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The rise of private regulation for sustainable agriculture
and biodiversity protection: the definition processes of organic agriculture
and integrated control

By Nicolien van der Grijp

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Nicolien van der Grijp

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1 Introduction

Under the influence of increased economic globalisation and trade, non-state actors have developed a plethora of initiatives that aim to move from an agrifood system with several negative externalities to a system with more beneficial properties. Many of these initiatives have regulatory or semi-regulatory features, and can be seen as forms of self-regulation and private regulation.¹

In the early years, the main impetus for taking such initiatives was based on a concern about environmental, social, and trade issues. Farmers' organisations, non-conventional food companies and scientists played a dominant role in them. In later years, however, under the influence of the emerging concepts of sustainable development and corporate social responsibility, the conventional food and retailing industry became increasingly involved in regulatory initiatives with environmental and social objectives that were often framed as quality assurance schemes.

The emphasis as regards content started to shift from environmental and social issues to food safety issues around the year 2000. Initially, this shift was prompted by the urge felt by the food and retailing industry to deal more rigorously with the traditional risks of chemical and bacterial contamination in the face of increased international trade. After the 9/11 attacks in New York and Washington, the food safety focus was further strengthened out of fear for biological terrorism. Very recently, non-state actors have begun to develop a new strand of regulatory initiatives that promote healthy eating habits in the struggle against obesity and food related diseases, *inter alia* in the hope to increase the well-being of people and curb the exploding costs of healthcare.

Against this background, this paper aims to give an overview of regulatory initiatives by non-state actors from the private sector as well as civil society. The paper is structured as follows. Section 2 describes the evolution of regulatory initiatives that aim to reduce the negative impacts of the current agrifood system. Section 3 compares the main regulatory approaches by non-state actors in terms of substance and procedure. Section 4 analyses the interaction of the non-state actor approaches with governmental law and policy by focusing on the definition processes of organic production and integrated control. Section 5 contains conclusions.

¹ See e.g.: H. Schepel (2005). The constitution of private governance. Product standards in the regulation of integrating markets. Oxford/Portland Oregon: Hart Publishing.

2. The evolution of non-state actor initiatives

The development of rule systems by non-state actors follows in general a similar trajectory consisting of largely identical steps, although the time span necessary to achieve a transition from one stage to the next may diverge. For the purpose of this paper, it is proposed to distinguish at least three stages in the evolution of regulatory initiatives by non-state actors, with each a distinct, main driving force. The first stage of conceptualisation can be considered predominantly ideology-driven and concerns efforts to identify the distinguishing features of newly developed approaches to production, consumption and trade, and to define them in appropriate concepts. The second stage of institutionalisation is largely guided by the need to protect the developed concepts from misuse and can be characterized by an increased use of a regulatory discourse, eventually leading to the development of regulatory outputs, such as guidelines and standards elaborating the alternative approach. The third stage of harmonisation at a higher scale level is primarily prompted by trade concerns about the impacts of multiple guidelines and standards upon the functioning of the market, and is aimed at a convergence of regulatory approaches by the creation of an extra layer of overarching rules in order to make content and procedures of participating schemes more uniform.

2.1 The stage of conceptualisation

The basis for modern conventional farming has been established in the early 20th century, when new developments in chemical and biological sciences and increased mechanisation created the conditions for a major transformation towards increased farm productivity by the scaling up of production practices.² This transformation was again further accelerated by technological advances that had been made during World War II, including the introduction of a range of chemical pesticides, such as DDT, which led to widespread pesticide use.

In response to the rapid takeover by this chemical-based form of agriculture, several production methods and approaches have been developed that can be considered an expression of a critical attitude towards the direction that conventional agriculture had taken.³ A first wave of such conceptualisation took already place in the 1920s and 1930s.

To begin with, the anthroposophist Rudolf Steiner gave a series of eight lectures in Silesia in Germany in 1924, which marked the beginning of the biodynamic agriculture movement.⁴ In these lectures that were called “Spiritual foundations for the renewal of agriculture”, Steiner explained the principles of an alternative approach to agriculture that put the emphasis on the condition of the soil, and that focused on the use of certain preparations for fertilisation purposes and the positive effects of cosmic forces on crop production. In subsequent years, Steiner’s followers further elaborated his agricultural production method and named it biodynamic agriculture.

The concept of organic agriculture has been developed more or less in tandem with that of biodynamic agriculture. Similarly, it is a reaction to chemical-based farming practices and focuses on a healthy soil as the basis of sound agricultural production systems. In this respect, organic agriculture relies on ecosystem management and favours agronomic, biological, and

² See for an extensive historical overview of the rise of chemical-based agriculture: P. Hough (1998). *The global politics of pesticides. Forging consensus from conflicting interests*. London: Earthscan Publication Ltd; J. Pretty. (ed.) (2005). *The pesticide detox: towards a more sustainable agriculture*. London Earthscan, 240 pp.

³ See for a selected and annotated bibliography: J. Potter Gates (1988). *Tracing the evolution of organic/sustainable agriculture.*, US Department of Agriculture. Available at <http://www.nal.usda.gov/afsic>.

⁴ R. Steiner (1993). *Spiritual foundations for the renewal of agriculture. A course of lectures*. Kimberton: Bio-Dynamic Farming and Gardening Association. 310 pp.

mechanical methods, as opposed to using external agricultural inputs, such as synthetic fertilisers and pesticides. The British botanist Sir Albert Howard is often referred to as the father of organic agriculture, although the coinage of the term organic farming is usually credited to Lord Northbourn, who published the book 'Look to the Land' in 1940.⁵ Initially, organic farming was especially practised in the UK and the US, but it soon got acclaim on the European mainland and Japan.

A third concept that was developed in reaction to chemical-based farming was that of biological control of pests. Scientists from the discipline of biology and more precisely from entomology were its founding fathers.⁶ Biological control means the use of living organisms or their products to prevent or reduce the losses or harm caused by pest organisms.⁷ Although their focus was on biological control, the scientists involved became soon interested in the development and application of broader concepts that aimed to offer solutions for dealing with pests and diseases in agriculture. These concepts are the so-called integrated approaches, including integrated pest management (IPM), integrated crop management (ICM), and ultimately integrated production in the 1970s. They have in common that they are all multifaceted strategies that consider a broader range of crop protection measures than synthetic pesticides in a more or less integrated context. From the three integrated approaches, integrated production is considered to be the production method with the highest level of integration, taking all aspects of farm management into account.⁸ In comparison, ICM and IPM aspire a relatively lower level of integration.

The 1970s also saw the development of concepts that focused on other aspects of the agrifood system than agricultural production methods and more precisely pesticide use. The first one was that of fair trade for which the foundations were laid by a Dutch social NGO that was rooted in the Catholic church.⁹ This happened in response to the growing recognition that benefits from international trade were not necessarily shared by people in all countries, especially by those in the so-called Third World. Fair trade products distinguished themselves from regular products in the sense that producers received a guaranteed price that reflected an adequate return on their input of skill, labour and resources.

The other emerging concept concerned a way of dealing with food safety for which the basic principles were elaborated by scientists as part of the US space program.¹⁰ This approach focused on preventing hazards that could cause food-borne illnesses by applying science-based controls, from raw material to finished products. The system became known as Hazard

⁵ In the 1940s, several standard works appeared in the UK and the US that explained the potential contributions of organic agriculture to the production of food and feed, e.g. W.E.C.J. Northbourne (1940). *Look to the Land*. London: Dent; E.B. Balfour (1943). *The Living Soil*. London: Faber and Faber; J.I. Rodale (1945). *Pay Dirt: Farming and Gardening with Composts*. New York: Devin-Adair Company.

⁶ E.F. Boller (2005). *From chemical pest control to Integrated Production. A historical review*. Written for the occasion of the 50th anniversary of IOBC. Available at <http://www.iobc-global.org>.

⁷ Definition according to Art. IIa of the IOBC Statutes.

⁸ The year 1976 is considered as the starting point for the development of integrated production, as a group of five entomologists met in the village of Ovronnaz in the Swiss Alps and produced the so-called Declaration of Ovronnaz. The method of integrated production was further elaborated in: H. Steiner (ed.) (1977). *Vers la production agricole intégrée*. IOBCwprs Bull. 1977/4, 153 pp.

⁹ N. Roozen and F. van der Hoff (2001). *Fair trade: het verhaal achter Max Havelaar koffie, Oké-bananen en Kuyichi-jeans*. Amsterdam: Van Genneep.

