https://link.springer.com/chapter/10.1007/978-3-662-46617-9_4
DOI: 10.1007/978-3-662-46617-9_4

MONTEDURO, MASSIMO (2015). F*rom Agroecology and Law to Agroecological Law? Exploring Integration Between Scientia Ruris and Scientia Iuris*. In: Editors: MONTEDURO Massimo - BUONGIORNO Pierangelo - DI BENEDETTO Saverio - ISONI Alessandro, *Law and Agroecology: A Transdisciplinary Dialogue*. p. 57-86, Heidelberg - New York - Dordrecht - London: SPRINGER-VERLAG, ISBN: 978-3-662-46616-2

From Agroecology and Law to Agroecological Law? Exploring Integration Between *Scientia Ruris* and *Scientia Iuris*

M. Monteduro

Abstract *Rus*, the rural phenomenon understood in its entirety, marks the plurality and the interdependence of different complex systems that are based jointly on the land as a central point of reference. "Rural" expresses a *quid pluris* as compared to "agricultural": if agriculture is understood traditionally as an activity aimed at exploiting the land for the production of material goods for use, consumption, and private exchange, rurality marks the reintegration of agriculture into a wider sphere, not only productive but also social and cultural; not only material but also ideal, relational, historic, and symbolic; not only private but also public. The natural and social sciences (*scientia ruris*), in approaching *rus*, at first became specialized, multiplied, and compartmentalized in a plurality of "first-order" disciplines; later, above all in recent decades, they have set up a process of integration into agroecology as a "second-order" polyocular, transdisciplinary, and common platform. The law (*scientia iuris*) seems instead to be frozen at the first stage. Following a reductionistic and hyperspecialized approach, the law has deconstructed and shattered the complex universe of *rus* into disjointed legal elementary particles, multiplying the planes of analysis and regulation (agricultural law, business law, environmental law, landscape law, town planning law, etc.), without caring to construct linkage platforms among the various legal fields. In this chapter, after examining some important experiences underway internationally, it is asserted that *scientia iuris* should experiment with the development of an agroecological law, like that which agroecology is today for *scientia ruris*. Agroecological law should counteract the antinomic interlegalities (among the various legal fields that deal with rural phenomena) through tools of negative coordination and favor instead compatible interlegalities through tools of positive coordination. In the conclusions are proposed by way of example four types of coordination tools: agroecological information collecting and sharing (AICS), agroecological zoning (AZ), agroecological planning (AP), and agroecological impact assessment (AIA).

Keywords Agriculture • Agroecological Impact Assessment • Agroecological Information Collecting and Sharing • Agroecological Law • Agroecological Planning • Agroecological Zoning • Agroecology • Coordination • Interlegalities • *Rus*

1 Introduction: *Rus* and Agriculture

Imagining having to converse with a third party observer, who does not take sides with one or the other of the specialists in each academic field, how would one try to describe the current physiognomy of the complex relations between *rurality, science*, and *law*?

At the upper vertex of this ideal triangle is positioned *rus*, that is, rural phenomena understood in the broadest sense.

Most contemporary scholars seem to agree, converging from the different academic fields to which they belong, on one point: the adjective "rural," placed next to a noun such as "space," "environment," "development," *et alia*, marks *the plurality and the interdependence of different complex systems that are based jointly on the land as a central point of reference*.[1]

"Rural" expresses, namely, a *quid pluris* as compared to "agricultural" in its restricted meaning (so to say, agro-centric[2]): if agriculture is traditionally understood as an activity focused on the exploitation of the land for the production of material goods for private use, consumption, and exchange, rurality marks the reinsertion of agriculture into a larger sphere, not only productive but also social and cultural; not only material but also ideal, relational, historical, symbolic; not only private but also public.

