

Introducing the case study region

The case study region „Münsterland“ (6752 km²) is located in north-west Germany (Federal State of North Rhine-Westphalia). It compiles five counties (Steinfurt, Borken, Coesfeld, Recklinghausen und Warendorf) and the city of Münster (about 310.000 inhabitants). It is a small-structured agricultural landscape, also known as ‚Münsterländer park landscape‘. The region is dominated by agriculture, more than fifty percent (52 %) of the regional area is dominated by arable land and less than twenty percent (14 %) by grassland. Forests (16 %) are of secondary importance. The urban areas cover 13 % of the whole region. The agriculturally shaped landscape is part of a bigger intensive livestock breeding region, with production of fodder, food and energy crops. The energy region “Münsterland” is based on a broad production of renewable energy by photovoltaic systems, wind power and biogas plants.

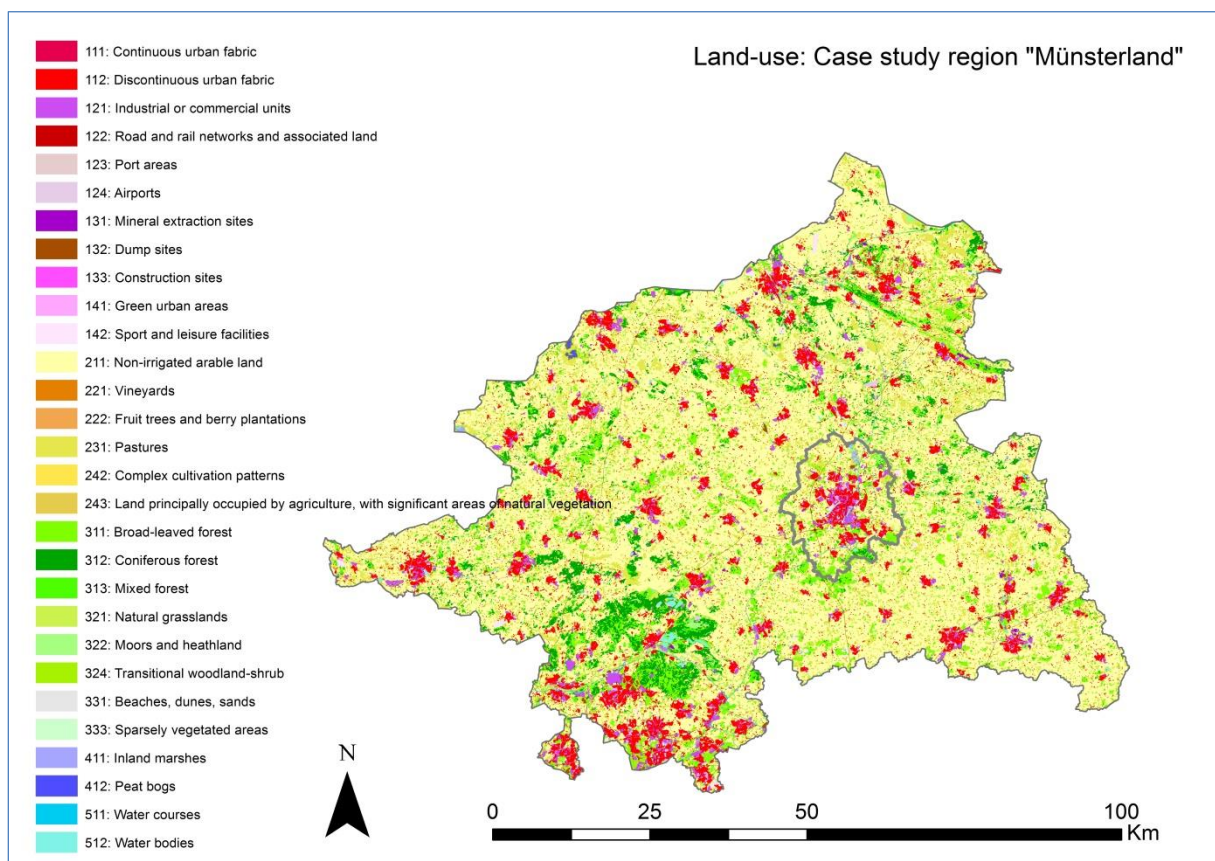


Figure 1: Land use classes (CLC 2012) in the case study region “Münsterland” (Germany).