¹⁰ FDA (2001). *HACCP: A state-of-the-art approach to food safety*. Available at <http://www.cfsan.fda.gov>.

Analysis and Critical Control Point (HACCP), and consisted of a step-wise approach to identify risks and take preventive measures.¹¹

A decade later, in the mid-1980s, and from a totally different angle, a group of Italian people interested in gastronomic culture and the pleasures of the table launched the slow food concept. This concept aims to tackle fast food culture and the standardisation of food.¹² More specifically, the proponents of the Slow Food movement aimed to formulate a response to health, social, ethical and environmental concerns about conventional food production, to ‘organoleptic boredom’, and to the gradual loss of peoples’ cultural identity.¹³ The movement had initially a strong Italian focus but soon gathered a wider international following. The Slow Food movement became an officially international endeavour in 1989, when representatives from 15 countries approved the Slow Food Manifesto at a conference in Paris.

Essentially, the common themes of Slow Food are the education of consumers about taste and the preservation of the global agricultural and food heritage.¹⁴ According to the founder of the movement, Carlo Petrini, the world has lost more than 75 percent of agricultural biodiversity since the beginning of the twentieth century, and is human consumption today restricted to 150 plant varieties whereas fewer than 30 plants nourish 95 percent of the world population.¹⁵ One of the means that is being employed by Slow Food is to seek stronger linkages between producers, consumers and local communities in an effort to challenge the power of the fast food industry. Instead of seeing globalisation as a threat to specific food products, Slow Food sees it as an opportunity to promote its own ideas about food of excellent quality.

During the 1990s, under the influence of the Brundlandt report and the Earth Summit in Rio de Janeiro, sustainable development in all its different dimensions became a common subject on the agenda of state and non-state actors.¹⁶ For many companies, the new concept meant that they needed to react to specific requirements from public policy makers, civil society NGOs, consumers and their partners in supply chains. At the same time, several companies started to recognise the advantages of actively shaping the transition towards sustainable production and consumption, and coined this with terms such as corporate social responsibility and corporate citizenship.

¹¹ HACCP involves seven principles: 1) Analyze hazards, 2) Identify critical control points, 3) Establish preventive measures with critical limits for each control point, 4) Establish procedures to monitor the critical control points, 5) Establish corrective actions to be taken when monitoring shows that a critical limit has not been met, 6) Establish procedures to verify that the system is working properly, 7) Establish effective recordkeeping to document the HACCP system.

¹² C. Petrini (2001). *Slow food: the case for taste*. Translated from Italian by W. McCuaig. New York: Columbia University Press. The immediate reason for the birth of Slow Food was a protest that was organised against the opening of a McDonald’s restaurant in Rome in 1986.

¹³ C. Nosi and L. Zanni (2004) elaborate extensively on these two themes in their article: Moving from “typical products” to “food-related services”: the Slow Food case as a new business paradigm. In: *British Food Journal*, vol. 106, no. 10/11, pp. 779-792.

¹⁴ C. Petrini (2001). *Slow food: the case for taste*. Translated from Italian by W. McCuaig. New York: Columbia University Press; C. Nosi and L. Zanni (2004) elaborate extensively on these two themes in their article: Moving from “typical products” to “food-related services”: the Slow Food case as a new business paradigm. In: *British Food Journal*, vol. 106, no. 10/11, pp. 779-792.

¹⁵ C. Petrini (2001). *Slow food: the case for taste*. Translated from Italian by W. McCuaig. New York: Columbia University Press, p. 87 and p. 102.

¹⁶ See WCED (1987). *Our common future*. Oxford: Oxford University Press, and Report of the United National Conference on Environment and Development (A/CONF.151/26 (Vol. I)). See e.g. P. Vellinga, F. Berkhout & J. Gupta (1998). *Managing a material world: perspectives in industrial ecology*. Kluwer Academic Publishers.

Most of the concepts and approaches that were developed to promote sustainable development in the business context (e.g. eco-efficiency and industrial ecology) had a broader or different focus than agriculture or food production but can be supposed to have had a more or less indirect impact on creating an overall climate for business action that also influenced the agrifood industry. For example, national farmers organisations started to interpret sustainable development in the agricultural context and launched the concept of integrated farming, or integrated farm management, which they regarded as an approach to sustainable farming that would be realistic and achievable for the majority of farmers.¹⁷

2.2 The stage of regulation

The very first efforts to embed the developed concepts and approaches in regulatory settings were taken in the late 1920s and 1930s. In that period, several national biodynamic associations were set up that formulated the first standards for biodynamic agriculture and started to use the Demeter logo which still symbolises the movement today.¹⁸ In the late 1960s, the British farmers organisation Soil Association was the first entity that developed standards for organic production.¹⁹ Soon organic farmers associations in other countries followed.

Switzerland was the pioneer with standard setting for integrated production, with a group of fruit producers establishing standards for apples in 1978.²⁰ Several farmers associations in other countries followed the Swiss example, but it was only in the late 1980s that production under integrated production became a more broadly institutionalised undertaking. In that period several ambitious programs were set up and accompanying certification schemes were developed. Most of them were private single-party schemes, based on initiatives of retailers or producer cooperatives, but there were also the first examples of third-party verified schemes in countries, such as the Netherlands (*AgroMilieukeur*) and the UK (*Assured Produce*).²¹ In the same period, and from a scientific perspective, the International Organization for Biological Control of Noxious Animals and Plants (IOBC) became increasingly involved in the elaboration of integrated production by formulating a framework of principles and general guidelines.²² In addition to this framework and its revisions, the IOBC published crop specific guidelines for all major crops in Europe.

The Dutch fair trade movement started to institutionalise its activities in the late 1980s, by creating a labelling scheme in order to be able to enter the mainstream market and distinguish its products. This so-called 'Max Havelaar' scheme was launched in 1989, and its example has since then been followed by many other national fair trade organisations in developed countries.²³

¹⁷ [Http://www.sustainable-farming.org](http://www.sustainable-farming.org).

¹⁸ [Http://www.demeter.net](http://www.demeter.net).

¹⁹ [Http://www.soilassociation.org](http://www.soilassociation.org).

²⁰ EUREP (1998). Integrated production of fruit and vegetables. Cologne: EUREPGAP c/o FoodPlus.

²¹ The AgroMilieukeur certification program is being operated by Stichting Milieukeur. More information is available at <http://www.milieukeur.nl>. The Assured Produce certification program is being operated by the joint British retailers. More information is available at <http://www.assuredproduce.co.uk>.

²² A. El Titi, E.F. Boller & J.P. Gendrier (1993). Integrated production: Principles and technical guidelines. IOBCwprs Bull. 16 (1) 1993, 96 pp.

²³ There are seventeen such organisations, in North America, Europe, and Japan. More are in the process of being established in Mexico, Spain, and Australia. These national initiatives carry names such as Max Havelaar, Fairtrade, Transfair, and Rättvisemarkt.

As distinct from integrated production, the concept of integrated farming also gathered a wider appeal during the 1990s, as farmers organisations in several European countries started to elaborate the criteria for this production method in the course of the 1990s. Major examples included the labelling scheme set up by LEAF (Linking Environment And Farming) in the UK and the Farre Charter in France.²⁴

The Slow Food movement took the first steps on the path of institutionalisation when it launched the so-called Ark of Taste on the occasion of the first Salone del Gusto in Turin in 1996.²⁵ The Ark of Taste is based on the Noah principle, and is meant to save the ‘universe of flavors’ by documenting traditional products. It is based on a regional approach and aims to prevent the imminent loss of fruits and vegetables, animal species, and food products by trying to resurrect older modes of production and revitalize local economies.²⁶

The first criteria for Slow Food’s Ark of Taste were published in the Ark’s official Manifesto in 1997.²⁷ Interestingly, the manifesto remarks that ‘protecting typical and/or traditional quality food and agricultural products must become a transnational operation, given the fact that markets and strategies are growing increasingly globalized and standardized.’ Two years later, a scientific committee was formed with the task of further elaborating criteria for products that are being proposed to bring on board of the Ark.²⁸ At the end of 2006, the Ark of Taste contained more than 750 products from all over the world. In order to strengthen the position of the products in the Ark of Taste, regional ‘Presidia’ have been set up to protect and encourage specific local products *inter alia* by the creation of market opportunities for them. The Presidia widely diverge in the ways they work. Several of them are using product and production standards and certification as instruments to further their objectives, which is partly related to the fact that many of them favour organic agriculture.

