

Agriculture & Forestry  
in Hedmark County, Norway



agriculture



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With a total area of 27 400 km<sup>2</sup> and covering three degrees of latitude, Hedmark is Norway's third-largest county. Altitudes range from 123 m along the shores of Lake Mjøsa to 2178 m on the highest peaks of the Rondane mountain range.

# Hedmark

## – A Sizeable Piece of Norway



Even when it's summer along Lake Mjøsa, the peaks of the Rondane mountains could be experiencing a snow-storm. Hedmark's climate varies due to the considerable differences in altitude. Also, the county's geology and soils vary considerably. As a result of this wide range of natural conditions, farming and forestry in Hedmark show a considerable degree of diversity.

Based on fertile soils and a favourable climate, prosperous farming communities have developed along the eastern shores of Lake Mjøsa. This area has an especially thick layer of glacial till. The underlying Cambro-Silurian bedrock gives rise to calcareous, fertile soils. In the northern part of the Østerdal region, slates, sandstones and phyllites make up the parent rock. Even though the layer of glacial till is rather thin, vegetation thrives due to the nutrient-rich parent material. This can be seen in the mountain valleys, where lush pastures are an important resource and many summer dairy farms still are in operation. The vast forests are typical for the southern part of the Østerdal region. Pine barrens typically develop on the large stretches of sandy, nutrient-poor soils in the valleys, whereas spruce dominates in higher elevations. Accordingly, main crops in this region are cereals and potatoes at lower elevations, and grass and other forage crops higher up. Further south, in the Glåma valley, the landscape levels out. Here, sandy and silty soils dominate and provide the basis for extensive cereal and potato growing. Due to the natural conditions in southern Hedmark, timber quality in the region is the best in all of Norway.

Hedmark has 1.35 million hectares of productive forest and 0.1 million hectares of arable land. This cropland acreage is equivalent to about 125 000 soccer fields, or 10 percent of Norway's total agricultural area. In addition, Hedmark's forests account for 20 percent of Norway's forest resources. This makes Hedmark Norway's leading farming and forestry county.

About 5 percent of the county's total workforce is employed in agriculture, and thus, farming is of considerable importance for value creation, settlement and employment. Hedmark has 4000 farms in operation, of which 250 are run organically.

# farming



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# in hedmark

Although the number of farms in Hedmark has been decreasing, those farms still in operation are getting larger. The county's farms are larger than the national average. Farmers often rent land from neighbours who have stopped farming. Forty percent of the county's farmland is operated by someone other than the owner.

