). One will retain from it a conceptual precision that maps out its contours, an analysis of the European and national policies that have consequences on city/countryside relations with

corresponding initiatives, a typology, the noted interdependences between the two, the advantages of favouring city/countryside relations in regional planning in order to culminate in political recommendations. In the context of the polycentrism/rural-urban crossing, let's dwell in greater detail on the interdependences that have been raised.

It is admitted that the weight of the urban area peripheries impacts the countrysides through urban growth. The organisation of the territory is a manifold construction - institutional, functional, morphological and historical - in order to result in its identity. The inherited urban reinforcement remains extremely formative, as is illustrated by the MAHHL Cities. It has furthermore been able to be developed over the centuries only because of its interrelationship with its rural context. In the case of the MRE, the countrysides have been regarded not only as a territory of resources for the cities but also, following the neutrality of the Principality of Liege, as an extremely permeable area, with the uncertainties of destruction and instability, for the troops that passed through them.

The study identifies three major sectors influencing urbanisation: demographic change, developments of the economic structure and identity, and the behaviour of the populations. At least two sectors are missing from this inventory: the development of mobility and the movements of the borders. Five factors are therefore to be studied in the context of the interactions between a polycentric system and its interstices. The result of the conjunction of these factors explains the movements between the two parts with a more important stability under the Ancien Regime, which more regularly suffered huge epidemics with demographic repercussions.

The study mobilises the Christallerian theory of central places from an historical point of view in order to explain the establishment of the centralities in a territorial balance with their peripheries. The intermediate conclusion proposes that the interdependences be envisaged on various scales according to three variables: socio-economic diversification, territorial interdependence, and the benefits induced by regional planning. The conclusions of the confrontation of these variables to the case studies indicate that metropolisation (increase in mobility, home/work in particular, economic transfers/dualisation, urban sprawl/polarisation…) has a significant impact in the overall competitiveness of the territories as a result of the ensuing interconnections.

Lastly, these conclusions confirm the increase of the long-term interdependence that has been observed. The medium-sized towns have their cards to play in the globalisation context by offering new employment opportunities within a good-quality and diversified living

environment. Density is also a factor for the maintenance of small-town viability. The rural areas must diversify following the reduced share of agricultural activity. Tourism is often evoked for preserving the viability of those territories. This diversification is historical in the context of the Three Countries Park by the presence of joint activity (craft industry/agriculture) in the farms since at least the 18th century. Furthermore, the tourist sector is already largely established in the Gueule Valley and is tending to be developed over the plateaus as a whole.

It is again difficult to discern the city/countryside dynamics exactly. This is confirmed in the approach developed by the University of Delft and NordRegio in the context of the Interact research (OTB & Nordregio, 2006). This research provides a typological analysis grid in order to examine the effect of urban polarisation on the rural areas, including: the home/work relations, the central places of connection and the relations (commercial, leisure, infrastructures and resources). The rural territory is characterised by six types taken from the ESPON 1.1.2 research, with on the Y-axis the density (high or low) and on the X-axis the rurality index (built-up / cultivated / natural).

**EDORA**

It is also interesting to dwell on the **EDORA** project. It looks more deeply into the question of city/countryside relations (ESPON, 2011a; ESPON, 2011b). It observes that the city/countryside relations are differentiated between the regions of the various countries concerned with the Three Countries Park project. The diversified territorial policies have consequences on the urban growths and their typology. Dutch Limburg is regarded as a park of which the Parkstad Limburg is the reinforcement. The application of the principle of ABC localisation then of decentralized concentration has enabled the urban growth to be limited and the open landscapes to be safeguarded.

Agriculture plays a major in the economy of the Netherlands by being the third-largest exporting country in the world. Farming area preservation is a priority issue there. It should be said that the Dutch government's latest political decisions have authorised a relaxation of the concentration rationale with the objective of using the territory as a reconversion lever by favouring a return to growth, with a risk of urbanising the agricultural areas.

Conversely, Belgium has not, according to EDORA, developed any particular policy with regard to the city/countryside relationship. It is recognised as being the laboratory of the non-localised city with disparate land occupancy. This generalised urban sprawl has consequences on the rural areas, which are more fragmented.

It should be noted that the Herve Country, the Walloon part of the Three Countries Park, illustrates the resonance of the heritage marked by a loose establishment of farms as of the 18th century (Dumont, 1994) and of the public transport policies applied as of the second third of the 19th century (Fairon E., 1912). Indeed, mobility in Belgium has been focused on the person rather than on the financing of the infrastructures via corporate taxation, as has been the case in France. The labour subscription has allowed to the worker to remain in his village. The Flemish Limburg also corresponds to this description. Urban sprawl began there with industrialisation. Mining has caused an urban sprawl in the entire coal corridor between Hasselt and Heerlen.

Germany's profile is predominantly urban, following the example of Belgium and Holland. The whole country is benefiting from demographic growth, with a reduction of the population in the rural areas. Urban polarisations traditionally concentrate the employment. The Rhineland-of-North-Westphalia has an unemployment rate within the German national average, with a proportion of less than 8.8% for the Aachen Region. The main economic activities in the rural part are in the food-processing sector.

The founding principle of the German territorial development policy is the large-scale common responsibility between the cities, the metropolitan areas and the rural areas. Seven model projects have been selected in order to test this policy. It is a pity that the Aachen Region is not a part of it. Lastly, there is a considerable difference between the two former parts of Germany (FRG/GDR) with a family farming structure in the West and a more industrial structure in the East. Within the German agricultural dynamics, the large-farm sector is decreasing in the Land of Rhineland-of-North-Westphalia, which is particularly vulnerable to climate changes in the fields of water and health.

Cross Synthesis

It emerges from the various results of the ESPON polycentrism studies that it is difficult to pass from the stage of updating the potential to that of measuring the concretisation and the quantification of the functional relationships in a polycentric system. The data is extremely incomplete and little coordinated, which contributes to recourse to little diversified measuring instruments. This contributes to a certain standardisation of the results. The approach of creating a relatively exhaustive atlas of the whole of the cross-border region embarked upon in the Eurométropole (the Lille Metropolis Agency et al, 2012) and which has followed the work of the COPIT, should inspire the resumption of a cross-border observatory on the MRE.

It will also be retained from the aforementioned studies that the border break is still much in evidence, with territorial dynamics that are still largely national or regional. The volition of being able to bring institutionally and functionally closer together the hubs that are still suffering from this break and which are furthermore on the borders of national or regional territory has not been really concretised.

Lastly, with regard to the city/countryside relations in a polycentric system, it appears that demography remains the main issue with its related activities (economy, leisure, and schooling) as well as the mobility that is associated therewith. Population growth is consuming more territory in Belgium than in the two other countries of the MRE. The elements identified by the polycentrism research can also be applied to the city / countryside relations problem. Particularly, the fact that there is no coordinated strategic development plans in existence at that level.

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## III) European landscape classification: a brief overview

Information about European landscapes is diverse and has been more taken into account in the last years, notably because of an increasing significance of landscape as a policy issue at EU level. First attempts are nevertheless ancient and the large number of works dealing with identification and classification of European landscapes reflects that there is no scientific consensus.

Qualitative approaches are a first gateway. Even if they don't always constitute an exhaustive inventory of landscapes or suffer from a lack of spatial accuracy, they form a basis for discussion of landscapes developments. R. Lebeau's (1969) work is one of the major attempts of classification by focusing on agricultural landscapes and leading to 8 categories. According to the author, 3LP is in the category "enclosed landscape and dispersed habitat with predominance of pastures". Meeus (1995) presents similar results by identifying 30 landscapes on the continental scale. It distinguishes six criteria, highlighting diversity of landscapes: landform, economic potential of land use, ecologically sound processes and sustainable use of resources, agri and silvicultural landscapes, specific settlement patterns (as inherited) and scenic quality and visual characteristics. According to that classification, 3LP is comprised in "Kampen" category: enclosed, diversified with a patchwork of woods, heath, swamps and stream valleys cutting poor sandy soils. Vandermotten et al (2010) followed a similar approach by combining physical conditions and cultural histories and identified 18 landscapes within 3 main categories (mediteranean and balkanique Europe, Occidental and medium Europe, Central-oriental, oriental and northern Europe). According to the authors, 3LP is comprised in type "Bocage or semi bocage and animal breeding. Hamlet and dispersed habitat" category.

If the main qualitative approaches agree to consider 3LP as part of a great bocage structure, they also point the proximity, just south, of the wide belt of openfields landscapes, characterized by fertile soils, undulating plains and nucleus villages.

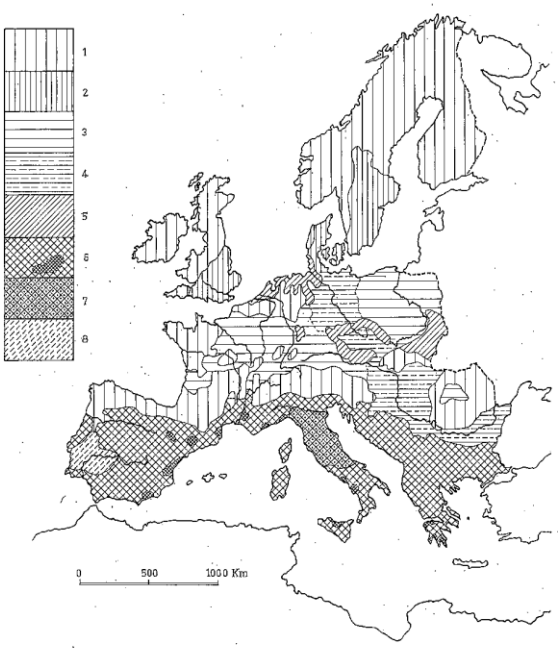



FIG. 14. — *Les paysages ruraux de l'Europe (Russie exceptée).*

1. Paysages d'enclos et d'habitat dispersé, avec prédominance des herbages.
2. Anciens openfields avec habitat groupé ayant évolué vers la dispersion avec remembrement obligatoire et clôture.
3. Paysage d'openfield et d'habitat groupé, avec labours importants.
4. Openfields partiellement ou totalement transformés de certains Etats socialistes.
5. Villages linéaires à grandes lanières, de forêt ou de polder (Wald et Marschufendorf).
6. Champs ouverts céréaliers méditerranéens, avec parfois zones d'arboriculture, habitat groupé et dispersion intercalaire. Taches quadrillées fin : Huertas.
7. Régions de « coltura promiscua ».
8. Grandes propriétés du type « Montado » (blé et jachère dans une forêt claire).

(Principalement d'après DERRUAU et BIROT.)

*Fig. 1: R. Lebeau (1969) European rural landscapes*

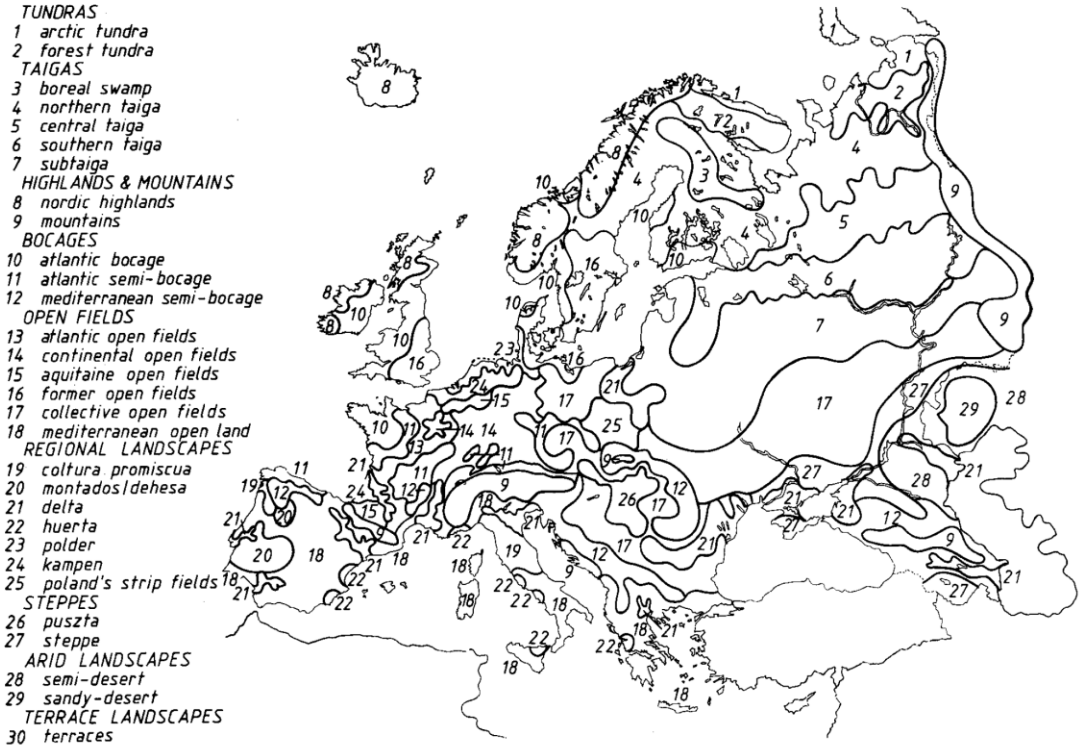



*Fig. 2: J.H.A Meeus (1995) Pan European landscape types*

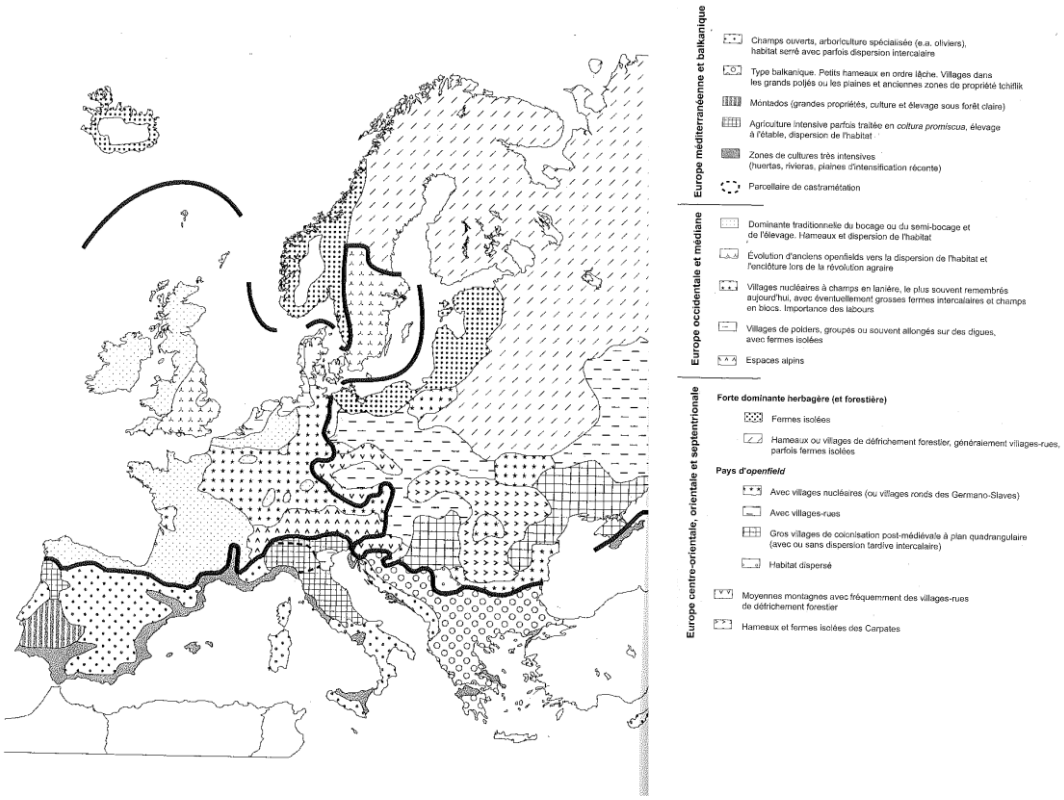
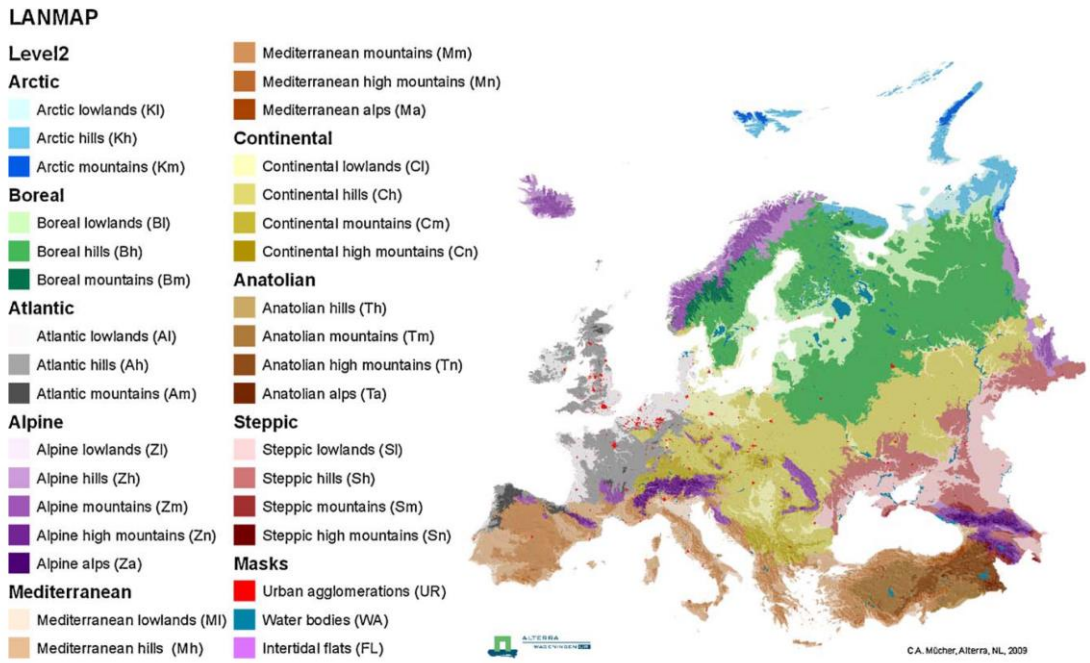



*Fig. 3: Vandermotten et al (2010) Main European rural landscape types*

Development of remote sensing and computer processing in the last decades bring new insight, such as CORINE land cover as a primary source of information. Mücher et al. (2010) propose interesting classification through the ELCAI project (European Landscape Character Assessment Initiative) and the Hierarchical European landscape classification (LANMAP). The approach is quantitative and based on segmentation and classification techniques on high-resolution data sets. The classification leads to four levels (climate, altitude, parent material, land cover) and 34 landscapes types in 9 categories (arctic, boreal, atlantic, alpine, Mediterranean, continental, anatolian, steppic, masks). Landscape is considered as resulting from long-term interactions of natural abiotic, biotic and anthropogenic processes (even if the purpose is not to focus on cultural-historical factors). According to the authors, 3LP is part of the Atlantic lowlands.




