

Environmental conventions: the case of agriculture

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Résumé

Dans cet article nous analysons les interactions économiques occasionnées par la prise de conscience croissante des problèmes environnementaux dans l'agriculture. En effet, en réponse à ces problèmes les acteurs publics et privés se mobilisent en construisant des actions collectives. L'objectif est donc d'analyser la diversité de ces modes de coordination en adaptant le cadre des mondes de production de Salais et Storper (1993, 1997) aux questions environnementales. Étant donné que chaque monde de production est un monde de conventions, nous caractérisons les conventions d'environnement. La partie empirique de ce travail repose sur l'étude des démarches environnementales volontaires (DEV) dans l'agriculture puisqu'elles représentent des espaces de coordination diversifiés entre les producteurs et les consommateurs et qu'elles permettent de différencier les produits d'un point de vue de leur qualité environnementale.

Abstract

In this paper we analyze the environmental problems in agriculture through the interactions between producers and consumers. Indeed, in response to these problems collective actions are built by public and private actors, so the aim of this article is to examine these different forms of coordination and their dynamics, using an adaptation of Salais and Storper's *worlds of production* (1993, 1997). Seeing given that each world of production is a convention's world we set out environmental conventions. This work is based on empirical study of agricultural Voluntary Environmental Approaches (EVAs) because they represent spaces of coordination between producers and consumers and means to differentiate the products from the point of view concerning their environmental quality.

Mots Clés : démarches environnementales volontaires - mondes de production — convention d'environnement - agriculture biologique – agriculture raisonnée

Key Words: voluntary environmental approaches – worlds of production — environmental convention - organic farming – integrated farming

1. Introduction

Environmental protection has become a sensitive subject, constantly exposed to new problems; hence the intervention of modality players affected by this protection. Alongside public authorities, we can see an emergence of new regulators, including representatives from the economic world and civil society. In this context, voluntary approaches are identified like third generation instruments (Croci, 2005), replacing regulatory tools (such as standards of emission) and economic instruments (e.g, taxes and tradable permits).

In institutional approach, this paper is based on the assumption that social relations and uncertainty are central elements in economic behaviours and aimed at apprehending diverse forms of coordination which are built around environmental problems. Plurality of environmental rules, technologies, territories and motivations of actors involved in environmental protection explains this diversity (Paavola, 2007). The objective is to differentiate "green" products, their interactions both with their demand, and also underlying their developments. To achieve them, we mobilize in French literature the economy of Conventions (Salais 1989; Orléan, 1994; Eymard-Duvernay et al., 2006) and the grid of worlds of production of Salais and Storper (1993, 1997) which integrate the plurality of decisive factors of actions: efficiency, social justice, ethics..... This approach which is a component of institutional economics as Regulation school (Zuindeau, 2007), develops mainly the microeconomics analysis on the hypothesis of bounded rationality (Simon, 1976) but is also interested in the mesoeconomic level with this grid. So this article suggests a version of this grid appropriated to agricultural environmental issues: *The worlds of production environmental protector* (Cazals, 2006). This approach, which gives its entire place in the way that actors give to their practices and the diversity of institutions they can mobilize, contributes to the development of broader institutional economics of environmental issues (Ropke, 2005, Paavola, 2007; Soderbaum, 2007).

We present an application of this grid by the example of agricultural environmental voluntary approaches (EVAs)¹, which make up one of the seven pillars of the Sustainable Strategy of Development defined by the Ministry of Agriculture and Fishing in March 2007², and can be defined as totally committed free enterprises aimed at improving their environmental performance, beyond legal requirements, and this in the framework of a formal or informal

¹ Particularly those that aiming nonpoint source pollution by pesticides.

² Durable Strategy of Development: <http://www.agriculture.gouv.fr/spip/ressources.themes.environnement> the 29th april 2007

device. We have selected this case study because EVA's designates a diverse set of forms of coordination especially as in food industry they are also a factor of product differentiation in their association of a sign of quality, a brand, and/or a sign of their own distinction. Seeing that the literature on voluntary approaches concentrates on the analysis according to the traditional assumptions of optimization behaviour (Millock et Salanié, 2000; Lyon et Maxwell, 2003; Glachant, 2005), it can not capture the effects of collective dynamic actors on the organization of (EVAs) and the exchange possibilities of "green" products.