Food safety schemes started mushrooming in the late 1990s after several food scandals were thought to damage consumer confidence in the agrifood industry.²⁹ In reaction to these scandals, several stakeholders from the agrifood industry developed food safety schemes with regulatory features, fuelled by the realisation that the industry lacked control over the previous links in its supply chains and that the commercial risks due to incidents would be difficult to insure. This counted relatively strongly for the large retailers with thousands of products on offer and on top of that their special responsibility for the retailer home brands which constitute a considerable amount of their turnover. For them, the task of managing food safety within their own quality departments was simply too big. The British Retail

²⁴ More information about these initiatives is available at <http://www.leafuk.org> and <http://www.farre.org>, respectively.

²⁵ The Salone del Gusto is the biannual international exhibition of food products organised by Slow Food.

²⁶ C. Petrini (2001). *Slow food: the case for taste*. Translated from Italian by W. McCuaig. New York: Columbia University Press, p. 16. Central to the movement is the concept of territory defined as ‘the combination of natural factors (soil, water, slope, height above sea level, vegetation, microclimate) and human ones (tradition and practice of cultivation) that gives a unique character to each small agricultural locality and the food grown, raised, made and cooked there (Petrini, p.8).

²⁷ Manifesto Ark of Taste by the Slow Food Foundation for Biodiversity.

²⁸ International Ark Commission Guidelines.

²⁹ For example, the discovery of dioxin in animal feed produced in Belgium and the BSE crisis in the UK. See for an extensive coverage of the food scandals, e.g. T. Lang & M. Heasman (2004). *Food Wars: The global battle for Mouths, minds and markets*. London and Sterling: Earthscan, pp. 365; L. Reijnders (2004). Food safety, environmental improvement and economic efficiency in The Netherlands. In: *British Food Journal*, vol. 106, no. 5, pp. 388-405.

Consortium (BRC) has been at the forefront with the development of an integrated safety and quality system for the joint leading British retailers. This system was based on the HACCP approach developed for the US space program.

2.3 The stage of harmonisation

In reaction to the proliferation of private standardisation activities, overarching organisations have been established that aimed for harmonisation of substance and procedure at the international level. The earliest initiative for harmonisation at the international level was taken by the pioneers of the organic movement. The International Federation of Organic Agriculture Movements (IFOAM), was the first non-state actor that formulated international standards that should form a bottom line and common ground for national initiatives.³⁰ It published the first version of the IFOAM basic standards for organic production and processing in 1980.³¹ These standards have been revised many times since.

However, international initiatives for harmonisation started to really take off in the late 1990s and are still being launched today. In 1997, the national Demeter organisations for the promotion of biodynamic agriculture formed together Demeter International and developed a system of international standards.³² Furthermore, Demeter International as a member of IFOAM is committed to incorporate the standards for organic agriculture in its own system. This means that a biodynamic agricultural production operation has to fulfil all requirements of the IFOAM system, and moreover has to comply with specific Demeter criteria.

From the side of business, several initiatives have been launched by coalitions of leading companies in the agrifood sector, representing what Fulponi calls ‘an industry grassroots harmonisation effort’ and indicating that the industry was starting to take a global approach to managing the food system.³³ One of the larger initiatives by the industry was the foundation of the European Retailer Produce Working Group (EUREP) in 1996 by a group of 13 large European retailers aiming to make a first step towards European-wide harmonisation of minimum standards for good agricultural practice.³⁴ EUREP’s retailer membership has grown over the years, and its aspirations have become global instead of European. EUREP now calls itself the ‘Global Partnership for Safe and Sustainable Agriculture’. EUREP aims to publish sector-oriented protocols of standards for good agricultural practice (GAP) that cover food safety, environmental protection and worker welfare. These protocols have a sectoral orientation and cover fruit and vegetables, flowers and ornamentals, livestock, aquaculture, and coffee.

Meanwhile, the multinational food industry developed its own strategy. Unilever sought cooperation with Groupe Danone and Nestlé, and in May 2002, the three of them officially launched the Sustainable Agriculture Initiative Platform (SAI Platform). They argued that

³⁰ IFOAM is the international umbrella organisation for organic agriculture that was founded by five national organic farmers’ organisations, and now has more than 700 member organisation in more than 100 countries. More information is available at <http://www.ifoam.org>.

³¹ D. Crucefix (2001). IFOAM accreditation: organic industry self-regulation. In: *The Organic Standard*, issue 2, pp.15-17.

³² The Demeter International program of standards currently consists of the following documents: production standards (June 2005); processing standards (June 2004); labelling standards (June 2004); standards for beekeeping and hive products (June 2004), and standards for the certification of Demeter-beer (June 2005). Available at <http://www.demeter.net>.

³³ L. Fulponi (2006). Private voluntary standards in the food system: the perspective of major food retailers in OECD countries. In: *Food Policy* no. 31, p. 3.

³⁴ EUREP (1998). *Integrated production of fruit and vegetables*, Cologne: EUREPGAP c/o FoodPlus.

they felt the need to create such a platform *inter alia* to tackle quality and safety problems in food supply chains and to diminish adverse effects on the environment.³⁵ Since the platform was launched, several other food companies joined the initiative, bringing the total of members to twenty-two in 2006.³⁶ The SAI Platform aims to jointly develop sustainable agriculture principles and standards through the assessment of practices and experiences, but does not aim to set up a certification system. It claims putting the priority on creating the right mindset for the implementation of sustainable agricultural practices and to cooperate with producers in order to find solutions, instead of applying a top down approach. Working groups have been *inter alia* established for fruit and vegetables, and coffee.

The newly formed Fairtrade Labelling Organizations International (FLO) introduced common standards and a common product logo for the national fair trade organisations that were operating labelling schemes in 2002.³⁷ FLO developed detailed standards on a crop-by-crop basis, distinguishing between small farmers and workers at plantations. Besides social and trade conditions, the standards also contain environmental criteria focusing especially on pesticide use and cover products such as cocoa, coffee, tea, rice, fresh fruit, juices, honey, and sport balls.

Similarly in the early 2000s, several European farmers organisations promoting integrated farming joined forces in the European Initiative for Sustainable Development in Agriculture (EISA).³⁸ The EISA members claim to be committed to sustainable development, which they define as “a common sense whole farm management approach that combines the ecological care of a diverse and healthy environment with the economic demands of agriculture to ensure a continuing supply of wholesome, affordable food.”³⁹ In order to further its objectives, EISA published a Common Codex for Integrated Farming in 2001 that lists principles and suggestions for agricultural practice. This codex has been further elaborated in subsequent years and this resulted in the publishing of a preliminary version of the EISA Integrated

³⁵ SAI Position paper: Principles, strategy & organisation (SAI Platform, 2002). Available at: <http://www.saiplatform.org>. In this joint statement the founding companies defined sustainable agriculture as ‘productive, competitive and efficient while at the same time protecting and improving the natural environment and conditions of the local community.’

³⁶ SAI Platform included the following membership: Campina, CIO, The Coca Cola Company, Danisco, Dole, Ecom, Efico, Elders, Fonterra, Friesland Foods, Groupe Danone, Kemin, Kraft, Lamb Weston/Meijer, McCain, McDonalds’s, Nestlé, Neumann Kaffee Gruppe, Sara Lee DE, Tchibo, Unilever, VOLCAFE.

³⁷ FLO was established in 1997 as an umbrella organisation for national fair trade organisations. More information is available at <http://www.fairtrade.net>.

³⁸ The European Initiative for Sustainable Development in Agriculture e.V. (EISA) was founded in 2001 by six European organisations. EISA members today are Arbeitsgemeinschaft Integrierter Pflanzenschutz Österreich (since 2005), FARRE (Forum de L’Agriculture Raisonnée Respectueuse de L’Environnement, France), FILL (Fördergemeinschaft Integrierte Landbewirtschaftung, Luxemburg), FNL (Fördergemeinschaft Nachhaltige Landwirtschaft, Germany), ASNAI (Associazione Nazionale Agricoltura Integrata, Italy), LEAF (Linking Environment and Farming, U.K.) and Odling i Balans (Sweden). The work of EISA is supported by the associate members ECPA (European Crop Protection Association), EFMA (European Fertilizer Manufacturers Association) and IFAH-Europe (International Federation of Animal Health), all three being located in Brussels. More information is available at <http://www.sustainable-agriculture.org>.