*Map. 15: Mücher et al (2009) LANMAP European landscape classification*

LUCAS project is also to be mentioned (Land Use and Cover Area frame statistical survey - European Commission 2009). Even though that survey does not propose any classification, it informs decision makers and general public about changes in management and coverage of the European territory. The approach gathers land use and land cover data with visual observation of a sample of geo-referenced points by surveyors allowing to go beyond mapping such as CORINE as it provides quantitative statistical results with precision indicators attached to them (Martino and Fritz 2008).

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## IV) European cross border regions having an identity comparable with the identity of 3LP in a European context

### Choosing the cross border regions

The different components of the landscape identity are to be compared to other regions in Europe. Choice is made to compare the 3LP with other cross border polycentric metropolitan regions (CBPMR) in line with the METROBORDER project findings. Within the 28 European cross-border regions coming from ESPON 1.4.3, 15 have been identified as being metropolitan to a certain degree, and reduced to 11 regions when taking into account the additional criteria of polycentricity. Each of those CBPMRs has several urban cores forming the morphological urban area (MUA) and several functional areas (FUA).

The densely populated node is approached by considering at first all the municipalities (NUTS-5 level) with more the 650 inhab./km2. Then all the contiguous municipalities with this threshold of density, as well as the municipalities not reaching the threshold but enclosed by the others, were added to define central or morphological urban areas (ESPON 2007). All the municipalities with more than 20.000 inhabitants are also taken into consideration, whenever they have a clear concentrated morphological core.

The Functional urban areas allow to go beyond morphological character of the city by seeing it as an employment core surrounded by a labour pool (which seems relevant in a commuting and suburbanization context such as the 3LP). That labour pool is defined as a set of municipalities that send workers (generally more than 10%) to a core city (a MUA, which is also defined as a set of municipalities). Therefore, the FUA = MUA + Labour pool. The population number is minimum 50 000.

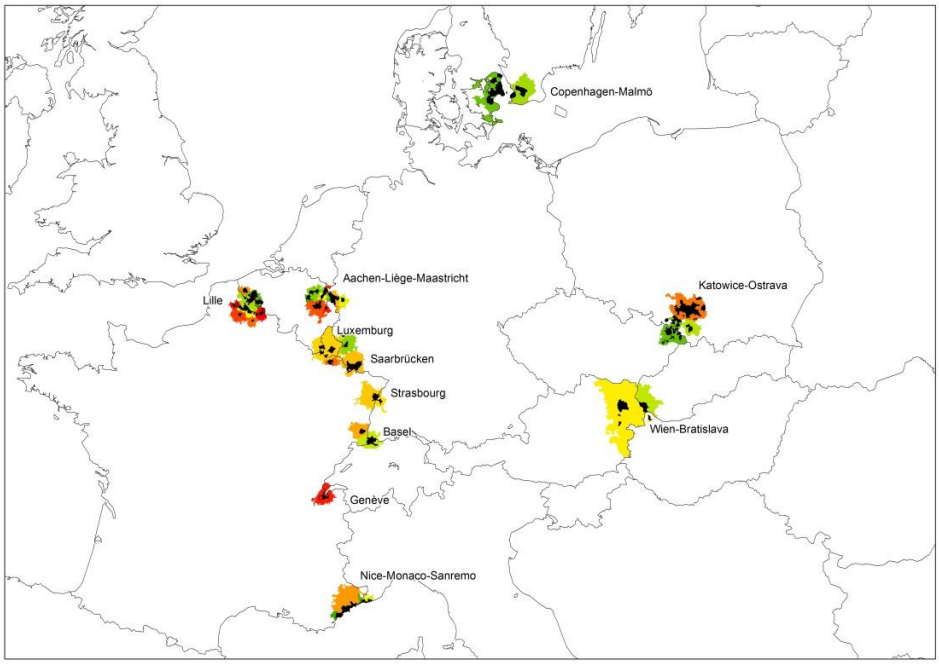
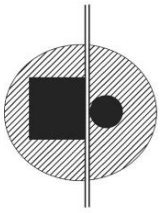


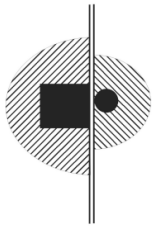
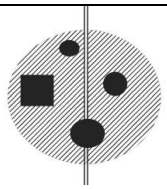
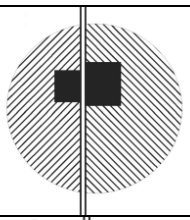
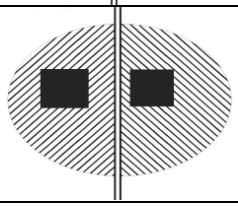

*Fig. 4: Mapping CBPMRs at LAU-2 level, showing the Morphological urban area (MUA, in black) and Functional urban area (FUA, in color)*

| **Name of CBPMR** | **Countries** | **Type of transborder FUA (ESPON 2007)** |
|---|---|---|
| Aachen-Liege-Maastricht | BE-DE-NL | 7 |
| Katowice-Ostrava | PL-CZ | 7 |
| Wien – Bratislava metropolitan area | AT-SK-HU | 7 |
| Lille transborder metropolitan area | FR-BE | 7 |
| Copenhagen-Malmo | DK-SE | 6-7 |
| Nice-Monaco-Sanremo | FR-IT-MC | 3 |
| Saarbrücken – Forbach | DE-FR | 2-5 |
| Luxembourg metropolitan area | LU-DE-FR-BE | 7 |
| Basel | CH-FR-DE | 7 |
| Strasbourg | DE-FR | 7 |
| Genève | CH-FR | 2 |

*Tab. 1: Types of cross border polycentric metropolitan areas*

The definition of each type is explained below.

| | |
|---|---|
| Type 2: a metropolis or large city, with a morphological area extending across the border in the neighbor country, through suburban areas or small cities, more included in the FUA of the |  |

| | |
|---|---|
| main city. | |
| Type 3: a metropolis or large city with contiguity in the neighbor country to smaller city with their own FUA or sending quite few commuters to the main city in the other country |  |
| Type 5: a metropolis or large city, with its FUA extending in the neighbor country, possibly with a scattered network of secondary centers |  |
| Type 6: two metropolitan or large cities on each side of the border, with tangential MUAs |  |
| Type 7: two or more metropolises or large cities, on each side of the border, with tangential FUAs |  |

*Tab. 2: Definition of each type of transborder FUA (ESPON 2007)*

After selecting the regions, each of them is now analyzed through the 4 European challenges that the 3LP is facing by using ESPON information. The aim is to understand how similar other CBPMRs are to the 3LP - at least for one of the challenges. In other words, which regions are experiencing similar territorial dynamics than the 3LP? Answering that question implies to go back to the ESPON reports used for the definition of the challenges. Each CBPMR is characterized by the key maps (see above). A CBPMR is considered as facing the same challenge is it fits in the same typologies than the 3LP. After doing so, it will be necessary to understand how those regions mobilize landscape as a lever of territorial development and/or cooperation. Emphasize is also to be made on relationship between urban areas (organized in a polycentric pattern) and rural area.

| Name of CBPMR | Challenge 1: Acting between land use intensification and diversification | Challenge 2: Climate change mitigation and adaptation | Challenge 3: Demographic attractivity | Challenge 4: Reacting on suburbanization and qualifying polycentric development. |
|---|---|---|---|---|
| Katowice-Ostrava (PL-CZ) | +++ | ++ | ++ | +++ |
| Wien – Bratislava metropolitan area (AT-SK-HU) | +++ | +++ | +++ | +++ |
| Lille transborder metropolitan area (FR-BE) | +++ | ++ | ++ | +++ |
| Copenhagen-Malmo (DK-SE) | ++ | ++ | +++ | + |
| Nice-Monaco-Sanremo (FR-IT-MC) | ++ | +++ | ++ | + |
| Saarbrücken – Forbach (DE-FR) | +++ | +++ | ++ | +++ |
| Luxembourg metropolitan area (LU-DE-FR-BE) | +++ | ++ | +++ | +++ |
| Basel (CH-FR-DE) | ++ | +++ | +++ | + |
| Strasbourg (DE-FR) | ++ | +++ | +++ | + |
| Genève (CH-FR) | + | ++ | +++ | + |

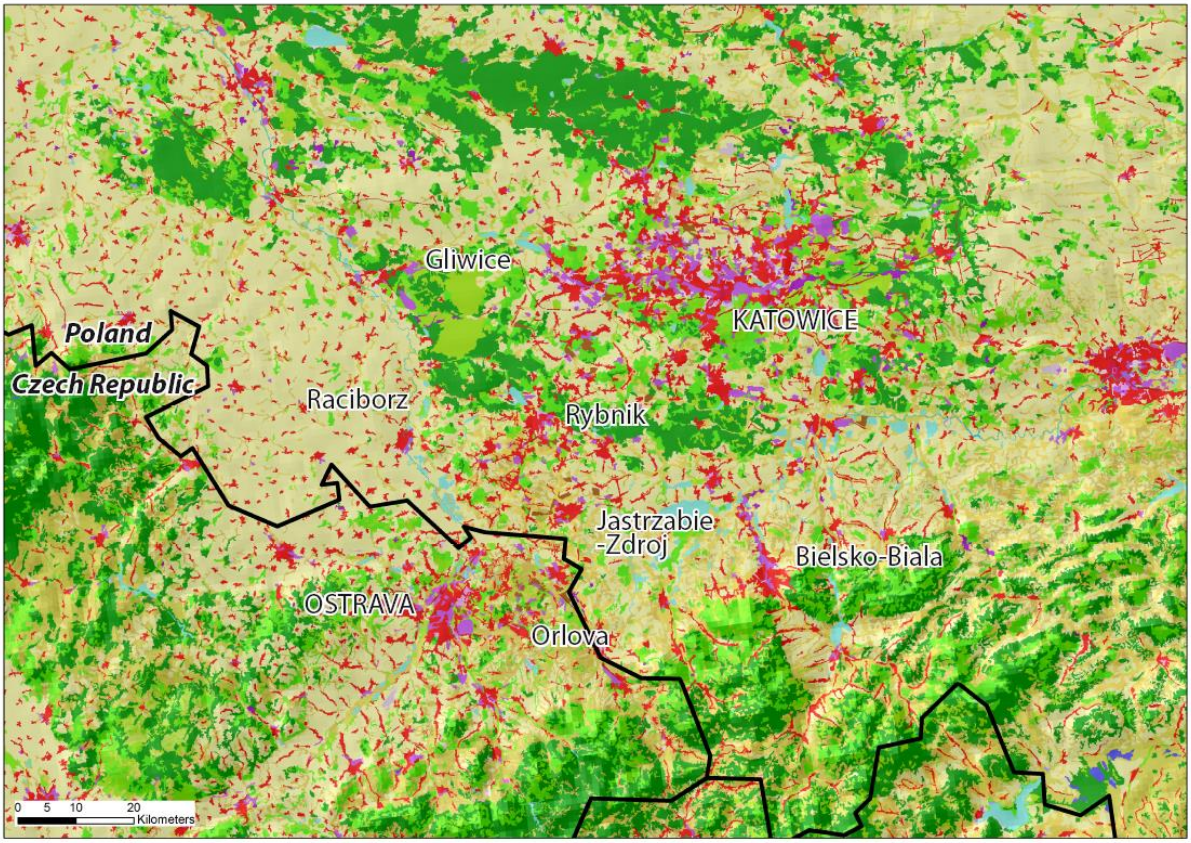
*Tab. 3: Similarity of CBPMRs with the 3LP according to identified European challenge (+ = weak, ++ = medium, +++ = strong)*

Each region faces the 4 challenges more or less intensively. The five regions that are the most similar to the 3LP (i.e, that gather the highest number of cross) are highlighted in grey. Due to geographical proximity, it

has been decided to group the Saarbrücken-Forbach region with the Luxemburg metropolitan area, forming together the core of the "Greater Region" (for full discussion on delimitation of the Greater Region, see ESPON 2010 p22).

### Comparison of the 3LP with cross border regions

### Katowice-Ostrava (PL-CZ)




Map. 16: *Katowice-Ostrava region - Source: Corine land cover, Digital elevation model (DEM-EEA)*

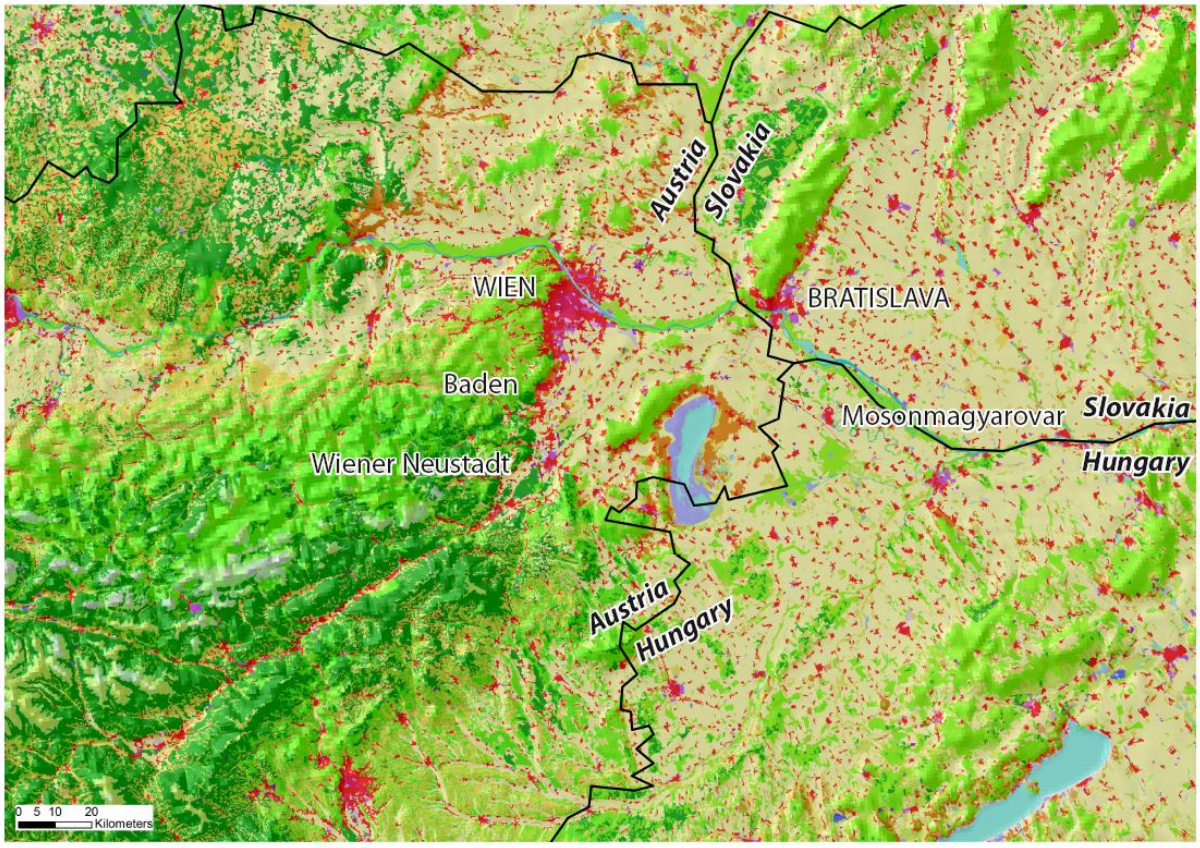
This region shows similar profile for challenge 1 and 4. In terms of land use, it is characterized by the urban core of Katowice, surrounded by an important suburban area (forming the largest urban area of Poland and one of the most important of Europe). An intensification of land use is observable, which result in a mix between agricultural and forest changes with urban sprawl. The Czech part is more dominated by diverse rural forest coverage with dispersed areas of permanent crops, pastures and arable land. There, the intensification of land use is more dominated by forest conversions. The polycentric structure is obvious for the whole area, even if less marked in the Czech part.

The region shows nevertheless divergences with 3LP, mainly due to its socio economical profile. The migrations and visitors rates are below the

EU average and the demography of the region is characterized by a high share of population in young working ages and a slight population decline, driven by a negative natural population development ("Challenge of labour force" in the DEMIFER typology). The heavy industry, which caused the urban expansion in the 19th century, is still very present (employing large number of people), making the region more exposed to coming global challenges (such as climate change and energy paradigm) than the 3LP and the transition to economic alternatives very difficult. The level of disposable income is also below EU average.

Even if facing two challenges commonly with 3LP, strong and inspiring initiatives to overcome them by using landscape as a lever are still to be found.

**Wien – Bratislava metropolitan area (AT-SK-HU)**




Map. 17: *Wien-Bratislava metropolitan area - Source: Corine land cover, Digital elevation model (DEM-EEA)*

The Wien – Bratislava area faces the four same challenges than the 3LP. The land use is mostly made of rural arable land (except urban cores, notably Wien). The land use intensification in Slovakia and Hungary is mainly due to agriculture and forest changes whereas in Austria, it is the result of a mix between agricultural and forest changes with urban sprawl. The demographic and socio economic profile of Austria is quite similar to

3LP (low level of long term unemployment and high level of disposable incomes) whereas Slovakia and Hungary show a high share of population in young working ages and a slight population decline, driven by a negative natural population development ("Challenge of labour force" in the DEMIFER typology). The Austrian part shows also an important level of workers commuting to other regions thanks to a good accessibility (private and public transport network). The FUAs of Vienna/Bratislava have a population of 3.6 million inhabitants with a strong polarisation of employment and communication infrastructures on the two Twin Cities. The average density is 160.2 inhabitants per square kilometer. The difference of GDP between the two border regions, Austrian and Slovakian, is highly marked: 60.3 points on a European average corresponding to 100 (ÖIR, CA & Regional Consulting Associates, 2007: 16-17). The urban areas are the economic locomotives on both sides of the border (172.9% for Vienna and 115.4% for Bratislava on the basis of a European average still of 100 whereas for the whole of the Austrian border region values of 146.8% are attained, and for the Slovakian 86.5%). This disparity is also found in the MRE context (but less pointedly) between Liege and the two other cities: Maastricht and Aachen. Metropolitan functions are present in both capitals.

The region is a sub-grouping of the strategic territory of the Danube region defined by the European Union as a macro-region of 115 million inhabitants. Two capitals are connected by the Danube, Vienna and Bratislava. The rural territories are relatively preserved from urbanisation, which is concentrated on the two capital hubs.

Interesting initiative of collaboration between Wien and Bratislava can be observed, where landscape is recognized as a major element for territorial development.