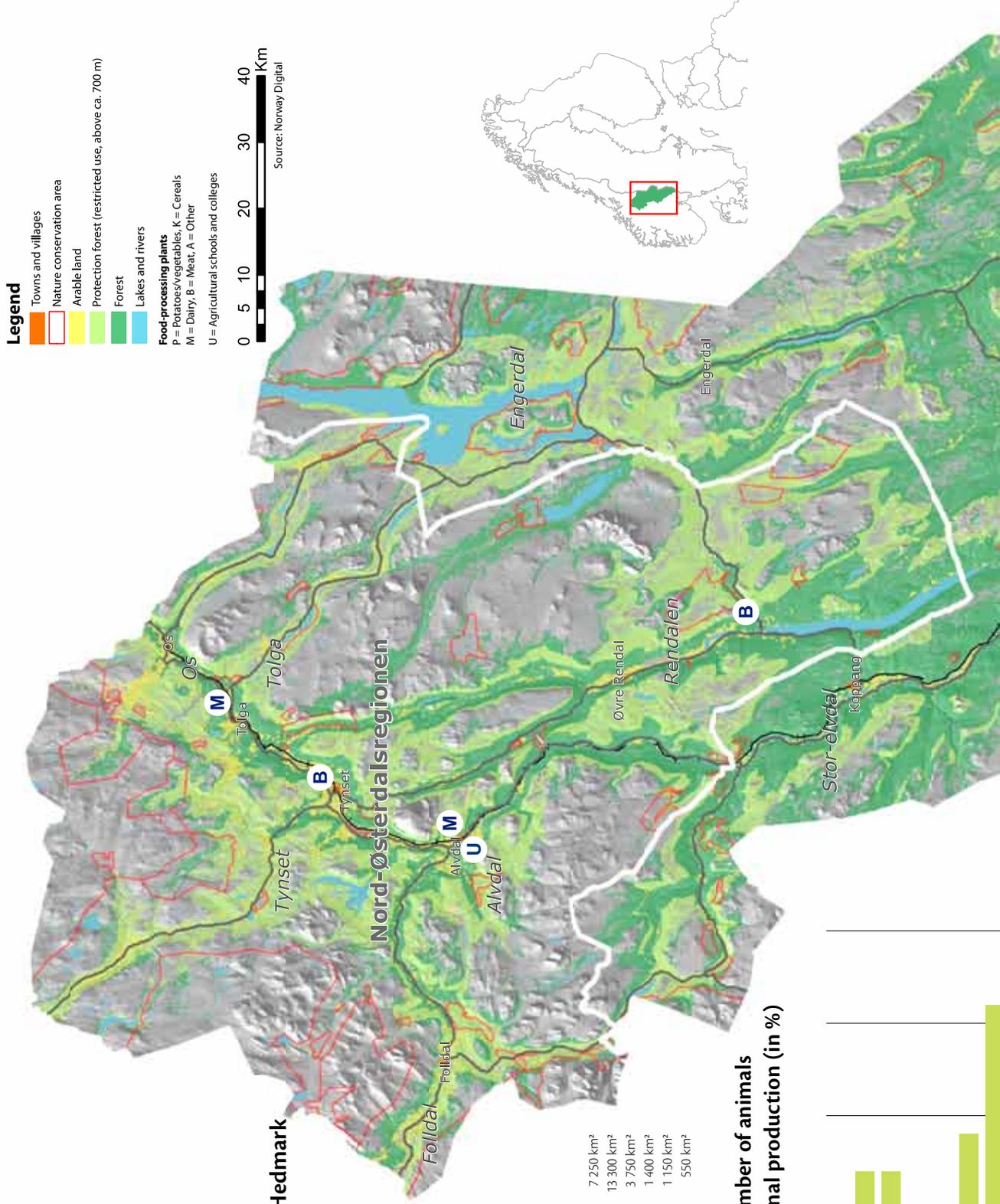
A farmer's main goal is to produce food. By keeping the land in production, farmers also contribute significantly to maintaining the cultural landscape. If we were to shut down all farms in Norway and import all of our food, forests would gradually take over the scenic farmscapes. Of course, the country would also be extremely vulnerable in a global food crisis.

Livestock farming in Hedmark shows a considerable diversity, ranging from cattle farming to sheep, goats, pigs, poultry and fur-bearing animals. Livestock husbandry accounts for 75 percent of the county's total agricultural value creation and employment. The major

crops are cereals, grass and potatoes. Vegetables and berries are grown in a few areas. Hedmark produces 1/3 of the country's potatoes, 1/5 of its cereals and one out of every four chickens. There are considerable variations between the county's four regions. Whereas most cereals are grown around Hamar and in the Glåma Valley, grass production dominates in northern Østerdal. Dairy and beef production is common in both of these regions, whereas the Hamar region accounts for most of the county's pig and poultry farming. Southern Østerdal is more diverse, and most farm types can be found here.

Farming in Hedmark does not only provide jobs for the farmers themselves. The county is also home to several large food processors, such as Nortura (meat and eggs), Tine (dairy), Bama (vegetables) and Maarud (potato chips). The food-processing sector accounts for one third of the county's industrial employment. In addition, there is a substantial farm supply industry, which provides products and services ranging from farm equipment to livestock feed and farm accounting services.

# hedmark - farming facts

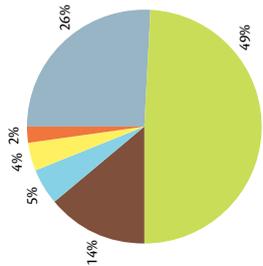


- Legend**
- Towns and villages
  - Nature conservation area
  - Arable land
  - Protection forest (restricted use, above ca. 700 m)
  - Forest
  - Lakes and rivers
- Food-processing plants**  
 P = Potatoes/vegetables, K = Cereals  
 M = Dairy, B = Meat, A = Other  
 U = Agricultural schools and colleges