³⁹ See: EISA (2005). EISA integrated farming framework. A European definition and characterization of integrated farming. Bonn: EISA.

Farming framework in 2003.⁴⁰ According to an explicit statement of EISA, this framework is not meant as an auditing scheme, but should provide guidance.⁴¹

As regards agricultural practice, the EISA framework indicates for every issue what good agricultural practice means and how the integrated farming perspective looks like, whereas the latter is supposed to be much more stringent than the former. Concerning crop protection, however, the formulation of the integrated farming perspective is at least ambiguous as remains unclear where the priority lies in integrated farming: on the use of pesticides or on other means of crop protection.⁴² Overall, the guidelines about integrated farming do not make the impression that a clear choice has been made how to diminish the environmental impacts of pesticide use.

With regard to food safety, the Hazard Analysis and Critical Control Point (HACCP) system was initially seen as the ideal basis for a global food safety standard and was as such recognised by the Codex Alimentarius Commission.⁴³ However, the food and retailing industry did not consider the HACCP system as a complete answer to their food safety concerns as the system provides a methodology for risk analysis but does not provide a solution for risk management.

Consequently, the retailing industry initiated the Global Food Safety Initiative (GFSI) in the context of the retailer-led business organization CIES – The Food Business Forum.⁴⁴ The GFSI originally intended to develop one common food safety standard but did not succeed to develop one standard that could replace all existing standards. Two reasons have been put forward for this failure.⁴⁵ In the first place, stakeholders in food supply chains may attach a high value to the ownership of a standard and not easily give up their own system. In the

⁴⁰ The framework was first launched at a congress in 2003. The current version includes: EISA (2005). EISA integrated farming framework. A European definition and characterization of integrated farming. Bonn: EISA.

⁴¹ See preface of EISA (2005). EISA integrated farming framework. A European definition and characterization of integrated farming. Bonn: EISA.

⁴² Concerning crop protection, the EISA integrated farming framework states that: Crop protection relies principally on cultural, biological and mechanical control mechanisms as a first resort, together with a considerate use of registered crop protection products. These are used with regard to environmental and economic considerations. The framework refers to precision farming as the method of preference in one of its guidelines. It mentions the following advantages of integrated farming above good agricultural practice: the formulation of individual crop protection management plans, staff training in disease and weed identification, and strategies to avoid build-up of resistance.

⁴³ The Codex Alimentarius Commission adopted a Recommended International Code of Practice General Principles of Food Hygiene including Annex on Hazard Analysis and Critical Control Point (HACCP) System and Guidelines for its Application in 1997.

⁴⁴ The number of participants in the GFSI represents more than 65% of food retail revenue world-wide. The GFSI is strongly dominated by retailers in the EU and North America. The membership includes: Albert Heijn (NL), Albertson's, inc. (USA), AMS (NL), Asda Stores (UK), Auchan (Fr), Carrefour Group (Fr), CCGD (Ca), Cold Storage (Si), Coop (Sw), Coop Italia (It), Coop Norge (No), Coop Sverige (Swe), CWS (UK), Delhaize 'Le Lion' (Be), Dunnes Stores (Ire), Esselunga S.t), FCD (Fr), FMI (USA), Food Lion LLC (USA), Globus (Ge), Hannaford Bros (USA), ICA AB (Swe), J. Sainsbury Plc. (UK), JMR (Po), Kesko Corporation (Fi), KF Group (Swe), Laurus (NL), Loblaw companies Ltd. (Ca), Marks & Spencer Plc. (UK), Metro AG (Ge), Migros (Swi), Opera (Fr), Price Chopper (USA), Rewe Zentral (Ge), Royal Ahold (NL), Safeway Plc. (UK), Sligro (NL), Sobey's (CA), Somerfield (UK), Sonae S.A. (Po), Superquinn (Ire), Supersol (Israel), Superunie (NL), Tegut Gutberlet Stiftung & Co (Germany), Tesco Plc. (UK), the Great A&P Co., the Kroger Co. (USA), Waitrose Ltd (UK), Wegmans (USA), Woolworths (RSA), and Woolworths Ltd. (Aus). See at <http://www.ciesnet.com>.

⁴⁵ Presentation of Fons Schmidt, Ahold, chairman of the GFSI at ISO 22000 seminar.

second place, it is not in the interest of the highly competitive certification industry to reduce the number of standards, as its commercial success largely depends on the demand for auditing and certification services.

The GFSI then decided to develop a benchmark system to be able to assess existing schemes against 'a global set of voluntarily but universally accepted standards for food safety, quality and security.'⁴⁶ The GFSI published the first version of its Guidance Document in 2001 and revised it several times afterwards. The version presently in force is the fourth one and was released in 2004. The document is based on a mix of both public rules and private standards, with the HACCP principles being its core. Interestingly, farmers are required to have an integrated crop management (ICM) or equivalent system in place for the purpose of 'the judicious use of agricultural chemicals during growing and post harvest treatment and to control residues.' The term 'integrated crop management', however, is not further elaborated, nor is reference made to a (minimum) definition elsewhere. Thus far, five standards have been officially recognised by GFSI.⁴⁷ Retailer members of the GFSI may require a GFSI recognised standard from their suppliers. The GFSI system does not provide a consumer label, as it is only meant to be used in business-to-business communication.

However, as the GFSI is being dominated by the world's largest retailers, other stakeholders in the agrifood industry felt less inclined to affiliate with the initiative.⁴⁸ The International Standardization Organization (ISO) then picked up the signal that there was a market opportunity for an international food safety standard which would make other standards superfluous. From the start, the initiators have chosen to develop a standard on the basis of already existing standards, such as HACCP which is as such broadly recognised within the industry. The new standard is a compilation of already existing standards and does not contain any new elements. It is complementary to the ISO 9001 series on quality management and the ISO 14001 series on environmental management.

The ISO 22000 standard was published in 2005 after agreement was reached between all participating countries. The expectation is that the first certification bodies will be accredited in order to perform a certification process on the basis of ISO 22000 in the beginning of 2006. In addition to the standard, an auditing protocol is being developed by ISO that contains technical specifications for the certification process as present practices differ. This protocol ISO/TS 22003 is expected to be published at the beginning of 2006.

The future success of the ISO 22000 standard will depend on its acceptance and implementation by public authorities and business. On the one hand, it is a must for the food processing industry to keep the initiative in its own hands by accepting a harmonising standard that governs its partners in supply chains. On the other hand, one of the major drawbacks of the ISO 22000 standard is that it provides a common base line for the agrifood industry but does not offer a complete solution to the food safety concerns of the whole industry. For example, it does not contain elaborated models of good practices for specific agrifood sectors. It seems therefore plausible that state and non-state actors will develop additional sector-specific standards on top of the ISO 22000 standard and that for example the well-established retailer-led British BRC standard and the German IFS will continue to play

⁴⁶ Press communication of CIES – The Food Business Forum, 31 May 2000.

⁴⁷ The GFSI recognised standards include the food safety standards of British Retail Consortium (BRC), International Food System (IFS), Safe Quality Food (SQF), Netherlands HACCP, and EIFIS.

⁴⁸ Based on various statements made during an ISO 22000 seminar in Ede, the Netherlands, in 2005.

a role in the marketplace. Hence, the final impact of ISO 22000 could be that, instead of reducing the number of standards, it will be the impetus for a new explosion of standardisation initiatives.

Besides the harmonisation of the content of schemes, non-state actors have also started to work on the procedural harmonisation of standard setting processes. Most significantly, the International Social and Environmental Accreditation and Labelling Alliance (ISEAL Alliance) was created in 2001 with the aim to safeguard and promote environmental and labour concerns within international trade.⁴⁹ In order to achieve this aim, ISEAL Alliance published a Code of Good Practice for Setting Social and Environmental Standards in 2004, that is a further specification of the work done by ISO and the WTO in relation to standardisation.⁵⁰ The code contains procedural requirements for the development of standards, elaborates on their effectiveness, relevance and international harmonisation, and gives criteria for participation in the standard development process. Application of the code is mandatory for ISEAL member organisations, and voluntary for other standard setting organisations. The development of this code means that the non-state actors themselves are making an effort to exercise control over the quality of standard setting by private entities.

