



# Flanders

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### Introduction

Flanders is the northern region of Belgium. It covers an area of 13 521 km<sup>2</sup> and counts approximately 6.35 million inhabitants. The region has a very high population density (475 inhabitants per km<sup>2</sup>) which is more than four times the average density of the European Union. Only 7% of the area is rural and 2.5% of the population lives in the rural area.

The Flemish countryside is highly urbanised with a very fragmented landscape and strong links between countryside and cities. From a geographical, functional and cultural point of view, rural and urban areas are increasingly interlinked. Forests and nature cover a mere 1 850 km<sup>2</sup>.

Agricultural land comprises 6 230 km<sup>2</sup> out of which 70% is arable. Meadows, pasturelands and fodder crops account for 56% of the total area. Representing a regional share of 36 to 50% of the utilised agricultural area, grasslands are a dominant land feature of the rural landscape. The agricultural land is 36% owned, the rest is on lease.

With high land pressures, agriculture in Flanders (Belgium) is highly industrialised. The largest portion is taken by intensive sectors such as pig breeding, poultry and dairy farming, horticulture and ornamental plant culture. Farming in Flanders is intensive, with high yields per hectare.

The average age of farmers is more than 50 years (only 5% of farmers are younger than 35 years). Few farmers have a successor. Young farmers suffer from a lack of funds when starting up and therefore need some support.

This is inevitably linked to higher consumption of fertilisers and plant protection products, negative impacts on soil and water quality, and biodiversity loss. Horticulture, comprising fruit, vegetables and potatoes, have increasingly suffered from the effects of adverse weather conditions.

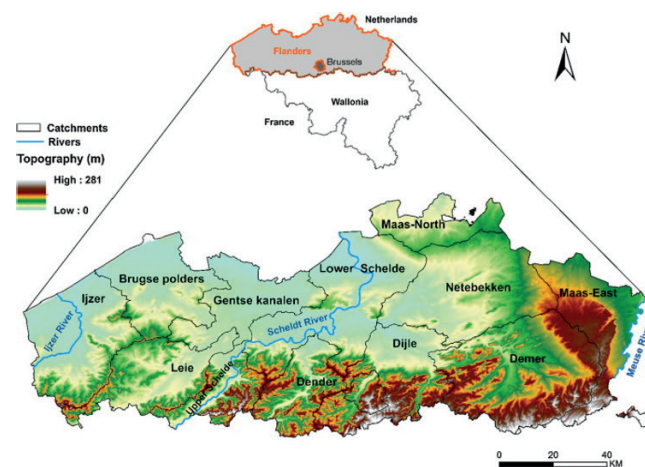


Figure 1. Location of Flanders in Belgium, including major catchments and topography (Zomlot et al., 2017)

With more remote sensing data becoming freely available and at an increasing spatial and temporal resolution, a new era of different process-based modelling and monitoring methods can help elucidate the challenges of sustainable intensification of rural landscapes. Climate resilient landscapes offer opportunities for agricultural production, biomass production, carbon sequestration and water use efficiency.

The Flanders' pilot will be managed by the Flemish Institute for Technological Research (Partner) in association with multiple actors: Flemish Land Agency (Associates), Flemish Ministry of Agriculture and Fisheries (Associates), Farmers' Union (Associates), and Regional Landscapes Association (Associates). The stakeholders will provide voluntary support to the project. As they are based in the same geographic area as the project partner leading the pilot, no reimbursement of costs (travel, subsistence etc.) is foreseen.

Their areas of expertise is summarised as follows:

- The Flemish Land Agency is committed to enhancing the countryside and open spaces to enable them to better endure urbanisation, fragmentation and climate change. The agency is collaborating on policy and investing in soil and water quality, biodiversity and infrastructure;
- The Department of Agriculture and Fisheries deals with the development, implementation, control and evaluation of all matters in the field of agriculture, horticulture, fisheries and the countryside. The department works in close cooperation with the Minister of Agriculture;
- The Farmer's Union a professional association of farmers active in Belgium's Flemish and German-speaking communities. Founded in 1890 and based in Leuven, the organisation promotes the interests of farmers working within their regions of activity; and,
- Regional Landscapes Association promotes the development and character of landscapes in Flanders, emphasising their cultural, historical and natural value.