From here derives the inestimable richness of the rural "world," of the peasant "civilization," of the villages, of the heritage of wisdom tied to the rhythms and rites of the countryside, to the traditions[3] (see in this book the contribution of DE NITTO

[1] See, e.g., for a plurality of perspectives, Iacoponi (1998), pp. 51 et seqq.; Albisinni (1998), pp. 139 et seqq.; Albisinni (2000), pp. 421 et seqq.; Gray (2000), pp. 30–52; Esposti and Sotte (2002); Friedland (2002), pp. 350–371; Basile and Romano (2002); Marsden (2003); Buller (2004), pp. 101–119; Brouwer and van der Heide (2009); Martinez (2010), pp. 1–16; Bryden et al. (2011); Agnoletti (2013); Westlund and Kobayashi (2013); Camaioni et al. (2013); Lukić (2013), pp. 356–376; Bosworth and Somerville (2014).

[2] Buller (2004); Sturiale (2001), pp. 161–195, 161. As can be read in OECD (2009), "the new rural paradigm should promote the complementarity between agricultural and rural policy, that is there must be common aspects and a dynamic interaction, overcoming both the 'agrocentric' paradigm characterized by the complete coincidence between agricultural and rural policy, and that based on the 'divorce' between the two types of policy" (author's translation).

[3] Over 70 years ago, Serpieri (1940) declared in his Corso di economia e politica agraria, vol I. G. Barbera, Firenze, p. 42, that "we can succinctly call rurality" a "complex of feelings, customs, ways of life" that "neatly distinguish the agricultural world from the urban-industrial one". Agriculture, understood in the reductive sense of activity of production of food and fiber through exploitation of the land, can be "seen both as a threat to and a caretaker of cultural heritage,"

and his refined analyses of the lemmas of rurality, as well as the contribution of BUONGIORNO for the comparison with the perception of *rus* in Roman law): this richness is not *produced* according to linear and precise transformative schemes of cause and effect in the discontinuous rhythm of the production of individual assets, but it is *built* chaotically in the continual interaction between men and lands over centuries, through historical strata and sediments; it is not *marketed*, and it cannot be sold or consumed by single individuals, but it is *lived* in the communities; it can be destroyed, but only with the complete destruction of the latter, regardless of the processes of production of material agricultural individual assets.

The preferred term of contemporary specialists is the adjective "multifunctional," associated with the noun agriculture and in opposition to "monofunctional."[4] Multifunctional agriculture, as distinguished from monofunctional agriculture, is not limited to producing material goods for private use, consumption, and exchange on the market, but it also furnishes to the collectivity fundamental ecosystem services, whose value is not entirely monetizable: for example, it designs the countryside; protects the fertility of the soil; contributes to the integrity of the hydrological cycles, to the management of water resources and flood control through hydrological adjustment; maintains biodiversity; ensures natural recycling of nutrients; preserves the functioning of the natural carbon sink (terrestrial vegetation) and contributes, thus, to the fight against climatic changes induced by greenhouse gases; guarantees safety, healthiness, and food quality, even those of traditional local products; allows the socio-economic survival of rural communities and gives value to the human labor of nuclear family farmers with respect to artificial capital; educates for the rurality maintaining the historical roots of the relation between city and countryside; guards the cultural identity of the territory; favors the development of agro-ecotourism and the enjoyment of nature for educational and recreational purposes.[5]

Rurality and multifunctional agriculture are not, however, interchangeable synonyms: their relation is rather that between structure and flow, between organization and action. Multifunctional agriculture, released from its exclusive relation to the material production of *things* and tied also to the plurality of *interconnected services, values, expertises, and experiences* in which *rus* is articulated, is (metaphorically) the sap that flows constantly within the tree of rurality, sustaining its metabolism and historical evolution.

assuming thus a "double role" with respect to rurality understood in its cultural dimension, as noted by Daugstada et al. (2006), pp. 67–81.

[4] Mazzarino and Pagella (2003); Van Huylenbroeck and Durand (2003); Henke (2004); Brouwer (2004); Contò (2005); Wilson (2007); Russo (2007), pp. 231–245; OECD (2008); Carbone (2009), pp. 133–144; Milone (2009); Wilson (2010), pp. 364–381; Potter and Thomson (2011), pp. 213–223; Bonnal et al. (2012); Westhoek et al. (2013), pp. 5–13; Adam (2014).

