Dairy farming in the Finistère district

Introduction

The purpose of this report is to investigate the policy requirements and market imperfections, and their implications for the resilience of Dairy production in the Region of Finistère, France (see figure 1), as part of the EU-funded Horizon 2020 project, Sufisa (Sustainable finance for sustainable agriculture and fisheries). This extended summary has been derived from a much larger report, which is available from: http://www.sufisa.eu/publications (project reports). Dairy production in the Finistère is an exemplary case study to think about the conditions under which an agricultural transition towards greater sustainability could occur, in France but also more generally in Europe. Two production models indeed co-exist and, to some extent, compete: one being fairly intensive, which represents more than 70% of farms and in which feed strategies rely mainly on maize and soybean cake; the other one being called “thrifty / autonomous” systems, which represent around 15 to 20% of all farms, and in which feed strategies rely predominantly on grassland. At the moment, the sustainability of the later (including its economic profitability) exceeds in many cases, and equates in all, that of the former. One of the key question is thus: is a generalization of the thrifty production model possible? If yes, then two other questions arise: what needs to be changed in the institutional framework (both market / regulatory and financial conditions) for this to happen? Who can take action, with which strategy, for such change(s) to happen?

While this short summary do not pretend to give definitive answers to those questions, it will provide the reader with a general overview of the situation and some preliminary findings regarding the available options to increase the sustainability of primary producers.

Figure 1: the Finistère district in France
To do so, data have been collected during three main phases. A first phase of market and regulatory inventory relied on grey / scientific literature analysis and expert / key informant interviews. 21 interviews were carried out between July and October 2016 and a sum of reports of all sorts were collected. This allowed to map market and regulatory conditions which farmer face in their day-to-day business.

In a second phase, carried out in March and April 2017, group interviews were carried out to (i) confirm the preliminary results obtained from the first phase regarding conditions; (ii) uncover the set of strategies farmers deploy to cope with those conditions and to attain their objectives; (iii) analyse how other actors (supply chain actors, bankers, civil society organisations, local governments and state administration) contribute to (or oppose to) the deployment of farmers’ strategies. Two focus groups with farmers have been carried out (one with intensive farmers, the other with “agroecological” ones) and one participatory workshop, including stakeholders involved at various points in the functioning of the dairy sector in the Finistère district.

The third phase was dedicated to rework the whole analysis in the light of the results obtained in the first two phases. It eventually ended up in the present extended summary, whose remainder is organised as follows. A first section will introduce to the case study and then describe the main conditions (regulatory, market and financial) that structure the farmer business environment. The second section will shed light on the two main strategies that have emerged at the farm level to cope with this environment, while the third will describe in more details the types of institutional arrangements that are currently discussed to strengthen the sustainability of the sector. The second section, on farm strategies, has been supplemented with a survey among 100 dairy producers. Some results of this survey are mentioned in this extended summary, but more results can be found in the final report.

Presentation of the case study

Finistère is a NUTS 3 region in France, called a département (department) and forming a peninsula at the westernmost part of Brittany. The population is just over 900 000 people with an average density of 133 inhabitants/km². The agricultural area covers 58 % of the total area and the district counts nearly 7800 farms, out of which 38% are specialized in dairy production (2934 farms). As of today, a typical dairy farm is run by 2 persons, counts 60 lactating milks and 78 ha of arable and pasture land, and produces on an average 600 000 L of milk a year. In many cases, dairy production is associated to pig production and / or vegetables production on the same farm, which allows farmers to diversify their sources of income.

