Thinking Outside the Box in the Bourbonnais

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Transforming the Value Chain and Conserving the Landscape

FRANCESCO ACCATINO, CHRISTÈLE PINEAU, CORENTIN PINSARD, DELPHINE NEUMEISTER AND FRANÇOIS LÉGER

10.1 Introduction

Bocage Bourbonnais is a small natural region in the centre of France appreciated for its traditional and beautiful landscapes. The landscape, referred to as *bocage* in French, is dominated by meadows bordered by quickset hedges. The region is situated on the northern border of the highland region of Massif Central in the Charolais basin and corresponds broadly to the department of Allier. Most of the economy is devoted to agriculture and the agri-food industry. According to the agricultural census, 45 per cent of the 5,523 farms were devoted to beef production (Ministère de l'Agriculture et de l'Alimentation, 2010), with *Charolais* being the most present cow breed (Figure 10.1). The farmers serve primarily two markets: they either export weaners, mostly to the Po valley in Italy, or they fatten and finish heifers and cull cows for French consumers. The hedges were traditionally planted to delimit pastures and to protect cattle from wind, but they also provide ecosystem services (Montgomery et al., 2020). They sequester carbon, protect against soil erosion, and provide shelter that supports biodiversity. Meadows and beef cattle farming can be mutually beneficial. Grasslands provide the primary source of cattle feed and are maintained by the grazing cattle, which reduce the need for industrial nitrogen fertilizers (Lüscher et al., 2014). Cattle farming provides ecosystem services and other public functions, as has been reviewed by Dumont et al. (2019).

In this chapter, we describe our analysis of the Bourbonnais farming system and suggest strategies for enhancing its resilience. We

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Figure 10.1 *Charolais* cows in the grassland landscape of the Bocage Bourbonnais.
Source: Delphine Neumeister

considered not only the viability of the farms but also, and importantly, the coupling of cattle farming with the aesthetic and cultural value of the landscape. Agro-environmental policies implemented over the past thirty years have been designed to perpetuate grass-based livestock farming to preserve the characteristic *bocage* of the region (see La Région Auvergne-Rhône-Alpes, 2020, pp. 94–96). More specifically, we analysed the perspective of local stakeholders about several factors: the functions provided by the farming system, the challenges presented by the current system, and the strategies that had been proposed or adopted to deal with the challenges (see the definition of challenges and functions in Chapter 1). We considered farms, their surrounding landscape, and withal participants in the farming systems. The analysis was based on interactions with local stakeholders over two years, from the second half of 2018 to the first half of 2020, and was done within the framework of the SURE-Farm project.

These activities consisted of workshops, focus groups, and interviews. We hosted one workshop with twenty-six participants, namely farmers, public administration agents, as well as members of the agricultural chamber, non-governmental organizations (NGOs), cooperatives, agricultural schools, and research institutes. We held two focus groups with a total of thirteen participants, which included experts, bankers, public administration agents, farmers, and insurance agents. We held twenty-three interviews with farmers and three with non-farmers. The information in this chapter is based on statements by local stakeholders and not on data or measured indicators, therefore findings about functions, challenges, and possible strategy reflect the actors' point of view. Quotes from interviews are reported in italics.

10.2 Beef Production in a Beautiful Landscape: Where Is the Trade-Off?

We organized a participatory workshop for stakeholders in the Bourbonnais farming system in February 2019, called FoPIA-SURE-Farm 1 (see Accatino and Neumeister, 2019). The stakeholders assessed the importance and performance of the functions provided by the farming system. They scored the performance of each function from 1 (poor) to 5 (strong). They also evaluated the relative importance of each function by assigning it a percentage. Results are reported in Figure 10.2. Participants also discussed and proposed indicators for measuring the performance of each function.

10.2.1 High-Performing Functions

10.2.1.1 Food Production and Natural Resources

Considering the functions in Figure 10.2, 'Food production' was the most important, which was expected because the region's economy is devoted to the agri-food industry. The high value for performance of this function was based on indicators proposed by stakeholders concerned with both food quantity (assessed as 'Total quantity of beef produced') and quality (assessed as 'Taste quality and regularity of beef' and 'Percentage of beef produced under label'). The two functions 'Natural resources' and 'Biodiversity and habitat' were also deemed high performing and relatively important, demonstrating the value