The enhancement of the landscape is one of the co-operation's priorities, with amongst other assets the cross-border Neusiedler See-Seewinkel nature reserve with its 20,000 hectares. The Danube is of course the spinal column between the two cities. The frontier cycle network between Austria, Hungary and Slovakia has been particularly developed. It equates with one of the engines of the MRE in terms of soft mobility, with circuits on both sides of the borders. An important partnership has been constituted around a co-operation project, composed of universities, NGOs and the two countries' federal and regional authorities. This co-operation was triggered by the enlargement of the European Union to include Slovakia in 2004. A desire for synergy harmonisation and reinforcement is much in evidence in the projects developed in the INTERREG 2007-2013 context. The co-operation territory includes two capitals (Vienna and Bratislava) and two main project areas (Carpathes astride the border and

the Danube connecting those two major hubs). Vienna and Bratislava are regarded as Twin Cities. The territory is at the heart of the "Centrope" macro-region, itself incorporated into the CADSES area and Weinviertel-South Moravia-West Slovakia Euregio (founded in 1997). The Euregio includes the Austrian districts of Gänserndorf, Hollabrunn, Korneuburg and Mistelbach, the Slovakian districts of Bratislava and Malacky, and the autonomous region of Trnava (Trnavský kraj) with the Senica and Skalica districts in the west of the Zahoria Region.

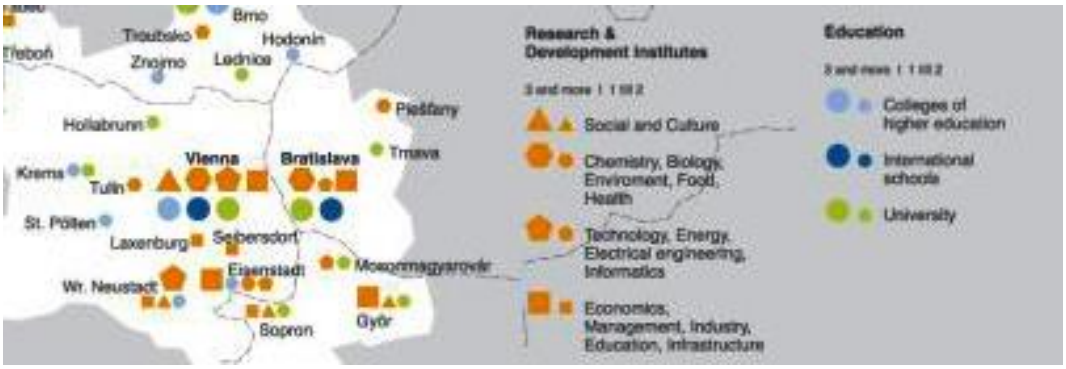



*Fig. 5: Territorial Coopération map (source: Oïr, CA, Regional Consulting Associates, 2007)*

Several languages are spoken there, two official ones (Slovak and German) and several languages of the minorities (Hungarian, Rumanian, Croatian) with a greater permeability of the territories for those minorities (OÏR, CA & Regional Consulting Associates, 2007: 30).

The cross-border cooperation between Slovakia and Austria is targeted upon:

- Economic encouragement with the development of the small and medium enterprises fabric, tourism, culture and cross-border trade;
- The protection of the natural and cultural resources and risk prevention;
- Links between the urban and rural areas;
- The opening-up of isolated areas;
- The development of co-operation exercises in the health, culture and education sectors;
- The integration of a cross-border labour market.

These six themes convey the two priorities: (1) educational and competitive region (2) accessibility and sustainable development.

The second priority emphasises the need for polycentric development based on an urban/rural balance (OÏR, CA & Regional Consulting Associates, 2007: 58). In order to assess the success of the INTERREG project, connection indicators (infrastructures, networks, and so on) are being mobilised as well as some transverse indicators of sustainable development with targeting on urban areas (centralities), rural areas and city/countryside relations.

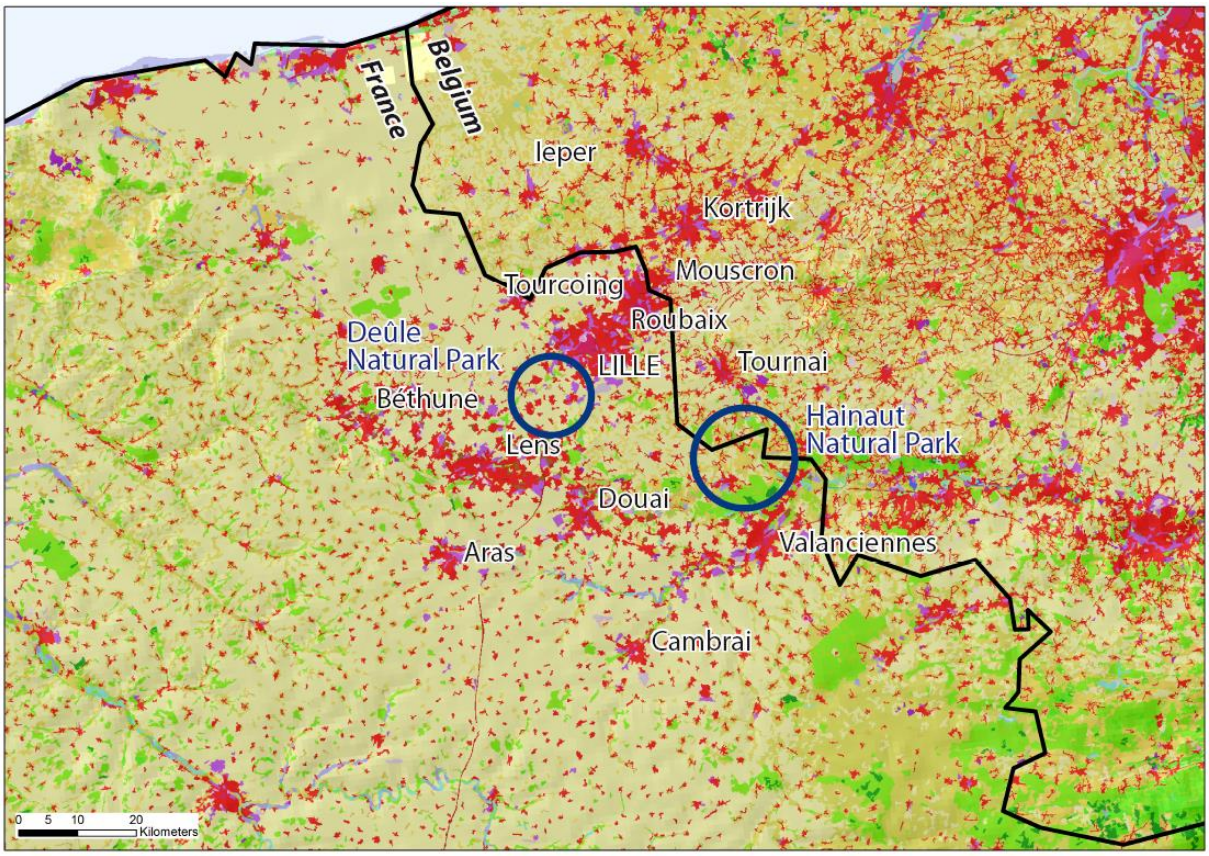
The environment and the landscape are two levers that are recognised by the partners. The landscape qualities of the open spaces between Vienna and Bratislava are assets that have been taken into account in the cross-border INTERREG projects. The relationship of the main hubs with the rural territory is fundamental. The cross-border environmental protection and landscape enhancement approach is another strong element of the co-operation objectives via in particular the networking of the Natura 2000 areas. Lastly, the Danube between Vienna and the Slovakian border is protected as a nature reserve.

It should be said that agriculture still constitutes an important economic pillar in the Region. The rural areas have been subject to protection in order to decelerate the urbanisation and to preserve the agricultural areas.

It will be retained from this experience that the emphasis placed on polycentrism and its relationship with the rural areas has been applied to various projects, including the development of an urban forest in Bratislava.

The search for balance between the urban and rural areas is the project's major element.

**Lille transborder metropolitan area (FR-BE)**




Map. 18: *Lille transborder metropolitan area - Source: Corine land cover, Digital elevation model (DEM-EEA)*

The Lille metropolitan area is similar to the 3LP concerning challenges 1 and 4. The whole region is considered, at EU level, as a suburban area. The intensification of land use is due to urban sprawl, both residential and economic. The complex polycentric structure of cities with open rural areas makes the region similar to the one of the 3LP. In addition, two natural parks have been implemented: the Deûle Park and the Hainaut Cross Border Natural Park. Their strategies are developed in the following lines.

The Deûle Park has been set four objectives:

- To create a green lung for the Lille metropolis so that it can achieve an area of green space per capita equivalent to the other metropolises (15m² for Lille versus 26m² for Brussels);
- To protect the capture of agricultural activity areas;
- To upgrade the landscapes;
- To connect the Lille agglomeration to the mining basin conurbation by a considerably wide green corridor.

The park networks various centralities of different sizes: the Lille metropolis and the agglomerated mining basin with Lens and Douai as the centrality. It is covered by several Territorial Coherence Schemes (SCoTs):

- The SCoT of Lens/Liévin/Hennin/Carvin includes fifteen facilities (hypermarket, Hospital, schools, sports clubs and so on) but no higher education establishment;
- The SCoT of Douaisis includes the formative facilities of its territory, including the Faculty of Law of the University of Artois and the Mining Engineering School;
- The whole of the mining basin is included in the Lands of the North Interscot (formerly "Scarpe - Artois".

There are numerous interrelationships between Lille and the mining basin. The territory of the Lands of the North Interscot is characterised by "a multi-polarity structure with no dominant city. Nevertheless the public transport networks have not yet been sufficiently upgraded by efficient connections with the Lille metropolis." (Dupont A., 2007-2008).

The polarisation of Lille is extremely strong and the Deûle Park brings an element of territorial connection and balancing by containing the urbanisation, by improving the inhabitants' recreational areas and by instituting territorial cohesion.

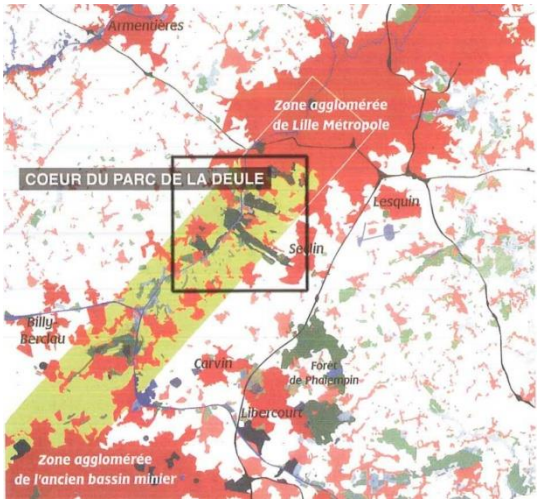



*Fig. 6: The Deûle Park as polycentric liaison (source: ADU)*

The Hainaut Cross border Natural Park (HCBNP) is located between Lille, Tournai, Mons, Valenciennes and Douai. It combines the nature parks of the "Plaines de l'Escaut" (Belgium) and the Scarpe-Escaut (France). The HCBNP therefore does not have the same status as the 3LP, which has only weak recognition or protection of its natural spaces and landscape. The Walloon side for example presents few areas that are recognised by Natura 2000.


*Fig. 7: Location of the Hainault Cross-Border Nature Park: Source [www.observatoire-paysages.pnth.eu](http://www.observatoire-paysages.pnth.eu)*

The two parks began to co-operate in 1983. The HCBNP covers 70,000 hectares with 250,000 inhabitants as against 221,500 hectares with 1,928,000 inhabitants for the Three Countries Park, which corresponds to 21% of the surface area and more than half of the MRE's population. It does not include the towns located in its circumference, which is contrary to the objectives of the Three Countries Park, which delineates its circumference at 5 km around the urban nuclei of the MHAL Cities. It is centred on the observation of the landscapes of the two nature parks following the example of the actions conducted in the context of Herve in the Future. The perimeter of the HCBNP encompasses only the southern part of Picardy Wallonia that is included in Eurometropolis via the communes of Rumes/Brunehaut/Antoing/ Péruwelz/Beloeil/Bernissart.

The HCBNP project is, above all, oriented towards raising the inhabitants' awareness of these landscape qualities, and that of all of the parties involved. The economic development policy encourages environmental agricultural practices. The upholding of the production units aims to preserve the region's rural nature. The support obtained thanks to the Interreg IV project has enabled the players to be structured and grouped around the cross-border project, which has been formalised in a contract between the two nature parks (Plains of the Scheldt and Scarpe-Scheldt).

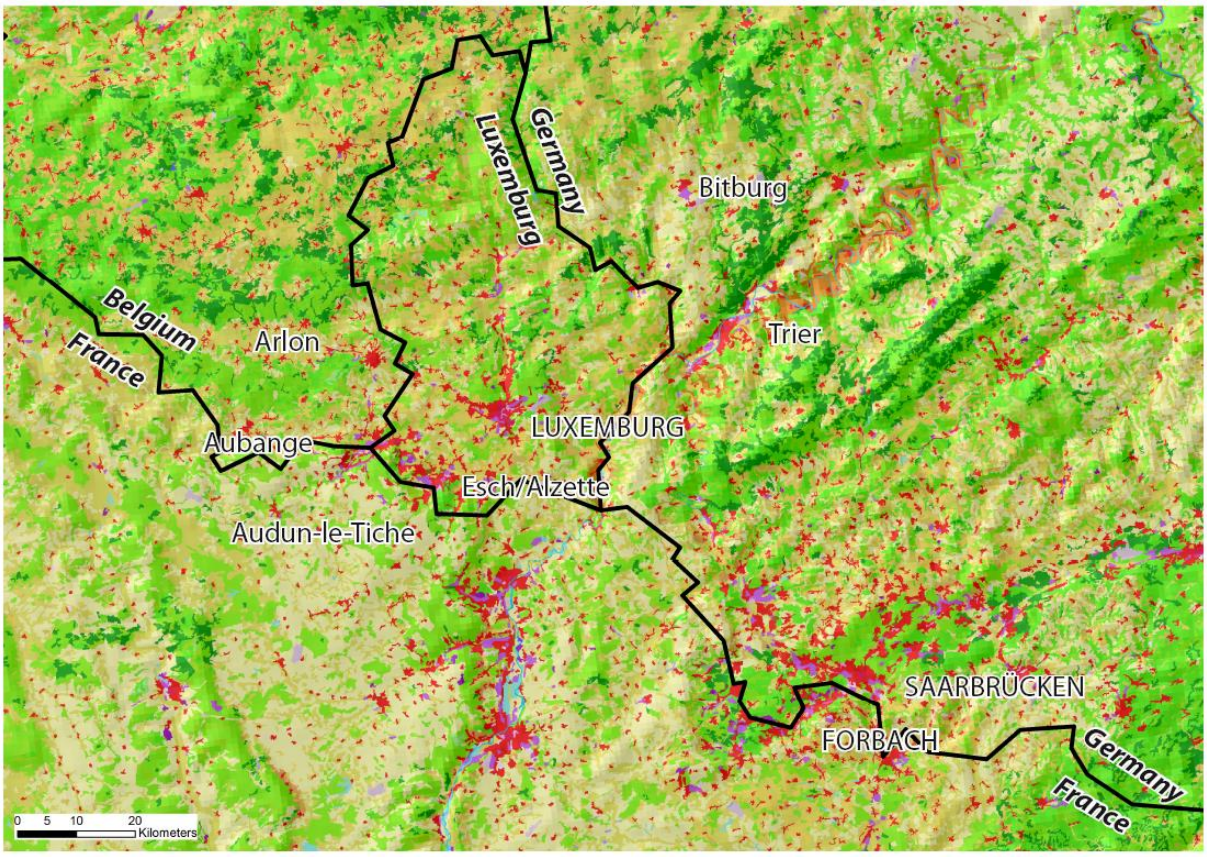
The city/countryside relations in a polycentric system are not found in their park programme. It focuses on the protection of the landscapes and the biodiversity, and on eco-efficiency, both by the encouragement to use short circuits and by eco-construction, as well as on the protection of the natural and built-up heritages.

References to the urban area rationales are found in Measure 2 of the 2010-2022 Charter of the "Scarpe-Escaut" Regional Nature Park adopted on 30 August 2010. In the "Developing Another Urbanisation" section, the

Charter lays down this objective: "To Control the Urban Sprawl and the Development of the Infrastructures". Polycentrism can in this perspective be perceived as a reaction to a threat (urban growth) or as a lever (reinforcement of the hubs).

In conclusion, the HCBNP does not incorporate the polycentric dimension. It is perceived as an entity concerned only with the growth of its surrounding urban hubs. It is comparable to the territorial rationale of the Upper Veluwe.

**The Greater Region (LU-DE-FR-BE)**




*Map. 19: The Greater Region - Source: Corine land cover, Digital elevation model (DEM-EEA)*

Similarities between the Greater region and 3LP is first to be found in challenge 1 (land use intensification and diversification). Even if the region shows very different patterns of land use according to countries (from rural to suburban areas), the intensification is observable, and mainly through urban sprawl process, even if limited in the Belgian part. This process is to be linked to the challenge 4 (Metropolisation).

Few cross border initiatives that focus on landscapes are to be found in the region. The Euro district Sarre-Moselle is to be cited. The region is in an economical reconversion and aims to implement an integrated strategy for the whole conurbation, based on synergies between areas of each

sides of the border. In 2010, after a long process initiated in 1997, a European Grouping of Territorial Cooperation (EGTC) was created in order to implement cross border governance. A shared vision for the future of the Sarre-Moselle region was created and focuses on the fields of territorial development, transport infrastructure, research and education, energy and environment, economy and employment, tourism and culture.