Over the last 30 years, the total number of farms has notably decreased – by 2.9 % per year from 2000 to 2010 (-32 % in 10 years), and by 62 % from 1988 to 2010. As a consequence, farm size has slightly increased as well as their capital intensity (the fixed capital of a dairy farm amounts on an average to 500 000 €, with a debt ratio of nearly 45 %). While the typical Finistère farm is still quite small when compared to Northern European countries, things are moving quite quickly. The proportion of farm having more than 100 cows has slightly increased, which has in turn led to a “double intensification” of the production: intensification of land production (pasture being replaced by fodder / silage maize) and of cow production (cows producing more than 7000 kg of milk / year, thus in needs of more concentrate – from 115 g / L of milk to 155 g / L of milk from 2004 to 2009).
However, dairy production systems in the Finistère still rely for a large part on grass / pasture lands for their feeding strategy: on an average, each cow has access to 40 are of pasture land – though there are important disparities between production systems, as we shall see below. Consequently, half of the total UAL is used either as pasture lands (permanent or temporary) or to grow fodder (mostly silage maize). To complement this source of energy and proteins, farmers also rely on feed concentrate: 1000 kg / cow / year on an average – this figure being again highly variable depending on the type of production system we look at, see below.

Regarding incomes, dairy farmers in the Finistère earn on an average 30 to 35 k€ / year before tax. As in most European countries, the milk crisis has strongly hit most farms, and incomes have decreased strongly to reach, in 2016, an average of 16 k€ / farm – even less than during the 2009 crisis.

Dairy production in the Finistère accounts for nearly a quarter of the total production of Brittany, and 7 % of the French production. The production is mostly industrialized with no specific differentiation, and used to produce undifferentiated end products (skimmed milk, butter, raw milk...) which are either sold on the domestic, national or international market. Organic production accounts for less than 2 % of the total production, and there is not any specific labels / standards to valorise the specificity of the production in the area. The Finistère district is marked by the presence of major industrial players, both cooperative (e.g. Sodiaal) and private ones (e.g. Lactalis), which compete on the global market with other international brands / groups (Arla, Frieds Campina and others).

Figure 2: Specialisation of farm holdings in Brittany (from Agreste, 2015)
Regulatory conditions

On the regulatory side, two sets of policies have affected dairy farms over the last 20 years and help to account for the current situation. The first relates to the quota system and its disappearance. The second one relates to environmental issues.

During thirty years – from 1984 to 2015 – the quota system has maintained highly stable prices and ensure outlets at a rather fixed price for dairy farmers. This sort of “price insurance” has allowed farmers to invest in their production system and to modernize it, in search notably of increased competitiveness vis-à-vis Northern Europe countries. When the end of the quota system was confirmed, most actors of the sector collectively anticipated a growing demand coming from China and the world market. As such, they encouraged important investments to develop the production in the district. Dairies proposed to farmers “development quotas” which they bought at a “B price” and farmers invested in their production system. The end of the quota however led to a growing instability on the world market without clear opportunity on export markets, leading the whole sector to the current crisis. While the Milk package, negotiated in 2012, was supposed to soften the impact of the end of the quota, its implementation in the Finistère district did not yield the expected results. As we shall see below, producer organisations are still not widespread on the territory and farmers are still isolated in their negotiation with their buyers.

The other key regulatory aspect that shaped dairy farms development has been environmental policies, and most particularly the nitrogen and the Water framework directives. Over the 2000’s, the implementation of both directives has led to a profound modernization of most dairy farms, whose cost has been mostly borne by public money. Livestock buildings have been modernized and facilities have been developed for the management of mineral and organic nitrogen inflows, stock and outflow of the extra quantities. On the other hand, measures implemented as part of the second pillar of the CAP have had limited impacts so far.
Market conditions

At the moment, dairy farmers can deliver their production through two main channels: the cooperative dairies or the private dairies. Both are collecting and processing operators. Major French leaders of the dairy sector are present in Finistère: Lactalis, Sodiaal, Eurial, Laita. They collect and process significant volumes in one to several subsidiaries/sites (e.g. Sodiaal owns different subsidiaries in Finistère: Entremont, Candia, Synutra). Among these significant buyers, Lactalis is the world leader of the dairy sector, valorising 20% of the French production (equally with Sodiaal). A bit more than half of the production is collected by cooperative dairies: Laita (Even+Triskalia), Sodiaal, Eurial.

On an average over the last few years, half of the milk produced a year in the Finistère is exported (vs 42 % at the national level) and half of it is consumed nationally / regionally, in a context where the national production covers roughly 70 % of the domestic demand. The national market of milk is divided between household consumption (57 % of the national consumption, covered at more than 90 % by the national production), catering (10 % of the national consumption, covered at 60 % by the national production) and the agro-industry (33 %, covered only at 40 % by the national production).