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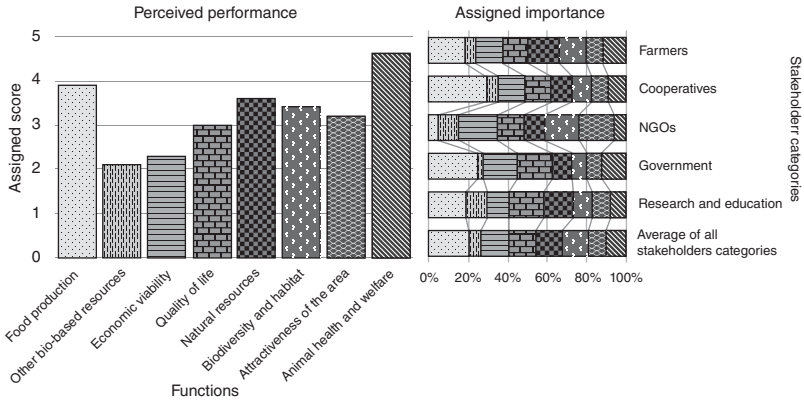

Figure 10.2 Perceived performance of functions (left panel) and importance assigned by different groups of stakeholders (right panel) during a participatory workshop in the Bourbonnais farming system held in February 2019. Patterns in the right panel correspond to the function with the same patterns in the left panel.

Source: Data from Accatino and Neumeister (2019)

stakeholders place on the landscape. 'Animal health and welfare' was also perceived to perform very well and confirmed in interviews, revealing the high importance stakeholders place on the health and wellness of their animals. There was a discrepancy between the high-performance rating for this function and its low-importance rating; however, this was explained by the fact that stakeholders do not consider animal welfare a 'function', but rather a normal and intrinsic element of beef production. The high performance of food production and environment-related functions agrees with an analysis of France done by Ryschawy et al. (2017).

10.2.1.2 Quality of Beef: A Long Tradition in the Bourbonnais Area

Many farms in the Bourbonnais farming system currently produce beef under label, mostly *Label Rouge,* a sign of quality assurance in France. Many members of the Bourbonnais farming system wish to continue and enhance traditional practices of beef production. The first *Label Rouge* farm in the Bourbonnais was certified in 1974, and since then many more have subscribed. Production under label follows specific

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rules, such as type of feed, grazing period, and minimum slaughter age. In 1992, SICABA, the main slaughterhouse in the area, was certified to slaughter organic cattle.

10.2.2 Functions Assessed as Performing Poorly

Two functions, 'Economic viability' and 'Quality of life', were assessed as relatively important but performing poorly. It was apparent from our interactions with farmers in the Bourbonnais region that they often struggle economically. From an interview: '*. . .we do not choose the price of what we buy and we do not choose the price of the cattle we sell. We lose 200 to 250 euros per animal. It's a huge loss, it's huge. . .*' This quote reflects the view of many of the farmers. Debts are another source of concern, hampering both initiative and willingness to invest ('*. . .we cannot afford to make it wrong. . .*').

The farmers identified factors that reduce their work satisfaction. Cattle breeding can require a seven-day work week, with several working hours each day. It can be difficult to find suitable employees to assist, either because there are few qualified workers available or because the farmers lack the cash to pay salaries. Some of the interviewees commented on the risk of injury associated with the profession as an additional concern, and they also considered the bureaucracy and administrative work associated with the work to be a heavy burden, which is accompanied by the worry of costly mistakes.

The function 'Other bio-based products' was assessed as both performing poorly and not important. Given that the region is centred on beef production, it is reasonable that non-food-related bio-based products are of minor importance. However, some of the stakeholders pointed out that agroforestry and timber production through development of hedges is becoming more common. The function 'Attractiveness of the area' performed moderately well but was unimportant; it was not a priority among stakeholders.

10.2.3 Challenges

In addition to these difficulties mentioned, the Bourbonnais farming system faces other serious challenges (Reidsma et al., 2019). These are summarized in the factsheet in the Annex 10.1 (see also explanations in

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Chapter 1). Droughts constitute a growing and serious threat; in recent decades, there have been more and more severe droughts. Drought reduces the productivity of permanent grasslands and other forms of forage. Summer droughts are particularly detrimental to the well-being of the cattle, which struggle in the heat.

Other challenges faced by the Bourbonnais farmers are associated with social dynamics, both internal and external. A major challenge is the demographic makeup of the region, with many farmers approaching retirement age and difficulty to find successors. The high level of debt associated with starting a farming venture as a newcomer or expanding an existing enterprise detracts from the appeal of the profession, particularly for the farmers' children. This difficulty in finding younger farmers to continue the work threatens the vitality of this rural area and may lead to de-population and abandonment of the land.