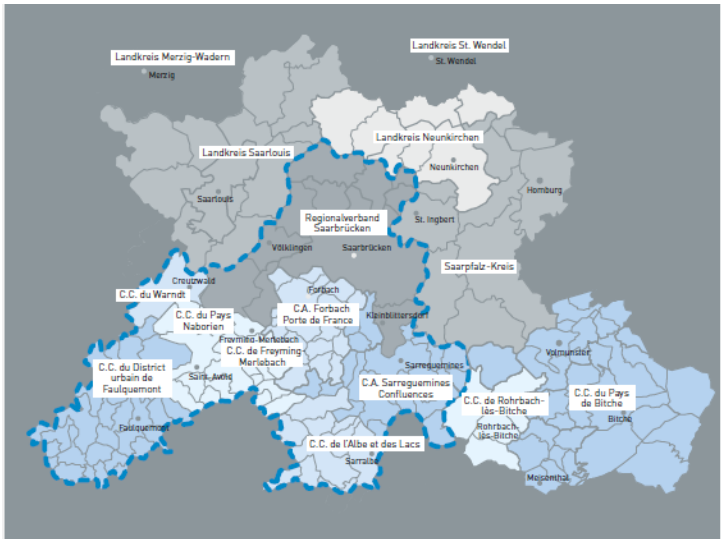



*Fig. 8: Perimeter of the Eurodistrict Saar Moselle (dotted blue line). Source: [www.saarmoselle.org](http://www.saarmoselle.org)*

The three missions of the Eurodistrict are:

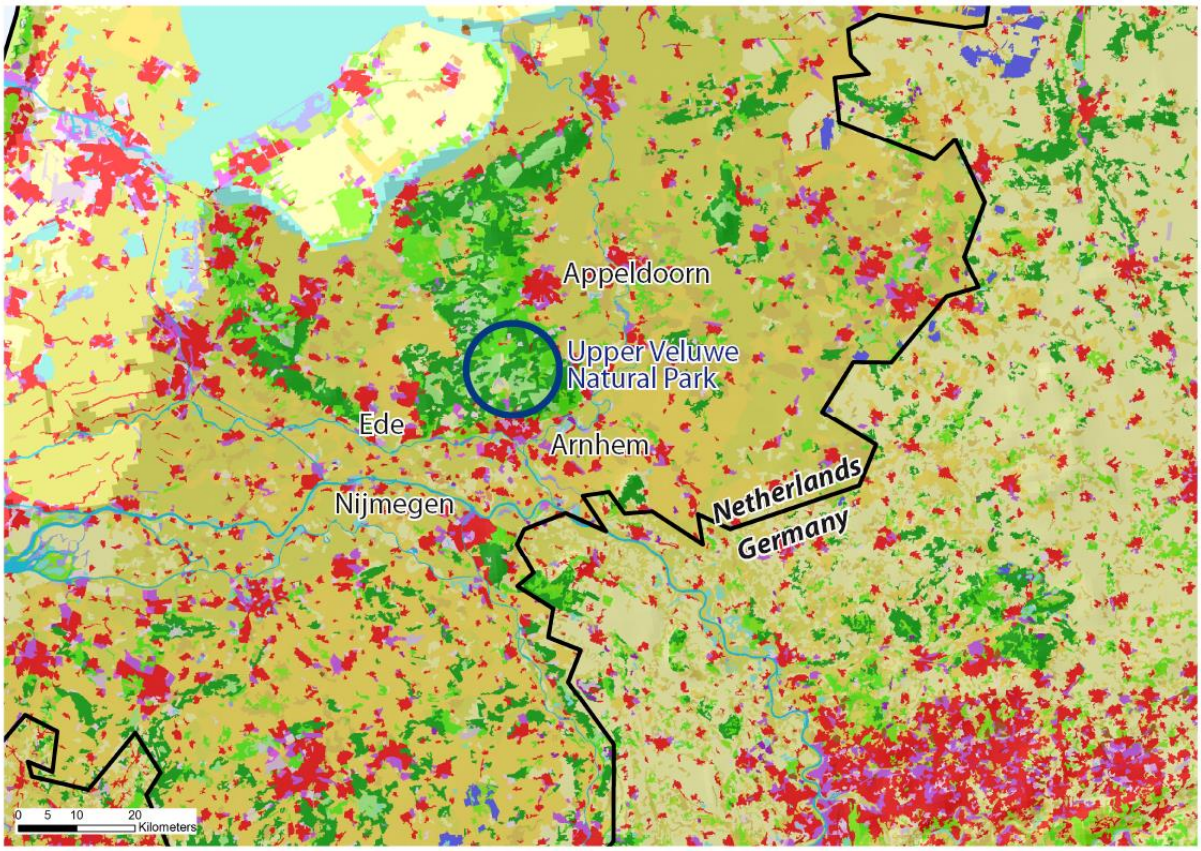
- Elaborating cross border projects of common interest and assist its members in implementing them.
- Support and promote cross border citizen networks that contribute to the realization of Eurodistrict initiative.
- Implement a territorial marketing of the Eurodistrict and promote its interest vis-à-vis regional, national and European institutions.

Even if landscape is not specifically tackled in the strategy, it is integrated in some projects such as "Bande bleue" (INTERREG IVa). This project aims at developing an integrated vision of the Sarre river based notably on a spatial analysis of landscape features.

**Comparing 3LP with two non-cross border regions**

In addition to the previous comparison, two cases are developed. Even though they do not show a cross border situation, they might be of interest because of their territorial profile. Each shows a polycentric organization of cities in relation with an open rural area. The two cases are the Upper Veluwe (NL) and Central Tuscany Agricultural Park (IT).

**The Upper Veluwe (NL)**




Map. 20: The Upper Veluwe - *Source: Corine land cover, Digital elevation model (DEM-EEA)*

The Upper Veluwe National Park is the only park created by the private sector in the Netherlands (Kroller-Muller), and it has kept a foundation-oriented management structure. The park establishes a natural border with the peripheral hubs without establishing any functional relationships. Several polycentric operational rationales are at work. The FUA of Arnhem is the only one listed in the ESPON nomenclature (ESPON 2007). The other polarities have not been included and are therefore not regarded as Functional Urban Areas.

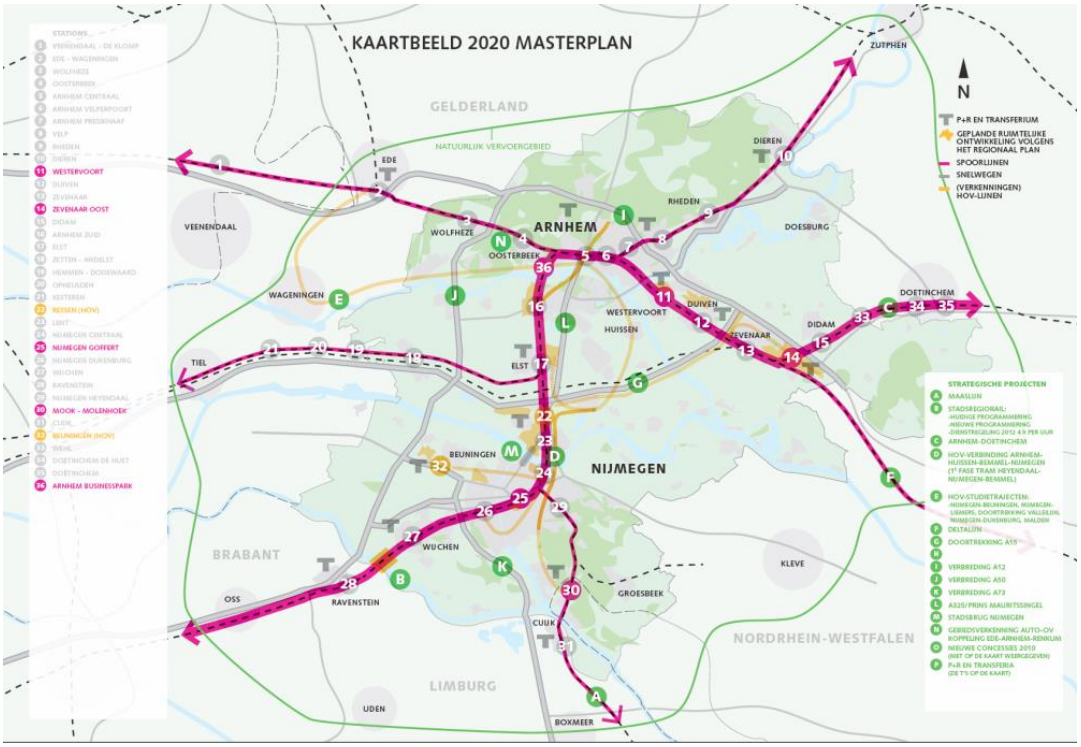
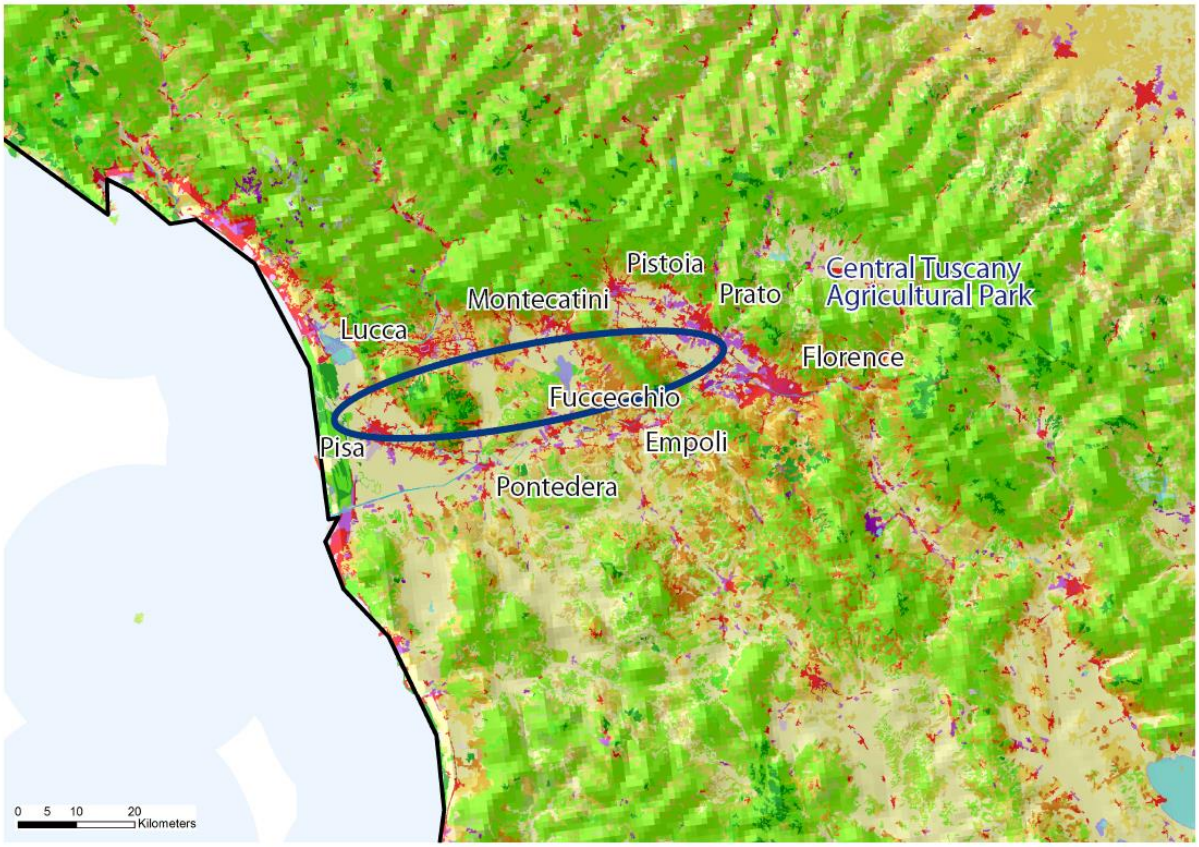



*Fig. 9: Masterplan public transport up to 2020 (source: Stadregio Arnhem/Nijmegen & Twynstra Gudde adviseur en managers, 2008).*

The park functions as an isolate rejecting the urban structures on its periphery. This break occurs both institutionally and functionally. Apeldoorn is isolated from Arnhem, which focuses its polycentric development on Nijmegen within the Stadregio Arnhem Nijmegen. The strategic mobility plans are enlarging the Stadregio's area of influence towards the south, forsaking the north of the park. The territory is recomposed in an urban area rationale on two major hubs (Arnhem and Nijmegen) structured around the Rhine.

**The Central Tuscany Agricultural Park (IT)**




*Map. 21: The Central Tuscany Agricultural Park - Source: Corine land cover, Digital elevation model (DEM-EEA)*

Tuscany is recognised as a polycentric area historically consisting of a fabric of small and medium-size companies (Burgalassi D., 2010). This structuring has been implemented with the objective of minimising the distances between the employment hubs and the labour pools. The Tuscan polycentric system has been consolidated in the regional plans (Regione Toscana, 2005), which make it one of their main objectives (Burgalassi D., 2010). A conurbation between Florence, Prato and Pistoia has been identified as of the Fifties. On this basis, several plans have followed one another until the recognition of this grouping as a metropolitan area in 2000. Schemes are being studied in order to set its objectives and to organise its territory.

The polycentric agricultural park concept is deployed over "the polycentric urban bioregion" (Fanfani D., Poli D., Rubino A., 2008). The bioregion is understood to be compost for the reproduction of the local biodiversity. Furthermore, the agricultural park serves as a tool for the conservation of the polycentric structure of Central Tuscany in order to prevent the latter from becoming a single great conurbation. The agricultural park project meets this objective by restoring the historical landscape, by promoting

peri-urban agriculture, and by developing tourism and local food-processing. In addition, the exploitation of renewable energy resources via the biomass is encouraged. Participative land management groups have brought the farmers together and have allowed the pooling of tools for the benefit of the smallholdings. Innovative solutions have been suggested in order to preserve the agricultural activities by introducing part-time work with staggered timetables.

The Central Tuscany Agricultural Park project has set up a dynamic favouring the protection of the open space and its memory in the face of urban growth. The interdependences between the cities and the rural territory are woven by resorting to a process without intermediaries. It should be noted that there is however evidence of a demographic decrease, which does not compromise its polycentric structure articulated around effective transport networks (road and rail) (Perrin C., 2009).

Central Tuscany is also envisaged in some studies at various levels that do not intersect one another. The landscape unit, identified as homogeneous, is consequently found to be fragmented in the territorial forecasting documents.

## General implications of the established European identity of 3LP for the development of the landscape policy of 3LP

### From global to local

Local changes in landscape can be understood as a consequence of dynamics that are occurring at much more global scale. Understanding the process of those dynamics helps stakeholders to better anticipate potential negative effects and better bring landscape as a way of overcoming challenges. As they are global, those territorial dynamics affect other regions in Europe. Each, according to their own specific assets and potentials are more or less well positioned to mobilize landscape in their development strategies. Successful experiences must be a source of inspiration for the 3LP, keeping in mind that a landscape strategy is to be tailor made and therefore not directly transferable to any other context. The above described cross-border examples, through the strategies that they have implemented, show that their main concern is mostly to deal with challenge 1 (land use intensification and diversification) and challenge 4 (reacting of suburbanization and qualifying polycentric development). Indeed, these territories focus on the right balance between urban and rural relationships, by decelerating the urban sprawl which is seen as the main threat for the territorial identity and inhabitants' quality of life. The issue is tackled through protection of open areas (Wien-Bratislava, Lille, Upper Veluwe) or by initiating or supporting

economic and leisure activities in accordance with the rural profile of the region while at the same time considering landscape as an element of the dynamic (Central Tuscany and the Greater Region).

**Urban rural relationship**

In the case of the 3LP, a certain mistrust or disinterest is perceptible concerning the articulation of urban/rural areas. The players encountered in the Cities of Maastricht and Liege do not perceive the added-value of the central rural territory in the polycentric structuralisation. The territory is more to be organised by formative axes (the Meuse, the Gueule) than by areas (Three Countries Park).

In 2003, the Three Countries Park's Developmental Perspectives were trying to limit the urban extension inside the park. The Herve of the Future Project shared this concern and recommended slowing down the urban sprawl while discriminating in favor of endogenous economic growth (Charlier J., 2006).

Nevertheless the MAHHL Cities are at the intersection of this protective tendency (sanctuarization / brake on urbanization). They benefit from highly important connectivity, which has been further developed by the installation of heavy infrastructures such as the EuregioBahn or by future ones such as the Spartacus project for a tramway between Hasselt and Maastricht. The importance of the networks sustains the thesis of an important polycentric potential. However, the present dynamics, with a stronger development of the west-east than the north-south axis, confirm the heterogeneous co-operation between the partners noted in the Metroborder study (ESPON, 2010). Another source of imbalance is illustrated through the dissimilar GDP per capita (the wealth being concentrated on the Maastricht/Aachen axis). By the same token, the FUAs have a variable population rate (223,000 inhabitants for Maastricht and 742,000 inhabitants for Liege). The available income per capita indicator in 2004 was €9,827 for the Province of Liege (without the MD), €14,885 for the Belgian Province of Limburg, €11,930 for the Dutch Province of Limburg and €16,884 for the Aachen Region[10].

By the same token, it should be pointed out that the leadership is not located in the most populated urban area. Maastricht has a dynamism stronger than Liege with large-scale urban transformations, strong growth of its metropolitan functions (the increase amongst 2006 - 2011 university students was 37% in Maastricht - 15,916 students in 2011 versus 25% in

[10] Source: E.I.S. (2007).

Liege - 20,000 students in 2011 and 19% in Aachen - 35,782 students in 2011)[11].

The resonance of the mining basin and the historical urban reinforcement also make it a fragmented territory.

In the north and the south-west there are incomers from the mining towns: the Hasselt/Geelen/Alsdorf axis materialized by the Grünmetropole project and the Land of the Slag Heaps, the end of the Sambre/Meuse basin finishing on the Herve plateau in Blegny. Between these two basins, the historical cities are found in a triangle similar to that of the Tuscan configuration.

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[11] Sources: E.I.S. (2007) ; Universities; NRW Institute of Statistics (www.it.nrw.de/presse/pressemitteilungen/2012/pdf/264_12.pdf)

## V) Stakeholder perspectives: Regional policy initiatives

### *Cross border, including 3LP:*

*Aquadra* (2009-2012) works on concrete agreements and river conventions/contracts between 12 Belgian, Dutch and German partners.[12] The project focuses on four tributaries of the Maas, the Jeker, Voer, Berwijn and Geul. Issues related to flooding, water quality, erosion and ecological habitat are addressed by 12 starter projects along the tributaries, for example with the creation of new retention areas and riparian vegetation. The project is addressing experts as well as local citizens and is financed with Interreg IVb funding.[13]

*Habitat Euregio* (2010-2013) aims towards a cross-border basic ecological plan in form of a "green infrastructure". Thirteen nature and landscape protection organizations from Belgium, the Netherlands and Germany cooperate in the project that attempts to improve habitats for selected species through measures on agricultural areas, forest edges and along paths/roads. Other targets are the improvement of green linkages crossing the 3LP, the creation of a "Euregional Forum Nature" for an ongoing exchange of ideas between the organizations and the transfer of all efforts and results towards the inhabitants, local administrations and nature protection agencies. Also this project is based on Interreg IVb funding.[14]

The 3LP initiative also supported a limited projects mainly dedicated to cultural heritage and tourism: *Grensschap Albertkanaal*[15] (NL-BE), *Via Belgica*[16] (NL) and *Grensrouten*[17] (NL-DE).