So, the article will continue in three sections. The first outlines the analysis of rules according to conventionalist approach and its relevance to study environmental issues. The second proposes an adaptation to environmental problem of the world of production of Salais, Storper (1993, 1997). We go on to define environmental conventions demarcate the *real world of production protecting the environment*. The third analyses the impact of institutional change on the real worlds of production.

2. Rules, conventions and environmental issues

The theory of conventions was started by French economists concerning by radical uncertainty. This is a situation in which actors cannot assign a probability to the consequences of their acts, so actors are not rational as orthodox economics assumes. Therefore this approach sees coordination of economic actors as a critical problem, given ambiguity and complexity (Eymard-Duvernay., 2006). The specific form and content of coordination will vary according to the products, technologies, market, and also collective indirect sources of satisfaction impossible to inventory here, whose variation is as great as human life itself. These economists consider that conventions allow the achievement of coordination of actors, an assumption which has been already set out by David Hume in the Treatise on Human Nature (1739) (Latsis, 2007). Conventions are seen as specific types of rules because they are arbitrary, obscure origin, not together with legal sanction and vague formulation. According to Storper (1997 p. 38) "Conventions may be defined to include taken for granted mutually coherent expectations, routines practices which are sometimes manifested as formal institutions and rule but often not". However, Batifoulier (2001) has proposed two conceptions of convention, based on the mechanisms of coordination and the John Searle's distinction (1995), between regulative and constitutive rules, which has become fairly common in legal theory. As regular rules, the first type of convention called strategic convention, defined behaviours independently of the existence of the activity. These

conventions are a response to “know how”. As constitutive rules, the second type of convention regulates the representations of actors and allows new kinds of behaviour. This form of “interpretive conventions” is like institution because it refers to large values and judgments, rules and representations which influence economic behaviour. Boltanski and Thévenot (1991) have introduced the concept of “cities” and have identified six cities, each with its own convention and form of justification (the inspirational, opinion-based, domestic, industrial, market and civic). In this conception, separating the actor, the action and the goal is neither empirically nor ontologically justifiable (Kandil, 1998). So, a convention is more than simple cognitive or cultural skills, allowing collective and reflexive action. Conventions are related to the pragmatic dimensions of action, which is referred to the ongoing tension between ends and means. More specifically, these conventions are comprised of the other persons who act in coherent way with our own actions and objects and institutional environment well-adapted to the actor’s action (Storper, 1997). This concern with rationality as an emergent process which is similar to the concept of “bounded rationality”. We positioned our work in this interpretive conception of convention and assumed that there are different types of rationalities (Vatn, 2005). In this inscription, we concern with integration of political dimension into economic analysis and the economic action which is socially and temporally constructed (Jullien, Smith 2005).

The multiplicity of the forms taken by the environmental rules shows the strong interaction between ends and means. We may set out, several environmental goals and diverse practices constructed by the actors. In order to illustrate the reflection interpenetration about the goals and the actions we take the example of EVAs in agriculture and focus on their diversity.

Voluntary approaches lead to the use of many names to indicate them, hence the construction of multiple typologies. This expansion was highlighted by Grolleau and al. (2004) which counts eight different names used in economic literature. On the basis of this literature it was possible to emphasize four factors to differentiate these EVAs.

The first criterion refers to **private or public status** actors having initiated and having worked out the approaches. It can determine a more precise denomination of the agreement on the basis of OECD typology (1999). The second criterion is connected to **the agreement’s field of application**, which can relate to a local or specific pollution issue, on the scale of a town for example, but which can also apply to a vaster, national or global space. **The degree of constraint associated with the approach** represents the third criterion and is very variable according to EVA’s types. The lack of constraints raises the question of carrying out the

objectives and/or the question of participants taking advantages of the approach without contributing to the achievement of these objectives. The fourth criterion allows EVAs to be distinguished according to **their objectives**. Indeed, these can be **individual or collective** and characterized by their environmental range. They can be focused on the reduction of pollution to the source, on the repair of pollution or even on the safeguarding of the environment in general.