10.3 Coping with Challenges: Maintaining the Status Quo versus Adapting

The strategies suggested by the Bourbonnais farmers and other participants in the farming system to address the challenges they face involve two approaches: to maintain the *status quo* (i.e., to enhance robustness) or to alter the system's configuration to anticipate disturbances or mitigate their effects (i.e., by enhancing adaptability.)

Droughts illustrate the tension that exists between these two strategies. Farmers respond to droughts by buying insurance, buying external feed, reducing their herd size, or acquiring as much feed and straw as they can, whether by growing it or storing it. However, this increases expenses and may alter the landscape: as the farmers grow more crops or temporary grassland than they would otherwise, they decrease the area of meadows, use more nitrogen fertilizer, and may not maintain the hedges. The transformation of grassland into arable fields is seen as a threat to grassland ecosystems in Europe (Habel et al., 2013), and this form of adaptation to droughts threatens the balance between beef production and landscape quality that is the historic and cultural identity of the Bourbonnais. The players here are not only the farmers – there are conservation associations devoted to the maintenance of the hedges and landscape conservation and valorisation. Adapting to droughts without putting pressure on the natural capital

would require making the landscape more drought-tolerant. A possible form of adaptation comes from agroforestry practices (Mosquera-Losada et al., 2018). One example pointed out by some farmers in our study is that trees provide shade for cattle during heat waves and maintain grass growth in late spring, making it possible to start distributing harvested fodder later.

Diversification either in production or market outlets was mentioned as a strategy for coping with climate uncertainty and price volatility (Dumont et al., 2020). It was suggested as a buffer against uncertainty in order '*to have always a form of production to rely on*'. Another type of diversification is in the type of livestock raised, and some farmers do invest in other livestock, such as poultry and pigs, which they raise alongside cattle.

Historically, agriculture in the Bourbonnais region has been a family enterprise. Individual farms were often involved in cooperatives for the supply and marketing of products and in collective genetic improvement schemes. According to the *Recensement Général de l'Agriculture* 2015 (see Ministère de l'Agriculture et de l'Alimentation, 1988–2018), there are considerably fewer corporate farms in the Bourbonnais region than there are in other French livestock or mixed crop-livestock farming regions. However, involvement in cooperative organizations is increasing in the Bourbonnais. The development of associations and cooperatives improves adaptability to the different challenges and provides the farmers with resources to address their problems. According to interviews, collective action leads to sharing tools and equipment, making larger investments in machinery, and collectively organizing the sale of products, which strengthens the farmers' position with buyers. It also meets a social need for mutual assistance in the event of an accident or temporary difficulty, and an opportunity to exchange information and ideas.

10.4 Pressure from the Society: A Source of Stress and a Trigger for Transformation

Society has high expectations for farmers (Mathijs, 2015), as is becoming increasingly apparent in public discourse. Many of the farmers feel that a lack of trust is amplified by the media, especially social media. Beef producers feel particularly under public scrutiny because of the rise of the vegan movement. They also see a potential conflict between

the growing demand for improved animal husbandry practices and the likelihood of increased prices; they are unsure that even the potentially improved quality of the meat would compensate for this. The farmers do not believe that the public understands their work ('*. . .the French people are not sufficiently aware of the work of farmers. . .*') and think a better understanding of their life and work would be mutually beneficial. We also note that, while the concern about vegan or animal rights movements was often expressed, the farmers never mentioned having the sense that they were likely to experience any direct confrontation from these groups.

The concerns about the effects of social distrust are tempered by two factors. First, the export market to Italy is a major, reliable market and relatively impervious to the social pressures from the French. This market, then, can be considered as a factor in the resilience of the regional farming system to societal challenges. Second, the recent increase in direct selling and short value chains demonstrate that there is a local or a niche market that values the practices of the Bourbonnais farmers and is willing to pay a fair price.

Several participants considered it necessary to change their practices to satisfy consumers: '*. . .we are going to adapt, it will not be the other way around. . .*'. Suggested changes included the introduction of environmentally friendly practices, such as optimizing fertilization, reducing or stopping ploughing, and reducing the use of pesticides. The need for improving conditions in slaughterhouses and subscribing to a quality label was also recognized. Some farmers are already making these changes. One of the farmers we interviewed is growing and selling vegetables for human consumption, such as lentils, and buying animal feed from an organic source as much as possible. Some of the farmers are transitioning to organic farming. These ideological and economic considerations should enable farmers to sell their products at a better price and fulfil social expectations. The presence of SICABA, the local organic-certified slaughterhouse, provides an extra opportunity for the farmers to adapt to organic farming.