3. Comparison of non-state actor initiatives

As the previous section has shown, non-state actors have been an important driving force behind the development of programs containing standards for safe and sustainable agriculture. From a historical point of view, IFOAM, the umbrella organisation of organic farmers, was the first private actor that formulated international standards, which happened in 1980. Nineteen years later, in 1999, Demeter International launched its international standards for biodynamic agriculture. The Slow Food movement, uniting producer groups in order to protect agro-biodiversity, followed in 2000, when it developed international criteria for its Ark of Taste. EUREP, a working group of European retailers, was the next with the promotion of harmonised standards for good agricultural practice through the publication of the EurepGAP protocol for fruit and vegetables in 2001. The year 2002 was a culminating point and saw the launching of three different international harmonisation initiatives: the GFSI benchmark system by a global food business network of retailers; the SAI Platform guidelines by multinational food corporations, and the FLO international fairtrade standards by national fair trade organisations. The European farmers' organisation EISA published an early version of its framework for integrated farming in 2003, and the corporate interest organisation ISO published the ISO 22000 food safety standard in 2005.

⁴⁹ ISEAL Alliance's present membership includes: Sustainable Agriculture Network (SAN); Fairtrade Labelling Organisations (FLO); Forest Stewardship Council (FSC); International Federation of Organic Agricultural Movements (IFOAM); International Organic Accreditation Service (IOAS); Marine Aquarium Council (MAC); Marine Stewardship Council (MSC), and Social Accountability International (SAI). See for further information at <http://www.isealalliance.net>.

⁵⁰ ISEAL Code of Good Practice for Setting Social and Environmental Standards, P005 Final Public Draft, Version 3, January, 2004. Available at <http://www.isealalliance.org>. More precisely, the Code draws on ISO/IEC Guide 2: 1996 Standardization and related activities – General vocabulary, ISO/IEC Guide 59: 1994 Code of Good Practice for Standardization, ISO/IEC Guide 14024: 1999 Environmental labels and declarations – Type 1 environmental labelling – Principles and procedures, OECD GD(97)137, Processes and production methods (PPMs): conceptual framework and considerations on use of PPM-based trade measures; WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), WTO Agreement on Technical Barriers to Trade (TBT) Annex 3 Code of Good Practice for the preparation, adoption, and application of standards, and WTO Agreement on Technical Barrier to Trade (TBT) Second Triennial Review Annex 4: Principles for the Development of International Standards, Guides and Recommendations with Relation to Articles 2, 5 and Annex 3 of the Agreement.

Hence, non-state actors from different backgrounds have important stakes in the international initiatives that have been developed so far. In sum, farmers have prominent roles in the initiatives of IFOAM, Demeter, FLO, Slow Food and EISA and to a lesser extent in EurepGAP and the SAI Platform. Retailers dominate in the EurepGAP and GFSI initiatives, whereas the multinational food corporations have taken the lead in the SAI Platform. The crop protection industry is being represented in the initiatives of EurepGAP and EISA. Scientists contribute to almost all initiatives as they assist in developing new agricultural techniques. Environmental, social and development NGOs have a supporting role in several initiatives and are for example relatively influential in the initiatives of IFOAM, FLO, and Slow Food. From all stakeholders involved, consumer organisations are probably performing the least visible roles. However, despite this overall broad stakeholder involvement, the majority of these initiatives cannot be qualified as multi-stakeholder programs, because their organisational structures tend to favour one type of stakeholder by allowing it a dominant position in decision-making.

Comparing the content of the larger international programs for safe and sustainable agriculture, it is evident that most of them claim to elaborate the concept of sustainable development but that they are applying diverging interpretations. As the agricultural production method of preference, IFOAM, Demeter International, Slow Food and FLO all adhere to a greater or lesser extent to organic agriculture. In contrast, EurepGAP, SAI Platform, EISA, and GFSI are advocates of production methods based on integrated control.

These different interpretations of sustainable development in relation to agriculture correspond with the food system paradigms that Lang & Heasman explain in their book *Food Wars*.⁵¹ They argue that two possible science-informed visions for the future are emerging, both seeking to transform the productionist paradigm that became dominant after World War II. One is what they call the life sciences integrated paradigm and the other the ecologically integrated paradigm. When comparing the programs of private actors with these competing paradigms, it seems obvious that the systems for organic and biodynamic agriculture represent the so-called ecologically integrated paradigm, that has as core assumption the recognition of mutual dependencies, symbiotic relationships and more subtle forms of manipulation, and that furthermore aims to preserve ecological diversity.

It is, however, less obvious how to classify the other initiatives. There are several arguments to see them as a part of the life sciences integrated paradigm because they are focused on intensive agriculture, and possibly allow the use of GMOs. However, some of them also have the potential to develop in the direction of the ecologically integrated paradigm, under the condition that the environmental content of the program will be strengthened and a choice will be made for more rigorous pesticide reduction strategies.

Furthermore, the emphasis in these programs has evolved over time. The basic standards of IFOAM, for example, were initially primarily focused on the protection of the environment and agricultural ecosystems, but since the last revision of the protocol the paragraph on social justice has got more substance. A similar broadening up of ambitions has taken place concerning the FLO fair trade standards, as they now encompass not only trade conditions, but also include environmental and labour criteria. The EurepGAP initiative, on the contrary,

⁵¹ T. Lang & M. Heasman (2004). *Food Wars: The global battle for mouths, minds and markets*. London and Sterling: Earthscan, 365 p.

provides an example of a restriction in ambition level, as it has become primarily focused on food safety and hygiene at the expense of environmental protection and worker welfare issues. Both SAI Platform and GFSI are in an early stage of development and still have the same focuses as when they started: the former claims to pursue an integrated approach based on a balanced interpretation of sustainable development, whereas the latter has predominantly a food safety focus.

With regard to procedural aspects, the programs have different characteristics. IFOAM, EUREP and FLO are all operating certification programs. The objective of the EurepGAP program is two-fold: besides being a certification program, it also functions as a benchmark system for existing standards. The overarching GFSI is only meant for benchmarking purposes. The system of the SAI Platform is not a certification program but based on a partnership model and first and foremost meant to induce a learning process for both food industry as well as farmers.

In the second place, the programs use different hierarchies of standards with varying consequences. The IFOAM basic standards distinguish between binding requirements and recommendations. EurepGAP makes a distinction between major musts, minor musts and recommendations. Recommendations in both systems have the potential to turn into binding requirements in the future, or vice versa, on the occasion of the periodical revisions of standards. FLO distinguishes minimum requirements (or in fact binding requirements or musts) and process requirements, the latter requiring continuous improvement. Instead of standards, SAI uses guidelines and indicators for monitoring which is a more flexible and less imposing option.

In the third place, the programs differ in their specificity. IFOAM and EUREP have both defined bottom line standards that should provide a framework to governmental and non-governmental certification bodies to establish their own standards that are adapted to specific regional and national circumstances. Well-elaborated lower level standards are considered a prerequisite to make the most of organic as well as integrated production in a specific climatic and geographical situation. Contrary to the general standards of IFOAM and EUREP, the SAI guidelines and FLO fair trade standards are focused on specific crops, and do not need a further elaboration.

In the fourth place, the programs differ in their communication objectives. The IFOAM and FLO certification systems provide a means of communication with business partners as well as consumers, whereas EUREP and GFSI are essentially focused on business-to-business communication. Since SAI is not a certification system, it does not grant an official certificate or logo. The same accounts for Slow Food. Although the movement uses the snail as a symbol, it does not allow its members to place it upon products that fulfil the criteria of the Ark of Taste.

4. Interaction with state actor approaches

In the previous sections, the approaches of non-state actors that are meant to remedy the negative impacts of conventional agriculture have been described and compared in terms of substance and procedure. However, these initiatives cannot be valued properly without discussing them within the context of law and policy measures pursued by state actors. In order to explain the interaction with state actor approaches, the current section elaborates

upon the definition processes of organic agriculture and integrated control, emphasizing the role of the European Community.

The definition process of organic agriculture

Over the past 50 years, the definition of organic agriculture has evolved in a continuous process of interaction between state and non-state actors. As has been explained in section 2.1, the concept was first developed by pioneering farmers in the UK and US in the 1940s and subsequently institutionalised in Europe by organic farmers organisations that created common standards for organic production that could provide assurance to consumers and prevent fraudulent claims and unfair competition.⁵²

In contrast to Europe, the US followed a more state-actor dominated model of rule making for organic agriculture, with state actors taking the regulatory initiative and largely keeping it. In response to the growing interest for the organic agricultural production method from the 1960s onwards, several states accomplished legislation defining organic agriculture. In 1973, Oregon became the first state to pass a state law regulating organic food as a response to reports of fraud and inconsistencies in terms of organic claims.⁵³ In due course, several other states followed the Oregon example, and increasingly also several non-state actors chose the regulatory track.