[5] Monteduro (2013), pp. 2–11.

2 *Rus* and *Scientia Ruris*

First to look to *rus* are the natural and social sciences, which are involved in various ways with multifunctional agriculture. To refer to them collectively and succinctly, in this chapter a deliberately broad umbrella term will be used: *scientia ruris*.

At first glance, the plurality of the disciplines involved in the study of the "polytope" represented by *rus* is striking. The landscape that is shown to the observer has many different sciences with equally many different viewing angles, planes of analysis, principles, methods, techniques, findings: for example, agronomy, soil science, plant pathology, horticulture, genetics, food science, entomology, animal science, forest science, ecology, rural sociology, agricultural economics, rural geography, agricultural engineering, anthropology, environmental philosophy. They all revolve around a center of gravity represented by rural phenomena, and they each capture a fragment.

As has been observed by NOE & ALRØE in this book, each of these disciplines configures itself as a "first-order perspective" that represents only a partial and limited "point of observing an agroecosystem": though the agroecosystem be "the shared object" of all the sciences that intercept the rural phenomenon, "none of the individual perspectives can observe the agroecosystem as such." The agroecosystems must be considered in their wholeness and complexity as social-ecological systems, autopoietic and self-organizing: as such, they cannot be observed from only one viewing angle.

This leads on to the innovation that has characterized the scientific panorama of research on rural phenomena in the last decade: the emergence and consolidation of a transdisciplinary research platform called agroecology.

As underlined in the contribution of CAPORALI in this book, "the emergent characteristic of Agroecology is that of a transdiscipline as it integrates other fields of knowledge into the concept of agroecosystem viewed as a socio-ecological system."

Initially, agroecology was born from the key idea of linking two sciences that heretofore had been separate: agronomy and ecology. Inspired in particular by Odum's systemic ecology, the seminal studies of agroecology aimed to integrate the principles of ecology into the redefinition of agronomy. Taking as the object of scientific analysis the concept of "agro-ecosystem," these studies tried to identify theoretical principles and practical techniques for a sustainable agriculture, able to mimic natural processes and aimed at the creation of favorable biological synergies and interactions among the biotic and abiotic components of the agroecosystems. In a successive phase, the analytical field of agroecology broadened to include the study of processes of construction, organization, management, and development of food systems: this evolution scientifically integrated into agroecology new perspectives from sociology, economics, engineering, political sciences, history. Finally, agroecology incorporated points of view of the philosophical, bioethical, and demo-

ethno-anthropological sciences. From all this comes the full transdisciplinarity of agroecology in the contemporary context.[6]

Nevertheless, as observed by NOE & ALRØE, "Agroecology is a polyocular platform of second-order observations." It is not a new scientific discipline that substitutes for others or that juxtaposes itself with them, subtracting spaces in part from one and in part from the other; neither is it an algebraic sum of sciences. It could be defined as a metadiscipline, a "science of sciences" that establishes a second level of observation, in which the different disciplines can meet and compare—preserving them—the different points of view.

The benefit of this second-level platform is given by the fact that the cultural diversity among the academic fields becomes a transformative factor of coevolution, rather than a regressive push towards isolation, among different sciences: borrowing from the lexicon of ecology, the aggregate level of the studies is raised from scientific *populations* (composed of scholars of the same disciplinary sub-field, e.g., the soil sciences) to scientific *communities* (composed of scholars of different disciplinary sub-fields, belonging, however, to the same macro-field, e.g., the life sciences) up to those that, with a metaphorical image, could be defined as scientific *ecosystems* (composed by scholars of different macro-fields that establish structured relations of coexistence in a *tòpos* of common and shared research, such as is agroecology): at each level of aggregation is found not a sum but a synthesis that generates emerging properties in the scientific research, namely, principles and new methodologies that the preceding level would not have been able to exhibit in isolation.

