

Synthesis

How can organic farming contribute to the sustainable production and consumption patterns?

Stassart P. and Mormont M., (ULG)

Jamar, D. and Stilmant D. (CRA-W)

Aertsens, J. and Van Huylenbroeck, G. (U Gent)

Irreversibilities that are well known to economists (path dependency, technological lock-in, etc.) are created in all processes of socio-economic development. They constitute one of the crucial problems of sustainable development strategies. The latter effectively postulate that it is possible to re-orient production and consumption chains more or less strongly. Seen from this angle, one must pay special attention to the **bifurcations** that occur in the sector's development. By bifurcation we mean the choice that is made at a given time in favour of a technique, standard, or form of organisation when this choice leads to a series of other choices, such as investment choices, that will make the current course relatively irreversible. Irreversibilities can also result from the abandonment of earlier knowledge that is rendered obsolete by a chosen technique.

The sustainability stakes that are riding on organic agriculture are thus twofold: In the first place, it is a matter of knowing if the methods and techniques that are used are better in terms of environmental and social criteria. However it is also matter of knowing if organic agriculture keeps the various technical options, and thus the concomitant potentials for development and learning, open. This research focused on these two issues in a context in which the organic chain under study was gradually taking its place in conventional distribution circuits.

Organic agriculture enjoys greater legitimacy than conventional agriculture with regard to sustainable development right from the start. This legitimacy is recognised politically through specific support measures for organic agriculture in the European agricultural policy as well as in Belgium's national sustainable development policy. In addition, several food crises have reinforced consumers' interest in organic commodities and boosted the organic meat market, which is at the centre of this research. The immediate consequence of these two tendencies was the arrival of new players in the market, i.e., a new type of producer of (Chapter 3.4), mass distribution (Chapter 3.1), a new type of consumer (Chapter 3.3), and finally, industrial processors, all although we studied the last group very little.

These new players in turn have introduced conventional technical models of production and processing, opacity concerning the consumers of organic products, and new tolerance in local interpretations of organic standards. The paradox is thus that the market's expansion has allowed new producers in but is also transforming the chains: mass distribution's entry and increased competition in the sector, along with new consumers, are changing the relationships between the partners in the chain. This

phenomenon, moreover, is comparable to what is going on in the fair trade sector¹. The process of conventionalisation that follows designates the garage will alignment of organic production with the organizational and technical standards of conventional chains. This process is not without potential consequences for the chain's sustainability, in terms of both its ability to comply with environmental standards and its ability to develop a technical and social alternative, such as production patterns, sustainably.

We also showed (Chapter 3.4) that the market's growth and organic conversion bonuses attracted new producers to the organic sector, but part of them at least introduced in exchange conventional technical models of production that enter into conflict with organic standards and carry the risk that of no longer being able to claim the environmental benefits of organic production. In other words, the conventionalisation of organic farming in this specific sector is tending to bring it closer to intensive farming patterns.

In this process of growth and conventionalisation the chain's sustainability is exactly what is at stake. This concerns its environmental impact as much as its ability to constitute an independent technical model. Our approach was more than an evaluation of production patterns in light of standards or indicators. It strove rather to understand this chain's course, how it was developing and changing. One theoretical principle guided this analysis. It consisted in considering that techniques, organizational standards, strategies, and identities were not independent spheres but, on the contrary, linked in configurations or **compositions**, as a result of which developmental paths are inextricably social and technical.

We thus re-examined the **chain** concept with the help of two important hypotheses. In effect, where economists see above all forms of organization of transactions between economic operators, essentially producers and middleman, we enlarged this notion to include the two extremes of "economic chains": First, we quickly ascertained that producers and distributors' representations of consumers are the key problem in this chain. Second, meat production mobilizes living beings at the other end of the chain about which farmers are asked what they can do, what they're able to do in systems that are not just technical but "ecological" as well. Doubtless one of the other challenges for research into sustainable development is to have to broaden the field of study, which almost necessarily requires a multidisciplinary approach. Allowing for the livestock and pastures on the one hand and consumers on the other hand obviously increased the complexity of the subject under study, but at the same time this enlargement was likely to increase the number of possible choices, bifurcations, and thus options.

From this standpoint – the search for bifurcations and irreversibilities and broadening the field of study to include the natural world and consumers – we obviously had to renounce the purely deterministic approach, since, on the contrary, we were trying to identify the possible pathways that might become the objects of choices that were not predetermined. The corollary of this epistemological position is that we had to consider

¹ See the report on fair trade *Le commerce équitable face aux nouveaux défis commerciaux : évolution des dynamiques d'acteurs*, SFPS, 2006, project CP/10/481 under the same research programme.

development to be both an autonomous process in which we had to try to reveal the potentials of what existed and a voluntary process in which choices were made that would reveal possible paths. At the end of the day, the sense of this research - identifying what is possible in a context of socio-technical complexity - is what led us to adopt an intervention research method. Indeed, identifying - and even testing - possible developments in a complex network of relations entails the need to include at least some of the players in the research so as to understand not only the factors that are linked to a given development but perhaps above all the steps that enable these players to subscribe to the possibilities that cannot be built without them. It then becomes important to start with the diagnosis in which their points of view, questions, expectations, and/or fears are ingredients of the research on a par with the questions that the researchers legitimately ask in their own fields. In a nutshell, the idea was to trigger situations of choice that could teach.