Three main aspects related to market / value chain organisation have affected farmers’ business environment over the last couple of years. They relate respectively to the role of the inter-branch agreement in the setting of milk prices; the emergence of producer organisations as part of the implementation of the milk package; and the progressive restructuring and growing concentration downstream the milk supply chain.

As of now, dairy producers are above all price takers on a market that used to be highly structured by the quota regulation. However, this has not always be the case. Besides the quota, which of course played a key role in stabilizing prices, French farmers indeed used to negotiate milk prices with private dairies and cooperatives through the inter-branch organisation, which was created back in 1974. The negotiations were based on a series of indicators reflecting both production costs and the evolution of end product prices. The agreement reached in 1997 between producers and dairies was however denounced as incompatible with European competition regulations and thus partly abandoned in 2009. As a consequence, farmers are now much more exposed to price volatility than in the past, in a context where this volatility has itself increased a lot.

Amongst the different “solutions” brought by the European Commission to help farmers to cope with the milk crisis was the creation of “producer organisations” (PO), as part of the 2012 Milk Package. The creation of PO is to reinforce farmers’ bargaining position in the milk value chain: in derogation from the competition regulation, farmers are asked to gather into PO in order to collectively negotiate prices with their buyers – only in the case of private dairies. The implementation of this regulation in France has however proven difficult so far, with many POs being poorly effective. As a consequence, many farmers have eventually negotiated a delivery contract with their dairy on a bilateral basis, even if they decided to adhere to a PO.

While POs have been created to facilitate negotiation between farmers and private dairies, they do not apply to farmers selling their milk to cooperative dairies, which represents nearly 55 % of the production. One of the key aspect that has impacted upon the business environment of those farmers is the progressive concentration of dairy cooperatives, following a series of merger / acquisition. There are two main consequences to this trend. First, most farmers who are members of cooperatives have the feeling that they have not any more a say in
decision making processes. Second, they also denounce the lack of competitiveness of some cooperatives comparing to private dairies and the fact that farmers delivering to cooperatives are often paid less than those delivering to private dairies.

Figure 4: Shares of the different types of processed products within French dairy production

Figure 5: French exportations of dairy products per type (consumer goods, cheeses, dry products) (Perrot & You, 2016)
Multi-level strategies to cope with contemporary conditions

Farmers – alone or in partnership with other key actors of the sector – have developed (or tried to develop) strategies at three different levels to cope with contemporary conditions: at the farm level, at a collective level (targeting either policy makers or other value chain actors), and at the territorial level. Those three levels are by no means exclusive to each other, though some strategies of course better combine with others.

Farm level strategies: the choice between two broad technical orientations

Two broad technical (and also economical) strategic orientations have developed over time: either the farmer maximises the physical productivity of work (that is, the production system is designed to maximise the amount of milk produced per unit of labour); or he / she can maximise the economic productivity of work (that is, the production system is designed to maximise the economic return per unit of labour).

Intensive systems: maximising the physical productivity of work

At least 70 % of Finistère dairy farms are engaged in such systems, in which the main objective is to saturate the production system and maximize its physical productivity, that is to harmonize the production capacity of all production factors at the farm level (land, capital, labour, quotas). It has led to farms whose functioning is highly reliant on external resources, most notably energy crops and proteins for feed, with a key consequence on their economic equilibrium: income is generated on the basis of high volume produced at a – relatively – high cost. The margin per litre of milk is low but is compensated by the volume. The outing of the quota and its consequences on price instability has severely hit them. Different coping strategies have been explored by farmers. A first one is financial: all investments have been frozen and debts have been as much as possible staggered. A second one has been to continuously increase production volumes, with the hope that it could compensate prices drop (implying that cutbacks in investments need not to hamper the increase in production). A third approach
focuses on the control of production costs, most notably feed costs and mechanisation costs. On that topic, the question of mechanisation (and its associated costs) is a heated debate amongst Brittany farmers, especially when coming to milking robots. A milking robot is a significant investment that weigh on the farm economic equilibrium for a long period. Most farmers who adopted it justify their choice by (i) the fact that it frees them much time and (ii) it’s an excellent alternative to hiring people when the parents or farm partners retire.

