



Main actors in the case study area, concerned by the services and dysservices provided by local dairy farming

- Policy makers: Roche aux Fées communauté
- AKIS organisations: Agricultural Chamber of Brittany (research and development), EILYPS (milking control and advisers), Agrial, Terrena (crops advisers), Evolution (animal reproduction)
- Food chain organisations and milk processing industry: Lactalis (milking processing industry), Soréal (meat industry), Saviel France (food processor), CCPA (animal nutrition), Bienvenue à la ferme, La ruche qui dit oui (tourism, direct selling)
- Territory, or environmental actors: Chlorophylle des bords de Seiche (environmental association)
- Other relevant actors (universities, NGO, consumers, retailers, tourism sector, hunting, fishing and other outdoor activities,...): MFR Janzé (school), syndicat d'eau du bassin versant du Semnon et de la Seiche (water management organisation)

Description and key figures

Roche aux Fées communauté (figure 1) is a federation of municipalities located in the department of Ille-et-Vilaine (north-west of France, Brittany). The biggest city of Ille-et-Vilaine, Rennes (219 000 persons), is 37 km away. This territory is also at the frontier of three other departments: Loire-Atlantique (south), Maine-et-Loire (south-east) and Mayenne (east). The territory represents an area of 375 km² (around 5,5 % of the area of Ille-et-Vilaine) and is composed of 16 municipalities. The total population is about 26 000 inhabitants mainly gathered in four cities: Janzé, La Guerche de Bretagne, Retiers and Martigné-Ferchaud. Moreover, the territory is crossed by an highway linking Rennes to Angers and a railway linking Rennes to Chateaubriand (figure 2).



FIGURE 1: ROCHE AUX FEES COMMUNAUTE LOCATION



FIGURE 2: FEDERATION OF MUNICIPALITIES DESCRIPTION

Two rivers flow through Roche aux Fées communauté : la Seiche (north) and le Semnon (south). The territory climate is oceanic and is characterised by annual precipitations of 670 mm and also by quite warm temperatures. Mean temperatures vary between 0 and 25°C. As can be seen in figure 3, the precipitations levels of the studied area are similar to those observed at the departmental level. Nonetheless, compared to the rest of Brittany, Roche aux Fées communauté is dryer. These climatic conditions result in early vegetation start in spring. The topography is quite flat and does not exceed an altitude of 120 m. As regards to the soil characteristics, it is constituted of schist beneath an arable part of silt and clay. The average soil depth varies between 30 cm and 1 m. The agroclimatic conditions have enabled the formation of fifty areas of ecological interest, including woods, ponds, hills... (figure 4).

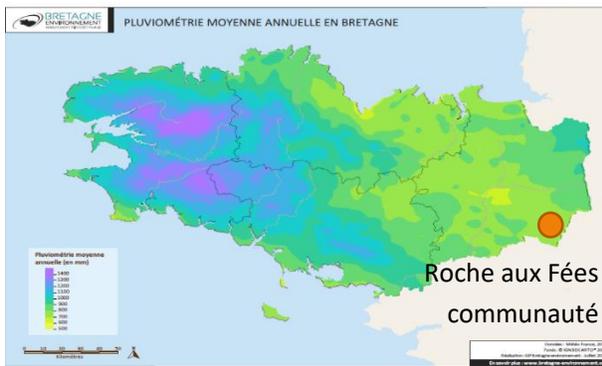


FIGURE 3: ANNUAL PRECIPITATION IN BRITTANY

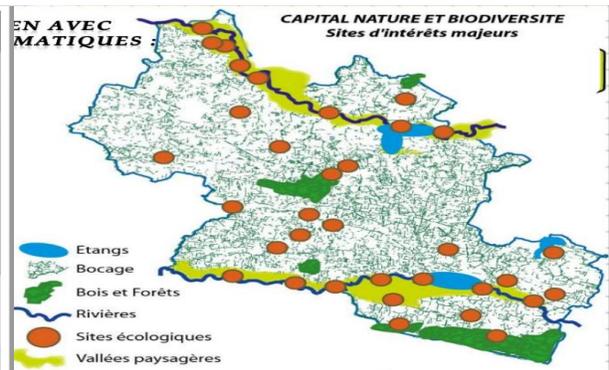


FIGURE 4: AREAS OF ECOLOGICAL INTEREST IN ROCHE AUX FEES COMMUNAUTE

Around 26 000 persons lives in Roche aux Fées communauté in 2015 (2.5 % of the population¹ of Ile-et-Vilaine). Population density is 71 inhabitants by square km, which is lower than the average density observed at the departmental level (154 inhabitants /km²). Population yearly growth rate is 1 %, similar to the growth rate at the departmental level (1 %). Population is younger (aging index²: 62.4) than at the departmental (64.6) and national (76.1) levels.