Analysing the enlarged chain enabled us to show that the exchanges, contracts, and transactions between partners were framed by a series of beliefs, standards, knowledge, and representations that were shared or distributed, depending on the case, to form a sort of skeleton onto which not only the practices and relations between players, but also the questions could be hung. The question of the future of organic chains could then be formulated as generally as possible as that of the very difficult compatibility between organic standards on the one hand and the conventional chains reference frame on which the players relied on the other hand. This is because this reference frame comprised mainly a definition of the product, which itself was linked to a certain representation of consumers, but also because this product definition was closely linked to the farmers' skills and expertise, to their livestock breeding, rearing, and fattening know-how, as well as the processor's competency. This quasi-incompatibility between organic standards and conventional standards/knowledge also created a mood of suspicion amongst the players, suspicion that in turn created uncertainty not only about the product but also about the partners' loyalty in a sort of vicious circle of mistrust.

Our research approach then had to proceed via several operations (researchers' actions) that would serve as analysers. On the one hand, we had to start with the questions asked by the chain's partners and understand their points of view in order to identify the areas in which action could be taken and bifurcations would be possible. On the other hand we also had to invent organizational arrangements so as to be able to forge new ties and re-create enough trust to be able to experiment. In such a context of complexity and weariness, putting all the problems to all of the partners at the same time could indeed practically be ruled out. On the contrary we had to identify partial areas in which issues could be handled as separate steps, as separate bricks in a rebuilding project. All of these research operations can thus be summarized around three main "building sites", as follows.

The first one concerned what we called the issue of the product's qualification, and obviously related back to the issue of the consumer. It was crucial to see the consumer in a new way, neither as a passive recipient of marketing ploys nor a sovereign buyer for whom producers were merely servile suppliers. The consumer is an agent to the extent that s/he follows a host of prescriptions of various origins, be they gastronomic, health, or

even civic. Consequently, what is important from the perspective of sustainability is to construct a system that serves as both a prescription (that gives consumers cognitive landmarks) and a recording (feedback) of their reactions to these prescriptions. We were able to validate the hypothesis that in this case the cattle breed was the crucial point of an arrangement making it possible to connect organic production, health value, environmental values, and gustatory value. However, this arrangement had to be created and reinforced on the basis of a representation/prescription of the **negotiating** and learning consumer.

The second worksite was one that we called the qualification convention that was supposed to subtend the chain's organization. The qualification convention designates how the partners' competencies and commitments around a product with a fixed quality are defined. So, in this case it was a matter of determining what the farmers' and distributor's, or even the processor's, respective responsibilities and competences were. How and by whom could the planning of production among the producers be organized, given that this planning had to meet the criteria of the fishes the, flexibility, and fairness simultaneously. In this regard we were able to show, through the proposals that we may need and bargain over with the partners, that the organization of such relations code and she would rely on procedures and concrete instruments that could guarantee the fairness of their transactions, but we also stressed the fact that the profession of organic farmer lacked legitimate references, that's to say, the renewed effort convention, in order to define its responsibilities and competencies. Similarly, relations with consumer suffered from a lack of legitimate, "equipped" representations of what the job of a person responsible for a product with identified qualities entailed. Here we put our fingers on the growing gap between the tendency to reduce the job to its purely economic dimension of supplier and ambitions of an organic factor that could not exist without seeking justification in other environmental or social qualities. Economic mechanisms alone (incentives, support and, and bonuses) cannot suffice to enable chains that are based on other commitments to flourish, because they have other ambitions and other ways of being recognized. We felt it was relevant to examine this in light of Sen's remark to the effect that the "use of incentives and private calculations of personal gains and profits" may well enable efficiency gains, but this might end up being brought at the cost of "undermining general values that support mutual help and cooperation."²

The third worksite consisted of more "scientific or technical" research that strove to explore the technical transformations that making the chain's economic demands compatible with the organic standards would involve. The standards that we considered were the share of forage in the animals' rations and parasite control in a context of limited parasite control treatments. These standards were chosen for two reasons, namely, they concern key points in the organic production scheme and they are highly significant for consumers and thus for product differentiation on the market. In the first case, we relied on an experimental design that enabled us to show that other feeding systems that maximised the use of forage to the detriment of concentrates were possible but in practice came up against (1) the need for early learning by the

² Sen, A. (2000) "What Difference Can Ethics Make?" in Lecture at the International Meeting on Ethics and Development of the Inter-American Development Bank in collaboration with the Norwegian Government.