EVAs are therefore heterogeneous. In agriculture, Common Agricultural Policy reforms and the development of quality products structure EVAs diversity around two types of farming: organic farming and integrated farming (Bélis-Bergouignan, Cazals, 2006). In fact, standards (rules, laws, certificates of quality and social conventions) are an essential component for agricultural and food quality products and determine the historical dynamic of economy of this sector (Stanziani, 2005). In France, Governments and organizations participated in this dynamic during the 20th century in defining two types of standards (Sylvander, 1996): firstly, those determining the threshold of product quality and health loyalty and secondly, specific standards across the different signs of quality (see Annex 1). However, these signs can refer to both the lowest quality (which guarantees the safety of a product as “Certification Conformité Produit” (CCPs)) and superior quality products as AOCs which is the French certification granted to specific French geographical indications (Valceschini, 2003). In this context, the EVAs are limited to Organic Farming since the other labels do not refer to environmental criteria in their specifications (Hirczak and Mollard, 2004). However, faced with the rise of environmental fears, governments, producer associations and distributors have developed environmental initiatives. Thus, today, on the French market of agricultural products, the consumers can find not only French and European signs of quality (see annex 1 and 2), but also brands and private labels (see Annex 3). Proof of quality is a sign of willingness coming from governments and producer associations to put into consistency a demand for quality products with specific objectives of economic development to rural areas, sustainable today. Whereas, private labels and brands aiming at promoting standardizing quality production, in order to satisfy new consumer needs. Consequently, we see different definitions of environmental quality, which are based on various levels and conceptions of environmental protection. These strategies contribute to increase the potential of EVAs development while generating competition between different definitions of environmental quality. In this profusion of initiatives it becomes difficult for consumers to identify objective benchmarks to lead them in their behaviour. "Green" products therefore remain expert or belief goods (Darby and Karni, 1973). Indeed, information

asymmetry between producers and consumers remains an intrinsic characteristic in the exchange of goods accompanied by such differentiation. Indeed the level of consumer expertise is variable and scientific knowledge concerning the environmental impact of productive processes is often uncertain (Cazals, 2006). In these conditions, the exchange of “green” products, based on criteria, varied where environmental protection could be confused with the origin of product, certification or health guarantees. Thus, EVAs aren’t unchanged market segments and it is appropriate to analyze them as well as various environmental qualities, by focusing on the grasp of cognitive benchmarks allowing actors coordination and their historical dynamic (Stanziani, 2005). In addition, according to Godard (1993) and Hourcade et al. (1992), environmental concerns pertain to situations that are styled to “settled universes” or to “debated universes”. In these last situations social controversy is added to the scientific controversy, whereas in settled universe scientific knowledge is stable. Thus, Godard (1993) has introduced the concept of “environmental convention” to account for the different references which trend collective decision process. These diverse environmental conventions are required for the coordination of the actors in any social and economic situation. In addition, this author sets out six representations of the nature or different conceptions of what the environmental protection is (Godard 1990). This may constitutes the principle of legitimacy of each environmental convention. We pursue in this paper by attempting to identify these environmental conventions, so we depart from analyse in terms of mere ecological convention proposed by Murdoch et al. (2000).

3. The worlds of production and environmental conventions

In conventionalist analysis, the approach in terms of "worlds of production" seems to be appropriated to analyze the different meanings of word “environment” and to distinguish associated environmental conventions. Indeed, Salais and Storper (1997) define the concept of “worlds of production” as a world of conventions which are set out in the last section. They consider production as a collective action issue so they depart from the production’s conception as an individual decision of rational agents, possessing full of information. A possible world of production is an area of coordination where supply and demand are agreed on the product’s quality. The latter is regulated by the mobilization of conventions to overcome the fundamental uncertainties inherent in any economic activity, those of production and market. Therefore, on the supply side, uncertainty in productive activity can be settled by a productive process requiring either to use specific techniques (specialized

products), or to use definite standards (standardized products). Similarly, on the demand side, market uncertainty can be treated as an alternative, either by anticipating a generic request product, wherein products correspond to undifferentiated markets, or by meeting an individualized client for dedicated products. The four possible worlds resulting from the combinations - two for each, conventions mobilizing the "supply side" and "the demand side" - correspond to ideals-type of product quality that can be seen as spaces of consistency between supply and demand (Salais, 2007). It is pertinent to adjust the structure of this grid to environmental issues because they are taken into account by the agricultural sector having implications on the productive and commercial slopes of the activity and because it leads to EVAs that supposed conventions agreed between the actors.

