

# Landscape research in Belgium

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## ABSTRACT

*In the federal state Belgium, landscape research evolved from regional geographical monographs to more applied research that focuses upon the specific problems in each of the regions. In the highly urbanized Flanders region in the north, aspects of suburbanization and fragmentation are the most important. Landscape research involves geographers, historians, archaeologists, agronomists, foresters, ecologists and nature conservationists all dealing with specific goals and tasks. The integration is mainly achieved in spatial planning. In the Walloon region large areas are still rural and have a large forest cover, while urbanized zones are rather concentrated. Landscape research focuses here mainly upon the rural involving geographers, agronomists and planners. The natural and scenic aspects of the landscape dominate and the study of the historical development of the landscape is less pronounced. In Brussels Capital region little attention is given to landscape aspects, as social and typical urban problems dominate. Consequently, different landscape typologies are used in Belgium.*

**KEY WORDS:** Belgium, Flanders, Wallonia, landscape

## RÉSUMÉ

### **LA RECHERCHE SUR LES PAYSAGES EN BELGIQUE**

*De monographies géographiques régionales, les recherches réalisées en Belgique en matière de paysage ont évolué vers des recherches plus appliquées mais aussi plus spécifiques à chacune des régions de l'état fédéral.*

*Au nord, en Région flamande fortement urbanisée, ce sont les aspects de la suburbanisation et de la fragmentation des paysages qui sont surtout considérés. Ces recherches sont menées par des géographes, des historiens, des archéologues, des agronomes, des forestiers, des écologues selon leurs objectifs et préoccupations spécifiques, l'intégration de ces différentes approches étant principalement accomplie à travers la planification spatiale.*

*En Région wallonne, d'importantes étendues sont encore rurales et forestières, les zones urbanisées étant relativement concentrées. Ici, la recherche en matière de paysage implique principalement les géographes régionaux, les agronomes, les écologues et les aménageurs du territoire. Les aspects naturels et esthétiques du paysage dominent les recherches tandis que l'étude de sa construction historique est moins prononcée.*

*Dans la Région de Bruxelles-Capitale, les aspects paysagers rencontrent peu d'attention, celle-ci étant principalement portée sur les questions spécifiques du milieu urbain.*

*De ces multiples approches découle l'élaboration de différentes typologies du paysage selon les régions.*

**MOTS-CLÉS:** Belgique, Région flamande, Région wallonne, paysage

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## FIELDS OF LANDSCAPE RESEARCH

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### FROM BASIC SCIENCE TOWARDS APPLICATIONS

In Belgium, the study of the landscape started with regional monographs by geographers and historians who followed the French tradition of Vidal de la Blache. In fact, the French geographer Blanchard, published in 1906 dealing with Flanders, made the first leading monograph. This resulted in many regional studies where landscape was an important topic (Tulippe, 1942; Christians, 1960, 1961; Snacken, 1961; Brulard, 1962; Daels and Verhoeve, 1979; Knaepen, 1995), as well as local case studies in historical geography (Verhulst, 1965; Verhoeve and Larnoe, 1988). Characteristic was the intimate integration between history, landscape genesis and physical geography, including soil science and geology (Snacken *et al.*, 1975). Some more specific research followed also the general West-European tradition of the study of rural landscapes (Christians, 1982) and focussing upon specific themes in the landscape such as field patterns and hedgerows (Petit, 1942; Dussart, 1961), settlement patterns (Van der Haegen *et al.*, 1982; Lefèvre, 1964; Dussart, 1957) or land use (Van der Haegen, 1982). Air photo-interpretation became also an important tool, not only for mapping (Wilmet, 1970), but also for landscape analysis (Larnoe *et al.*, 1988; Daels, Verhoeve and Antrop, 1989) and archaeological prospecting (Daels *et al.*, 1982; Ampe *et al.*, 1996). The historical approach to landscape evolution is given by Verhulst (1965, 1990, 1995).

With the new orientation in geography in the 1970s and 1980s landscape research became marginal. Whereas few geographers joined the revived landscape ecology (Zonneveld, 2000), landscape became an interesting subject for many disciplines. A lot of interesting research emerged in ecology, agronomy, forestry and planning (Gulinck and Wagendorp, 2002; Gulinck, 2001; Froment, 1999;

Hermey & De Blust, 1997; Tack *et al.*, 1993; Gysels *et al.*, 1993; Froment *et al.*, 1992; Oncklincx *et al.*, 1987; Neuray, 1982; Van Hecke *et al.*, 1981). This interest was closely related to the early concerns for nature conservation (Massart, 1912).

