



Case study fact sheet #2:

Berg en Dal, the Netherlands

Introducing the case study

Berg en Dal is a Dutch municipality that is situated between the Waal river, Nijmegen and the German border. The municipality makes up an important part of the national landscape Gelderse Poort. The designation 'national landscape' signifies that the area is of agricultural, natural and historic value for the Netherlands. The area contains a varied cultural landscape with a variety of landscapes (Figure 1). In 2015 three municipalities (Groesbeek, Millingen aan de Rijn and Ubbergen) merged into one municipality, that is officially named Berg en Dal since January 1, 2016. The municipality can roughly be split into three zones (Figure 2). First, the floodplains on the southern banks of the Rhine/Waal river (Ooijpolder and Duffelt), that harbor an important nature restoration area. Second, the forested ridges surrounding Nijmegen in the central western area. Third, mixed agricultural lands south of the floodplains and surrounding the town of Groesbeek.

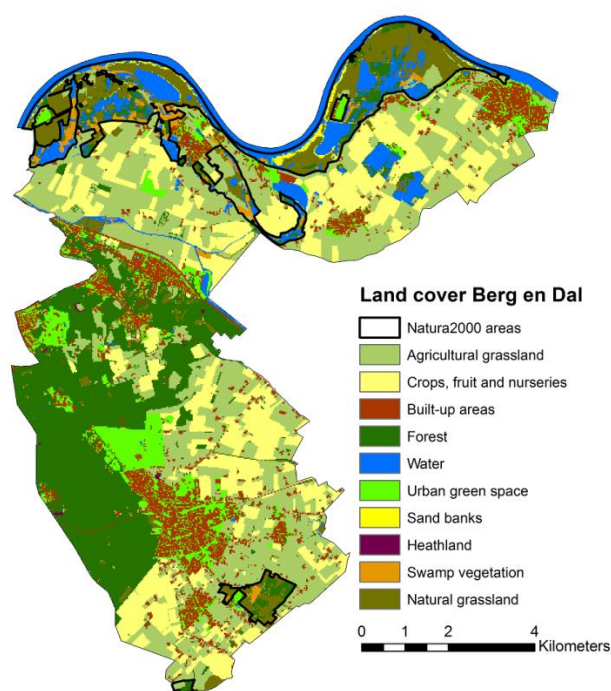


Figure 1: Land cover of Berg en Dal

The case study in numbers

Established: January 1, 2016 (under current name)

Total area: 93km²

Total population: 34,000

Population density: 396 inhabitants/km²

Administrative denomination: municipality

Villages: 12 villages, Groesbeek is the largest village with about 19.000 inhabitants

Natura 2000 areas:

- Gelderse Poort: 1275 ha in Berg en Dal (total 6105 ha)
- De Bruuk: 99 ha
- Sint Jansberg: 11 ha in Berg en Dal (total 226 ha)

Land use and cover:

- Forests: 18.25km² (19.6%)
- Arable lands: 17.19km² (18.4%)
- Grasslands: 32.78km² (35.2%)
- Water areas: 7.61km² (8.2%)
- Other (including settlements): 17.38km² (18.6%)

Berg en Dal has many different types of nature areas, including forests, open water, swamps, natural grasslands, shrublands and many small patches with special vegetation. The municipality harbors (parts of) three Natura 2000 areas: Gelderse Poort, De Bruuk and Sint Jansberg, together covering 6.7% of the area. The Gelderse Poort is a 6000 ha large river landscape, of which 1275 ha is situated in Berg en Dal. Large areas outside the dikes have been dug out for clay and sand extraction, and now consist largely of open water, swamps, willows, shrub land and various types of grassland. The areas have been protected to restore the original floodplain landscape, providing space for changing water levels, habitat for various types of wildlife and recreation. De Bruuk is a swamp area in the Groesbeek stream basin, and surrounded by agricultural land. The area is characterized by small-scale patches of alternating swamp, fen meadows, thicket, hedgerows and wetland forests. Sint Jansberg consists of old growth forest containing small springs and peatlands on the slopes of the moraine landscape, of which a small part is located in the south of the municipality.

Biodiversity and ecosystem services

The two main areas of importance for biodiversity are the Natura 2000 areas Gelderse Poort and De Bruuk. The Gelderse Poort is one of the most successful areas for nature restoration in the Netherlands. In the early 1990s the government and environmental NGOs started developing the Gelderse Poort by buying agricultural land in the Millingerwaard. Natural processes belonging to a river system, such as inundation, sedimentation and erosion, were reactivated and the natural landscape slowly reestablished. The floodplains harbor riparian forests, various types of grasslands, marshes and river dunes. The Gelderse Poort is an important feeding and resting area for many wetland birds, as well as a breeding area for birds such as the kingfisher, black tern, little grebe and the cormorant. Inside the dikes reed lands, small channels and swamp forests provide important breeding grounds for birds, such as the bittern, great reed warbler, bluethroat and corncrake. Beavers were reintroduced in the area and have reestablished themselves. In 2004 21 internationally protected fauna species were found in the area, including seven fish species. In 2014 the otter returned to the Gelderse Poort, after several decennia of absence.