Autonomous pasturing systems: maximizing the economic productivity of work

This type of systems, which tends to rely more on pasturelands, is deemed to represent 10 to 30 % of all farms in the Finistère. The overall strategy is to minimise costs and maximise the economic return per unit of work. Such systems tend to rely more on pastureland and less on energy crops, leading to (i) a much lower level of dependency on external resources for both the livestock (protein / energy feed) and the cropping system (fertilizers and seeds); (ii) a lower physical productivity per cow (6 000-7 000 Litres / cow instead à 9 000-12 000) and per hectare; but (iii) an equivalent economic productivity per hectare.

All pasturing and autonomous / semi autonomous systems today result from a de-intensification movement on which farmers have deliberately chosen to embark as part of a medium to long term strategy. There are gradients between fully autonomous systems, that do not rely anymore on feedstock, energy or protein feed, and semi-autonomous system, that still include energy / protein crops such as maize in their rotations to constitute stocks, “in case of”. What is however crucial is the fact that all those systems have put pasturelands and grass at the heart of the feeding strategy.

From a technical point of view, relying more or exclusively on grass / pasturelands implies First to accept both a greater variability and an overall decrease in milk productivity / cow. From this follows a second important consequence: the fact that most farmers now rely on a mix of bovine species / races to compose their herd rather that a mono-specific and milk-maximising herd. A third key characteristic of those systems, already expressed in the quote above, is to avoid as much as possible heavy investments or to amortize them over a long-term.

Similarly to the analysis conducted for the wheat study case, an analysis of the data collected among 100 dairy producers allowed us to complete the information on farm strategies in Finistère. In order to have a finer approach on those strategies, we have classified the farms in several categories, based on their cow yields, allowing to classify farms between the ones that are only/mainly based on grassland and the ones that are mainly/only based on maize and soybean cakes. Considering all farmers, we can notice that they consider that they can more easily achieve environmental aims than economic ones. Concerning social aspects: securing successor and achieving societal recognition of farm activities are perceived as the most difficult goals to achieve. A finer analysis of the ability of farmers to answer sustainability issues according to their yield category (see figure 7) shows that the technical orientation seems to have more influence on economic issues than on other issues, especially the ability to maintain profitability or the ability to cope with changing market conditions. The data collected also confirms that dairy producers have few alternatives in terms of new market strategies, and the main strategies evoked (for any type of farm considered) are investment and specialization.
Figure 7: Perceived ability of farmers to answer sustainability issues according to yield categories

Category 1: yields < 5 000 L per cow; Category 2: yields between 5 000 and 7 500 L per cow;
Category 3: yields between 7 500 and 10 000 L per cow; Category 4: yields > 10 000 L per cow.
Figure 8: Sensitivity of farmers to different factors that could be leading to changes in strategies according to yields category.
Collective level strategies:

Advocacy and political work: struggling to change the policy framework

The Finistere district is well known for being a land of strong political mobilisation and resistance, especially in the field of agriculture and farming. Local farmers’ unions are amongst the most vocal at the national and even European level to defend what is often called the “Breton modèle” when some regulations are deemed to threaten it. Over the past 5 years, farmers’ political mobilisation in the dairy sector has remained high, targeting either French policy makers or European ones. Such mobilisation are considered as an integral part of the overall strategy of some farmers and they dedicate important resources to it – mostly time resources – with no immediate return (except in few cases where politicians have proven to be highly reactive, notably because of the magnitude of the mobilisation).

The type of demands brought to politicians can vary depending on the political side on the farmer union considered, but all unions tend to converge on the need to better remunerate farmers and to increase milk price at farm gate.