The *Euregionale 2008* (2002-2008) was an example for a large scale, cross-border and cross-sectoral cooperation not in direct relation to the 3LP, however partially corresponding with the 3LP project area. Enabled by Germany/NRW's *Regionalen* funding program[18], the Euregionale initiated an abundance of subprojects. The *Wurmtal project* (2002-2008) for example,[19] focused on the development of water bodies, nature, mining and cultural heritage. Cultural monuments, e.g. mills and landfills

12 Coordination: Agence de Développement Local de Plombières, Lontzen et Welkenraedt. Partners: Ardenne & Gaume Asbl, Contrat de Rivière Meuse-aval et affluents Asbl, Vlaamse Milieumaatschappij, Provincie Limburg (B), Waterschap Roer en Overmaas, Provincie Limburg (NL), Associated partners: Vzw Regionaal Landschap Haspengouw en Voeren, Région Wallonie, Province de Liège, Stadt Aachen, Bekkensecretariaat Maasbekken

13 http://www.aquadra.eu

14 http://www.3landenpark.eu/habitat/

15 http://www.grensschap.eu/

16 http://www.viabelgica.nl

17 http://www.grenzrouten.eu/

18 The Regionalen of the Land NRW are a special funding instrument applied to different NRW-regions over time.

19 http://www.staedteregion-aachen.de/wps/portal/internet/home/staedteregion/projekte

were made accessible to the public and connected with new hiking paths and bridges. In response to existing flood risks since the 70's, formerly channelized segments of the Wurm were "renaturalized", which included habitat improvement and -creation. The project was financed by two ministeries of the land NRW.[20]

As the above has demonstrated, the 3LP region has hosted a variety of cross-border projects. Many of these are close to termination or already closed, however it should be stressed that some of them may continue in different formats or as part of new projects in the future.

Simultaneously to the cross-border initiatives described so far, a broad range of stakeholder projects with impact on landscape has been developing within each national area of the 3LP. A selection of these projects has been made by the TPG according to their relevance regarding the LP3LP's aim to design a landscape perspective and to synchronize it with multiple European policies. Thus, such stakeholder projects were selected that tend to have a direct spatial impact and that integrate more than 3 policy sectors.

### *Province South Limburg/NL*

The *Landscape Vision South Limburg* (2004-ongoing activities) has derived from the classification of South Limburg as a Dutch national landscape (these are areas with unique combinations of agricultural usage and natural and cultural-historical character.). Initially conducted in cooperation between the Province of Limburg and Wageningen University, the project envisages an integrated vision for strengthening the natural and cultural-historical structure of the landscape and to improve access to points of public interest. Many concepts from the Dutch national landscapes and the *Landscape Vision South Limburg* are influencial on the LP3LP project, such as the aims to define/improve core qualities and to design a landscape framework. The *Landscape Vision South Limburg* was financed by "Stimuleringsfonds voor Architectuur op grond" as well as by staff and financial support from the Province Limburg and Wageningen University.[21] Since the beginning, the project was directed towards implementation by relating as much as possible to formal planning (the Provinciaal Omgevingsplan Limburg (POL)), or the *Intergemeentelijke structuurvisie Gulpen-Wittem, Vaals, Valkenburg* (2010-ongoing), for three municipalities. Here, existing and future projects regarding housing, work, business and employment, landscape and nature conservation,

20 Stadt Herzogenrath. 2010. Wurmtal ohne Grenzen. Wormtaal Zonder Grenzen. Brücken schlagen – Geschichte erfahren – Welten entdecken

21

http://www.limburg.nl/Beleid/Ruimtelijke_Ontwikkeling_en_Volkshuisvesting/PCOL/Uitgebrachte_adviezen/PCOL_2008_07_Landschapsvisie_Zuid_Limburg_doc

tourism and recreation, infrastructure, leisure and health and others are first inventarized. In a next step, new ones are developed as part of the overall vision and transferred to the responsibility of local municipalities.[22]

### *Städteregion, Stadt Aachen and NRW/Germany*

At the German side of the 3LP, *Indeland* (2008-ongoing) is an example of a project that focuses across sectors on economic structural change: the transition away from once dominating coal mining activities to new futures. Once exploited (in about 2050), the "Rheinisches Braunkohlerevier" will provide about 30.000 ha of brownfields, that can be recultivated for recreational and other new economic purposes. An overall goal is to develop attractive and sustainable plans for landscape and infrastructure, together with a variety of needs regarding the cultural sector, the development of sciences and housing/live and work relations.

The project includes work on a Masterplan and is conducted as a cooperation of one German „Kreis" (encompassing a city and municipalities), two cities, five municipalities and a private foundation focusing efforts on regional sustainable development. Since 2008, realized measures have included new cultural facilities, touristic and recreational places including a visitor center/watchtower that allows views of the industrial heritage and its transforming landscape, as well as a variety of projects related to biodiversity and habitat quality, e.g. the diverted creek "Inde" has received manmade riparian buffers along a length of ca. 12km. Moreover, the project focuses particularly on regenerative energy sources for the post-coal future, e.g. the Windpark "Halde Nierchen" Eschweiler-Weisweiler or the "solar power plant Jülich". Simultaneously to such measures, a research study by the private foundation investigates future scenarios, in the context of climate change and the change of the energy paradigm. Measures planned for the future include a new artificial lake with a surface of ca. 11km$^2$, that is to be realized after 2030 in cooperation with the private energy supplier (RWE) that is currently mining brown coal in the same area.[23] [24]

### *Province of Liège/Wallonia/BE*

*Pays de Herve – Futur* (1999-ongoing) is a bottom-up initiative by local citizens. Founded in 1999, a non-profit organization for the future development of the 'Pays de Herve' region was created in 2002. In 2012, *Pays de Herve-Futur* changed into a formal federation of local actors,

[22] http://www.heukelomverbeek.nl

[23] http://www.indeland.de

[24] http://www.aachener-stiftung.de/regional/regionalentwicklung/2009-indeland.html

including citizens, 11 local municipalities[25] and 12 local organizations which are active in different sectors and fields such as agriculture, culture, local development, economy and business, education, environment, society and tourism. Overall, the objective is to conduct global and long term thinking, to promote synergies and contacts between various local actors and partners, as well as to organize concrete actions (such as landscape festivals, bulk purchase of high-stem fruit trees, landscape day, educational activities, etc.) about the future development of the region. *Pays de Herve-Futur* is structured into 4 platforms, for which landscape is the common element: (1) Spatial planning: regular meetings to discuss about one common problem in this field (e.g. renovation of ancient farms, solar trackers, etc.); (2) Agriculture: prospective process about the future of agriculture and farmers in our region (e.g. survey, statistics, etc.); (3) Economy and mobility (to be initiated); (4) Tourism, culture and education (e.g. promotion of educational tools).[26]

### *Province of Limburg/Flanders/BE*

In terms of their definition, the „regional landscapes" in Flanders are comparable to the Dutch „national landscapes" described earlier. The organizations combine members of the Flemish and provincial governments, nature protection agencies, agricultural as well as touristical associations. Financing is provided by a ministery of the Flemish government, the province and municipalities. The 3LP contains 2 regional landscapes: Kempen en Maasland and Haspengouw en Voeren. The organizations do not work on large scale strategic plans, however they enable a large number of sub projects, mostly related to recreation/tourism/cultural heritage and nature protection.[27] [28] An example is *St. Pietersberg* (2002-ongoing), an Interreg III-a project, financed with 50% through the *European Regional Development Fund* (ERDF). The project comprises more than 30 measures from new parks to the restoration of monuments and their connection enabled through 120 km of new hiking routes and 80 km new bike paths.[29]

[25] The municipalities comprise Aubel, Baelen, Dison, Herve, Lontzen, Olne, Pepinster, Plombières, Raeren, Soumagne and Thimister-Clermont

[26] http://paysdehervefutur.be/site/

[27] http://www.rlh.be/

[28] http://www.rlkm.be/

[29] http://www.sintpietersberg.org

## VI) Objectives in previous landscape studies on parts of the 3LP landscape

*Tab. 4: Atlas de paysages CPDT Wallonie*

| Landscape unit | Landscape objectives |
|---|---|
| Plateau agricole de l'Entre-Geer-et-Meuse | • preserve open spaces and limitation of activities that invade the open spaces;<br>• optimize location choice and development of wind farms with respect for the local landscape characteristics;<br>• revalue the cultural-historical elements;<br>• promote/encourage the appreciation of the plateau-landscape |
| Vallée du Bas Geer | • preservation of the agricultural and natural areas between the villages;<br>• preservation of the vista of the slopes;<br>• conservation of the diversity in land use, especially the orchards and hedges;<br>• revalue the different ways to experience the landscape;<br>• redevelop the slopes on the right side where extraction has taken place |
| Terraces Mosanes | • Taking care of the old 'open field' landscape by strengthening its identity, settlements surrounded by orchards and open fields on the village territory. |
| Vallées de Barchon et Blégny / Täler von Barchon und Blégny | • Preservation of the local hedge structure, especially the standard orchards and the hedge networks;<br>• Reservation/designation/design of new developments on the already opened up areas, in order to stop linear development especially the on the hill ridge;<br>• Preservation and strengthening of the forest strips on the edge of a settlement;<br>• Improvement of the accessibility of the attractive valley floors. |
| Cuvette central du Pays de Herve / Zentraler Kessel des Herver Landes | • Protection of the remaining elements of the hedge landscape (dispersed settlements; hedge networks, standard orchards);<br>• Restoration of the hedge networks, with priority for the least damaged parts, slowly expanding these areas;<br>• Direction of urbanisation, especially around Aubel, Thimister and Charneux, in order to preserve the historic village structures and the scattered settlement structure;<br>• Oppress settlement development on the surrounding hill ridge, a sensitive area from landscape perspective;<br>• Supporting the planting of new standard orchards and their maintenance;<br>• Reorganisation of the existing road structure and preservation of field paths. |
| Bourgs rureaux de Herve – Battice / Ländliche Marktflecken Herve und Battice | • Design of a long term landscape development perspective for the N3-N627 area;<br>• Cautious relocation of the extension options for the industrial zone;<br>• Conservation of the special silhouette of Herve;<br>• Redevelopment/restructuring the centre of Battice, in order to strengthen the coherence of the central open spaces. |
| Campagnes périurbaine de Liège et de Verviers/ Stadrandlandschaften von Luttich und Verviers | • Design of new settlement areas both on dimension and quality, in order to maintain the readability of the landscape;<br>• Recognition/protection of the islands of the hedge landscape as Cultural heritage to protect them from future urbanisation;<br>• Upgrading of the hedge landscape islands as open breathing spaces within the build-up area. |
| Vallée de la Gulp / Tal der Gulp | • Protection of the existing elements of the agricultural and hedge landscape: dispersed settlements, hollow roads, hedge networks, standard orchards; |

| | |
|---|---|
| | • Limit the development west of Homburg with respect to the landscape identity of the area;<br>• Development of touristic routes and views for non-motorized users and upgrading the educational potential of the valley. |
| Vallée de la Geulle herbagère / Grünes Göhltal | • Development/design of settlements focused on the strengthening of the village silhouettes and keeping the visible village contours;<br>• Protection of the well maintained hedge landscape zones right up to the build-up areas;<br>• Upgrade/Revaluation of the landscape resources in touristic development. |
| Plateau de Welkenraedt / Ebene von Welkenraedt | • Protection of the elements of the hedge landscape, the hedges and bushes, especially the low and long hedges as well as the pollard trees surrounding the pools;<br>• Preservation of the views and open parts in the landscape, especially along the roads;<br>• Development/design of settlements focused on the strengthening of the village silhouettes and keeping the visible village contours;<br>• Attention to the integration of industrial/commercial activities in the existing landscape. |
| Agglomération de Eupen – Welkenraedt / Agglomeration Eupen -Welkenraedt | • Controlled urbanisation development around Epen and Welkenraedt with special attention to the structuring role of urban extensions;<br>• Development of a strategic perspective for the revaluation/design of the connection to the new urban areas around the N67;<br>• Development of a footpath network connecting the green areas with each other and the surrounding landscape;<br>• Design/development of the valley floor downstream of Eupen. |
| Arc forestier de La Calamine / Waldbogen von Kelmis | • Design of the ensemble of buildings, forest and pastures, in order to preserve the special landscape features of the area;<br>• Strengthening of the landscape coherence of the settlement zones. |
| Vallonement herbagers de la Vesdre et de ses affluents, ouest et est / Grüne Hügellandschaft der Weser und ihrer Nebenflusse | • Preservation of the landscape structure, especially the hedge landscape on the plateaus and the coherence of the villages;<br>• Strengthening of the valleys by constructing access to the river from the footpaths. |
| Agglomération de Verviers / Agglomeration Verviers | • Revaluation of the relationship between city and river in coherence with other landscape design projects;<br>• Development of viewpoints and stopping places along streets that have a strong landscape potential;<br>• Taking landscape design into account in the (re)development of industrial plots, especially when they are along the access in the city or close to the Weser;<br>• Taking the logic of the available building areas into account in urbanisation and conservation of the open areas in the surroundings of the city centre. |
| Vallée de la Basse Vesdre | • Creating a public access to the valley floor for walking and daily strolls;<br>• Consultations on the reassessment of the N61 and approach roads between Liège and Verviers, as well as taking into account the options related to the railroad;<br>• Opening up the viewpoint on the valley;<br>• Preservation of the quality of the area between the meander and the Weser/Vesdre;<br>• Upgrading of the significant industrial heritage in the valley;<br>• Control the effects of the building of the A605 on the landscape. |

*Tab. 5: Traditionele landschappen van het Vlaamse Gewest*

| **Landscape unit** | Landscape objectives |
|---|---|
| **Limburgse Maas** | • Landscape and nature restoration at shingle excavation sites, not just recreational development. |
| **Maasvlakte en het terrassenland** | • Landscape and nature restoration at shingle excavation sites, not just recreational development. |
| **Kempens Plateau** | • Differentiating spatial policy aligned with the landscape units focused on the restoration of diversity;<br>• Avoid a uniform recreational monoculture;<br>• Safeguard nature areas;<br>• Keep heathland open, restoration of the stream valleys with enclosed landscape as the structuring elements;<br>• Fitting new infrastructure and industrial development in the existing landscape structure. |
| **Demerland** | • Differentiating spatial policy focussing on the restoration of the diversity and readability of the landscape;<br>• Decontamination;<br>• Preservation of swampy valley grounds;<br>• Restoration of the small scale bocage landscape;<br>• Stop of ribbon development. |
| **Demervallei** | • Safeguard watery valley grounds. |
| **Vochtig Haspengouw** | • Safeguard and maintenance of archaeological and cultural historical heritage;<br>• Limit ribbon development and check on appropriate architecture;<br>• Safeguard the differentiating landscape of the valleys as structuring elements in the landscape;<br>• Improve the connectivity of the green elements. |
| **Droog Haspengouw** | • Differentiated preservation of the open field landscape aligned with the landscape units (preservation of regional diversity), keep agriculture as the main landscape use;<br>• Repress ribbon- and open field development;<br>• Safeguard the differentiating small scale landscape of the valleys as structuring elements in the landscape;<br>• Maximum protection and restoration of small (linear) landscape elements, improvement connectivity of the green elements;<br>• Care for architectural and archaeological heritage;<br>• Special attention for soil protection against erosion as part of sustainable development. |
| **Vallei van de Herk en de Momebeek** | • Safeguard watery valley grounds. |
| **Land van Herve** | • Safeguard of the rural character;<br>• Restoration of the typical hedge structure. |

## *Landschapsvisie Zuid Limburg*

Landscape framework:

- Enhance natural and cultural historical structure and expand the typical differences between plateaus and valleys by:
  - Rewetting the valley floors;
  - Planting the valley axes;
  - Extending natural growth on the steep slopes;
  - Planting at the village fringes.

Design measures:

- Steep slopes:
  - Calcareous grassland and thicket on limestone steep slopes;
  - A wooded upper rim, to mark the skyline and continuity of the valleys;
  - The non-limestone steep slopes are wooded (unless arid grassland is planned in the EHS) (p. 78, 79);
  - Vista's from the plateaus are taken into account in planning the wooded areas on the slopes.
- Valleys:
  - Planting of the valley based on the nature of a specific valley, the steepness and length of the valley walls and the width of the valley floor (p. 86, 88, 90);
  - Reinforcement of the wet character by extensifying agricultural land use and stop drainage of seepage and well areas;
  - Make an end to piping and vaulting of streams, restore historic water gardens near castles and estates and the use of water as demarcation (instead of barbed wire, planting and fences);
  - Removal of excess planting around historic buildings and create recreational connections between these buildings;
  - Incorporation of rain water catchments in the dry valleys.
- Plateaus:
  - Maintain openness of the plateaus, restrict new buildings and planting. Especially on the highest flat parts and their peaks to maintain vistas;
- Village fringes:
  - Planting hedges and re-establish standard orchards on the fringes of historic villages;
  - Design of new village fringes depends on the local situation.
- Roads:
  - Emphasize the old longitudinal connection of the valleys with planting, with exception the sunken roads, old national main roads and the system of lanes around estates of ;
  - No planting on the open plateaus. Reinforcement of the ecological and recreational meaning of the plateaus by broad and extensively maintained shoulders along unpaved and paved roads.