The initiative for the establishment of international organic standards was first taken by a non-state actor, in response to the increase of standards and regulations worldwide. It was the International Federation of Organic Agriculture Movements (IFOAM) that saw the need for harmonisation at the international level, *inter alia* in order to facilitate trade in organic products. It consequently decided to develop the IFOAM basic standards for organic production and processing, which were published in 1980, and contained the first ever international definition of organic agriculture. This definition ran as follows: “Organic agriculture includes all agricultural systems that promote the environmentally, socially and economically sound production of food and fibres. These systems take local soil fertility as a key to successful production. By respecting the natural capacity of plants, animals and the landscape, it aims to optimise quality in all aspects of agriculture and the environment. Organic agriculture reduces external inputs by refraining from the use of chemical-synthetic fertilisers, pesticides and pharmaceuticals. The use of genetically modified organisms is excluded.”⁵⁴ With reference to this definition, the standards for organic production can be considered as its practical elaboration.

As the area where organic agriculture was being practiced further increased, the European Community started to develop regulatory activity in the field of organic agriculture and its products. In 1991, the EC established Regulation No 2092/91 that is aimed to provide the basis for the regulation of organic agriculture in the EU member states.⁵⁵ Key considerations of the EC to come up with legislation were to ensure fair competition between organic

⁵² K. Commins (2004). Overview of current status of standards and conformity assessment systems. In: J. Michaud, E. Wynen & D. Bowen (eds.) (2004). Harmonization and equivalence in organic agriculture. Vol. 1: Background papers of the International Task Force on Harmonization and Equivalence in Organic Agriculture. UNCTAD, FAO & IFOAM, p. 10.

⁵³ M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values, vol. 23, p. 171.

⁵⁴ [Http://www.ifoam.org](http://www.ifoam.org).

⁵⁵ Council Regulation No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs, OJ L198, 22/7/1991, p. 1-15.

producers, to enhance transparency at all stages of production and processing, and to improve credibility in the eyes of consumers. The first version of the legislation only applied to unprocessed agricultural products from vegetable origin as well as processed food products composed of one or several ingredients. In a later stage, the scope of the legislation was extended towards agricultural products from animal origin as well.

The EC regulation required Member States to set up an inspection system operated by one or more designated inspection authorities and/or approved private bodies.⁵⁶ Hence, the EC system explicitly allowed non-state actors to be involved in inspection and certification. Following the implementation requirements of the regulation, all EC Member States have designated certification bodies which all work with their own organic standards, inspection schemes and symbols (consumer labels) as long as these comply with the bottom line set by the EC.

In the US, the great variety of legislative schemes across states, in combination with the fact that organic agriculture remained unregulated in several states, urged the federal government to move toward a nationally standardized system.⁵⁷ An additional motive for regulation at the federal level were the interests of US agricultural actors who wished to move closer to EC organic standards for economic and trade reasons.⁵⁸ As a result of its legislative effort, the federal government incorporated the Organic Food Protection Act (OFPA) into the 1990 Farm Bill. With this act, the government shifted most authority to itself, and more precisely to the US Department of Agriculture (USDA).⁵⁹ This means that from that moment on a state was not any longer allowed to require higher organic standards than the USDA does federally, unless specific environmental conditions necessitate stricter state standards.⁶⁰ Moreover, the US system leaves no space for autonomous standardisation by non-state entities.⁶¹

The initial Organic Food Protection Act (OFPA) followed the IFOAM and EC models closely. In 1997, however, it seemed that the US government was going to choose a collision course with the organic movement, as the USDA proposed a thorough amendment of the act aiming to allow the use of genetic modified organisms and sewage sludge in organic production, and irradiation of organic food products.⁶² The proposal about these so-called Big Three created considerable controversy among the stakeholders concerned, and under great opposition of the public, USDA finally abandoned it. In addition, it is fairly plausible that the guidelines on organic agriculture that were being developed by the Codex Alimentarius Commission that not allowed for the use of the Big Three have been an extra impetus for this governmental U-turn.

⁵⁶ Council Regulation No 2092/91, Article 9.

⁵⁷ Boström & Klintman, 2006.

⁵⁸ Golan et al., 2000, as cited by Boström and Klintman, 2006.

⁵⁹ USDA (2005). Organic Food Production Act of 1990: Title XXI of the Food, Agriculture, Conservation, and Trade Act of 1990 (Public Law 101-624).

⁶⁰ M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values vol. 23, p. 172.

⁶¹ M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values vol. 23, p. 174: USDA accredits certifiers who may be state or private agencies. These agencies do not have the authority to establish organic standards, only to make certain that the standards are followed.

⁶² M. Klintman & M. Boström (2004).

The Codex Alimentarius Commission had started to develop these guidelines in the course of the 1990s, when the market share of organic food products began to increase worldwide. In order to provide clear information to the consumer, the Commission decided to ask the Codex Committee on Food Labelling to develop guidance on claims about organic agriculture and food products. In a process that took several years, the Committee developed the Guidelines for the Production, Processing, Marketing and Labelling of Organically Produced Foods. They were first adopted in 1999, and subsequently amended in 2001.⁶³ The Guidelines were intended to facilitate the harmonisation of requirements for organic products at the international level, and to provide assistance to governments wishing to establish national regulations in this area.

Returning to the situation in Europe, it can be concluded that EC Regulation No 2092/91 has had two distinct impacts upon the organic movement. On the one hand, and in combination with the funding provided by the European Commission on the basis of the agri-environment scheme, the regulation has given an important impetus to the growth of organic agriculture in the EC member states, and has provided an increased legitimacy to the regulatory activities of non-state actors. On the other hand, the involvement of the EC in the definition process of organic agriculture has made the organic movement more vulnerable to outside influences as there is a threat that the EC will gradually remove the power to define what is organic from the organic movement.⁶⁴ This tension has clearly become apparent in the revision process of Regulation No 2092/91.

The revision process started with the publication of the European Action Plan on Organic Food and Farming by the European Commission in June 2004, in which it announced a major overhaul of the regulatory framework defining organic agriculture.⁶⁵ After a short consultation round, the Commission published a proposal for a Council Regulation on organic production and labelling of organic products in December 2005.⁶⁶ This proposal has the character of framework legislation that needs to be further elaborated by so-called implementing measures. According to the Commission, the major aim of the revised regulation is to improve clarity for both consumers and farmers.

One of the major issues debated in the revision process concerned the proposed restriction on ownership of standards and use of logos by non-state actors. However, IFOAM has lobbied successfully in order to safeguard its position and that of its member organisations. IFOAM has chosen an active position in the decision making process about the EC legislation. Through its IFOAM EU group, it first formulated its comments in a paper of 'grave concerns', asking for a less tight timeline for the finalisation of the regulation. Subsequently,

⁶³ Codex Alimentarius Commission, GL 32 – 1999, Rev. 1 – 2001. The first version was adopted at the 23rd Session of the Codex Alimentarius Commission in 1999. The second version was adopted at the 24th Session of the Codex Alimentarius Commission 2001. A major change regarded the inclusion of sections concerning livestock and livestock products and bee keeping and bee products.

⁶⁴ Cp. M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values, vol. 23, p. 169 (about KRAV and EU).

⁶⁵ COM(2004) 415 final, 10.06.2004.

⁶⁶ Proposal for a Council Regulation on organic production and labeling of organic products (COM(2005).

IFOAM primarily pursued a constructive approach by actively helping to find solutions for several of the contested issues.⁶⁷

Importantly, the Austrian and Finnish Presidencies in 2006 have both played a major role in bringing the diverging viewpoints together by tabling several compromise proposals. On 19 December 2006, the Agricultural Council reached agreement on the so-called general approach of the new regulation on organic production. This means that the legislative process is close to finalisation and that in the last stage the Commission is only allowed to make minor technical changes in the text of the proposal. The proposed regulation is expected to come into force on the 1st of January 2009.