livestock of this type of feeding and (2) the chain's organisation, which in this case had to accept to revise certain end product quality standards. The second case concerned parasite management and was handled through learning groups that brought together the stock farmers, veterinarians, and researchers for on-the-farm monitoring. Parasite infestations are closely linked to the ways that the pastures are used, but it issues a deeper challenge to another approach to animal health that allows for not only the individual animal and the parasite but also the "ecological" link between the parasite's life cycle, the individual animal, and the entire herd. In other words, a preventive approach to parasitism that would avoid the use of medicines means forsaking the will to eradicate parasites in favour of combined herd and pasture management to control a form of co-existence that would not be detrimental to either the herd's performance or its health. This result was located upstream from the experimental approach and consequently required both experimental and practical confirmation, but it nevertheless enabled us to confirm the hypothesis that the development of a sustainable chain also meant redefining the players' relationships with nature and more specifically the combined competencies of the farmers and livestock. These two worksites also enabled us to show how different disciplines and research methods were combined in this multidisciplinary research.

The primary objective of this research was effectively methodological. The results concerning the organic chain, for all that they were partial and temporary, are worthwhile above all because they show how research into sustainable production and consumption modes can be designed. While a production-consumption chain is conceived of as a composition of techniques, knowledge, standards, and identities, it is not rooted in a single way of thinking that would be deployed in a straight line from consumer demand to the ecological environments from which it draws its resources. Rather, it is a composition of different rationales that are interconnected in a series of socio-technical nodes. The parasite control technique provides a good illustration of this partial connection between the technical knowledge of veterinary medicine, feeding practices, and demands concerning the end product that refer, through a series of mediations, to both agricultural knowledge and marketing-related consumer demands. The usual scientific approach – that of the applied sciences – treats each of these nodes separately. It isolates the constraints that it deems to be exogenous to tackle a clearly bounded subject and explore the possibilities of rationalising it, keeping all things equal, we should add. If we consider, for example, consumer demand, we give ourselves a fixed point that facilitate the exploration of the possible "products" and production patterns that correspond to this point. The risk of such an approach is that at the same time as we internalise a vision of the consumer, we externalise a series of consequences resulting from this choice.

In our methodological approach it was effectively crucial to start by producing a shared diagnosis of the situation under study. This diagnosis revealed various avenues for research as well as, via exchanges with the players, avenues for action. In this diagnosis we gave an important place to the players and their points of view and questions to the extent that their viewpoints and questions revealed possible research questions or initiatives. However, the researchers, who were inspired in this case by the matter of sustainable development, also gave priority to the approaches that they felt were the most relevant. So, this was neither a perspective of responding to the players'

questions nor one of imposing research questions on the players. Rather, it was a transaction or series of transactions between partners with interests that differed but could converge in research operations.

A second methodological principle consisted in considering that the actors' knowledge and relations with each other likewise conditioned each other. In other words, some questions could emerge only if the relations, especially the relationships of trust or equity, were changed, just as new knowledge could lead to the reorganisation of a chain. This was particularly true of the knowledge that was generated around the consumer. This principle was well illustrated in our research.

Finally, the research was guided by a third principle, that is, that the various research "worksites" mentioned above had to be consistent and this was possible only by constantly drawing connections between the achievements or findings made in one field and the questions or progress made in another field. This is how we treated the more technical worksites that explored technical potentials that answered major questions about the chain and its sustainability. That is how, for example, the questions linked to parasite management or feeding answered some crucial questions about pasturing (organic standard) but also some concerns that were relevant to consumers.

Through these three principles we believe that we have developed a methodology that is specific to asking questions about sustainable development. This methodological effectively seems to enable one to meet two crucial requirements, namely, keeping diversified technical options open against all possibilities of technical irreversibility, and allowing for ecological, efficiency, and fairness criteria at one and the same time. These three dimensions of sustainable development, as our research shows, cannot be tackled separately. On the contrary, they must be tackled simultaneously, by plunging resolutely into the heart of the socio-technical complexity. In this connection, animal husbandry is an excellent subject for shedding light on the subtle and often hidden links that stretch from the natural environment to techniques and from ecology to society. Deconstructing what was forgotten in earlier choices then becomes a necessary condition for reconstructing sustainable chains.

This social deconstruction is heavy with the promise of sustainability but ticklish in terms of the irreversibility of the relations that it inevitably modifies. It does not occur by chance, however. It requires conditions and a method that our research has helped to render more precise. In any event, it does not dispense with the need for a constant shuttling by the researchers involved in it between the sincere attachment³ necessary for intervention and methodical detachment that is indispensable for scientific integration.

³ In the meaning given by M. Callon, 1999. "Ni intellectuel engagé, ni intellectuel dégage : la double stratégie de l'attachement et du détachement." *Sociologie du travail*, 41:65-78.