**Land use distribution in Hedmark**  
 Total area 27 400 km<sup>2</sup>

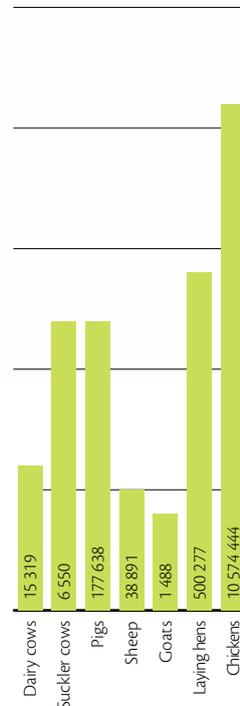
Source: National Forest Inventory

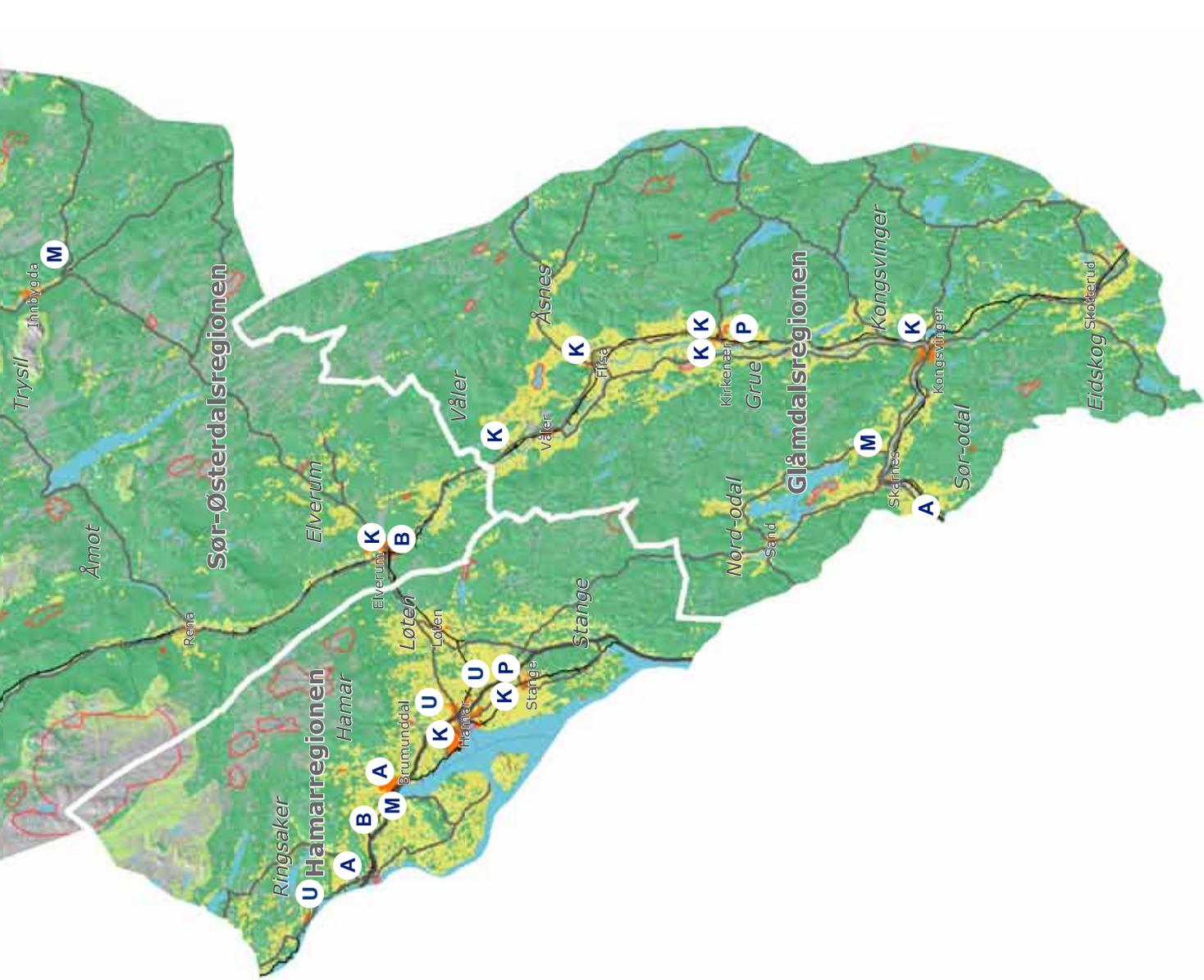


- Above coniferous treeline (> 900 m.a.s.l.) 7 250 km<sup>2</sup>
- Productive forest 13 300 km<sup>2</sup>
- Bogs and other non-productive forestland 3 750 km<sup>2</sup>
- Lakes and rivers 1 400 km<sup>2</sup>
- Arable land 1 150 km<sup>2</sup>
- Other uses (built-up areas, roads, etc.) 550 km<sup>2</sup>

**Livestock in Hedmark. Number of animals and relative share of national production (in %)**

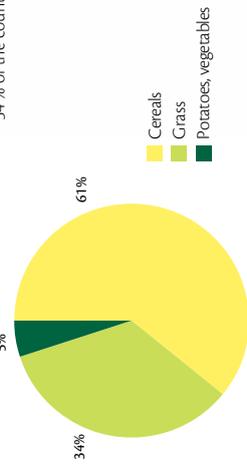
Source: Norwegian Agricultural Authority





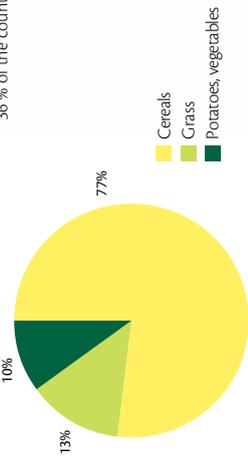
### Main crops – Hamar region

34% of the county's cultivated land



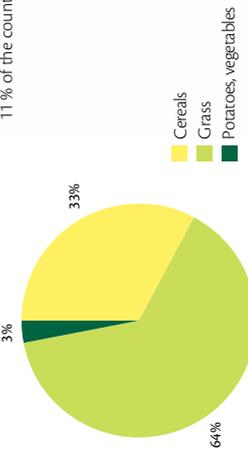
### Main crops – Glåmdal region

36% of the county's cultivated land



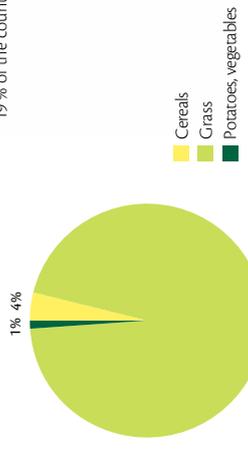
### Main crops – Southern Østerdal region

11% of the county's cultivated land



### Main crops – Northern Østerdal region

19% of the county's cultivated land



# utilising the mountain pastures



**Earlier, farmers had to utilise the region's vast forest and mountain pastures. The land resources close to the farms were limited, and infields were mainly used to grow winter fodder. Therefore, it was common to move the animals to temporary mountain farms to utilise the valuable rough grazing resources during the summer months.