Last, the interest for the new urbanized landscapes is recent (Antrop, 1994, 2004).

Recent projects and studies dealing with landscape are more focussed upon applied research and policy supporting. This shift from basic scientific research to applications is strongly stimulated by funding possibilities.

### GEOGRAPHY AND LANDSCAPE SCIENCE IN A FEDERAL STATE

Gradually, Belgium became a federal state with three regions (Flanders, Wallonia and Brussels-Capital) and three communities (Flemish, French and German-speaking). Policy in different aspects was decentralised accordingly. Spatial and urban planning, environmental planning, agriculture, nature conservation, protection of monuments, sites and landscapes became the responsibilities of the regions and communities. The consequences for a comprehensive study of the Belgian landscapes are important. First, the natural landscape gradients (soils, geology, and relief) in Belgium are almost all west-east oriented zones varying from the north to the south. The hydrological system is completely oriented from south to north. The political borders divide the whole of this natural pattern. The results are differences in policy, legislation, data collection and monitoring. Second, most research is nowadays funded on an international (European) or regional basis, not on a federal or interregional one.

The gradual process of federalization of the Belgian State stimulated this split and led to different approaches in the Flemish and Walloon region (Daels and Verhoeve,

1979; Antrop *et al.*, 1985; Schreurs, 1986; Christians, 1987). Publications dealing with the landscapes of Belgium as a whole are becoming rare. The synthesis about Belgian geography made by Christians and Daels (1988) describes landscapes as one characteristic of the geographical regions, although a separate chapter in the bibliography is devoted to landscapes. In the major work about the geography of Belgium (Denis, 1992) no chapter is devoted to landscape; reference to landscapes are only found indirectly in the chapter of the rural areas or regions (Christians *et al.*, 1992). The bibliographic inventories made for I.G.U. congresses (Denis, 1996) do not have a chapter or index entry to landscape research at all. References about landscape studies should be looked for in the chapter of agriculture and rural development. This clearly shows the reduction of the broad meaning of landscape in the thinking of many Belgian geographers at the end of the 20<sup>th</sup> century.

Only at the University of Ghent a core of landscape researchers remained. Their work is characterised by a regional synthetic approach on an interdisciplinary basis (Snacken, 1981). Much of the work is interdisciplinary, joining (regional) geographers, archaeologists, historians, soil scientists and (landscape) ecologists in common projects.

In the Walloon Region, landscape research focused upon the rural landscape through agrarian structure and settlement forms (Christians, 1964, 1987) as well as through architecture (Genicot, 1984-1992; Demeuldre, nd). In the 1990s, the interest for environmental issues concerning the landscape component increased, also through the publication of a compendium of the actions and knowledge about landscape in the Walloon Region in the «*Etat de l'environnement wallon*» (Ministère de la Région Wallonne, 1997). This synthesis tackled the question of urban landscape.

DISCIPLINES INVOLVED

Table 1 gives an overview of institutions

and organisations in Belgium dealing with several fields of landscape research.