The adoption of an EVA can be strengthened with a particular application of "green" agricultural products and may be apprehended in two alternative ways: either producers choose to meet a demand for uncertain dedicated products or producers anticipate and shape the requirements of a request for standards.

As regards the coordination of productive environment protecting activities, two fundamentally different options present themselves for farmers: either the introduction of technologies of end of the line (or "end of pipe", according l'Ademe 1998) as for example the restricted use of pesticides (Integrated farming ...) or the adoption of clean technologies that help sustain ecosystems and reduce pollution as banning of synthetic pesticides, herbicides, chemical fertilisers, growth hormones, antibiotics or gene manipulation (Rigby et Caceres, 2001). In the first case environmental constraint does not challenge productive choices of conventional agriculture while in the second it involves the establishment of a specific productive process. The choice between these alternatives depends more on producers' environmental protection conceptions and the socio-economic condition than on indisputable scientific criteria.

Therefore, from the theoretical point of view, the coordination of productive activities around "green" products is structured as a generic model of Salais and Storper's worlds of production (1993, 1997) with two axes each composed of two segments: *specialization vs. standardization and risk vs. uncertainty*.

The combination of these two axes, two to two, identifies four *possible worlds of production protecting the environment*, each associated with fundamentally different environmental convention: *the radical world, the technico-market world, the impersonal world and the industrial world* (see. diagram 1).

Diagram 1 – Worlds of environment protecting production

	SPECIALIZED PRODUCTS	STANDARDIZED PRODUCTS	
D E D I C A T E D P R O D U C T S	<i>Evaluation of quality</i> : confidence and price <i>Form of uncertainty</i> : uncertainty with respect to others <i>Treatment</i> : comprehension within a community of people <i>Competition</i> : quality <i>Distribution system</i> : local, market, specialized store <p style="text-align: center;">The radical world</p>	<i>Evaluation of quality</i> : industrial standard chosen by buyer <i>Form of uncertainty</i> : ignorance of the producer over price and quantity <i>Treatment</i> : reactivity of the producers to the demand <i>Competition</i> : price and quality <i>distribution system</i> : local, global <p style="text-align: center;">The technico-market world</p>	U N C E R T A I N D E M A N D
	<i>Evaluation of quality</i> : certification <i>Form of uncertainty</i> : ignorance of the producer over price and quantity <i>Treatment</i> : confidence in the independent certification bodies <i>Competition</i> : price and quality <i>Distribution system</i> : global, supermarket <p style="text-align: center;">The impersonal world</p>	<i>Evaluation of quality</i> : general industrial standard <i>Form of uncertainty</i> : probable risk <i>Treatment</i> : short and medium term forecast of events and behaviour <i>Competition</i> : price <i>Distribution system</i> : global, supermarket <p style="text-align: center;">The industrial world</p>	
	Economies of variety	Economies of scale	
	THE PRODUCER		

Source: adapted by the author (Salais, Sotrper, 1993, 1997)

Environmental conventions are capacities of action which are built by the actors and required in each world. These conventions are comprised of three types of capacities of action. First, capacities of action on quality set out the forms of evaluation of quality (price, quality label, rules ...). The second kind of capacities refers to conventions of learning and competences. They are joined up by technical change because it concerns all of worlds of

production and particularly clean technology that Belis-Berguouignan et al. (2004) have defined as investments in process changes. The third component is the principles of legitimate common: “common good” associated with environmental protection. These principles are a compromise between economic and environmental requirements, they have a dimension more pragmatic than these in the cities model of Boltanski, Thévenot (1991).

Lets us now consider each possible world of environment protecting production and the real world in agriculture based on an original survey (see appendix n°4).

The radical world

This area of coordination is characterized by producers who are highly committed to a radical environmental approach which can cause irregular yields. Consumer environmental requirements are determined by philosophical values about nature and low price awareness. Consequently, the exchanges are based on these shared values and confidence, especially as the specificity of the productive process does not enable to assess environmental commitments.

Only common experience is a shared benchmark and allows for sustainable relationships within short distribution channels. Among the EVAs studied, small farm in organic farming seem having a similar framework. It should be stressed that their strategy is based on a market segment of dedicated products requested for their environmental quality and distributed in direct sales³. These producers adopt a form of environmental protection which radically breaking with the form of conventional agricultural, they warrant "for consistency between ethical choices and technical choices" causing nonetheless falling yields. However, the economic valorisation of these products to experienced consumers allows these producers to post a rather positive result of their economic and environmental strategy.