**

The use of these summer farms ("seter" in Norwegian) plays an important part in Norwegian folklore and rural identity. However, the "seter culture" is nowadays threatened due to the demand for ever-increasing efficiency in modern farming. Many farmers have abandoned the practice of seter farming, either because they've lost interest or no longer have the need to utilise the mountain pastures. As a result, these formerly open areas are reclaimed by scrub and trees. Another threat to the traditional mountain farms is extensive recreational land development.

Traditional summer mountain farming is still extensively practiced in northern Hedmark. The growing season is short, and natural conditions are most favourable for grass production. Cattle and sheep farming are thus the backbone of the region's agriculture, and rough grazing is an important resource for many of the area's dairy farmers. Even today, northern Østerdal has beautiful "seter valleys", with more than 200 summer farms in operation. There are ongoing efforts to further develop traditional mountain dairying as well as to promote new business opportunities linked to nature-based and adventure tourism.



Foto: Kikki og Einar Hilmarsen

## the cultural landscape

Hedmark's characteristic cultural landscape is the result of centuries of human settlement and cultivation. The county's farmers and agricultural authorities are very conscious about enabling public access to the farming landscape. It is important to protect the area's plant and animal life, as well as its cultural monuments and environments. In the Hamar region, considerable efforts have been made to restore old ponds and wetlands and to establish new ones. As a result, we have witnessed the re-establishment of the unique flora and fauna associated with these habitats. Retention ponds have also been constructed to re-establish natural runoff management systems.