## Priority issues

In Flanders rural communities attract new settlers who have various reasons for entering the community (interested in the farmhouse, temporarily renting land for growing crops etc.). Despite the increase in agri-environmental measures, small landscape elements disappear and grasslands are being ploughed and relocated. At the policy level, measures have been activated to ensure that land maintenance is aimed at safeguarding the rural landscape. Regional governments and local communities engage in exercising pre-emptive rights, priority usage rights, active land acquisition, local land banking and financial compensation.

Maintenance of rural land, is the subject of a great debate, and specific problems and solutions need to be addressed. Pressure on open space is increasing in Flanders. Open space is the place for food production, nature, water, energy generation and recreation. In places where open space prevails, the challenge is to better align the landscape and urbanisation and find a robust balance between water, agriculture and nature.

In the open space numerous challenges simultaneously come to the foreground: climate change, water management, food production, renewable energy, and biodiversity. The overall regional goal for rural Flanders is to reach sustainable intensification of productive landscapes by balancing increased production with environmental concerns and climate resilience. Emerging from this goal is the need to focus on climate resilient productive landscapes.

Rural landscapes evolve and the drivers behind the changes relate socio-economic activities to their bio-physical environment. Regions that have international or interregional borders or that are situated at the interface between rural and urban areas, are often confronted with different policy demands and implementations, and feel more pressures from external actors and interests.

The Flemish pilot will draw on the results of the project to develop (1) strategies for supporting climate resilient productive rural landscapes, (2) more inclusive regulatory tools for land and water management, (3) a better functioning system of aligning landscape and urbanisation.

**(Vision statement)**

The overall ambition is to create sustainable climate resilient productive landscapes, balancing agricultural intensification with environmental concerns and climate resilience.

**Expected outputs:**

A set of challenges have been identified, and will be updated according to a **“monitoring – understanding – adjustment”** cycle in a co-creation with the identified stakeholders. The methodologies developed in the PoliRural project relate to a **cascade of global megatrends to relevant regional trends and to policy options** in an explicit **geo-referenced framework**. The PoliRural tools developed will be tested and implemented in the Flanders’ region to face rural challenges related to:

**1. Landscape development:** The open space is under increasing pressure from urbanisation and therefore soil sealing. The trend to ‘seal soils under building materials’ is in Flanders of major concern. Landscapes are increasingly being fragmented.

**2. Climate smart production landscapes:** Agriculture is severely affected by the water issue, with increased risks of drought, flooding, and soil erosion. There is a need to transform the tension between intensive farming, water consumption and soil care into a collaboration for a new climate resilient production landscape.

**3. Ambitious landscapes:** How could the many nature reserves and heritage landscapes in Flanders, be safeguarded in a changing climate and under high pressures of land use? Can these landscapes expand into regional parks of urbanised Flanders?

**4. Rural-urban fringes:** How could a city and rural area be mutually reinforcing and supportive? Particularly in the urban fringes with fertile farmland, short-supply-chain farming is becoming increasingly more important. How could food production be integrated in the distribution in spatial terms in the city?

**Expected impact (qualitative):**

The major question to be answered is how farmers and villagers can be supported to develop their businesses, remain compliant with environmental concerns, improve climate resilience and manage the highly valued rural landscape of Flanders. Remote Sensing and geomatics technology can deliver the first geo-located insights to help develop and subsequently monitor new **policy options** and business strategies. In addition, global and regional trend analysis can pave the way to promote new business models that can support rural communities with their activities.

## References

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Zomlot, Z., Verbeiren, B., Huysmans, M. and Batelaan, O., 2017. Trajectory analysis of land use and land cover maps to improve spatial-temporal patterns, and impact assessment on groundwater recharge. *Journal of Hydrology*, 554, pp.558-569.