Institution/organisation	Fields of landscape research
Landscape science and environmental planning, Geography Department, University of Ghent, Flanders <a href="http://geoweb.rug.ac.be">http://geoweb.rug.ac.be</a>	Landscape science: landscape genesis, landscape ecology, landscape planning, landscape architecture and land evaluation Regional, historical geography and social geography, regional and environmental planning, impact assessment
Laboratory for forest, nature and landscape research, department of land management, faculty of agricultural and applied biological science, University of Leuven <a href="http://www.sadl.kuleuven.ac.be/lbh">http://www.sadl.kuleuven.ac.be/lbh</a>	Research and applications for : - forest management - nature conservation - nature development - landscape analysis
Department of Geography, University of Leuven: Section for Physical and Regional Geography; Section for Social and Economical Geography <a href="http://www.kuleuven.ac.be/geografie">http://www.kuleuven.ac.be/geografie</a>	Geomorphology and regional geography Spatial techniques and landscape evolution, GIS for environmental modelling Agricultural statistics and rural development
Department of Geography, Vrije Universiteit Brussel <a href="http://www.vub.ac.be/DGGF">http://www.vub.ac.be/DGGF</a>	Environmental impact assessment Human ecology
Interfaculty Centre for Agrarian History <a href="http://www.cagnet.be">http://www.cagnet.be</a>	History of Agriculture and Food
Department Monument and Landscape, Flemish government (Monument and Site Division) <a href="http://www.monument.vlaanderen.be">http://www.monument.vlaanderen.be</a>	Inventorying and protection of monuments, sites and landscapes
Vlaamse Landmaatschappij (VLM) <a href="http://www.vlm.be">http://www.vlm.be</a>	Land development Land consolidation
Institute for Nature Conservation <a href="http://www.instnat.be">http://www.instnat.be</a>	Nature report, nature development and –policy, ecology, ecotope classification and biological valuation mapping, ecohydrology, landscape ecology
Institute for Forestry and Game Management <a href="http://www.ibw.vlaanderen.be">http://www.ibw.vlaanderen.be</a>	Forestry and fishery research and policy, forest ecology, management and protection Game management, fish habitat restoration
Flemish Institute for the Archaeological Heritage <a href="http://www.monument.vlaanderen.be">http://www.monument.vlaanderen.be</a>	Archaeological inventory and surveying
Vlaamse Milieumaatschappij (VMM, Flemish Environmental Agency), MINA-council <a href="http://www.vmm.be/">http://www.vmm.be/</a> <a href="http://www.milieubeleidsplan.be">http://www.milieubeleidsplan.be</a>	Environmental policy, planning and reporting
Brussels Institute for Environmental Management <a href="http://www.ibgebim.be/">http://www.ibgebim.be/</a>	Green areas (parks and gardens, Zoniënwood and forests, nature reserves, fauna and flora, green network, blue network)

Laboratoire d'aménagement des territoires, Gembloux Agricultural University <a href="http://www.fsagx.ac.be/fac/fr/unites/st.asp">http://www.fsagx.ac.be/fac/fr/unites/st.asp</a>	Land management (local and regional), landscape evolution, regional landscape, landscape heritage, system of territorial information management, local development
Centre de Formation Continué en Géographie (CEFOGEO) - Department of Geography - Faculté universitaire Notre Dame de Namur <a href="http://www.fundp.ac.be/recherche/projets/fr/88276004.html">http://www.fundp.ac.be/recherche/projets/fr/88276004.html</a>	Geographical analysis of landscape, rural and urban landscape, pedagogy
Université de Liège - Hyperpaysages <a href="http://www.ulg.ac.be/geoeco/lmg/competences/activites/hyperpaysages.html">http://www.ulg.ac.be/geoeco/lmg/competences/activites/hyperpaysages.html</a>	Environment and landscape pedagogy, immersion in landscape, landscape global approach
Groupe Interuniversitaire de Recherches en Ecologie Appliquée (Girea) - Université de Liège <a href="http://www.ulg.ac.be/girea/">http://www.ulg.ac.be/girea/</a>	Analysis of biologic and landscape components of the environment, nature conservation, natural resources management, regional development, environmental impacts, landscape integration, classified sites pilot management plans
Institut de Gestion de l'Environnement et d'Aménagement du territoire (IGEAT) - Université Libre de Bruxelles <a href="http://www.ulb.ac.be/facs/igeat/index.html">http://www.ulb.ac.be/facs/igeat/index.html</a>	Environmental management, regional and local development, heritage, monuments and sites, ecotoxicology, applied geography, sustainable development, tourism analysis and management
Département d'archéologie et d'histoire de l'art - Faculté de philosophie et lettres - Université catholique de Louvain-la-Neuve <a href="http://www.fltr.ucl.ac.be/FLTR/ARKE/arke.html">http://www.fltr.ucl.ac.be/FLTR/ARKE/arke.html</a>	Environmental and interdisciplinary archeology, landscape dynamics
Geography Unit - Faculty of Sciences - Department of geology and geography - Université catholique de Louvain-la-Neuve <a href="http://www.geo.ucl.ac.be/UNITES/GEOG/index.html">http://www.geo.ucl.ac.be/UNITES/GEOG/index.html</a>	Spatial modelling, changes in land occupation, landscape evolutions, changes of agricultural structures, deforestation or reforestation, urbanisation
Conférence permanente du développement territorial (CPDT) de la Région wallonne <a href="http://cpdt.wallonie.be">http://cpdt.wallonie.be</a>	Research and applications on land management, territorial management of the environment, landscape heritage
Direction générale de l'aménagement du territoire, du logement et du patrimoine - Division du patrimoine - MRW <a href="http://www.skene.be/rwdp">http://www.skene.be/rwdp</a>	Heritage protection
Direction générale des ressources naturelles et de l'environnement - Walloon government <a href="http://environnement.wallonie.be/cgi/dgrne/plateforme_dgrne/visiteur/frames.cfm">http://environnement.wallonie.be/cgi/dgrne/plateforme_dgrne/visiteur/frames.cfm</a>	Environmental policy and planning, nature conservation, nature development
Commission royale des monuments, sites et fouilles de la Région Wallonne (CRMSF) <a href="http://www.crmsf.be/">http://www.crmsf.be/</a>	Heritage protection, consultative organ
Fondation rurale de Wallonie (FRW) <a href="http://www.frw.be">http://www.frw.be</a>	Rural development operations, architectural and urbanistic aid
Association de défense de l'environnement de la Senne et de ses affluents (ADESA)	Landscape analysis on the whole Walloon territory
Le Centre International pour la Ville, l'Architecture et le Paysage <a href="http://www.civa.be/">http://www.civa.be/</a>	Library and archives center, documentation
Belgian association of gardens and landscape architects <a href="http://www.bvtl-abajp.org/">http://www.bvtl-abajp.org/</a>	Professional association