Stakeholder structure and network

The requested stakeholder network consists of all regional relevant actors. The main project partner of the case study region is the cultural landscape association “Stiftung Westfälische Kulturlandschaft”, a foundation of the Farmers Association (DBV) for the promotion of the rural areas. The network covers a broad range of regional relevant thematic fields (e.g. agriculture, nature conservation, regional development) and of the hierarchical levels, like local land managers (e.g. farmers, planners, nature conservation managers and others), foundations (e.g. cultural landscape

association) and associations (e.g. farmers associations), and NGOs, like NABU, BUND on county and federal state level, departments of administration (agricultural agencies, nature conservancy authorities, agencies for regional development on county level and federal state level), local and regional politicians. The stakeholders have a growing interest in innovative, farm viable, regional adapted and production integrated and accompanying solutions, support of green infrastructure to reduce or stop the ongoing habitat and species decline under current and foreseeable future conditions.

Land use and agricultural structure

The focus of livestock farming is on pig fattening, piglet breeding, dairy farming and bull fattening. Poultry farming is of minor importance.

Cultivated crops are wheat, barley, corn maize, which are used mainly for fodder production and also for conventional farming of food crops. The cultivation of special crops: vegetables (e.g. asparagus on sandy soils, salad, onions, cabbage) and field fruits (e.g. strawberries) is of regional importance, for example to supply the market in the city of Münster.

The “energy region” has a diverse portfolio of renewable energy like photovoltaic systems, wind power plants, and biogas plants. Investments in biogas production from energy crops now stagnated due to enhanced rental prices for farmland and high product prices for market crops.

Agricultural holdings are managed on full-time and on part-time basis. The share of full-time farms is between 45 and 60 % and respectively of part-time farms between 40 and 55 %. The mean farm size is low and is between 31 and 44 ha per farm, well below the average in Germany.

The share of agricultural holdings practise organic farming is very low: between 0.6 and 1.6 %, which is lower than the mean share of the state of Federal State of North Rhine-Westphalia (3.6 %). The tendency in the county Steinfurt is for example rising due to increasing consumer demand for organic food.

Target habitats, species groups, ecosystem services

SALBES’s aim is to identify, maintain and facilitate species and species groups of open agricultural land (e.g. field birds, insects, other wild animals and floristic species) and their habitats, primarily by two components: encompassing elements and functions of green infrastructure and developing adaptive management strategies integrated in agricultural production systems. Both components will be analysed and discussed by the research group and accompany and facilitate by regional stakeholders within a co-design process. In a first step we will therefore derive a regional target list of species, groups of species, habitats and ecosystem services in consultation with the Nature conservancy authorities of the six counties and the Federal State of North Rhine-Westphalia, with the Stiftung Kulturlandschaft Münsterland and the most active NGOs of Münsterland (e.g. NABU, BUND) and discuss it and refine it with further regional stakeholders. We take into consideration the nature protection areas of the region which cover between 4 to 7 percent of the counties.

Key challenges

The region is characterized by competing land use forms for example between agricultural used land and other land uses like urbanisation and areas of transport and traffic as well as between the production of food and fodder on one hand side and the cultivation of energy crops on the other hand side. The land use conflicts emerge as daily loss of agricultural land, for example 0.5 ha per day in the county Coesfeld (between 2006 and 2016) and 1.2 ha per day in the county Borken (between

2006 and 2015). Rising renting prices for agricultural land are limiting the scopes of action for farm development.

The arising pressure on agricultural used land and the small structured landscape with small arable fields leads to intensive farming management strategies. Characteristic species of open agricultural land (e.g. field birds, insects, other wild animals and plant species) are threatened by current management strategies. Some projects aim to improve the situation (e.g. by introducing flower strips). The maintenance, further development, improvement of habitat function and (re)connection of already existing green infrastructure elements (e.g. forest edges, hedgerows, small water bodies, like ditches and small water courses) can support such approaches.

The regional livestock farming has potentially negative externalities on water quality (e.g. nitrate leaching, antibiotics) and on the local and global climate (e.g. GHG-emissions, like methane) and has consecutively encouraged the formation of regional initiatives like collaborative approaches (e.g. agriculture – water partnerships „Kooperation Landwirtschaft – Wasserwirtschaft“) and of regulating approaches (e.g. designation of water protection zones with adapted management strategies). Increasingly, ethical aspects of animal welfare and health are becoming important and are a matter of controversial regional discussions.

The regional agricultural farms are faced on one hand side with an increasing pressure for cost reduction and increasing market and production risks by market dependencies and climate change effects, and on the other hand side with growing regulations and rising societal demands for sustainable production.

Photos and short description



Fig. 1: The „Münsterländer park landscape“ (source: U. Stachow)



Fig. 1: The “energy region” in the case study region “Münsterland”: biogas plants. (source: U. Stachow)



Fig. 1: The “Energy Region” in the case study region “Münsterland”: energy crops (source: U. Stachow)

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