The cultural landscape is always changing. New land is cultivated, farming becomes more efficient and farming methods change. Marginal land is no longer cultivated, grazing areas are abandoned and disused farmland is eventually reclaimed by wild growth. In Hedmark, like in many other areas, there is constant pressure to use farmland for other, non-farm purposes. Strong farmland preservation strategies are necessary for sustaining viable agriculture, ensuring food self-sufficiency and maintaining cultural landscape diversity.

**Plant and animal breeding have longstanding traditions in Hedmark. The county is home to numerous knowledge-based institutions and businesses that conduct national and international research and development activities.**

# education and research

Hedmark has two upper secondary schools offering education programmes in agriculture. One of these (Jønsberg school in Stange) was established 1847 and is thus Norway's oldest farming school still in operation. The study programmes offered are varied and include traditional and organic farming, livestock management, companion animals, equestrian studies and farriership, outdoor recreation and nature management.

Hedmark University College offers 3-year bachelor's programmes in Agricultural Engineering, Organic Agriculture and Biotechnology, as well as shorter programmes and courses that are related to agriculture and business development. A master's programme in Commercial Biotechnology was launched in autumn 2007, in cooperation with the biotech environment in the Hamar region.

Based on the Hamar region's various biotech players, the BIOINN centre was established in Hamar to help strengthen the potential for value creation inherent in the region's biotechnology focus. Its goal is to contribute to the development of new business opportunities based on the region's existing information and know-how basis regarding livestock, salmon, trout and crops. The establishment of such a centre, with a vibrant, highly-qualified professional environment, will help to attract even more applied biotech enterprises to the area.





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# potatoes

## – A Regional Mainstay

Norway is not a large potato-growing country in a global context. On a national scale, however, Hedmark is a major potato producer. The county's farmers harvest about 150 000 tonnes of potatoes annually, and thus account for 40 percent of Norway's total production of the tuber. Hedmark also produces considerable amounts of seed potatoes.

Two-thirds of Hedmark's potatoes are grown on the stoneless soils of the Solør-Odal district. The county's largest potato-packing facility is located in the same area. Many potato growers also provide retail-packaged potatoes, which are either sold on-farm or at the farmers market in Hamar.

Of the numerous specialty potato varieties on the market, almond potatoes are the most commonly grown in Hedmark. The Østerdal region has long been famous for its almond potatoes, which are a natural ingredient in many traditional dishes and holiday dinners.

Hedmark has a considerable potato-processing industry. A variety of enterprises produces an even greater scope of products, ranging from glucose, potato flour, potato chips and French fries to potato spirit, aquavit and vodka.



© nurparan

**Agriculture in Hedmark offers a multitude of possibilities. In addition to traditional farm operations, many farmers are now establishing various supplementary enterprises.**

# creative farmers

## in Hedmark

Typically, such supplementary activities include lodging, on and off-farm catering using local food, farm shops, riding lessons, horse livery, hunting, fishing and other nature-based experiences.

The tourist sector markets Hedmark as the “World of Wilderness” ([www.villmarksriket.com](http://www.villmarksriket.com)). Nature-based tourism, including visits to both modern farms and traditional mountain dairy farms fits this concept very well. Such activities enable tourists from all over the world to get a unique “taste” of Hedmark: its variety of landscapes, rich culture and good, local food.

There are almost 60 “Green Care” farms in Hedmark. These farms offer a diversity of educational, health and social services. Several kindergartens have been established on farms, where children can learn about farming and become familiar with the many tasks throughout the year. Farms can also serve as “extended classrooms” and work training centres, and can offer a range of other activities.

Services are also provided to the child welfare sector, after-school programmes and youth recreation organisations. For many people, having contact with and caring for animals can make a significant difference. Others may just need a secure environment for a certain period of their lives.

The establishment of supplementary farm enterprises helps to maintain rural settlement and farm diversity. At the same time, municipalities are thereby able to provide a variety of services to the local community.



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### COUNTY GOVERNOR OF HEDMARK

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