The preparatory process for the new regulation demonstrates the fragile position of rules made by non-state actors as they may be overruled at any time through intervention by the state. Moreover, state actors may choose different priorities and solutions for the issues at stake. In the case of the new EC Regulation for organic agriculture, for example, a number of issues have not been solved to the contentment of IFOAM, including the rules about stakeholder involvement in procedures, GMOs, the mandatory use of the EU logo, the link to the food and feed control regulation (882/2004) and the exclusion of catering and non-food products from the scope of the regulation.⁶⁸

In a parallel development, the EC introduced a thorough amendment of the old scheme for imports of organic products from non-EU member states in late 2006.⁶⁹ The old scheme, which was incorporated in Article 11 of Regulation No 2092/91, has been in force for more than 15 years and has been criticized for the cumbersome procedures that it created and its hampering effects on international trade. The new import scheme constitutes a thorough revision of Article 11 of Regulation No 2092/91 by extending the marketing possibilities for non-EC exporters as it introduces a list of recognized inspection bodies and inspection authorities that carry out inspection in countries that are not on the list of recognized third countries. Thus, the new provisions explicitly place state and non-state actors from other than EC member states at an equal level.

Reviewing the definition process of organic agriculture, the conclusion is that the organic agriculture movement has managed to create a united front worldwide over the past 35 years and keep the definition of organic agriculture essentially within the movement. Moreover, IFOAM has succeeded to create a system of standards that has influenced the development of organic agriculture worldwide and has influenced rule-making by state as well as non-state actors to a large extent.

One of the greatest dilemmas for the organic agriculture movement nowadays is the increased involvement of the conventional food industry and the emergence of large players in the

⁶⁷ According to IFOAM, several issues remained contested in the preparatory stage, such as the fact that the objectives and principles of the Regulation were not in line with those of the organic sector, the centralization of decision making power at Community level, and restrictions on the operation of private inspection and certification bodies with regard to advertising use of private logos (marks of conformity).

⁶⁸ Press release IFOAM EU Group, 20.12.2006: Organic sector on new regulation: Strong concerns about GMOs, EU logo and lack of stakeholder involvement but glad Council could be convinced to allow private standards.

⁶⁹ Council Regulation (EC) No 1991/2006 of 21 December 2006 amending Regulation (EEC) No 2092/91 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs (OJ L411/18, 30.12.2006).

organic market. This involvement has been termed the “conventionalisation” of organic production, as organic production has become increasingly dependent on, and integrated into, conventional agribusiness structures and processes. On the one hand, the involvement of the conventional industry is one of the major reasons for the growth of organic agriculture worldwide. On the other hand, the pressure from the food industry could over time lead to a watering down of ambitions and a weakening of standards, and eventually regulatory capture by non-adherents of organic principles.⁷⁰ As a consequence, the quality of organic products could suffer and the original aims of the organic movement could be gradually undermined. Therefore, the challenge for the organic movement is how to reconcile the principles of organic production and intensive and industrial forms of agriculture. At the practical level, this means that a number of issues needs to be addressed such as the compatibility of large scale farming operations with the principles of organic agriculture, the compatibility of long distance transport of produce, the minimum percentage of organic ingredients in processed products, and the use of non-synthetic inputs.

In contrast to this threat of an erosion of standards, it has also become apparent that a number of large market players, from conventional as well as non-conventional origin, aim to raise the ambition level of organic standards and enhance the quality of products.⁷¹ In order to achieve their aims, these market players usually follow one of the following routes, or a combination of them. In the first place, they can choose to stipulate that suppliers deliver products certified on the basis of accredited schemes. In the second place, they can demand certification on the basis of schemes that contain more stringent requirements than the average. In the third place, they can create their own organic-plus systems that articulate specific requirements on top of the regular organic standards.

As a side-effect, this sharpening up of rules by individual or groups of actors may lead to an increased diversity of standards and hence an undermining of harmonisation. Interestingly, the EU has tried with its revision proposal of Regulation No 2092/91 to limit diversity through the creation of more demanding certification schemes. In its first legislative proposal the option of establishing more stringent standards was explicitly excluded, but in the face of fierce criticism from the organic movement the EU revoked this proposal in a later stage.

Besides the challenge of keeping up an autonomous and distinct identity in the face of increased globalisation and market growth, the organic movement is also challenged by issues that are raised from within, such as the needs of small farmers producing for local markets. In response to their needs, IFOAM has recently developed the participatory guarantee system which is an informal verification system. This system can be considered as a softer variant of a conformity assessment procedure as the verification is performed by the farmer community itself to which a farmer belongs and not by a third party.

In order to face the current challenges and keep the regulatory initiative, IFOAM has developed several activities to strengthen its profile which is in line with Boström and Klintman who argue that “an independent cognitive platform with well-developed framings and a firm collective identity implies systematic and reflexive awareness of one’s own (rather

⁷⁰ M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values, vol. 23, p. 168.

⁷¹ Examples include the retailer Sainsbury’s and the food processing company Heinz.

than another's) priorities.”⁷² Besides the recent reformulation of its mission and principles, and partly related to it, IFOAM has decided to articulate a new definition of organic agriculture which will be put forward for approval by the membership in June 2008.

The definition process of integrated control

Compared with organic production, the definition process of agricultural production approaches based on integrated control is of a more recent date and relatively less well crystallized. This has as a consequence that several fundamental issues are still being debated and that it is difficult to predict what the outcome will be.

As has been explained in section 2.1, the concept of integrated control was first introduced in the 1970s when scientists interested in biological control of pests developed several multifaceted strategies that consider synthetic pesticides as one but not the only method to combat pests and diseases. They aim at minimising the use of fertilisers and pesticide products by using additional measures, such as natural predators, crop rotation and mechanical weeding, and have in common that they strive for a certain level of integration of different agricultural practices.

In this respect, integrated control should be seen as an umbrella concept that accommodates a range of different production methods aimed at different ambition levels of integration. In accordance with these levels, a basic distinction can be made between integrated pest management (IPM), integrated crop management (ICM), and integrated production (IP). Whereas integrated production aims for the relatively highest grade of integration, taking all aspects of farm management into account, ICM and IPM have a relatively more narrow focus, targeting the integrated management of crops and pests, respectively. In this regard, it is important to notice that the scope of these concepts has implications for the understanding of the role of synthetic pesticides in the agricultural production process. For the adherents of ICM and IPM all different crop protection measures are in principle equivalent, whereas for the proponents of IP, the application of synthetic pesticides is a measure of last resort in the hierarchy of crop protection measures.

The first guidelines for integrated approaches were developed by non-state actors in the 1970s. Towards the end of the 1980s, the definition processes of these approaches had reached the stage that the first labelling and certification schemes were established. These pioneering schemes were mostly initiated by non-state actors in a single- or two-party context. Most of them can be characterised as self-regulation. However, as these schemes further developed, taking a broader variety of stakeholders on board and establishing third-party verification, it can be argued that somewhere along this trajectory, some of them transformed from self-regulation into private regulation.

The level of integration promoted by these schemes initiated by non-state actors diverged from bottom-line to highly integrated, using a myriad of terms to indicate the specificity of a certain agricultural production method. In contrast, state actors seemed to pursue a more uniform model of integration by favouring the conversion to integrated pest management (IPM). Importantly, the promotion of IPM has been given a strong impetus in the international context by the FAO International Code of Conduct on the Distribution and Use of Pesticides

⁷² M. Boström & M. Klintman (2006). State-centered *versus* nonstate-driven organic food standardization: A comparison of the US and Sweden. In: Agriculture and Human Values, vol. 23, p. 168.

and the Rio Conference on Environment and Development. Already in the 1989 version of the Code of Conduct, IPM was recommended as the agricultural production method appropriate for a proper management of pesticides, using the following definition:

“A pest management system that, in the context of the associated environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible a manner as possible and maintains the pest populations at levels below those causing economically unacceptable damage or loss.”

This preference for IPM has been further emphasized by Agenda 21 that was agreed upon during the Rio Conference. However, the definition used in this context goes much further by explicitly articulating the objective of a minimisation of pesticide use:

“Integrated pest management, which combines biological control, host plant resistance and appropriate farming practices and minimizes the use of pesticides, is the best option for the future, as it guarantees yields, reduces costs, is environmentally friendly and contributes to the sustainability of agriculture.”⁷³

10 years after the Rio Conference, in 2002, FAO gave a new impetus to the worldwide implementation of IPM, with its drastic revision of the FAO Code of Conduct. In comparison with its predecessor, the revised Code puts much more emphasis on IPM as the agricultural production method of preference.⁷⁴ In comparison with the 1989 version, the definition of the concept has been extended to include the objective of risk reduction in relation to both human health and environment, and the encouragement of natural pest control mechanisms. However, it does not contain an objective of use reduction as Agenda 21. The revised FAO definition is as follows:

“Integrated Pest Management (IPM) means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.”⁷⁵

As this definition only gives an indication about what IPM entails, it needs a further elaboration in technical guidelines in order to give practical guidance to farmers. As yet, the formulation of these guidelines has not been given priority by FAO due to a lack of finances.