Table 1. Institutions in landscape research and study fields.

## LANDSCAPE TYPES AND REGIONS

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### A SMALL COUNTRY BUT A HIGH DIVERSITY OF LANDSCAPES SUPPORTING A WIDE VARIETY OF CHANGES

The regional and landscape diversity is very large in the small geographic territory of Belgium (Christians & Daels, 1988; Antrop, 1994, 1996). This is explained by its physical structure, which is very varied and which is amplified by very diverse cultural influences during a long history (table 2). Belgium, which is sometimes described as the battlefield of Europe, was created as a buffer state in 1830. The physical structure gives the basis for the classification of geographical regions and of the traditional landscapes (Antrop, 1997; Christians and Daels, 1988).

In a densely populated and highly industrialised country, the pressures upon the geographical space are high and the changes are rapid. Actually, the landscapes in Belgium show a wide variety of changes due to urbanisation and fragmentation by transport infrastructures. In fact, the development of railway, that

already started in 1835 (Van der Haegen, 1992), meant the opening of the countryside and initiated the first important transformations of the rural landscapes, in particular near the disclosed places. The Belgian situation illustrates very well the difficulty to distinguish urban and rural landscapes. The Global Report on Human Settlements (United Nations Centre for Human Settlement (HABITAT), 1996) gives for Belgium the misleading number of 97% of urban population in 1995. In the most urbanised part, i.e. the region of Flanders, the average population density was about 431 inhabitants per square kilometre in 1993, while the uplands of the Ardennes in southern Belgium face average densities of 40 inhabitants per square kilometre (Van Hecke & Dickens, 1994; Ministère de la Région Wallonne, 1998). The urban fringes occupy vast areas. The urbanisation of the countryside occurs in many different forms and is the most important factor in the transformation of the landscapes of Belgium (Antrop, 1994, 1998).