¹ 26 892 inhabitants in 2016 / 618 478 in Ile-et-Vilaine

² ratio of the population aged 65 and over to the population under 20

7 942 jobs (1.7 % of the department) are present on the territory of Roche aux Fées communauté (figure 5). Agriculture represents 13 % of the jobs in Roche aux Fées communauté, which is significantly higher than the departmental average (3 %). The share of industrial jobs in total employment (17 %) is also over-represented in comparison to the department (13 %), with several food industry processors as major employers such as Lactalis (dairy industry), Saviel France (meat industry), CCPA (animal nutrition, headquarters in Roche aux Fées communauté) and Soréal (foodservice, headquarters in Roche aux Fées communauté). Compared to the departmental level, trade, transport and other services are under-represented. The same observation can be made for public administration, education, health and social work, still the territory has its own public hospital. 81 % of the jobs are salaried jobs. In the agricultural sector, 28 % of the jobs are salaried jobs, which is less than the departmental average (34 %).

	Number of jobs		%	
	La Roche aux Fées	Ille-et-Vilaine	La Roche aux Fées	Ille-et-Vilaine
Agriculture	1 047	15 058	13%	3%
Industry	1 347	59 229	17%	13%
Construction	732	30 345	9%	7%
Trade, transport, miscellaneous services	2 558	204 495	32%	45%
Public administration, education, health, social work	2 257	141 337	28%	31%
Total employment	7 942	450 464	100%	100%

FIGURE 5: JOB'S REPARTITION ACCORDING TO THE ECONOMIC SECTOR (SOURCE : INSEE, 2015)

Unemployment rate is 8.7 %, lower than the departmental level (10.9 %). The poverty rate, 9;2 %, is also lower than the departmental rate (10;9 %). But the average revenue 3 by person tends to decrease. At 19 882 €/person/year, it is lower than the departmental average (20 926 €).

Tourism is little developed in Roche aux Fées communauté. Some farmers developed a tourist activity and are part of the two different networks active on the territory: Bienvenue à la ferme and Accueil Paysan.

In 2017, the useful agricultural area (UAA) represents 28 665 ha, around 77 % of the territory total area. The implemented crops are cereals (36 %), grassland (31 %), maize (27 %) and oleaginous/proteaginous (6 %). 99 % of the UAA are used, directly or indirectly, for animal production purpose. Moreover, 32 % of the farms are specialised in dairy production and around 60 % of the farms have a dairy production. One of the main characteristics of Roche aux Fées communauté is its wooded landscape. Indeed, the woody linear feature density represents about 57 meters/ha.

	2010	2015	2018	2010-2018 evolution
Dairy farms (number)	300	270	235	-22%
Milk production (l)	98 420 252	111 443 274	106 761 721	8%
Production/farm (l)	328 068	412 753	454 305	38%

Figure 6: Dairy farms evolution in roche aux fées communauté (Source: Draaf

Dairy production is the main production of the territory. Between 2010 and 2018, the production has risen by around 8 million liters to achieve almost 107 million in 2018. Nonetheless, the total number of dairy farms has fallen down from 300 to 235. The milk production per farm has logically dropped from 328 000 to 450 000 liters.

³ It corresponds roughly to the revenue by household, divided by the number of persons in the household (the number of persons of the household is calculated with a weighting applied according to the age of the different persons).

Lactalis, Triballat-Noyal and Eurial are the main milk collectors on the territory. Lactalis also operates three industrial units in Retiers: société laitière de Retiers, société beurrière de Retiers and société fromagère de Retiers. It processes milk mainly into butter, cheese and milk powders (for human and animal consumption) with around 800 employees.

Main economic and social issues in the territory

The federation of municipalities policy aims to stimulate the local resources in order to enhance the economic and social dynamics.