3 *Rus* and *Scientia Iuris*

Legal sciences also look to *rus*, and here they are gathered under the broad umbrella label of *scientia iuris*.

[6] Altieri (1983); Altieri (1987); Altieri (1989), pp. 37–46; Altieri (1991); Gliessman (1990); Carroll et al. (1990); Caporali (1991); Flora (2001); Uphoff (2002); Francis et al. (2003), pp. 99–118; Dalgaard et al. (2003), pp. 39–51; Gliessman (2006); Ruiz Rosado (2006), pp. 140–145; Warner (2007); Uphoff (2007), pp. 218–236; Wojtkowski (2008); Snapp and Pounds (2008); Bland and Bell (2008), pp. 280–294; Wezel et al. (2009), pp. 503–515; Bohlen and House (2009); Wezel and Jauneau (2011), pp. 1–25; Wezel and Soldat (2009), pp. 3–18; Caporali et al. (2010); Tomich et al. (2011), pp. 193–222; Caporali (2011), pp. 1–72; Van Dam et al. (2012); Lichtfouse (2013); Martin and Sauerborn (2013); Sevilla Guzmán and Woodgate (2013), pp. 32–44; Gonzalez de Molina (2013), pp. 45–59; Vandermeer and Perfecto (2013), pp. 76–89. See also Cleveland (2013): "Agroecology is defined as a comprehensive perspective of agrifood systems including the relationships between the biophysical and sociocultural components and between agrifood systems and the larger biophysical and sociocultural context in which they are embedded. As such, agroecology includes the internal ecology of agroecosystems, their social and cultural components including nutrition and food sovereignty, crop genotype-by-environment interactions including those of transgenic crop varieties, and the positive (ecosystem services) and negative (ecosystems degradation) effects of agroecosystems on the larger environment, especially climate. This is a broad view of agroecology that does not limit the term to the traditional discipline of ecology applied to agricultural production systems."

The relation between *ius* and *rus*, nevertheless, has followed a different evolutionary trajectory from that which characterized the natural and social sciences.

The latter, in approaching rural phenomena, first became specialized, multiplied, and compartmentalized in a plurality of "first-order" disciplines; later, above all in recent decades, they have set up a process of integration into agroecology as a "second-order" polyocular, transdisciplinary, and common research platform.

The law seems instead to be frozen at the first stage.

A first legal discipline that takes its own *nomen* from agriculture is agricultural law: this branch of the law, however, offers only a partial perspective on *rus* because its main object of study is represented today by the regulation of markets of agricultural and agri-food products.

As has been recently reiterated, "agricultural law regulates mainly *the production* obtained through raising plants and animals and the sale of the results of those activities"[7]; "agricultural law has its essence *in production* [...] agricultural law focuses on the regulation of agro-biological production activities while other legal disciplines deal with other productions or activities."[8] Food law is derived from agricultural law.[9]

Then there is environmental law, which intercepts the many ecological profiles linked to agricultural activities: for example, biodiversity in agriculture, protected animal and plant species, agricultural wastes, reclamation of contaminated lands, agricultural water use, relations between agricultural and animal husbandry activities and climate changes, organic farming, energy production by agricultural biomass as renewable resources, agro-forestry. Legal doctrine, notwithstanding the many interferences between the two disciplinary fields,[10] has preferred to keep separate agricultural law and environmental law (see, for example, the contributions of CRISTIANI, HERMON, SZILÁGYI, and DOOLEY in this book).[11]

---

[7] Costato (2008a), p. 6 (author's translation from Italian).

[8] Pastorino (2012), p. 55 (author's translation from Spanish).

[9] Russo (2012), pp. 141 et seqq. For a different perspective, see recently Perfetti (2014), pp. 3–20. About the relation between precautionary principle and food law, see Giliberti (2013), pp. 1 et seqq.