## STAGES OF LANDSCAPE DEVELOPMENT

<i>Historical period</i>	<i>Major impacts on landscape</i>
Neolithicum	Introduction of agriculture and first semi-sedentary settlements on the fertile loamy soils (Limburg, Haspengouw, Hainoult) with shifting cultivation. Important mining (silex) along Sambre –Meuse rivers.
Bronze Age	Agriculture expands to the sandy soils; many burial fields in sandy Flanders.
Iron Age	Celtic population: introduction of new technology and agricultural practices (crop rotation, manure <i>plaggen</i> ). Occupation continuity since the Bronze age; hill fort settlements.
Roman period	In the coastal zone: Transgressions and floods, new marshland, new settlements. Important salt and peat exploitation and trade. Border zone of Roman Empire. Elsewhere: After Gallic wars; long period of peace and prosperity: colonial agriculture in loamy regions ( <i>villae</i> ), important cities and new road network From the 3 <sup>rd</sup> century: land surrender, decline of cities and villages, disappearance of dispersed colonial farms, increase of forest and waste land.
Middle Ages	The river Scheldt was an important political border for many centuries between the French kingdom and the German empire and at the same time an important transport route. Storms and floods in the 11 <sup>th</sup> and 12 <sup>th</sup> centuries affect coastal zones and estuaries. Strong population growth, important new land reclamations and clearing; the basic structure of the actual cultural landscape is formed.
Demographic expansion (16 <sup>th</sup> century)	Main expansion of the population especially in the cities.
Demographic crisis (17 <sup>th</sup> -18 <sup>th</sup> centuries)	First 'national' and centralized stone roads built; network of new canals between Ghent, Bruges and Ostend constructed. Landscape architecture: development of lanes between castles and churches.
Industrial revolution (18 <sup>th</sup> century until World War II)	Textile manufacturing in the Flemish cities that grow fast; based on coal mining and steel industry in the Walloon corridor of Mons to Liege. Massive migration from rural areas to cities. Development of railway network; improvement of waterways and roads. 1831: Foundation of Belgium as an independent constitutional monarchy. Battle field of two World Wars: fortifications, social break with the past traditions in the rural countryside.
Post World War	A series of institutional reforms started in 1960s: Belgium became gradually a federal state composed of communities and regions. Physical and environmental planning, nature protection, landscape management and agriculture become regional policy matters. Economical prosperous period: urban sprawl based on massive car mobility, new motorway network and canals, vast industrial areas along the sea ports and reconversion of old industrial (mining) zones. Land consolidation and upscaling of agriculture; environmental deterioration and loss of cultural landscape heritage.

Table 2. Stages of landscape development in Belgium.

## TAKING CARE OF THE LANDSCAPE

In the 19<sup>th</sup> century the new state of Belgium followed the international trend of protecting areas for their natural and esthetical quality (Van Hoorick, 1999). This resulted in laws concerning the protection and listing of monuments and landscapes. Landscapes could be protected for their «scientific, cultural-historical and esthetical value of national importance». After the federalisation of the Belgian State, protection of the landscape became the responsibility of the Regions. Today, the three regions of Belgium have their own legislation. Gradually, objectives, interests and legislation about nature conservation and landscape protection diverged, not only between the federal regions but also within each one. In Flanders for example, visions about the landscape are found in the legislation for landscape protection, but also in the ones concerning nature conservation and spatial planning. Although the different policies focus upon different aspects of the landscape, they are not always concerted and make an integrated holistic approach of the landscape management difficult. In Wallonia, no specific legislation exists but several landscape management tools are available, such as the «*Plan de secteur*» and the «*Schéma de structure communal*» for the regional and local land management. Since 1985, building in rural areas is regulated by the «*Règlement général sur les Bâtisses en Site rural*».

However, in Belgium, there is a growing interest in grouping and organising the many local thematic initiatives for the protection of the cultural heritage in the landscape.

In 1996, a survey started to map the relics of the traditional landscapes in Flanders, based upon the orthophotomaps of 1990 (Antrop & Van Nuffel, 1997; Antrop, 2001). For each province, an atlas was created with maps at a scale of 1/50.000. These indicated the cultural and esthetical relics that were complementary to the natural ones already mapped in the Biological Valuation map (De Blust *et al.*, 1985).

Relics are not classified according to their age or nature, but to their spatial properties. Thus, relic zones, anchor places, lines, points and views are distinguished and mapped in a GIS linked to a relational database. The finalisation of this atlas was achieved in 2000. For the first time it gives a complete coverage of remaining landscape values in the highly urbanised and fragmented Flemish landscape (see Hofkens & Roosens, 2001). The atlases will be used intensively for further landscape protection, spatial and environmental planning and environmental impact assessment.

In the Wallonia, Neuray's work (1982) was fundamental for an integrated and multidisciplinary approach in landscape evaluation. His work introduced the evaluation of sites prior to land reallocation. It also formed the basis for the guidelines for the architecture of new agricultural buildings (Ministère de la Région Wallonne, 2001). To promote active protection of sites and heritage values in the countryside several associations were created, such as «*Qualité Village Wallonie*» and «*Fondation rurale de Wallonie*».