- Roche aux Fées communauté is considered to be both a peri-urban (north of the territory) and a rural area (center and south of the territory). The northern part of the territory is more densely populated and richer, since it is closer to the metropolis of Rennes and its jobs.
- The average salaries and revenues⁴ by person are lower than the departmental and national averages.
- Hence, only 49.6 % of households in the territory pay taxes (department: 55 %), which limits the territory resources.
- Population is increasing over the years, attracted by lower land and housing prices. Still, the territory is struggling to attract new businesses: only 113 were created in 2017, which is lower than in the neighboring territories.

Around half of the workers living in the territory work outside of it, among whom 2/3 work in Rennes metropole. The local workers rely heavily on their private vehicle to go to work (82 % of the workers use their own vehicle / 76 % on average in the department) and, due to a lack of public transportation, only 3 % of them uses public transportation (10 % on average in the department). Transportation is an important cost for the local inhabitants and one of the key economic issues in the territory.

Main environmental issues in the territory

Facing limited financial resources, Roche aux Fées communauté has also chosen to focus its future on sustainable development and decided to avoid depending on subsidies to carry out its projects.

More specifically, transition to a renewable energy production is a strong axis of development for Roche aux Fées communauté. That is why an energy/air policy have been set up in 2015 even if it was not mandatory at that time. Between 2008 and 2014, subsidies were granted to renovate houses and especially improve building thermal insulation.

Over the years, the local community has developed its own heating network in order to provide heat to the hospital, swimming pool, nursing home and schools in a 1 km radius, using 25 % of wood in its raw material supply. Three other heating networks are expected to be operational in the coming months and will be supplied at 50 % by wood produced locally. A collective project of agricultural methanisation is developed by local stakeholders (among which 55 farmers, the farming cooperative Les Fermiers de Janzé, the food processor group Triballat-Noyal, the local authorities, companies of the energy sector...).

⁴ It corresponds roughly to the revenue by household, divided by the number of persons in the household (the number of persons of the household is calculated with a weighting applied according to the age of the different persons).

Two private wind farms are already operating in the area. A third one, coming from a collective initiative, should also enter into operation in the near future. Local industries are also working on their energy supply.

Linking energy and transportation issues, the territory is also involved in a project aiming to develop a hydrogen-powered train on the local line linking Rennes to Châteaubriant.

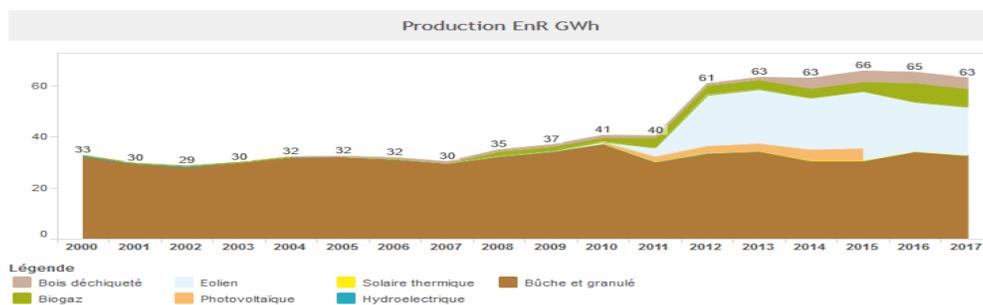


FIGURE 7: EVOLUTION OF RENEWABLE ENERGY PRODUCTION IN ROCHE AUX FÉES COMMUNAUTE (SOURCE : GIP BRETAGNE ENVIRONNEMENT - OREGES)

In result of these actions (figure 7), renewable energy production (wind, photovoltaic panel and biogas) increased over the last ten years. The share of electricity produced by wood seems to be steady.

The water quality is still an issue in Brittany, due to soil natural characteristics, even if strong progress has been achieved. As all the territory of Brittany, Roche aux Fées communauté has set up the Nitrate Directive. This has enabled a decrease of 38 % of the farms nitrate level between 2004 and 2011 in Brittany. Nonetheless, there is still some work to do to go back to the river nitrates levels of 1980.