*Tab. 6: Erhaltende Kulturlandschaftsentwicklung in Nordrhein-Westfalen – Grundlagen und Empfehlungen für die Landesplanung*

| **Landscape unit** | Landscape objectives |
|---|---|
| **Jülicher Börde - Selfkant** | • Suppress (further) disappearance of planted avenues, small forest pockets, wooded banks, hedges, etc. around village areas<br>• Maintain pockets of forest on the edges near Übach Palenberg<br>• Maintain the standard orchards, gardens and small meadows around villages<br>• Preserve mining settlements<br>• Preservation and management of small landscape elements like crosses, small wooded areas, rows of trees, solitary trees<br>• Preserve Mergel- or Löss excavation areas<br>• Preserve historic settlement structure consisting of street-villages, small settlements and scattered farms, with special attention in the street villages to the main streets and new builds within these streets<br>• Preservation of the agriculture tradition<br>• Take cultural heritage into account in water-management developments<br>• Restoration/reintroduction of meadows in wet valleys and on the village borders in combination with fallow land<br>• Use of regional building material, also for new buildings<br>• Protection and preservation of border posts and historic town centres, including views and silhouettes<br>• Protection and preservation of castles and mills |
| **Aachener Land** | • Take Aachen as the European centre in the early middle ages as a leitmotiv<br>• Preserve the remaining elements of mining industry<br>• Preserve Copper homesteads and relicts of the metal mining and use them for education on mining history<br>• Preserve the West wall and use for education on the history of the 20$^{th}$ century<br>• Preservation of the settlement structure consisting of street-villages, with special attention to the main streets and new builds within these streets<br>• Take cultural heritage into account in water-management developments<br>• Protection and preservation of border posts and historic city and town centres, including views and silhouettes<br>• Preserve and enhance the experience of the historic roads<br>• Preserve and enhance the experience of the roman cultural heritage. |

## VII) Images representing core qualities of 3LP

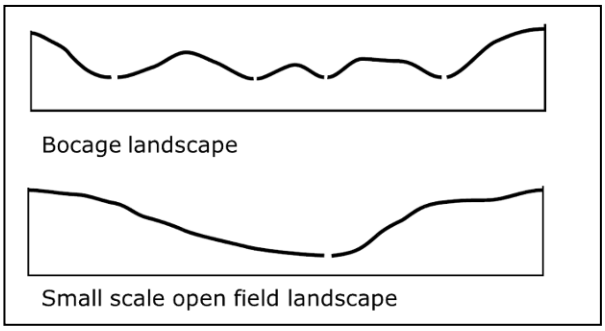



*Fig. 10: Differences in relief between Bocage landscape and Small-scale open field landscape*

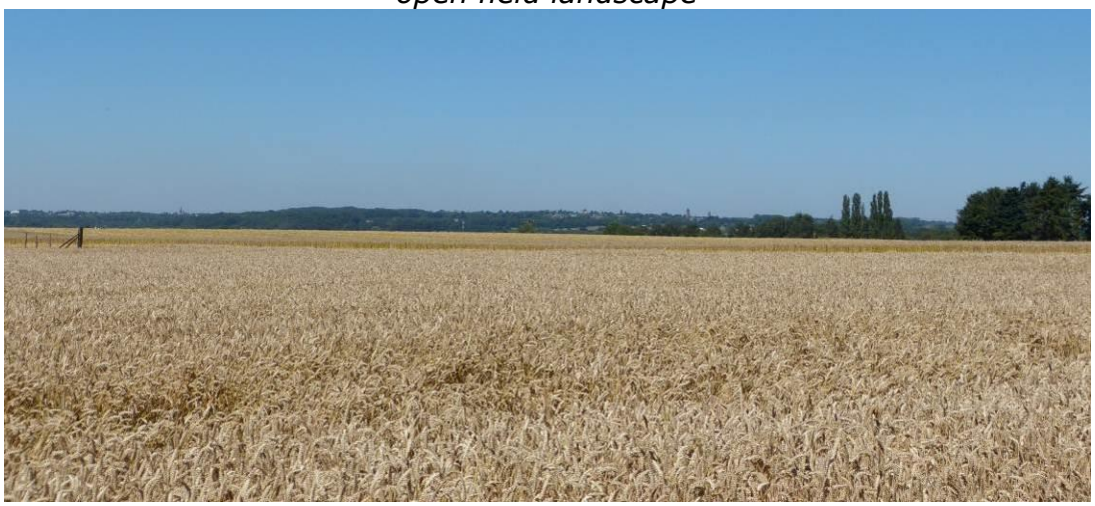


*Fig. 11: Large-scale open field landscape with broad views on the surroundings*

*Fig. 12: Urbanised landscape on a hilly surface*

*Fig. 13: Typical settlement in Peri-urban open field landscape*

*Fig. 14: Bridge on the Albertkanaal in the Meuse valley landscape*

*Fig. 15: View on the Forest landscape near Aachen*

*Fig. 16: Bocage landscape with ridges and rolling hills*

*Fig. 17: Historical village of Clermont in the Bocage landscape*

*Fig. 18: Berwine valley in the Bocage landscape*

*Fig. 19: Arable land on the plateau of Small-scale open field landscape*

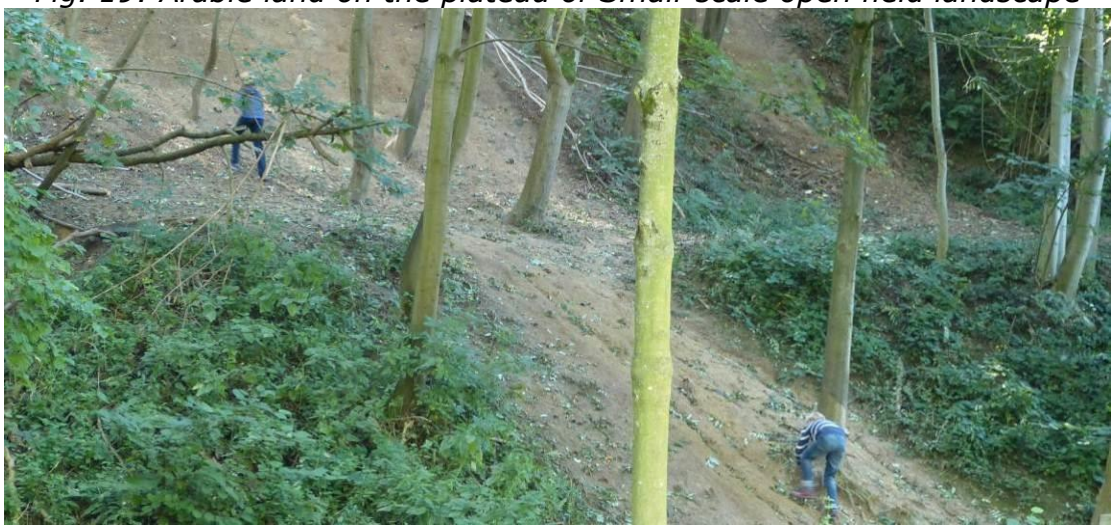
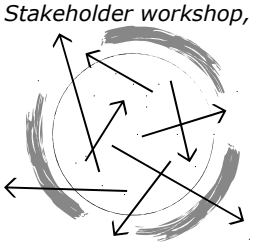


*Fig. 20: Steep slope in the Geul valley (Small scale open field landscape)*

*Fig. 21: View on the Geul valley (Small-scale open field landscape)*

## VIII) Introduction three storylines for the 3LP landscape

*Stakeholder workshop, 22nd October 2012, LP3LP project*

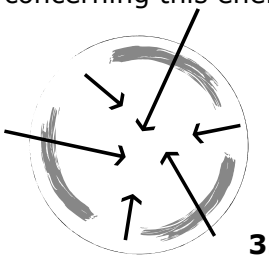


**1. NEW RURAL DYNAMICS IN THE 3LP LANDSCAPE**

The traditionally land-based economy in rural areas is changing throughout Europe. Part time farming with adjusting income, services and manufacturing are added to the rural economy of food production and forestry. Multifunctional agriculture with farm stays for tourists or production of regional products are parts of these new dynamics in 3LP rural area. The attractive landscape and the rich cultural history give the area much potential for tourism. But also energy transition brings new options for economic diversification, for example through the production and processing of biomass. Last but not least, the changing global economic situation and the broad demand for earth metals could make re-opening some mines in the 3LP area a serious option.

**2. RESILLIENT AND CLIMATE PROOF 3LP LANDSCAPE**

Climate change is a crucial challenge our society faces today. Peaks of rainfall already cause occasional soil erosion and flooding in the 3LP valleys. The expected climate change and its impact ask for adaptations and mitigating adjustments to the landscape. EU policies and directives already include issues like water quantity, water quality, and transnational continuity in nature networks to enable species to migrate. Besides this, our fossil fuel society needs a transition towards renewable and sustainable energy sources. How will this transition affect the landscape in the 3LP area and what are the options and goals concerning this energy transition for the 3LP landscape?



**3. THE ATTRACTIVE 3LP METROPOLITAN LANDSCAPE**

On a European scale the 3LP is part of an urbanised metropolitan area, sometimes referred to as the 'blue banana'. The 3LP area is surrounded by historic cities like Aachen, Liège and Maastricht, but also by urbanised villages and suburbanised areas. The 3LP and its urban surroundings are linked and provide each other many services. Attracted by the beautiful landscape and its heritage close to home, people use the 3LP to walk, cycle and spend the day at one of its beautiful places. Within the 3LP landscape though counter urbanisation takes place, parts of the 3LP are affected by this residential and economic sprawl. Intense counter urbanisation threatens the attractiveness of the landscape, tourism and the economic diversity and possibilities in the 3LP area.

## IX) European thematic objectives and investment priorities for regional and rural development

| CSF thematic objectives[30] | Investment priorities for regional development[31] |
|---|---|
| (1) strengthening research, technological development and innovation | (a) enhancing research and innovation infrastructure (R&I) and capacities to develop R&I excellence and promoting centres of competence, in particular those of European interest |
| | (b) promoting business R&I investment, product and service development, technology transfer, social innovation and public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation |
| | (c) supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production in Key Enabling Technologies and diffusion of general purpose technologies |
| (2) enhancing access to, and use and quality of, information and communication technologies | (a) extending broadband deployment and the roll-out of high-speed networks |
| | (b) developing ICT products and services, e-commerce and enhancing demand for ICT |
| | (c) strengthening ICT applications for e-government, e-learning, e-inclusion and ehealth |
| (3) enhancing the competitiveness of small and medium-sized enterprises, the agricultural sector and the fisheries and aquaculture sector | (a) promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms |
| | (b) developing new business models for SMEs, in particular for internationalisation |
| (4) supporting the shift towards a low-carbon economy in all sectors | (a) promoting the production and distribution of renewable energy sources |
| | (b) promoting energy efficiency and renewable energy use in SMEs |
| | (c) supporting energy efficiency and renewable energy use in public infrastructures and in the housing sector |
| | (d) developing smart distribution systems at low voltage levels |
| | (e) promoting low-carbon strategies for urban areas |
| (5) promoting climate change adaptation, risk prevention and management | (a) supporting dedicated investment for adaptation to climate change |
| | (b) promoting investment to address specific risks, ensuring disaster resilience and developing disaster management systems |
| (6) protecting the environment and promoting resource efficiency | (a) addressing the significant needs for investment in the waste sector to meet the requirements of the environmental acquis |
| | (b) addressing the significant needs for investment in the water sector to meet the requirements of the environmental acquis |
| | (c) protecting, promoting and developing cultural heritage; |

[30] European Commission (2012): Amended proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Council Regulation (EC) No 1083/2006. COM(2012) 496, revised 11/09/2012.

[31] European Commission (2011): Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on specific provisions concerning the European Regional Development Fund and the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006. COM(2011) 614, revised 6/10/2011.

| | |
|---|---|
| | (d) protecting biodiversity, soil protection and promoting ecosystem services including NATURA 2000 and green infrastructures |
| | (e) action to improve the urban environment, including regeneration of brownfield sites and reduction of air pollution |
| (7) promoting sustainable transport and removing bottlenecks in key network infrastructures | (a) supporting a multimodal Single European Transport Area by investing in the Trans-European Transport Network (TEN-T) network |
| | (b) enhancing regional mobility through connecting secondary and tertiary nodes to TEN-T infrastructure |
| | (c) developing environment-friendly and low-carbon transport systems and promoting sustainable urban mobility |
| | (d) developing comprehensive, high quality and interoperable railway system |
| (8) promoting employment and supporting labour mobility | (a) development of business incubators and investment support for selfemployment and business creation |
| | |
| | (b) local development initiatives and aid for structures providing neighbourhood services to create new jobs, where such actions are outside the scope of Regulation (EU) No […]/2012 [ESF] |
| | (c) investing in infrastructure for public employment services |
| (9) promoting social inclusion and combating poverty | (a) investing in health and social infrastructure which contribute to national, regional and local development, reducing inequalities in terms of health status, and transition from institutional to community-based services |
| | (b) support for physical and economic regeneration of deprived urban and rural communities |
| | (c) support for social enterprises |
| (10) investing in education, skills and lifelong learning | no priorities |
| (11) enhancing institutional capacity and an efficient public administration | no priorities |
| **EAFRD priorities**[32] | **EAFRD sub-priorities** |
| (1) fostering knowledge transfer and innovation in agriculture, forestry, and rural areas | (a) fostering innovation and the knowledge base in rural areas |
| | (b) strengthening the links between agriculture and forestry and research and innovation |
| | (c) fostering lifelong learning and vocational training in the agricultural and forestry sectors |
| (2) enhancing competitiveness of all types of agriculture and enhancing farm viability | (a) facilitating restructuring of farms facing major structural problems, notably farms with a low degree of market participation, market-oriented farms in particular sectors and farms in need of agricultural diversification |
| | (b) facilitating generational renewal in the agricultural sector |
| (3) promoting food chain organisation and risk management in agriculture | (a) better integrating primary producers into the food chain through quality schemes, promotion in local markets and short supply circuits, producer groups and inter-branch organisations; |
| | (b) supporting farm risk management: |
| (4) restoring, preserving and enhancing ecosystems dependent on agriculture and forestry | (a) restoring and preserving biodiversity, including in Natura 2000 areas and high nature value farming, and the state of European landscapes |
| | (b) improving water management |
| | (c) improving soil management |

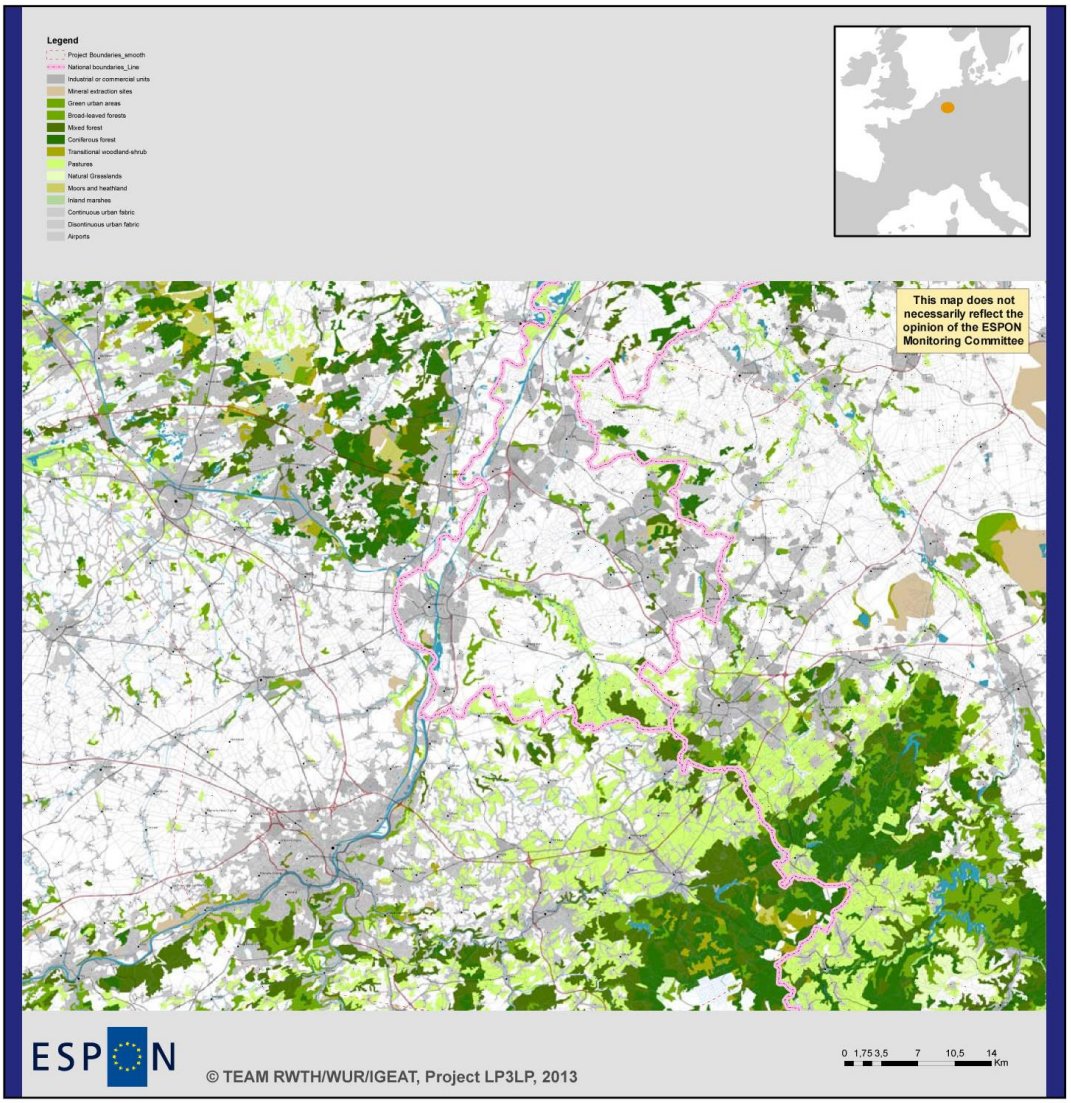
[32] European Commission (2011): Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on support for rural development by the European Agricultural Fund for Rural Development (EAFRD). COM(2011) 627, revised 19.10.2011

| | |
|---|---|
| (5) promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors | (a) increasing efficiency in water use by agriculture |
| | (b) increasing efficiency in energy use in agriculture and food processing |
| | (c) facilitating the supply and use of renewable sources of energy, of byproducts, wastes, residues and other non food raw material for purposes of the bio-economy |
| | (d) reducing nitrous oxide and methane emissions from agriculture |
| | (e) fostering carbon sequestration in agriculture and forestry |
| (6) promoting social inclusion poverty reduction and economic development in rural areas | (a) facilitating diversification, creation of new small enterprises and job creation |
| | (b) fostering local development in rural areas |
| | (c) enhancing accessibility to, use and quality of information and communication technologies (ICT) in rural areas |

*Tab. 7: European thematic objectives and investment priorities for regional and rural development*

## X) Maps of the 3LP region

*Map. 22: Base map - DRAFT*

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*Local level: LAU2*

*Sources: Province of Limburg(BE), SPW(BE), Province of Limburg(NL), Städteregion Aachen(DE), Bezirksregierung Köln(DE), CORINE, 2012*