The COVID-19 pandemic, with the associated lockdown measures in 2020, has raised public awareness of the importance of agriculture in sustaining the population during difficult times. A press release from the French ministry of Agriculture and Nutrition (Ministère de l'Agriculture et de l'Alimentation, 2020) acknowledged the

fundamental role of all players in the food supply chain during this crisis and expressed gratitude for the food industry and appreciation for the minimal disruption in supply during the pandemic (Meuwissen et al., 2021). The ministry also asked for action within the value chain to counteract falling meat prices. The Bourbonnais region is likely to benefit from this positive image, especially from the opportunity to satisfy its consumers' desire for food production practices that are respectful of nature and the environment.

10.5 Transformation Strategies for Maintaining Tradition and the Natural Landscape

We suggest that the Bourbonnais farming system must do more than adapt to changing circumstances: a transformation of the system is necessary. The challenges and problems identified in this study have created for farmers a difficult life, which does not encourage potential recruits to replace retiring farmers. According to the description of resilience used here, transformation of a system should always maintain its core identity. For the Bourbonnais region, such identity is beef production in a natural and traditional landscape. Some potentially useful adaptative strategies, particularly those that might mitigate economic problems, should be considered with caution as they conflict with functions of the system, for example, by threatening permanent grassland or the natural environment.

In a July 2019 focus group, three strategies for promoting transformability were identified. Farmers are the most important actors in this transformation, as farming practices are the link between the landscape and agriculture. While some farmers have adopted innovations acquired from other farmers or advisers, others are resistant to change, either because they are preoccupied with their overwhelming problems or are strongly attached to tradition. Innovation should be fostered with appropriate training, information, and financing, and cooperatives or agriculture advisors are important in this regard. The second strategy involves a coordinated action of all actors of the farming system – retailers, advisors, feed suppliers, cooperatives – to improve the farmers' position in the value chain, allowing them to gain more bargaining power with better prices at the farm gate. Unfortunately, the participants to the focus group also recognized that

the farming system is still a long way from such coordinated action. A third strategy is to promote some policy measures aimed at facilitating the inclusion of farmers in the public market, for example in school canteens.

10.6 Conclusions

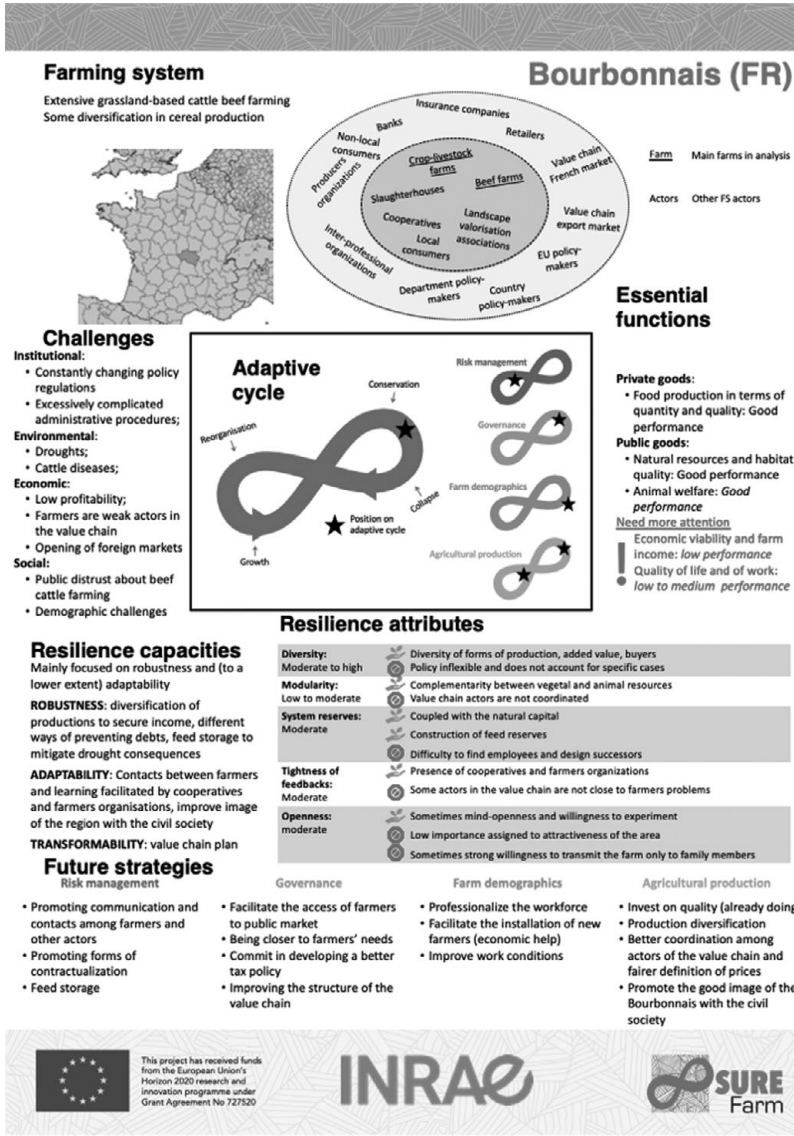
The future of beef production in Europe may require continuous integration of environmental, economic, and social issues (Hocquette et al., 2018). The Bourbonnais farming system is a case in point, and we consider it a good candidate for reconciling the objectives of food production and natural resource conservation. However, challenges are also present. As argued by Darnhofer et al. (2010), monetary resources such as bank loans and insurance schemes can provide some short-term solutions, but do not strengthen the long-term resilience of the farming system. We believe that improving the resilience of the Bourbonnais farming system will require building new social links, improving policies, and education. Farmers are the cornerstone for correcting problems and implementing transformation, but they cannot act alone. The Bourbonnais farming system, as well as other SURE-Farm case studies, requires a resilience-enabling environment that helps the farmers to shift their perspective from short-term economic survival to a wider view in which environmental and social issues can also be addressed (Reidsma et al., 2020).