³ This corresponds to one of the types of consumers of products resulting from biological Agriculture identified by Guillou and Sylvander (1997): this category is made up of traditional consumers ready to accept large price differences

The industrial world

This industrial world of environment protecting production completely opposes the radical world of protecting production. It is composed of farmers representing the dominant form of agriculture since the 1960s. They are large, volume producers able to feed expanded markets and provide generic products. High yields are obtained thanks to their use of intensive inputs regardless of the environmental impacts. However, faced both with consumers and distributors who are more and more sensitive to these impacts and with increasingly high profitability constraints, producers are encouraged to change their practices towards setting the standards for farms. The "integrated farming"⁴ approach developed in France in the 90'S has been given this orientation particularly in some sectors (arboriculture, wine growing.). Indeed, this approach responds to internal demands of the chain issued mainly by intermediaries, such as distributors or organizations of producers (Codron et al., 2006). Nature is still principally considered like an input. Sales goals are a priority on environmental objectives which lead producers to express doubts about the environmental impact of their approach, particularly since it has been induced mainly to meet regulations. However, this type of requirement is consistent with the process of globalization, where price competition is growing, and even taking regulations into account. Thus, this approach is mostly without impact on the profitability of exploitation, but needed as an "entrance fee" to the market.

The technico-market world

As in the industrial world, environmental technical change adopted in this world do not question the standards of production inherited from the modernization of 1960s. The products are intended for consumers who are requiring better prices and appreciable environmental quality. Their expectations are a combination of safety and origin product, where producers have perceived nature as specific resources. Finally, the consumer has the power to resolve the relationship by choosing a product, among those whose environmental quality is defined by different standards of production, controlled by agencies of independent certification. These standards are sometimes imposed by local brokers who provide the distribution of products. Producers are therefore confronted with uncertainty over prices and quantities sold. Competition depends on prices, quality of public signs or private branding. These features fit in with sectors such as integrated wine growing which is distinguished by environmental

⁴ Integrated farming includes 98 requirements, of which 55 are legal requirements and some of the 43 remaining ones are already present in a different form in the applicable texts, which would appear to indicate that the change practices caused by this step are minimal.

practices and quality labels showing origin (AOCs). Finally, the changes of practices are limited by their compatibility with the maintenance of yields, and focused on their bid to a double internal and external control. They are often confined to the adoption of "end of pipe" environmental technologies. So, as Mouron et al. (2006) have already shown, despite precise specifications, the environmental and economic balance displayed by farmers is very variable, especially since they have not been able to exploit this approach on the market.

The impersonal world

The products are defined by an environmental quality which has come away from the dominant agricultural productive model. This separation has been possible thanks to the increase of demand for "green" generic products, which are sensitive to price and satisfied by an independent third party agency for the control of Environmental Quality (Sylvander, 1997, Sylvander et al., 2000). Finally, prices are a determining factor in the competition on this market segment (Reynaud, 2004). The location of distributors matters little and nature is considered as common good. These are justifying the impersonal qualification of this world. Thus, the emergence of this world of production is favoured by the new consumer organic products, which is rather volatile and provided in supermarkets but also producers are adopting organic farming by timeliness. In addition, this world is based on the constitution of community of specialist who define clean technologies that are themselves known and reproducible. A part of organic farming responds to these features. Indeed, the label is a crucial element which shows the importance of the official definition of environmental quality to meet the expectations of a demand for "green" products. The changes of practices implemented in these farms conform more and more to standards while giving rise to a specialized production. Finally, organic producers are facing environmental and economic problems that are varying with market-related issues, geographic situation, food sectors.