De Bruuk provides habitat for rare plant species that have largely disappeared from the Netherlands due to land reclamation, desiccation and fertilization. Species-rich fen meadows (*Cirsio dissecti-Molinietum*) occur here due to nutrient poor soils. The area accommodates 20-30 plant species per square meter. De Bruuk also provides habitat for a variety of orchid species, as well as many bird species (including the nightingale), butterflies, bats and the grass snake. At least eleven IUCN red list plant species have reappeared in the area over the past years.

A large variety of ecosystem services (ES) are provided in Berg en Dal. One of the most important services is the regulating service flood protection. The restored floodplains protect the surrounding areas against flood risk from the Rhine/Waal river. In addition, the floodplains, as well as the forested ridges provide important areas for nature recreation, including hiking, cycling, fishing, relaxing and bird watching. Provisioning ES are provided in the form of food and timber. Berg en Dal has several special forests and landscapes where people can pick berries, fruits and forest products. The area combines its natural and cultural heritage to inform visitors about the region's history and importance, for example by preserving agricultural traditions, restoring the historical windmill and preserving the remnants of a traditional brick factory.

Agricultural production in specific

Livestock production is the most dominant agricultural activity in Berg en Dal, with a focus on dairy cattle, but also sheep. The municipality has the largest extent of vineyards in the Netherlands, due to the combination of undulating terrain, a moderate groundwater table, and loess soil.

Other agricultural activities include arable farming (34% of area), fruit production (1.3% of area) and horticulture (0.8% of area), all at relatively small scale. The main arable products are corn, sugar beets, wheat and potatoes.

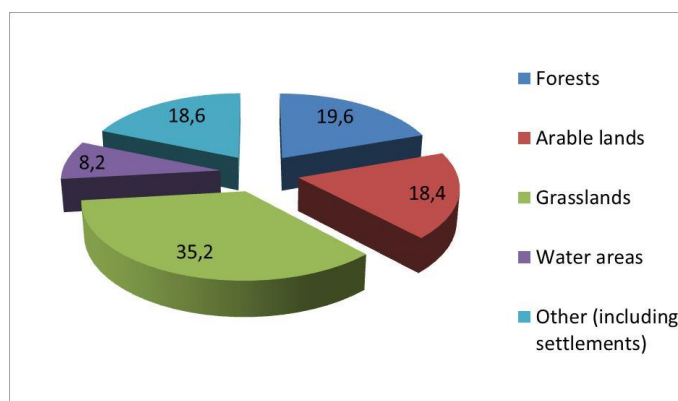


Figure 1: Land use and cover distribution of Berg en Dal

Governance approaches

For management of the municipality multiple governance approaches are used. Restrictions are specified as command and control governance approaches in a number of laws and regulations at the EU, national level. This includes for instance the Natura 2000 habitats and birds directives and the water framework directive at EU level, or the respective nature protection laws at national level. To manage spatial planning the municipality uses the 'Bestemmingsplan', in which the specific uses for the whole municipality are defined. Changes in spatial planning can only be implemented if they are in accordance with the 'Bestemmingsplan'. For agriculture multiple restrictions exist, concerning issues such as emissions, fertilizer use and manure production.

To stimulate landscape entrepreneurship and financing for landscape development and conservation market-based governance approaches are in place. The landscape fund Via Natura provides multiple types of financing opportunities to generate funds for landscape management, including a frequent landscape auction, in which citizens and businesses can adopt parts of the local landscape and finance landscape management.

Collaborative governance approaches exist in the area. In 2015 a new landscape development plan ('Landschapsontwikkelingsplan', LOP) was designed by multiple stakeholders for 2015-2025. Participants in the plan included government, civil society and businesses. This plan specifies possible landscape developments and conservation activities for fourteen sub-regions within the municipality. In addition, there is an active platform for landscape development, the 'Landschapscommunity', that stimulates collaboration between stakeholder groups. The community started to grow over a decade ago and is an active and important platform for the area.

Governance actors

The governance approaches are carried and implemented by a multitude of different local and regional actors.

A core actor is the municipal government of Berg en Dal, which is responsible for local (spatial) planning. The national landscape Gelderse Poort and the Natura 2000 areas are the responsibility of the Gelderland provincial government.

For landscape management the Landschapscommunity and its active participants are important actors, including stakeholders from interested in nature and landscape, recreation and tourism, agriculture and policy. Organisations actively involved in landscape management include Via Natura, de Ploegdriever, Nederlands Cultuur Landschap, Stichting ARK, Stichting Landschap Ooijpolder-Groesbeek and Terra Vita.

Key challenges

The region struggles with a number of challenges which can be summarized as follows:

- policy change: general cut back in public funding
- global environmental change: impacts of climate change, especially in regard to water regulation with more extreme flooding of the Rhine/Waal river.
- tourism: the area is popular with locals and day trippers from Nijmegen, but the region wants to attract more tourists
- combining sustained agricultural production with nature conservation and recreation.

Against this backdrop, for the cp³ project, the prior focus lies on the analysis of current impacts of agricultural production on biodiversity and ecosystem service provision and how those are influenced by existing governance approaches. A particular focus is given to collaborative governance approaches and how they help to preserve biodiversity and safeguard ecosystem services provision in the region.

Impressum

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‘civil-public-private-partnerships (cp³): collaborative governance approaches for policy innovation to enhance biodiversity and ecosystem services delivery in agricultural landscapes’

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