Increase farmers’ position in the milk value chain

Farmers not only rest on policy makers to get better prices; they also try to change value chain organisation and the market organisation. There are two strategies here. One focuses on strengthening farmers’ bargaining capacity in the milk value chain through the development and the reinforcement of producer organisations (to sell to private dairies) or the improvement of cooperative governance. The other one focuses on upstream market segmentation, to ensure a better remunerating for farmers.

Improving farmers’ bargaining capacity

Regarding farmers’ bargaining capacity in the milk value chain, we mentioned above the fact that they tend to feel “trapped” in their commercial relationship with dairies, be they cooperatives or private dairies (see figure 9). To reverse this situation, some farmers invest in collective action / strategies. Some of those selling to private dairies have, on the one hand, put much effort in the development of producer organisations (POs). Most POs are currently unable to weigh on dairies and improve the situations of their farmers-members, for at least two reasons. One is that they are all attached to one dairy instead of being able to negotiate with several of them; an other one is that they are too small and don’t represent significant volumes to truly negotiate with dairies. That is why some farmers try to convince others to adhere to existing POs and even to federate POs in one single regional federation for the whole Western part of France. Though most farmers don’t place too much hope in this, some do believe that if cooperatives would join the PO federation, that would constitute a determinant lever to increase the bargaining power of farmers and get more remunerating prices.

Upstream market segmentation

An other option being developed by farmers is that of upstream market segmentation. In the current situation, only a small fraction of the milk is sold through short chains or as differentiated milk (especially organic one). The bulk of the milk is sold undifferentiated to dairies who, in turn, transform it into basic products: butter, “simple” cheese (with no PDO / PGI), milk, cream, yogurt, skimmed milk and infantile milk powder (probably the most complex product produced in Finistère – only for the Chinese / export market). On all these products, the value added is realised and captured down the value chain by dairies and supermarkets. Upstream
market segmentation has recently been put forth as a way to counter this trend and allow farmers to get a greater share of the value added – even for those running an intensive or semi-intensive system. The idea is by no means new but until recently, the main farmer union was reluctant to consider it, considering that “milk is milk and it’s white”. But it gained resonance when Finistère farmers discovered that their Dutch, German or Danish counterparts were getting a “grazing premium” for farm that apply grazing for at least six hours / day during 120 days. This duration is indeed well below the average grazing time in Finistère and, more broadly, Brittany, thanks to the excellent agro-ecological conditions that allow to grow grass all year round. On that basis, what was discussed was a threefold strategy:

(i) to continue when possible to develop “local” short milk value chain in which the farmer gets a greater share of the value added thanks to the limited number of intermediary. While it has been said that this will probably remain a “niche markets”, there are opportunities to develop them – thanks notably to the help of local governments – and derive greater profit for farmers.

(ii) to develop “medium range” milk chains (~ max 1000 km from production to end consumption) in which farmers have more power than in the existing chains, thanks notably to the development of specific products that allow to valorise niches;

(iii) to better valorise what is currently sold as undifferentiated milk by emphasising the specificity of Finistère dairy systems in terms of animal welfare and grazing time. The development of a specific quality standard based on principles, criteria and indicators fit to the specificity of the Finistère (or Britannt) has been discussed at length and is currently under development (“hay milk”).

On top of that, the development of organic production has been considered during workshops as a particularly promising possibility at all levels. Organic milk is indeed well remunerated by the market, with a premium up to 20-25 %. Besides that, organic producers are organised through a specific PO that sells to all private dairies, Biolait, that gives it a real bargaining power compared to other POs.

Figure 9: Main collecting operators in Brittany according to the size of the processing site (ChambAgri, 2016)
Minimise production costs through mutualisation

As discussed above, a cornerstone of farm-level strategies – be it in intensive or extensive systems – is the minimisation of production costs, and most particularly those related to mechanisation and labour. While there are ways for farmers to control such costs based on individual choices, some also invest in collective action through two types of structure / institutional arrangements: the CUMA – cooperative of agricultural machines utilisation – and the ETA – enterprises for agricultural labour. Both allow for reducing production costs or working time in different ways.

— the CUMA aim at sharing machines between a group of farmers and thus at reducing the investment level of each farmer. Depending on the number of farmers involved in the CUMA and on the efficacy of the system, it can greatly help to reduce the cost.