4. Innovations, institutional change and dynamics of world of production

The coexistence of agriculture worlds of production protecting should not mask the deep evolutions of this sector concerning environmental questions, from public and private actors and which could modify the respective importance and/or the economic viability of each one of these worlds. Indeed, according to Aggeri and Hatchuel (1999) EVAs are spaces of coordination bringing dynamics by supporting collective training and innovation. However, the innovation problems are specific to each world and must be apprehended in reference to the improvement of the quality of the products (Salais, Storper, 1993, 1997). In the radical

world innovation must consist of inventing new dedicated qualities requiring specialized resources. Thus, producers and consumers relations are very important to make known their common expectations which underlie knowledge evolution. Whereas, in the technico-market world, innovation proceeds from the research into new potentially dedicated qualities which be able standardised. This kind of innovation allows a large and quick spreading of the new technologies. In the impersonal world innovations mean the development of new generic qualities *via* the practice of specialized competences. Lastly, in the industrial world of environment protecting production innovation depends on the definition of new qualities of generic products that can be standardized. Thus, the durability of the various environment protecting worlds depends on the support of actions and the use of resources in favour of these various types of innovation. However, empirical work concerning EVAs in agriculture shows the domination of two processes of innovation: **qualification and despecialization/requalification** in which both private and public actors create both generic and dedicated qualities (Sylvander, 2003). The dominant positions of these processes modify the feasibility of the various possible worlds of production associating environmental requirements and determine various trajectories from one world to another.

Qualification of goods by a standard reference

The historical trajectory of French organic farming, developed below, illustrates the variability of the problem of the qualities building and how it can, therefore, encourage producers to modify a type of production and position themselves in the radical world, but also to move to the impersonal world. Indeed, the latter, in connection with the action of governments, offers an implementation consistency between a quality product adapted to a niche market and radical environmental practices which must be standardized for their development. This consistency can be attractive to producers faced with a problem of economic profitability in the radical world protector or who are aware of the environmental protection limits in the technico-market world protector. Indeed, in France, the emergence of organic farming is structured by different trends of thought and despite the strong social heterogeneity of its founders (doctors, teachers, consumers, farmers) their common aim is to create a sustainable agricultural system (Piriou, 2002, Brechet and Schieb-Benefit, 2006). Official recognition⁵ by the French authorities constitutes a regulation innovation incentive

⁵ The agricultural law of orientation of July 4, 1980, stipulates that “the schedules of conditions defining the conditions of production of agriculture not using chemicals of synthesis can be approved by decree from the Minister for Agriculture” (Bazin, 2003).

with a certain standardization of the specialized production processes. This continued at the beginning of the Nineties by the European payment on Organic farming⁶, and its exposure as an agri-environmental measure which could be supported by the Member States. Hence, these regulations and political evolutions in Europe, combined with a demand which is increasing at the rate of the food and sanitary crises, have enabled the surface cultivated in organic farming to double between 1985 and 1995. Consequently, organic farmers are diversified to the point of making feasible an impersonal world of environment protecting production based on the application of a “standard of reference” and recognition of the Sign of Quality. The radical world of environment protecting production persists thanks to pioneers networks like “Nature et Progrès” and “the Biodynamie” and is based primarily on the ethical commitments of both producers and consumers. This evolution attests the environmental protection has generated diverse collective requiring several kind of value about nature as Kaltoft (1999) has already showed it, about clean technology and qualities. So, this process creates new environmental conventions. Nevertheless, the positive prospects of the impersonal world protector are numerous: confirmation of request for products stamped by the Organic logo, interest from supermarkets for these products, strong growth of the surfaces cultivated in organic farming in many countries thanks to the generalization of standards at the European and international level (OECD, 2003). Although some producers associated to the technico-market world may be attracted by these prospects, the unavoidable yield reductions during any Organic conversion which have an impact on economic viability and organic farming having an impact on economic profitability, can also make the industrial world attractive. Thus, seeing that the conversion to organic farming is considered as an innovation (Padel, 1999) this process depends on different frameworks and scale of action and coordination (Storper 1997).

The “despecialization/requalification” or the raising of minimum standard

The process of despecialization/requalification takes its source in the sanitary crisis sowing doubts in consumers’ minds about the safety of products and on the health controls introduced by the state. It is also determined by the construction of a strategy to enhance the intrinsic quality of products through minimum standards to "correct in practice and in consumer representations what is seen as an excesses of driven productivity" (Sylvander, 2003), and not by aiming to differentiate the product from other products by a label. The development of integrated farming participates in this process and gradually introduces the conditions for an