In Brittany and also in Roche aux Fées communauté territory, many hedges and woody linears have disappeared since the 1950's. Due to the modernisation of agriculture and different land management plans, the woody linear feature length has been divided by almost three. In 2017, Roche aux Fées communauté possesses 1 687 km of hedges. In order to improve the quality and the quantity of these ecological infrastructures, they engaged in "Breizh Bocage" program (European funding). Its purpose is to create and renew the hedges and woody linears to improve the water quality and the biodiversity. Between 2008 and 2010, 50 km of hedges have been planted and mostly in farmers land.

Main agricultural issues in the territory

One of the main issues in agriculture is the generational renewal. Indeed a lot of farmers are close to retirement age. In 2017, around 151 farmers of the territory were identified as potentially retiring within the next five years. The number of settlings in agriculture is quite lower. Between 2013 and 2017, there were 61 settlements in Roche aux Fées communauté. This raises the issue of the jobs attractiveness. It is even true in dairy production where the worktime is more important.

Area management is also an important issue. Between 2000 and 2010, the agricultural area has been falling by more than 700 ha in Roche aux Fées communauté, which represented the area of 14 average farms in 2010. Between 2010 and 2016, the loss of agricultural area has been less important (-40 ha according to CAP data). This evolution is the consequence of land artificialisation (house building, highway...). Furthermore, the agricultural area split up has been emphasized by the farms merging and the land owners' multiplication.

The consequences for the farmers have been an increase of the work time dedicated to crops and a limitation of the practice of grazing. Indeed, grassland area has decreased by more than 1 000 ha between 2010 and 2016.

Climate change already has and will continue to have a huge impact over animal production. A project called Climalait (designed to study the climate changes adjustment in dairy farms) has been conducted in Roche aux Fées communauté. Its conclusions show that the dry period will last longer during the year. Drought conditions will appear more often. As regards the forage production, the simulation shows a little increase of the yields because of an earlier vegetation start in spring and a better grass growth in fall. Farmers will have to adapt to these conditions and get enough forage stocks in spring to be prepared for a longer drought period. Also, these warmer conditions will have an impact on the animal productivity. Indeed, the dairy production decreases when the temperatures are above 25°C.

Agriculture can contribute to climate change mitigation by reducing greenhouse gases emissions and by sequestering carbon: it is one of the few sectors able to stock carbon thanks to grassland, hedges and agroforestry. Hence, Roche aux Fées communauté has encouraged the farmers to calculate the carbon footprint of their own farms.

Main dairy farming systems in the territory

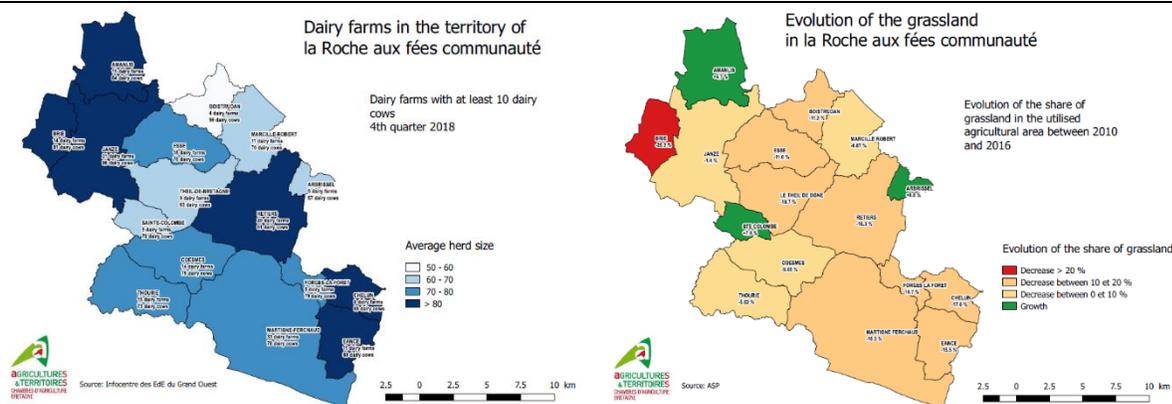


FIGURE 8: DAIRY FARMS LOCATION AND GRASSLAND EVOLUTION IN ROCHE AUX FÉES COMMUNAUTÉ

Before 1984, a lot of dairy farms had another animal production (often a beef or veal production). Since the milk quota were implemented, dairy farms have specialized and the beef production has been replaced by other productions. In the north of the territory poultry production was often chosen, in connection with the development of poultry production under the label Poulets de Janzé. In the south of the territory beef production was more often replaced by an increase of crops intended for sale. It explains the differences as regards to the land use between north and south.