In 2000, the government of the Walloon Region installed the «*Conférence Permanente du Développement Territorial*», which was given the task to make the inventory of Walloon landscapes according to the European Landscape Convention (Council of Europe, 2000). This resulted in the map of the «*Territoires Paysagers*», mainly based on physical structures and land cover and aims to characterise the different landscapes at a scale of 1/50.000. This work was finalised in 2003 and gives a basis for further work on identification of heritage landscapes (Feltz *et al.*, 2004).

## LANDSCAPES OF FLANDERS AND WALLONIA

In Flanders and Wallonia a different typology and classification of the landscapes is used. In Flanders the traditional landscapes form the main framework (Figure 1). They represent the landscapes based upon natural conditions and cultural-historical aspects before the great changes



that started in the 18<sup>th</sup> century. In Wallonia, landscape territories (*territoires paysagers*) are used, which are based upon ensembles defined by physical-geographical properties and the actual land use forming scenic units (Figure 2).

#### ISSUES OF ENVIRONMENTAL AND SPATIAL PLANNING AND MONITORING

Care for the landscape is explicitly mentioned in the spatial and environmental planning policies of the different regions of Belgium. Because of the different geographical conditions and because of differences in policy and legislation, the approach to landscape management is different too (Van den Bergh, 1999).

In Flanders, policy rules related to the landscape are found in both spatial («*Ruimtelijk Structuurplan Vlaanderen*» RSV) and environmental (*Mina-plan2*) planning. Both plans explicitly refer to

landscape in different aspects. The «quality of space», which implies environmental quality as well as spatial organisation and physical planning, is considered insufficient and should be improved. It is believed that a structural change will improve many functional aspects. Considering the landscape, spatial planning focuses on the conservation of the remnants of undisturbed traditional landscapes and on the intensification of recognisable and legible structural relief forms and transitions between different landscape types and regions. Also, the perceptive meaning of visual landmarks in structuring space is considered important as well as the making of buffer corridors of open space between urban zones. The main problems are defined by the important suburbanisation and the high-density transportation infrastructure, both causing severe fragmentation of the countryside with important losses or

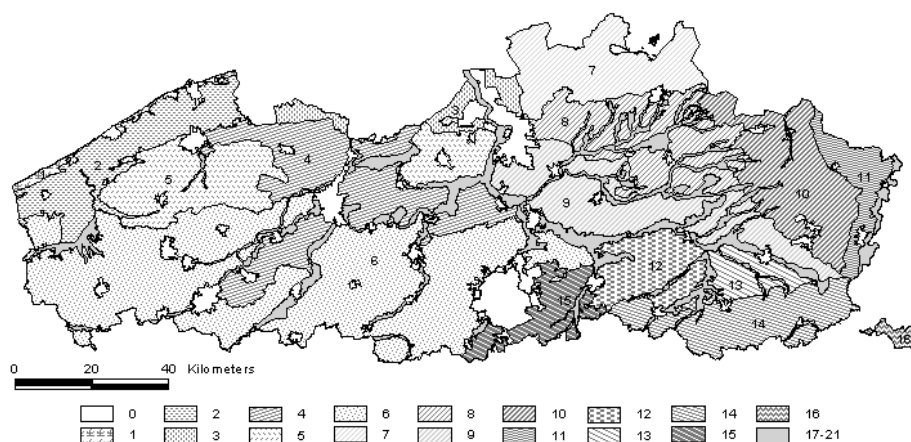


Figure 1. Traditional landscapes of the Flanders Region. 0. Main urban agglomerations, 1. Coast and dunes, 2. Coastal Polderland, 3. Polderland of the Scheldt river, 4. Interior Flanders, flat and sandy soils in the Flemish Valley, 5. Interior Flanders, flat and sandy soils, 6. Interior Flanders, hilly and loamy soils, 7. Northern Kempenland, 8. Central Kempenland, 9. Southern Kempenland, 10. Plateau of Kempenland, 11. Maasland, 12. Hageland, 13. Dry Haspengouw, 14. Wet Haspengouw, 15. Brabantse Ardennen, 16. Voerstreek, 17. The tidal Scheldt valley, 18. The Scheldt valley, 19. The Dijle-Gete-Demer valleys, 20. The Nete valley, 21. The Ijzer valley, 22. The Meuse valley. Brussels Capital region is not mapped.