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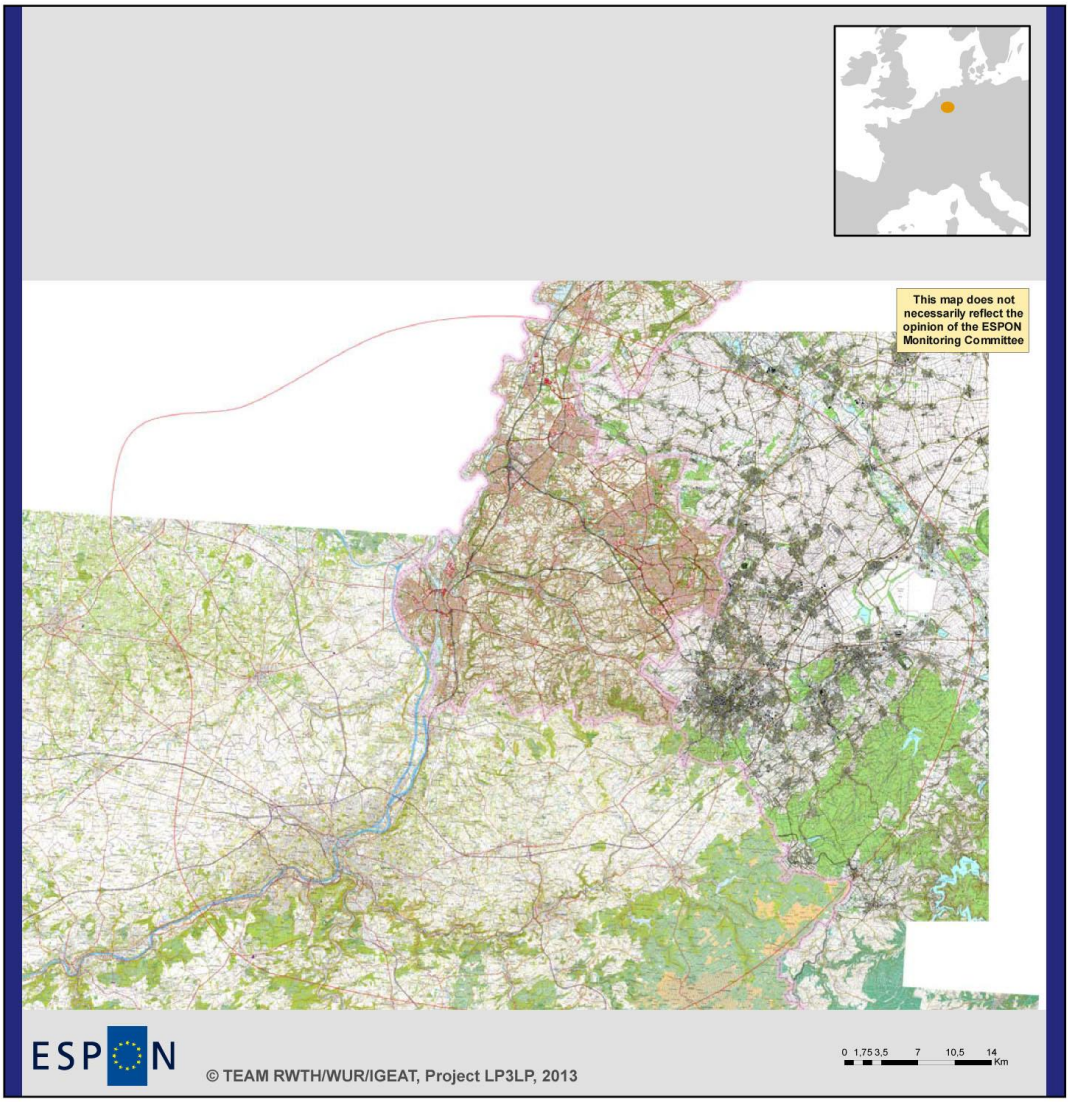
*Map. 23: Topographic map - DRAFT*

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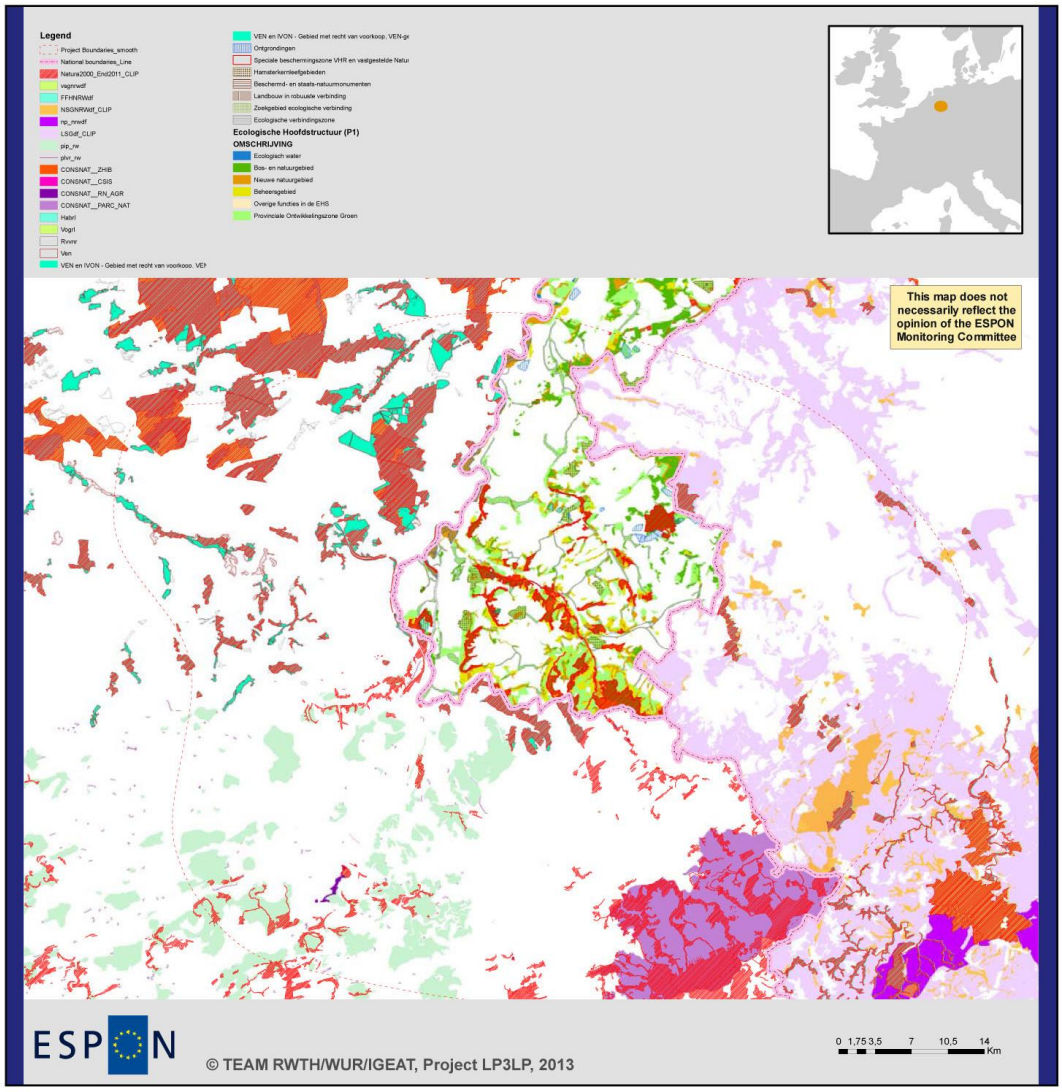
*Map. 24: Natural heritage - DRAFT*

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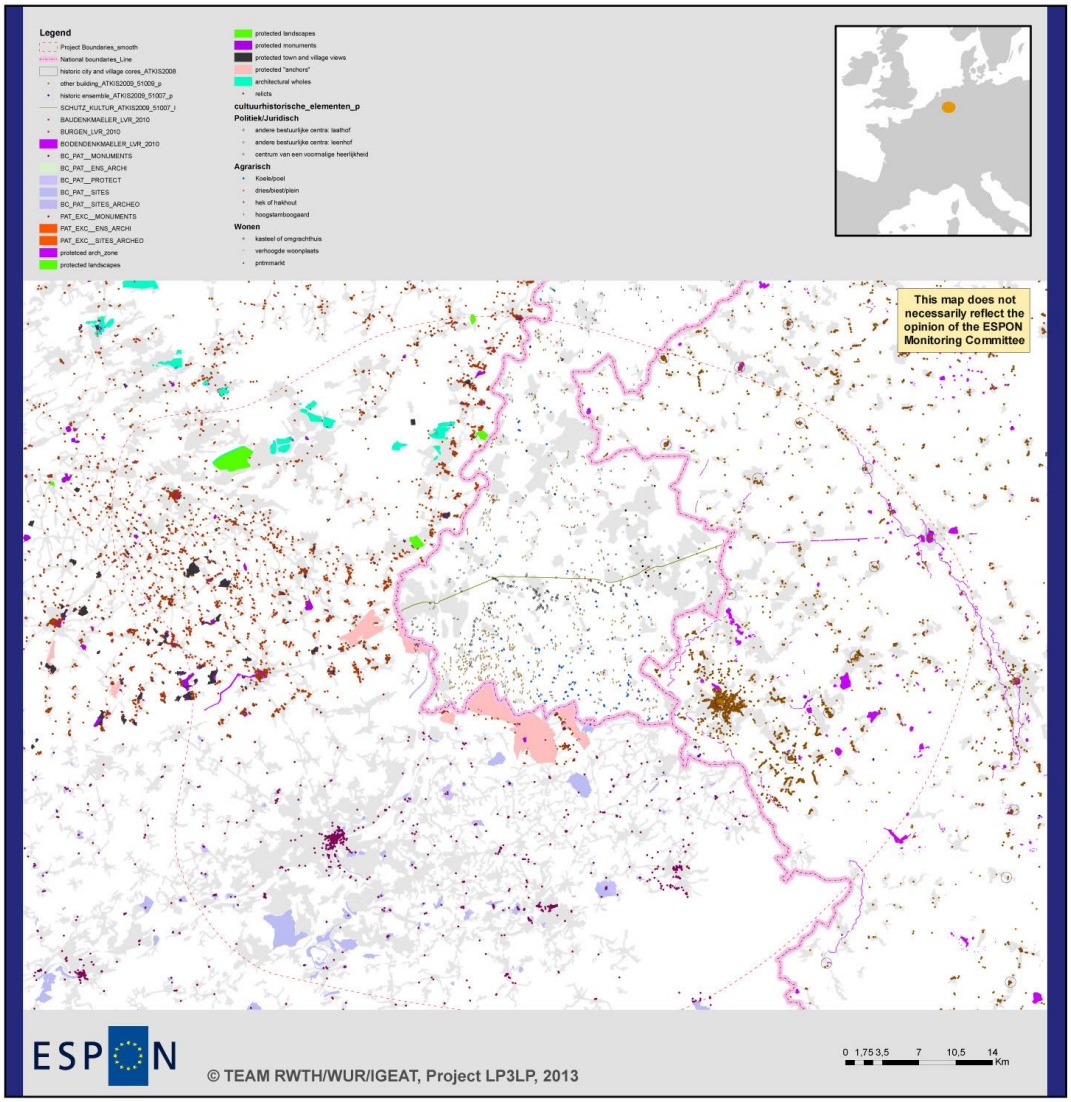
*Map. 25: Cultural heritage – DRAFT*

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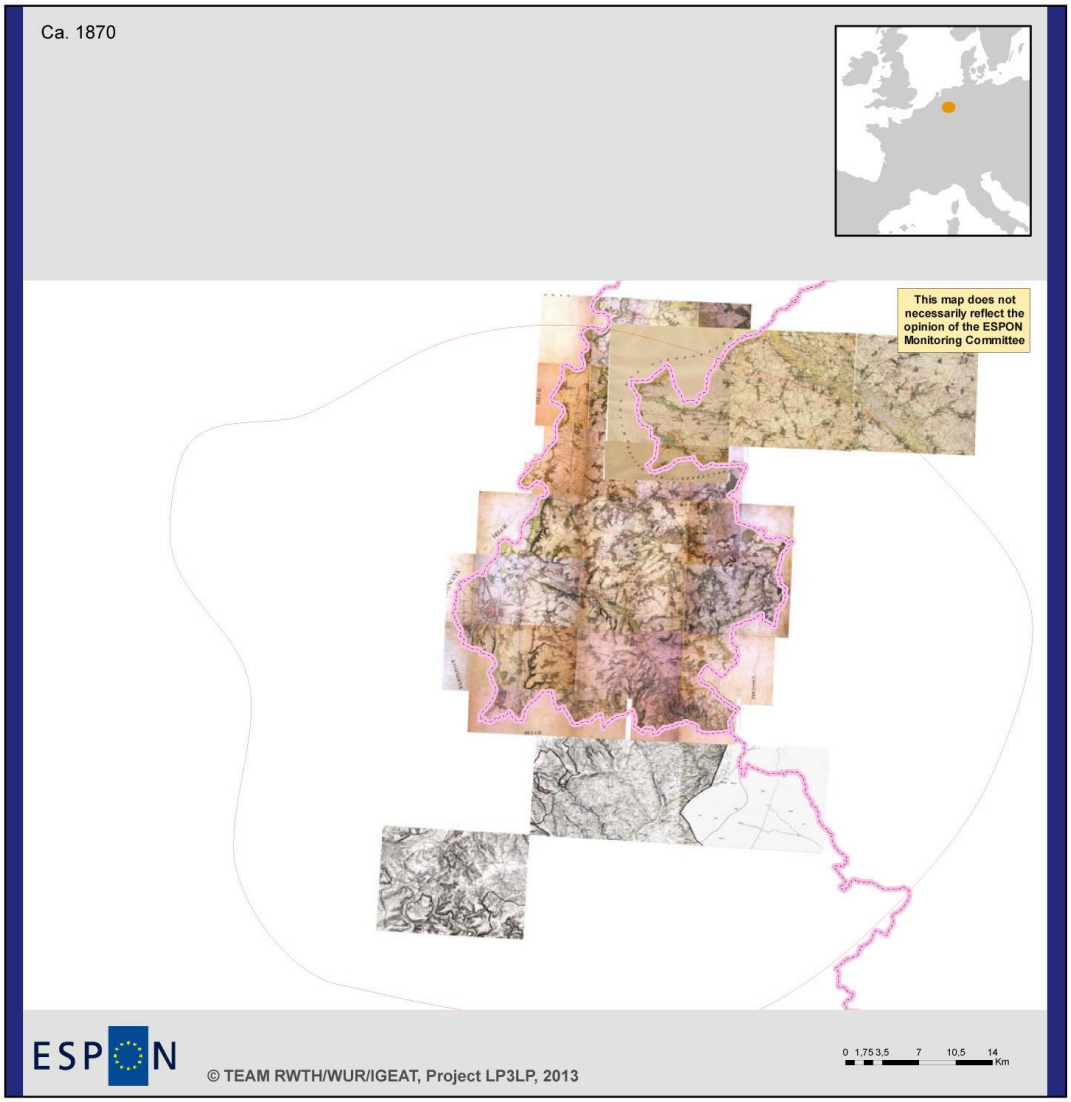
*Map. 26: Historical map – DRAFT*

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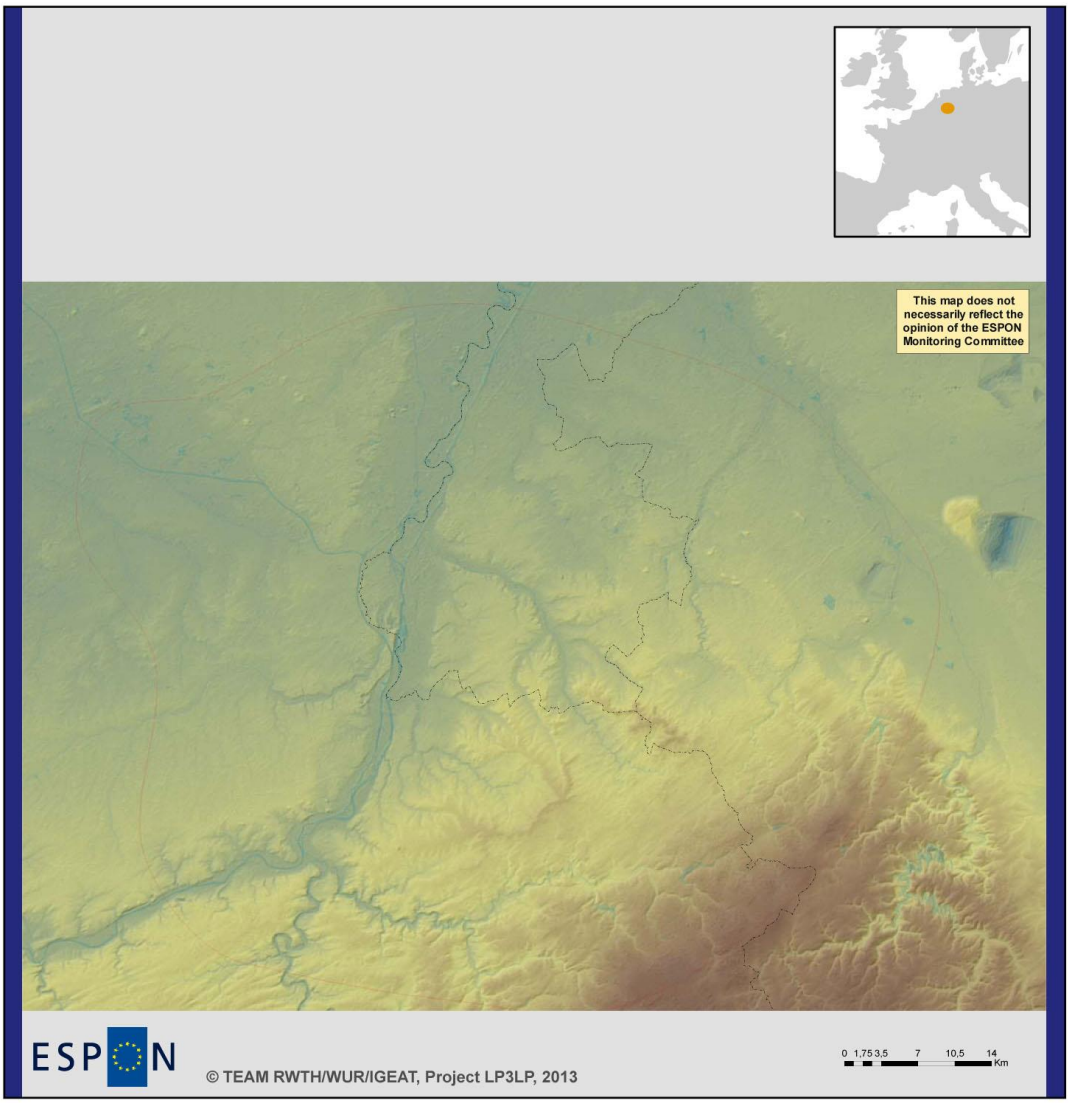
*Map. 27: Elevation 3 – DRAFT*