In the territory, the dairy farms have increased their area to produce more crops. In some farms, the fodder area represents only the half of the total area: farmers need land to have a significant crop production. On the contrary, the poultry production of the farm in the north of the territory requires less area and leaves more space to grass and fodder production.

On average, a dairy farm in Roche aux Fées communauté delivered 454 000 l of milk to the industry in 2018 (on-farm processors are not considered in this figure). The level of production is higher than those observed at the departmental and regional level (department: 429 000 l on average, region: 444 000 l on average). The farm productivity has grown by nearly 40 % between 2010 and 2018⁵ in the territory, close to the departmental trend, but higher than the growth observed at the regional level (around 30 %). In the meantime, the number of dairy cows has increased by 13 % in the territory (16 276 in 2018 vs 14 388 dairy cows in 2010): this also reflects an intensification in production per cow. On the territory, 23 % of the farms have at least 100 cows⁶, which is a little bit higher than at the departmental level (19 %).

⁵ These growth rates are approximate, the 2010 values include on-farm processors while the 2018 values include only those who deliver to the industry.

⁶ This share is calculated on the number of farms with at least 10 dairy cows.

New challenges for dairy sector sustainability in Brittany

Date of the Workshop: 04 July 2019

Type of participants	Number of participants
Farmers	3
Technicians/technical support	3
Municipalities/local communities and administrations	1
NGO	1
Parks / natural official office	2
TOTAL	10

Analysis

STRENGTHS	WEAKNESSES
<p><u>Social :</u></p> <ul style="list-style-type: none"> - Increase of the population (younger than the departmental average) <p><u>Environmental :</u></p> <ul style="list-style-type: none"> - Favorable climate on average - Soil fertility - Landscape management (hedges, grassland, rivers, forests...) - Carbon sequestration (grassland and hedges), involvement in a national project called CARBOCAGE on this subject <p><u>Economic :</u></p> <ul style="list-style-type: none"> - Accessible land's costs (in comparison to other countries) - Dynamic agri-food employment Different ways of using and selling the milk or meat (direct selling, processing, segmentation) - Presence of a protein crop dehydration processing plant <p><u>Agricultural :</u></p> <ul style="list-style-type: none"> - High dairy farms density (production system's diversity, animal and vegetal productions complementarity) - Farmers community : skills, farmers network, workforce quantity, - Developed services networks (advisers...) - Farmers awareness as regards to environmental issues - Agricultural dynamism and collective projects (methanation, direct selling, crops materials cooperations...) - Accessibility to quality crop's materials (ex : incorporation system in slurry spreader) - Development of new technologies (milking and feeding robots, precision farming) - connection to agricultural research work (meetings and congresses on the territory) 	<p><u>Social :</u></p> <ul style="list-style-type: none"> - Consumers contradiction (ex : organic food but cheap) - Rural dynamism decrease (south of the territory) : difficulties to find a job for the farmer's husband or wife - Tension with inhabitants (smell of manure while spreading...) <p><u>Environmental :</u></p> <ul style="list-style-type: none"> - Increasingly dry weather conditions Water availability (high consumption from the food processors) - Decrease of agricultural land because of urbanization (close to Rennes) <p><u>Economic :</u></p> <ul style="list-style-type: none"> - High dependency over one milk processor and its strategy (eg : currently, it doesn't want any more milk) - Milk price volatility <p><u>Agricultural :</u></p> <ul style="list-style-type: none"> - Decrease of the number of dairy farms - Attractivity (working time, need a lot of skills) of the dairy farming jobs - Difficulties to find new employees - Generational renewal (transmission of buildings, competition about land, new projects consistency) - Farmers' income per hour (lot of work, dispersed plot of land, milk prices fluctuations...) - Farmers' adaptation to a new agricultural context (how to choose a strategy) - Farmers' loneliness (isolation) - A few farmers' practices (manure management, crop protection products use...) are causing dissatisfaction among residents - Agricultural land consolidation (hedges destruction → decrease of water quality, soil erosion) - Crops fertilisation (mineral and organic nitrogen pressure) is under lot of scrutiny - Manure management : ageing of open slurry tanks - Lack of efficiency that could result from the use of too many different advisors