⁶ On June 24, 1991

industrial world at the expense of the technico-market world which is close to the approach of integrated production. From the end of 1970s, Integrated Production was defined by l'OILB⁷ as an optimal use of pesticide treatments in terms of doses, choice of inputs, and times of treatments, associated with a biological control as: "use of organisms or their products to prevent the negative effects caused by pests" (definition of l'OILB, cited by Bonny, 1997). In 1992, l'OILB, published "guidelines" concretely implementing the principles of integrated production and application to the labelling through control. In Switzerland, this approach is particularly developed for apple-growing (Mouron et al., 2006). These characteristics show real dynamics in the technico-market world, notably in arboriculture, wine growing and corn production (Cazals, 2006). However, the association FARRE⁸, founded in 1993, aimed at promoting integrated farming, focuses on the compatibility of economic and environmental requirements, erasing the willingness to remove inputs through biological control, which was introduced by integrated production. In fact it is a general approach involving exploitation, largely driven by professional organizations concerned to communicate with civil society on more environmentally friendly methods. Indeed, in 1995, FARRE was funded by 31 professional bodies and 42 industrial and trading companies (Bonny, 1997). In this way, many products have been stamped integrated farming without codification. French public authorities, overtaken by distributors, have tried to regain power in defining a framework: the system of reference of Integrated Farming became definite on 25 April 2002, associating the government decree on the "integrated farming qualification" for farms. Consequently, "integrated production", which was originally the response of scientists to a technical problem, has been gradually subject to strategic issues for many actors (producers, governments, majority unions and firms of the pesticide sector) leading to levelling down the specifications and absorption of various steps of integrated production by the agricultural normalisation process. This trend leads to strengthening the industrial world rather than the technico-market world. Moreover, this evolution sets out the important part of state institutions in the environmental conventions changes.

⁷ The International Organization of Biological and integrated Fight

⁸ French Forum for Integrated Farming

5. Concluding remarks

The environmental protection analysis by the example of EVAs in agriculture, through different worlds of production, allows highlighting the foundations of diversity observed in this sector. The main highlighted trends show that this grid is not a deterministic and static model in which we must check the veracity of assumptions. These trends are more likely historically located combinations that depend on producers' know-how protectors concerning the environment, consumers' expectations for "green" products, and heterogeneous interests and actions of private and public actors. Thus, news concerning the European Organic Label and the support of governments for integrated farming illustrate how public action can foster the impersonal and industrial worlds.

This work shows that it is not possible to define only one mode of production contributing to sustainable agriculture. Different types of rationalities justify several worlds of environment protecting production. Nevertheless, in the context of globalization and the awakening of the need for developing sustainable agriculture, the maintenance for producing dedicated products seems, more than ever, to be suspended with the emergence of adapted innovations and public instruments supporting modifications of productive practices and markets. Therefore, public economic action has an impact on the institutionalization of certain patterns of thinking over environmental protection. Research into the optimal situation here resembles fiction rather than the code of conduct likely to be commonly adopted. In any event, the plurality context of the protective worlds argues in favour of the search for social, economic and environmentably acceptable compromises. From this point of view, the economy of conventions, through its socio-economic approach, is probably the best means of helping to approach this compromise insofar as it makes it possible to update "inside" the way in which actors resolve the coordination problems that they are directly involved in.

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Appendix 1: Principal Official Signs of French Quality (SOQ)

Official sign of quality	Definition	Procedures	Condition for obtaining the SOQ	Labelling
Red label	Certificate of a quality higher compared to similar current products	<ul style="list-style-type: none"> ▪ Collective request ▪ A CB⁹ in conformity with EN45011 standard works out the plan of control ▪ Study of the file by two sections of the CLNC: “reference frame” section and approval of the CB section 	<ul style="list-style-type: none"> ▪ Development of a schedule of conditions presenting one “more” qualitative, and of the plan of control ▪ Proposal for a model of labelling ▪ Control by an approved CB 	Includes/understands: <ul style="list-style-type: none"> ▪ The Red logo label ▪ The number of homologation of the payment ▪ CB références
Organic Farming	European recognition of a mode of production which prohibits the using of synthesis chemicals	<ul style="list-style-type: none"> ▪ Individual request for a COFRAQ accredited CB according to standard EN45011 and in conformity with EEC n°2092/91 payment ▪ Notification of the activity near the Organic Agency 	<ul style="list-style-type: none"> ▪ Respect of the schedule of conditions contained in EEC payment ▪ Control by an approved CB 	Mention produces organic farming Indication of the CB
AOC	Protection of a geographical denomination applied to foodstuff whose product quality comes from the soil from which it results	<ul style="list-style-type: none"> ▪ Collective request gathered in a trade union of defense of name ▪ Submitted to the Committee main road of the INAO agri-food products 	Constitution by the defense trade union of a file proving that the product comes from a defined geographical surface associating precise conditions of production	Mention of the Controlled Label of origin
Certification of conformity	Certificate of specific characteristics of foodstuff according to production, conditioning, transformation and, if necessary, the geographical origin	<ul style="list-style-type: none"> ▪ Collective request ▪ A CB conforms to standard EN45011 works out the plan of control ▪ Study of the file by the two sections of the CLNC: “reference frame” section and approval of the CB section 	<ul style="list-style-type: none"> ▪ Development of a normative specification for technical features and methods of control ▪ Control by an approved CB 	Mention indicating: <ul style="list-style-type: none"> ▪ Certified characteristics ▪ CB references