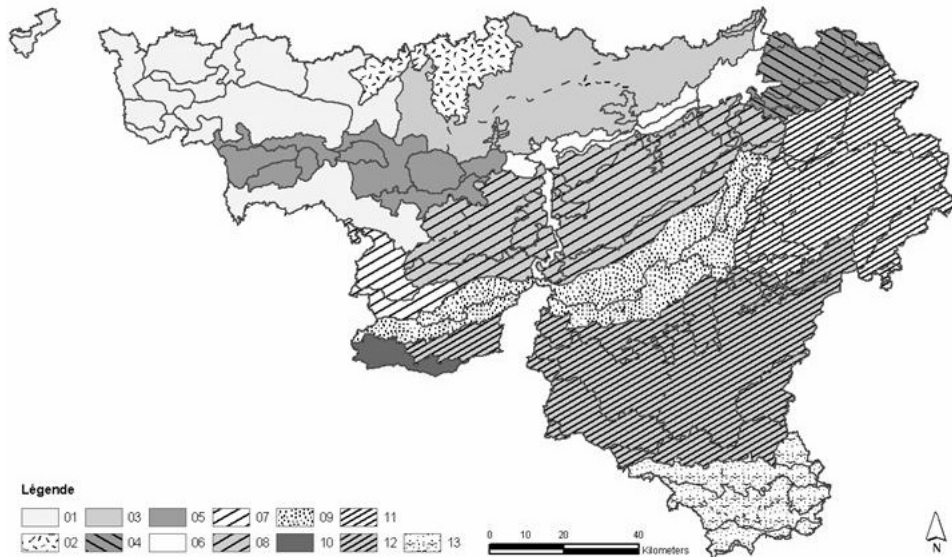


Figure 2. Territoires paysagers of Wallonia - 01 Hainaut silty plain and low plateau, 02 Brabant valleys, 03 Brabant and Hesbaya low silty plateau, 04 Entre-Vesdre-et-Meuse, 05 Haine and Sambre, 06 Meuse, 07 Fagne, 08 Condroz middle plateau, 09 Fagne-Famenne depression and edge, 10 Thiérache, Sarts & Rièzes, 11 Nord-east Ardennes high plateau, 12 Central Ardennes high plateau, 13 Cuestas of Lorraine.

degradation of both natural and cultural values of the landscape. The rapid homogenisation of the landscapes is recognised, as well as the loss of identity and diversity of natural, ecological and cultural values. Therefore, surveys and inventories of landscapes and environmental qualities are considered of high importance. Also, the setting up of integrated monitoring systems is considered. In the Walloon region, the spatial planning policy is based upon the «Code Wallon de l'Aménagement du Territoire, de l'Urbanisme et du Patrimoine» (CWATUP) and realised by a spatial master plan called «Schéma de Développement de

*l'Espace Régional»* (SDER). Development means the improvement of the quality of living. The Walloon territory is seen as «a collective heritage for its inhabitants». Urban and rural landscapes are both considered and valued for having a great diversity, which is important for the environmental quality and for cultural and territorial identity. Degraded landscapes are considered as negative for the image of the Walloon region. Urbanisation processes also affect towns and village fringes and the continuing development of transportation infrastructures causes fragmentation of the countryside.

## FUTURE LANDSCAPES AND LANDSCAPE RESEARCH

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The change of the Belgian landscapes in the future is likely to be conditioned mostly by changing mobility patterns and accessibility of places. It is likely that edge cities will continue to develop in the highly urbanized areas and at the best time-accessible places. In the countryside functional changes will be more likely than important morphological changes in housing and land use. Uncertain is the effect of the changing EU CAP, in particular in the inten-

sive agricultural areas. Non-ground bound agriculture is likely to develop further.

Landscape research will be more policy-oriented. The sources of funding indicate that less fundamental than applied research will develop in close relationship to spatial and urban planning. Also, a synthesis of Belgium is needed in the international context. A landscape character typology for the whole of the country will be published in the new National atlas.

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