OPPORTUNITIES	THREATS
<p><u>Social :</u></p> <ul style="list-style-type: none"> - Increase of the population in the territory and proximity to the city of Rennes (advantage for direct selling) - Enhancement of the relationship between teachers and local farmers (teaching about sustainability and farms diversity to the students) <p><u>Environmental :</u></p> <ul style="list-style-type: none"> - Climate change (decrease of the maize area) - Potential for renewable energy production and use (manure, wood...) - Increase of hedge line and grassland area <p><u>Economic :</u></p> <ul style="list-style-type: none"> - Dynamic food processors - Agriculture is an important economic sector in the territory (favourable local policies) - Economic value for carbon sequestration - Milk products exportations (new markets) <p><u>Agricultural :</u></p> <ul style="list-style-type: none"> - Development of labels and products segmentation (organic, non GMO, grazing ...) - Development of grassland based systems - More and more women who become farmers (men/women complementarity) - Farm expansion in order to increase profit (fixed cost dilution, job provider with possibility of crop delegation...) 	<p><u>Social :</u></p> <ul style="list-style-type: none"> - Criticisms over farmers (local inhabitants, media communication, associations against farming, competition of plant-based products...) <p><u>Environmental :</u></p> <ul style="list-style-type: none"> - Climate change (water quality and quantity, forage system adaptation...) - Common agricultural policy : setting up of new environmental rules <p><u>Economic :</u></p> <ul style="list-style-type: none"> - Milk price volatility : the farmer needs to be good in every aspect of his job (breeding, crops, financial management...) → No space for mistake <p><u>Agricultural :</u></p> <ul style="list-style-type: none"> - Decrease of the number of farms (developpement of the crops area and reduction of grasslands, competition between dairy and crops production) - Jobs requiring more and more abilities (teaching, communication and skills in economic management...) - Availability of resources (water, energy,) and jobs - Competition between milk production and methanation

List of issues

Provisioning :

- **The grassland-maize area balance:** for a few decades, milk has mainly been produced with maize silage. This choice has led to a diminution of the grassland area despite the services that grassland returns to the territory as regards to the landscape and to the environmental performance. Moreover the drought conditions don't permit good maize silage yield with an average of 10 tons DM/ha while the production cost is still high. The grassland area decreased because of diminution of beef production and it is also due to heifers feeding changes (evolution to a straw/concentrate diet while grazing was a big part of the ration before).

- **Other ways to produce and sell milk:** the development of differentiated milk products (quality signs and labels such as organic, non-GMO, grazing ...) and of direct selling can be a way to increase the agricultural income and answer to the social demands. The dairy production in the territory has some advantages as regards to the climate and the soils conditions, quality forages can be produced. Currently, 7 % of the dairy farms are certified in organic farming and 32 farms practice direct selling.

- **Renewable energy production:** The territory has a good potential to produce renewable energy with dairy farms activity (hedges, manure...). This opportunity is shared by the local policies that encourage these types of initiatives. As results, the renewable local energy production is of 63 GWh in 2017, so that's 2,5 MWh per inhabitant (consumption of 40 MWh) . The majority is provided by wood production but some energy is provided by windmill and methanation (biogas).

- **Producing local meat with the dairy herd:** Beef cattle farms being more and more scarce in the territory, the dairy farms could improve their meat production (young bulls and cows finishing). A part of the meat produced could be sold to the local school restaurant.

Rural vitality - life quality :

- **To support the agricultural and food processor jobs:** Agriculture represents 13 % of the jobs in the territory which is significantly higher than the departmental average (3 %). Also, the share of industrial jobs in total employment (17 %) is also over-represented in comparison to the department (13 %) with several food industry such as Lactalis (800 employees).

- **Rural area dynamism:** the population density is 71 inhabitants by square km, which is lower than the average density observed at the departmental level (154 inhabitants/km²). In addition, the population is younger than the departmental mean. The tourism is little developed in the territory.

- **Relationship between farmers and neo-rural inhabitants:** The population of Roche aux Fées communauté is increasing annually by 1 %, attracted by lower housing prices. Around half of the workers living in the territory work outside, among whom 2/3 work in Rennes Metropole.