Source: Adapted from Vernin, 2005

⁹ Certification Bodies

Appendix 2: Official Signs of European Quality

Protected label of origin	<ul style="list-style-type: none"> ▪ Indicate a foodstuff whose quality or characteristics is due primarily or exclusively to the geographical environment ▪ Procedure identical to the “AOC”
Protected geographical indication	<ul style="list-style-type: none"> ▪ Indicate a foodstuff whose quality, like the reputation or another characteristic, can be allotted to a defined geographical surface ▪ Procedure identical to the certification of conformity for specific characteristic of geographical origin
Certificate of specificity	<ul style="list-style-type: none"> ▪ Recognition by the European Community of elements by which a foodstuff is distinguished clearly from other similar products ▪ Procedure identical to certification conformity

Source: http://ec.europa.eu/agriculture/foodqual/quali1_fr.htm and CTIFL, 2005

Appendix 3: Some private brands

Quality sector Carrefour supermarket FQC^[1]	<ul style="list-style-type: none"> ▪ Installation in 1991 of a quality procedure for beef and veal from Carrefour and farmers' demands. ▪ Since, 300 sectors developed in partnership with local farmers. ▪ Values which have been set down in criteria in the schedule of conditions are: taste, food safety, social, economic environmental durability, authenticity, quality/price.
Integrated farming Auchan	<ul style="list-style-type: none"> ▪ Auchan launches one of the first procedures for signed products ▪ More than 200 products raise the logo “Auchan integrated farming”.
Engagement right from the start (EDO) CORA^[2]	<ul style="list-style-type: none"> ▪ The brand is created in 1997 and concerns fruit and vegetables, meat, fish and bread. They are elaborated in collaboration with producers, thanks to a permanent follow-up without certification. ▪ This brand offers five guarantees: the origin of the product, a healthy and tasty product, food safety, better value for money and respect for the environment. ▪ In 2002 a local goods brand complying to the gourmand inheritance label is launched, announcing that it takes part in sustainable development.
« Terre et Saveurs » from Casino supermarket	<ul style="list-style-type: none"> ▪ “Terre et Saveurs” brand is borne from the Casino group and producers. ▪ It concerns more than 160 products: fruit and vegetables, meat, seafood, bread and cakes. ▪ Commitments as regards to respecting taste, the environment and traceability which makes it possible to find its source. They are controlled by regular audits.

^[1] Visit site 20-02-06: http://www.carrefour.ch/fr/actualites/q_valeurs.cfm

^[2] Visit site 20-02-06: <http://www.produitscora.fr>

^[3] Visit site 20-02-06: <http://www.produits-casino.fr/marque>

Appendix 4: The survey

This presentation of the cases of EVAs in agriculture is based on the results of an original survey conducted, in 2005, on a sample of 3484 wine and fruit producers, who are already involved in organic farming or in integrated farming. We achieved 1298 exploitable answers and 700 answers at open questions the results are presented in Cazals (2006). These data have been exploited by both econometric analysis and textual statistic analysis.

We can distinguish between two stages of this empirical work. Firstly, we carried out semi-directing interviews to collect knowledge on the various productive practices of the actors and on the meaning of their practices.

Secondly, we build a conventionalist questionnaire with closed and open questions in four dimensions: the economic features of farms, market configurations, conditions of actors' commitments and changes in practice, results of implementation of EVAs.