— the ETA is a collective system that proposes different services to farmers (mowing, ensiling, sowing) at costs that are often more competitive than if farmers would have invest its own resources to do the same thing.

Certain farmers chose to invest themselves quite a lot in the governance of ETA or CUMA as they see it as an efficient collective strategy, as this farmer:

Others, on the contrary, find it too constraining, especially because relying on CUMA for certain machines, or on ETA for specific tasks, reduce their reaction capacity (they have to wait for ETA’s workers or CUMA’s machines to be available for something to be done on the farm), and hence their decisional autonomy. They prefer to support a higher indebtedness but to be “free” to do what they think needs to be done at the moment they want to do it.

Farmers’ capacity building through their involvement in collaborative learning processes

Last but not least, all farmers have mentioned the importance of collaborative learning processes to improve the efficiency of their system or even to give them ideas to rethink it. Collaborative learning processes are organised through working groups which are most often animated by a technician or an engineer from public extension services. The importance of such groups is particularly underlined by farmers having extensive systems. It is presented a way to share innovations that would not have reached them through “conventional” extension services. Besides collaborative learning processes, an other key variable to allow for the development of alternative strategies relate to territorial organisation. Which implies to develop territorial strategies, in particular to improve access to pasture land and to develop short milk chains. We now turn to those strategies.

Territorial-level strategies

Territorial level strategies are those strategies that need to be endorsed and supported by a broad set of actors, beyond the sole agricultural profession. The role of public authorities, civil society organisations and businesses is, in particular, crucial. Such strategies are key in two respects: to develop farmers’ accessibility to pastureland (an important variable to transition towards low-input systems, whose performances on the economic, social and environmental dimension are clearly superior); and to develop the demand for higher quality products at the territorial level, in a context where the whole territorial agricultural production system (ranging from input suppliers to dairies) has been designed to optimise the production of undiffer-
entiated milk whose valorisation could be done downstream the value chain. This latter strategy is undertaken jointly by local NGOs, local governments and some groups of farmers. They have invested various resources to develop local demand for organic products and hence encourage conversion of local farmers to organic. At this stage, it is however acknowledged by all that it would not become a driving force of farming systems transformation in a near future. The former strategy dedicated to the improvement of land accessibility deserves further attention.

As discussed above, the physical accessibility of lactating cows to pasturelands is a key variable that determine to a large extent the type of technico-economical options available to farmers. Having little grass accessible for cows means, for a farmer, that he has to feed them most of the time which, in turn, implies to develop stocking capacity for feedstock and, depending on the cases, to produce or to buy this feedstock. On the contrary, a greater access to grass decreases his level of dependency and hence increase his economic resilience. Yet, over the last 30 years, the quota policy has had tremendous effects on land organisation. As quotas were allocated on the basis of land, farmers who wanted to increase their production capacity had bought land irrespective of the possible impacts on land fragmentation. Many farms have been split between several buyers / tenants when a farmer retired. This has resulted in a high level of land fragmentation which now limits the physical accessibility of cows to grass / pasturelands.

To counter this trend, farmers need to collectively work together with public authorities to facilitate land exchanges and land reallocation towards a more coherent landscape.

**Conclusion**

A key conclusion that can be derived from this case study can be phrased as follows: while as of today, farmers’ margins of manoeuvre to increase the economic resilience and the sustainability of their farms rests on individual decisions – as they don’t feel they have enough power to change the broader context in which they operate – a larger scale transition, in which semi-extensive and pasture-based systems would gain prominence, could only happen if collective and territorially-based strategies are implemented and succeed. This conclusion leads, however, to a subsequent remark: the fact that to some extent, the development of intensive systems and extensive / pasture-based ones in recent years has progressively led to the emergence of two quite distinct socio-political networks and community of practices which function in relative isolation to each other (Fouilleux & Ansaloni, 2006). While most – if not all – actors recognize that pasture-based systems are more resilient and more sustainable (even those embarked in more intensive systems), this situation is most likely to impede a true agricultural transition at the district / regional level.

**References**