Environmental quality:

- **Adaptation to climate change:** a study has been carried out on the territory about the consequences of climate change. The farmers will have to adapt their production system (fodder system, animals breeding...) to a longer drought period during the summer and to warmer temperatures. The annual precipitation in the territory is already below than the regional average.

- **Improve the water and soil quality:** two rivers flow through Roche aux Fées communauté. Despite the many advances made since the implementation of the Nitrates Directive, further progress is needed to return to 1990 levels of concentration. Indeed, the intensification of milk production has enabled the area of annual crops to grow and globally it has led to the use of more inputs. Also, availability of water is already an issue and this will worsen with climate change.

- **Wooded landscape:** the landscape of Roche aux Fées communauté is characterised by its wooded countryside. Nonetheless, many hedges and woody linears have disappeared since the 1950's. Due to the modernisation of agriculture and to different land consolidation, many hedges have disappeared

Services and dysservices and indicators used to measure them

Category	Services	Dysservices
Provisionning	Milk production density (milk quantity)	
Provisionning	Good quality of product (safety)	
Provisionning	Direct selling (closeness to the city of Rennes)	
Rural vitality and socio-economic issues, cultural heritage and quality of life...	Jobs provider (agriculture, industry, services) in rural and isolated territories	Farms growing evolution (more difficult to find a new buyer, new type of management, decrease of grasslands...)
Rural vitality and socio-economic issues, cultural heritage and quality of life...	Rural territory vitality and landscape management	Increase in tractor traffic (road damage and fouling), smells, flies
Environment	Grassland use (grass and legumes associations, catchcrops, carbon sequestration)	Intensification of crops (use of lots of inputs: fertilisers, crop protection products, fuel) and water availability
Environment	Limitation of the artificialisation of the soil	Soil drainage (ecosystem disturbance)
Environment	Soils management (fertility, hedges, rivers)	Carbon emission rise due to the increase in the number of annual crops in rotation (e.g. maize), water quality
Environment	Renewable energy production (wood, biogas...)	Destruction and/or bad management of the wooded countryside

List of Innovative practices likely to improve sustainability and competitiveness of dairy farming

Innovation title	Enhance positive impact	Limit or erase negative impact	Limitations / breaks	Motivations
Agroforestry on grassland	Renewable energy production Grassland use (carbon sequestration)	Destruction and/or bad management of the wooded countryside	Require more work time from farmers	Climate change (carbon sequestration, renewable energy production)
Collective methanation project	Renewable energy production (biogas for milking industry) Manure valorisation	Smells during manure spreading	More explanations about methanation process and digesta quality	Economic and environmental consistency
Land mangement (underpasses for cows, land exchange)	Grassland re-development Rural territory vitality and landscape management	Crops intensification Rise in carbon emissions	Financial investment Some farmers mindset (against land exchange)	Increase the grasslands and the grazing part in the cows diet
Create a relationship between farmers and neo rural inhabitants (schools...)	Direct selling (meat and milk)	Tension between farmers and neo rural inhabitants Increase in tractor traffic (road damage and fouling), smells, flies	Long term actions before benefits can be achieved	Improvement of the economic performance and the working environment for the farmers Improvement of the living environment for inhabitants
Teaching of how make a good hay for heifers breeding	Grassland use	Carbon emission rising Use of a lot of inputs (concentrate and straw)	Knowledge loss More work for the farmer	Autonomy, resilience of the farm regarding resources (water...)
Protein autonomy	Grasslands with legumes, catchcrops, cereals and proteaginous mix, management of grazing and grasslands	Rise in carbon emissions Use of lots of inputs	Work time too important to get some distance and think about the farm strategy	Autonomy, resilience of the farm regarding raw material Climate change Carbon footprint Social demand (non GMO, grazing)
Adapt the animals to the climate change	Milk production density (milk quantity) Grassland use	/	The animal selection takes time. The crossbreeding is not well known in France	Resilience of the milk production system Climate change
New soil labour method (no ploughing, no glyphosate herbicide, catchcrops...)	/	Use of lots of inputs Water quality Soil erosion Nitrogen leaching	A new way to approach the crops system (knowledge, skills...) Need time before to be well functioning (eg no ploughing)	Social demands Positive environmental impact