The comparison of the Bourbonnais region with other SURE-Farm case studies reveals that the balance that exists between food production and landscape quality in the area is unique and needs to be considered as an opportunity to enhance resilience. However, the responsibility for landscape conservation cannot be left entirely to farmers, who often lack time and economic resources. Landscape maintenance is and should be promoted by policymakers, especially at the territorial level, and with input from local conservation associations. Droughts hinder landscape conservation efforts, and mitigating their consequences requires concerted research. At present, decision-making is done by different administrative units linked to municipalities. An administrative unit exclusively dedicated to the maintenance of the *bocage* landscape, composed of those with a strong connection to it, could be a highly effective management tool.

The farmers in the Bourbonnais would benefit from agents who act as intermediaries between them and the other members of the value chain. While farmers of the Bourbonnais have a good dialogue with local consumers, as shown by the recent increase in direct on-farm selling, a wider dialogue should be facilitated between the farmers and consumers who are not local, but who have specific concerns. This dialogue should be built around the topics of concern, for example, animal welfare, and involve groups of stakeholders and consumers (Miele et al., 2011). This communication effort should expand to reach more people, and eventually be facilitated with communication campaigns that reach the general public. In France, this is happening with the help of producers and inter-professional organizations (Pact for Societal commitment [*Pacte d'engagement sociétal*], Interbev, 2020). These campaigns focus on reducing environmental impacts, enhancing animal welfare, assuring a good remuneration to farmers and others involved, and education on meat in a healthy diet.

The value chain for the French non-local market and for the export market seems to, at present, constrain the resilience of the Bourbonnais farming system; we believe that its unbalanced structure lowers the farmers' profit margins. Addressing this requires understanding the mechanisms within the value chains that lead to low profitability for farmers and to promote remedial policy tools. The appropriate arena for this action is outside the farming system, and it should be handled by entities such as inter-professional organizations and government.

Some participants proposed, in a workshop, the value of promoting a good image of the region. Sustainable and responsible tourism offers a novel approach to transformation, and this beautiful region has much to offer: stunning landscapes, historical sites (medieval cities and thermal springs), areas for trekking and horseback riding, and the famous wine 'Saint Pourçain'. There has been little concerted effort to develop tourism in the area, but agri-tourism might provide farmers with not only a new source of income but also the opportunity to enhance understanding of their profession (Accatino et al., 2020). This path to transformation may contradict some of our findings, as low importance was assigned to 'attractiveness of the area' by stakeholders (Figure 10.1); however, the path to transformation comes from thinking outside the box and from gaining confidence in the asset of this territory.



Annex 10.1 Factsheet synthesising resilience of the current farming system in the Bocage Bourbonnais (France).

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