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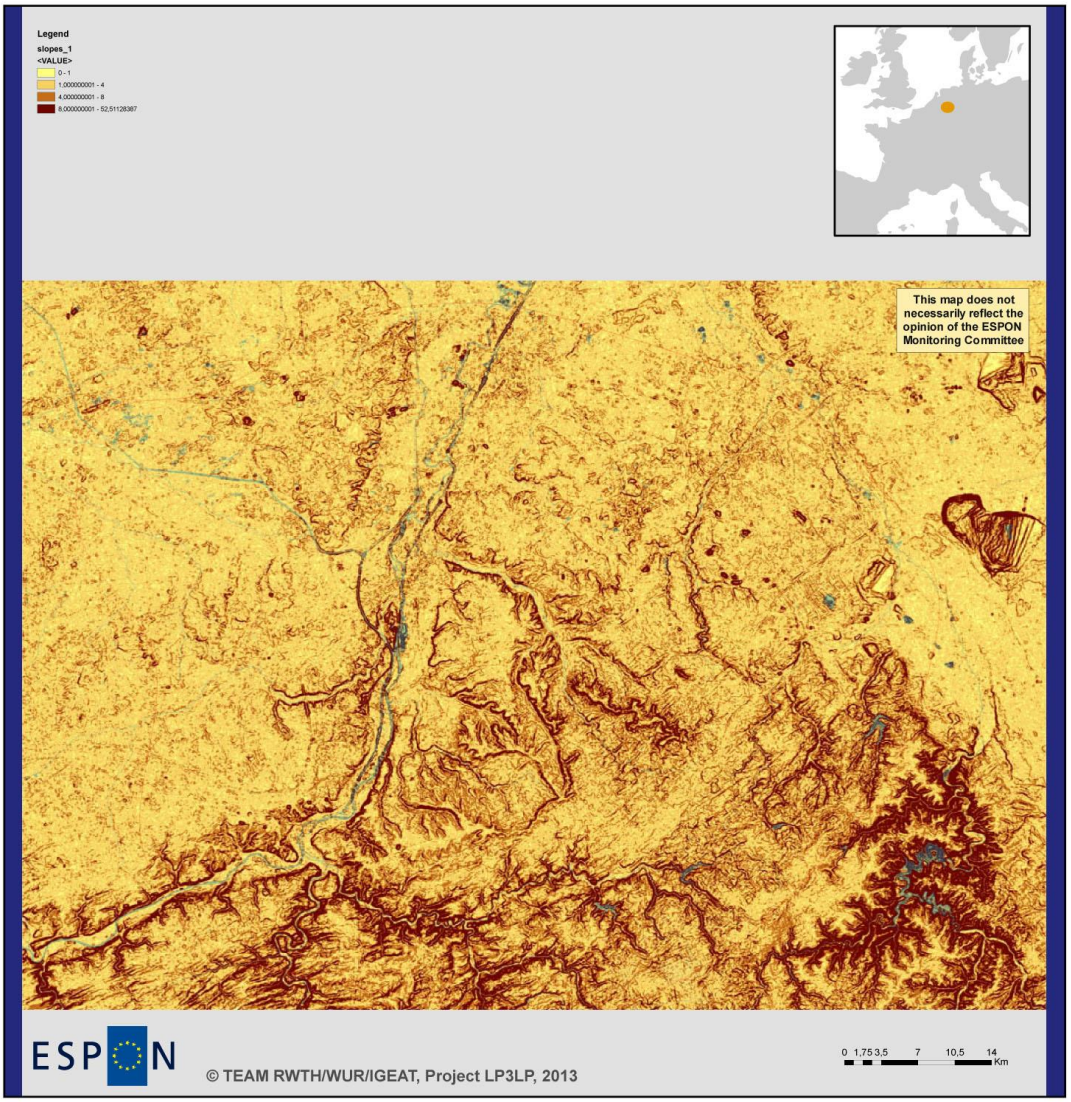
*Map. 28: Slopes – DRAFT*

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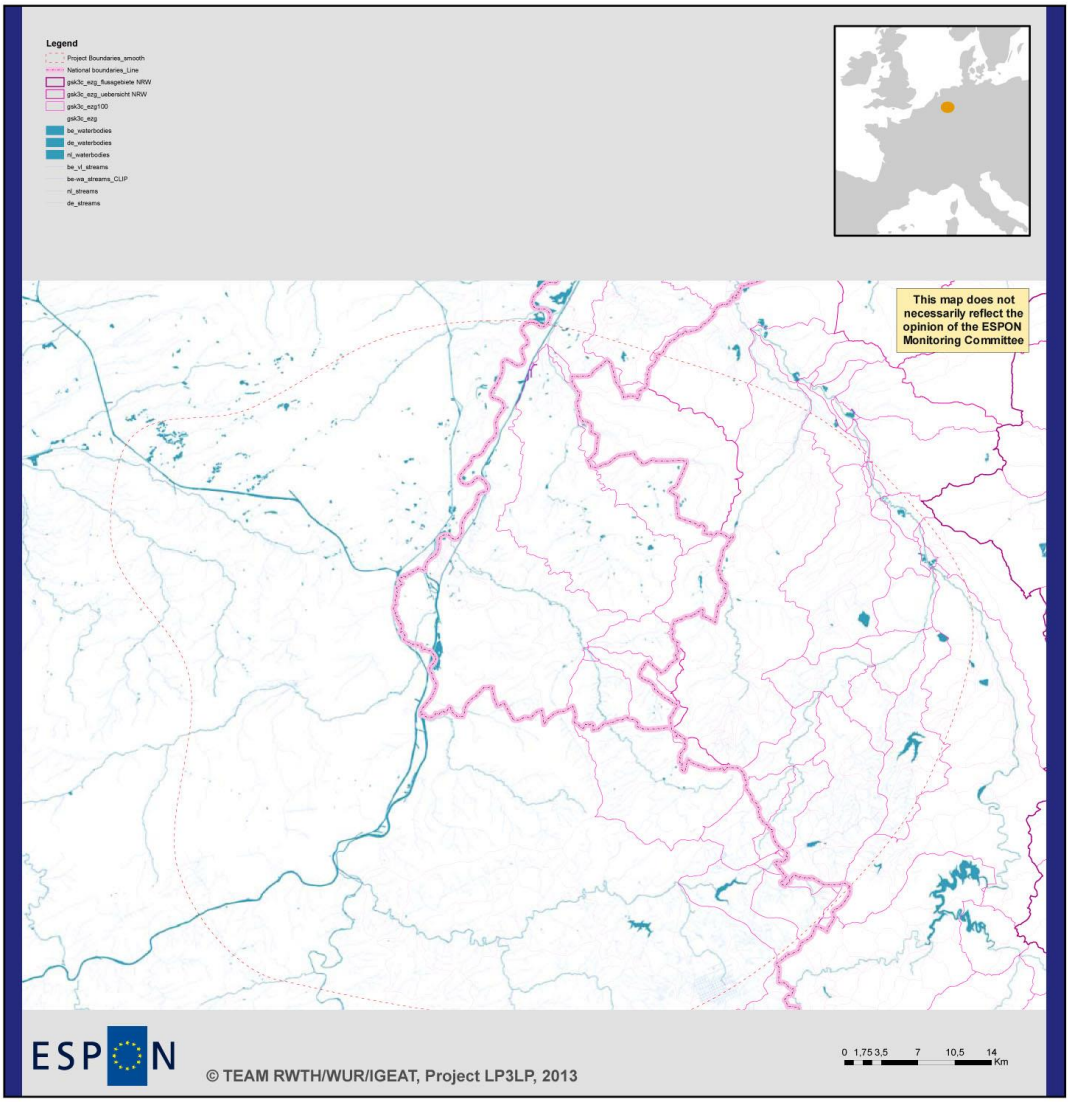
*Map. 29: Water System – DRAFT*

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*Local level: LAU2*

*Sources: Province of Limburg(BE), SPW(BE), Province of Limburg(NL), Städteregion Aachen(DE), Bezirksregierung Köln(DE), ASTER, 2012*

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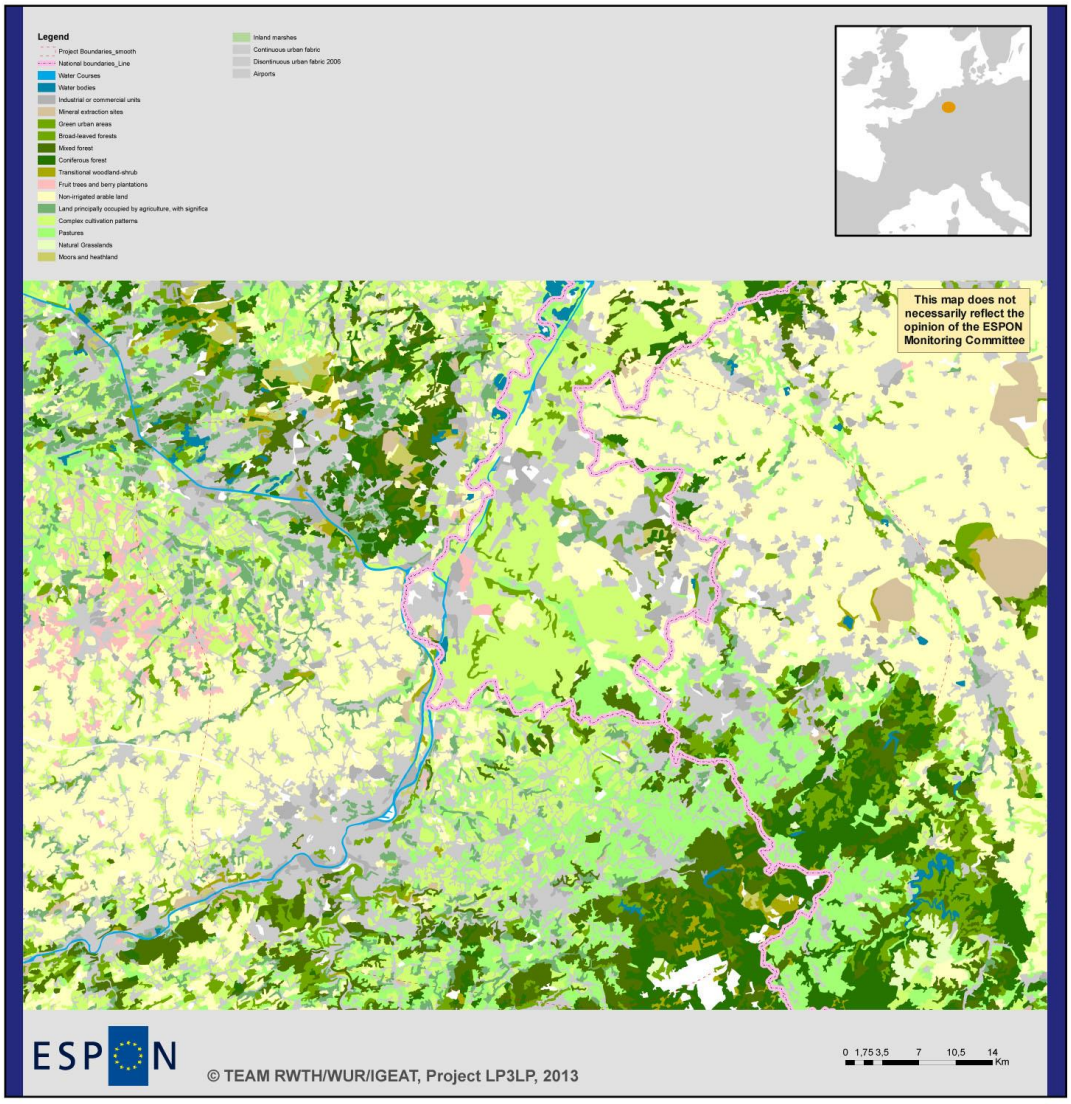
Map. 30: Land Cover – DRAFT

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*Local level: LAU2*

*Sources: Province of Limburg(BE), SPW(BE), Province of Limburg(NL), Städteregion Aachen(DE), Bezirksregierung Köln(DE), ASTER, 2012*

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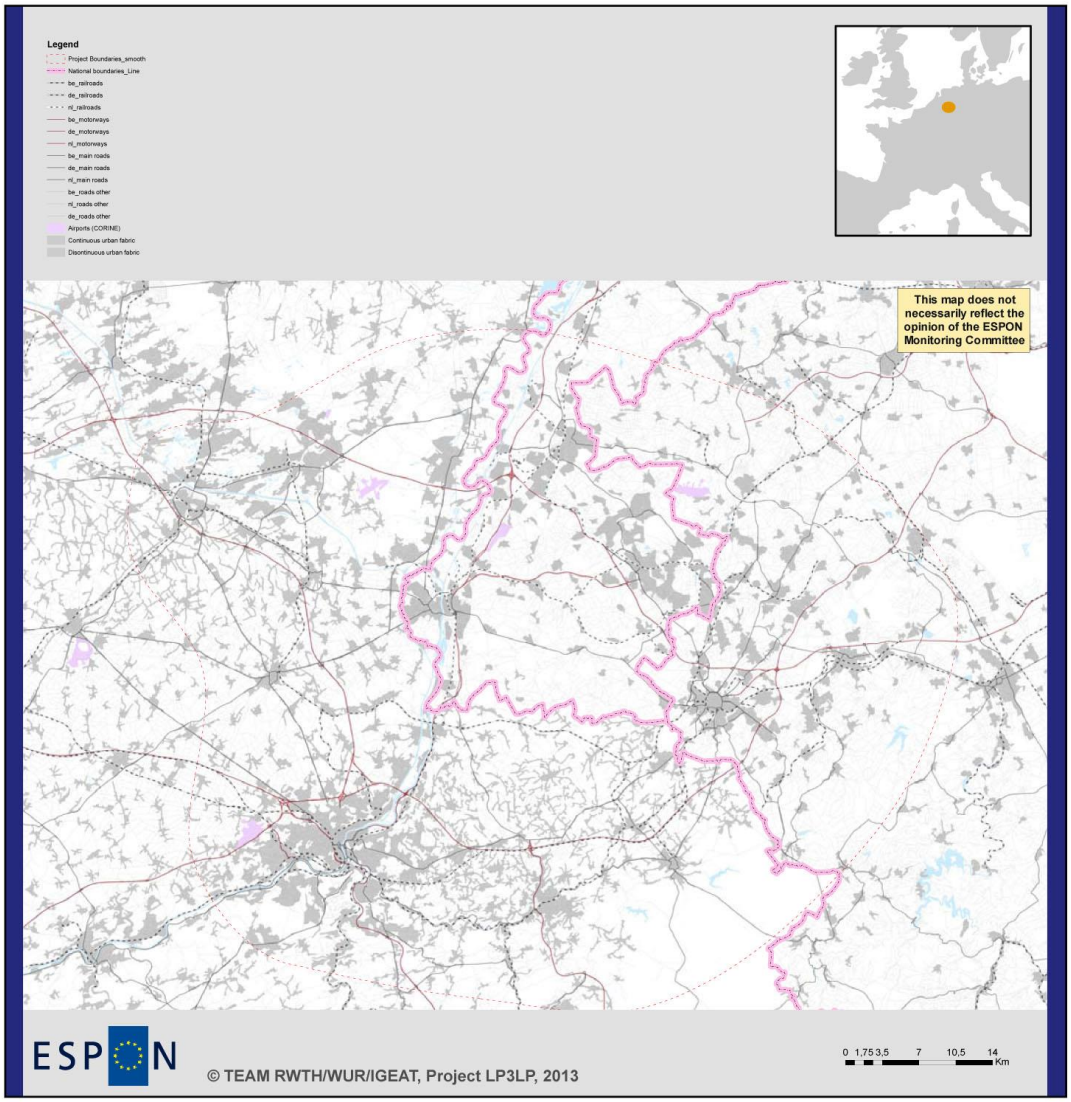
*Map. 31: Traffic Infrastructure – DRAFT*

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*Sources: Province of Limburg(BE), SPW(BE), Province of Limburg(NL), Städteregion Aachen(DE), Bezirksregierung Köln(DE), ASTER, 2012*

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## XI) Data sources: Maps of the 3LP region

| Title of map | Additional information | Country | Source | Scale | Year | Received-available (Yes/No) |
|---|---|---|---|---|---|---|
| Topographic map | | Belgium-Wallonia | SPW | 1:50.000 | 2001 | Y |
| | | Belgium-Flanders | Province of Limburg (BE) | 1:50.000 | / | N |
| | | Netherlands | Province of Limburg (NL) | 1:50.000 | 2011 | Y |
| | | Germany | Bezirksreg. Köln | 1:50.000 | 2012 | Y |
| Elevation | | European-wide data | NASA (ASTER) | NTS | 2011 | Y |
| Soil | | Belgium-Wallonia | SPW | unknown | unknown | Y |
| | | Belgium-Flanders | Province of Limburg (BE) | 1:20.000 | 2001 | Y |
| | | Netherlands | Province of Limburg (NL) | 1:50.000 | 2006 | Y |
| | | Germany | Geol. Dienst Kreefeld | 1:50.000 | unknown | N |
| Water System | Water bodies | Belgium-Wallonia | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Belgium-Flanders | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Netherlands | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Germany | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | Streams | Belgium-Wallonia | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Belgium-Flanders | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Netherlands | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Germany | Bezirksreg. Köln | NTS | 2012 | Y |
| Land Cover | Various types (19) | European-wide data | EEA (CORINE) | NTS | 2006 | Y |
| Traffic Infrastructure | Streets | Belgium-Wallonia | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Belgium-Flanders | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Netherlands | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Germany | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | Railroads | Belgium-Wallonia | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Belgium-Flanders | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Netherlands | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| | | Germany | Province of Limburg (NL) | 1:5.000 (recommended | 2009 | Y |
| Natural heritage | Natura 2000 | European-wide data | EEA | 1:100.000 | 2012 | Y |
| | various classifications | Belgium-Wallonia | SPW | NTS | 2008-2012 | Y |
| | various classifications | Belgium-Flanders | Province of Limburg (BE) | NTS | 2006-2012 | Y |
| | various classifications | Netherlands | Province of Limburg (NL) | NTS | 2012 | Y |
| | various classifications | Germany | LANUV NRW | NTS | 2012 | Y |
| Cultural heritage | various classifications | Belgium-Wallonia | SPW | NTS | 2008-2012 | Y |
| | various classifications | Belgium-Flanders | Province of Limburg (BE) | NTS | 2006-2012 | Y |
| | various classifications | Netherlands | Province of Limburg (NL) | NTS | 2012 | Y |
| Historical maps | various classifications | Germany | KULADIG | NTS | / | N |
| | Vandermaelen map | Belgium-Wallonia | SPW | 1:20.000 | 1850-1854 | Y |
| | Vandermaelen map | Belgium-Flanders | Province of Limburg (BE) | 1:20.000 | 1850-1855 | Y |
| | Topkaart 1850 | Netherlands | Province of Limburg (NL) | 1:20.000 | 1850 | Y |
| | Preußische Uraufnahme | Germany | Bezirksreg. Köln | 1:25.000 | 1880 | Y |
| National Boundaries | | BE-NL-DE | Manual drwg. By TPG | NTS | 2012 | Y |
| Adm. Boundaries | various classifications | Belgium-Wallonia | Province of Limburg (NL) | NTS | 2009 | Y |
| | various classifications | Belgium-Flanders | Province of Limburg (NL) | NTS | 2009 | Y |
| | various classifications | Netherlands | Province of Limburg (NL) | NTS | 2009 | Y |
| | various classifications | Germany | Province of Limburg (NL) | NTS | 2009 | Y |
| Aerials | | global data | World Imagery | NTS | 2012 | Y |

*Tab. 8: Data sources maps of the 3LP region*

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