Considered within this international context, it is interesting to see how the debate in the EC institutions has developed, or arguably better to say, how it has failed to develop. The definition of integrated control is an issue, which the EC has been postponing to tackle for several years and still does not seem likely to solve. The discussion started with the establishment of Directive 91/414 and got a new impetus in the early 2000s with the preparation of the Thematic Strategy on the Sustainable Use of Pesticides and the subsequent proposals for new legislation that were published in July 2006.⁷⁶

⁷³ Agenda 21, 14.73.

⁷⁴ FAO Code of Conduct, Article 1.7.6.

⁷⁵ FAO Code of Conduct, Article 2.

⁷⁶ See: COM(2002) 349 final, 1.7.2002, COM(2006) 373, 12.07.2006, and COM(2006) 388 final, 12.07.2006.

To start with, Directive 91/414 introduced the triple concepts of the proper use of plant protection products, the principles of good plant protection practice, and the principles of integrated control that are all three connected. According to Directive 91/414, the proper use of plant protection products *inter alia* includes the application of the principles of good plant protection practice as well as, whenever possible, the principles of integrated control. In this respect, integrated control is defined as:

The rational application of a combination of biological, biotechnological, chemical, cultural or plant-breeding measures whereby the use of chemical plant protection products is limited to the strict minimum necessary to maintain the pest population at levels below those causing economically unacceptable damage or loss.⁷⁷

With the proposed regulation for an authorization scheme, the EC has maintained the concept of proper use but framed it differently. In its new formulation, proper use includes the application of the principles of good plant protection practice as well as, whenever possible, the principles of integrated pest management and good environmental practice. Hence, what is new about the proposal is that the EU now uses the term integrated pest management instead of integrated control. However, the definition of integrated pest management does not essentially differ from that of integrated control as formulated in Directive 91/414. In this context, it is important to note that the EU has copied the definition of integrated pest management from the FAO Code of Conduct, and that the terms ‘good plant protection practice’ and ‘good environmental practice’ are not derived from it.

In its proposal for a framework Directive for Community action to achieve sustainable use of pesticides, the Commission goes a small step further by proposing that general standards for integrated pest management shall be developed in a ‘comitology’ procedure and shall become mandatory as of 2014.⁷⁸ Additionally, the Commission proposes that Community-wide specific IPM standards shall be developed for particular crops but their implementation shall remain voluntary. However, the Commission does not specify for which crops and based on what criteria. Moreover, the Commission has taken the sting out of this requirement by stating, without giving any argumentation, that the implementation of specific IPM standards will remain voluntary.

In response to the Thematic Strategy and the proposed framework directive, Members of the European Parliament have drafted two resolutions giving evidence of the widely diverging points of view within the Parliament. On the one hand, the resolution about the Thematic Strategy calls for a stricter approach consisting of quantitative targets for pesticide use reduction and clear definitions and minimum criteria for IPM and urging the member states to promote low pesticide-input farming and organic farming.⁷⁹

On the other hand, the resolution about the proposed framework directive suggests instead a softer two-level approach consisting of uniform binding criteria for good professional practice in pest management and voluntary guidelines for integrated pest management.⁸⁰ In order to

⁷⁷ Directive 91/414, Article 3(3) iuncto Article 2(13).

⁷⁸ COM(2006) 373, see especially the proposed Article 13.

⁷⁹ Draft report on thematic Strategy on the Sustainable Use of Pesticides (Provisional) 2007/2006(INI), 14.3.2007), European Parliament, Committee on the Environment, Public Health and Food Safety, Rapporteur Irena Belohorská, PR\657643EN.doc, PE 386.500v01-00.

⁸⁰ Draft report on the proposal for a directive of the European Parliament and of the Council establishing a framework for C6-0246/2006 – 2006/0132(COD)), European Parliament, Committee on the Environment, Public

create a level playing field for farmers, these uniform criteria and guidelines are subsequently spelt out in two proposed annexes that put the emphasis on the correct and responsible use of pesticides, instead of pesticide use reduction and awareness campaigns. The proposed amendments can be considered far-reaching and seem almost absurd in comparison to the original text of the proposal and the discussions in previous years, because they undermine its aims and objectives nearly totally.

Moreover, these amendments are not in line with the international commitments in the context of the FAO Code of Conduct that oblige the FAO member countries to implement IPM. Instead, the amendments proposed by the rapporteur give a full green light for business-as-usual and will at best only lead to a small improvement in risk reduction but certainly not lead to a reduction in pesticide use, let alone pesticide dependency.

However, the last word has not been said about the interpretation of IPM and other integrated approaches. The regulatory vacuum in relation to a precise definition of IPM already exists for many years and is likely to persist for the years to come. As the situation is now, it seems that the retailer working group EUREP will take the first steps in the further definition process of IPM by formulating guidelines and requiring evidence of compliance, thereby possibly capturing the regulatory initiative.

Significantly, with the 2007 version of the EUREPGAP standards, a section has been added about IPM, which uses the definition from the FAO Code of Conduct as a baseline.⁸¹ The core of the new section on IPM standards form the triple requirements that a farmer must be able to show evidence of implementation of at least one activity that falls in the categories of a) prevention, b) observation and monitoring, and c) intervention.⁸² For an explanation of these requirements, it is being referred to an annex containing EUREPGAP IPM Guidelines. However, these guidelines have not been published as yet.

In sum, integrated control, as opposed to organic production, is still a largely undefined term, and consequently claims based upon it can mean more or less anything in terms of pesticide use. As long as a definition of the concept does not contain a priority ladder of crop protection measures, it can be even argued that there is not a significant difference with the concept of good agricultural practice. Moreover, the diversity of integrated approaches and the lack of generally agreed and well elaborated definitions has lead to a confusion in terminology which

Health and Food Safety, Rapporteur: Christa Klass, Draftsman: Michl Ebner, Committee on Agriculture and Rural Development. Provisional 2006/0132(COD), 15.3.2007. PR\657645EN.doc, PE 386.502v01-00.

⁸¹ Definitions of terms used in the EUREPGAP scheme are listed in the following document: Code Ref: IFA 3.0 GR I, Version: V3.0-Mar07, Annex: I.1.

⁸² The full text of the triple requirements is as follows:

CC 7.2: The producer can show evidence of implementing at least one activity that includes the adoption of cultivation methods that could reduce the incidence and intensity of pest attacks, thereby reducing the need for intervention.

CC 7.3: The producer can show evidence of implementing at least one activity that will determine when, and to what extent, pests and their natural enemies are present, and using this information to plan what pest management techniques are required. In addition three standards have been grouped under the heading of 'Integrated Pest Management' that were previously placed under the heading of 'Basic elements of crop protection' and that can be considered an elaboration of good agricultural practice.

CC 7.4: The producer can show evidence that in situations where pest attack adversely affects the economic value of the crop, intervention with specific pest control methods will take place. Where possible, non-chemical approaches must be considered.

has obscured the discussion for many years and can arguably be put forward as one of the reasons for the lack of progress in this field.

5. Conclusions

As this paper has shown, non-state actors have been an important driving force behind the development of initiatives for sustainable agriculture and biodiversity protection in the past decades. Most significantly, non-state actors are increasingly performing roles as rule-makers, rule-implementers and rule-enforcers in processes of standardisation of agricultural production methods that are aimed to replace conventional chemical-based forms of agriculture. Notably, non-state actors have increasingly taken over the regulatory initiative and hence started to impose the rules of the game.

From the analysis of the definition processes of organic production and integrated control, it is evident that the definitions concerned are being established in complicated processes of interaction which may result in weaker or stronger versions dependent on the dominant stakeholders in the final decision-making. Thus far, the definition process of organic agriculture has been primarily farmer-driven and can be characterised by a clear leadership role performed by IFOAM in combination with an uncompromised definition providing clear guidance to farmers. In the case of integrated control, the distribution of roles and responsibilities has been less clear-cut, although FAO has adopted a formal definition of IPM and EUREP has obviously started to explore its further content. However, this definition process of IPM, and even more so of the other integrated approaches, is still in its infancy and hence several steps behind that of organic production.