[10] D'Addezio (2008), pp. 9–34; Carmignani (2012).

[11] In this sense, the experience of Italian legal doctrine is emblematic. It boasts a great tradition in agricultural law. Italian scholars, while recognizing the interference between agricultural law and environmental law, have always proclaimed the scientific autonomy of agricultural law. The environment has been understood, for example, as a *limit* on the exercise of agricultural activities ("polluting" and "polluted" agriculture), as the *form* of agriculture (environmental constraints on the agro-forestry territory) or as the *product* shaped by the exercise of agriculture (with reference to the new role that the European CAP has assigned to agricultural undertakings and to the services that they can perform for the care of the environment): see Francario (1993), p. 519. For arguments that agricultural law can neither be fused nor confused with environmental law, see Carrozza (1994), pp. 151–172; Costato (2008b), pp. 15–24; Cristiani (2008), pp. 464–479. The autonomy of agricul-tural law with respect to environmental law is an issue that has been addressed also in the legal doctrine of other European countries. For example, for France, see Hernandez Zakine (1998), pp. 133–155; Hudault (1987); Doussan (2002); Hudault (2006), pp. 247–260. For Spain, see

In addition, the doctrine that has discussed "agri-environmental law" has done so, so far, in the perspective of a sub-field of agricultural law, contained in the latter.[12]

The phenomena linked to rurality are intercepted, in addition, by many other fields of law.

Taking the example of Italy, business law is interested in the legal definition and regulation of the agricultural entrepreneur[13]; intellectual property law (called "industrial law" in Italy, which today revolves around the new Industrial Property Code approved by Legislative Decree 30/2005) deals with topics such as collective trademarks, protected geographical indications, or protected designations of origin[14]; private law continues to study agrarian

Martinez De Marigorta Andreu (1987), pp. 19–30; de los Desamparados Llombart Bosch (1999), pp. 217–226; Navarro Fernández (2010). For Germany and Austria, see Winkler (1994), pp. 173–189; Winkler (2002), pp. 5–18; Welan (2002), pp. 48–53. For Hungary, see Szilágyi (2009), pp. 41–55. For the debate in the legal doctrine of the United States of America, see, e.g., Hamilton (1999), pp. 41–58; Schneider (2010), pp. 935–963. For the Latin American experience, see Zeledón Zeledón (2009a), pp. 9–26; Prado de Albuquerque (2007), pp. 69–82 (see particularly 79); Zeledón Zeledón (2009b); Pastorino (2009), pp. 3–14, 39–52, 151–164; González Linares (2011).

[12] See, e.g., Costato et al. (2011); Merusi (2007), pp. 495–501; Pastorino (2012), pp. 50–59; Massart and Sánchez Hernández (2001).

[13] See Cossu (2003), pp. 73–100, according to whom (p. 97) "it appears always less justifiable to subtract from the whole the agri-food sector of the *lex mercatoria*" (author's translation); Battista Ferri (2005), pp. 1–15; Jannarelli and Vecchione (2008).

[14] Of the "industrial law," it has been said that "it is a special law within the special law (commercial law)" (author's translation): Caruso (2011), p. 7. The Industrial Property Code approved in Italy by Legislative Decree 30/2005 regulates:
- at Art. 11, Para. 1, the "collective trademark" registered by persons who have "the function of guaranteeing the origin, nature, or quality of specified products or services"; Art. 11, Para. 4, specifies that "notwithstanding Art. 13, Para. 1, a collective trademark can consist of signs or indications that in commerce can be used to designate the geographical provenance of products or services. In that case, moreover, the Italian Office of Patents and Trademarks can refuse, with a reasoned decision, the registration when the trademarks requested could create situations of unjustified privilege or anyway prejudice the development of other analogous initiatives in the region. The Italian Office of Patents and Trademarks can request the opinion of the public administrations, categories and interested or qualified bodies. The successful registration of the collective trademark constituted by geographical name does not authorize the owner to prohibit third parties from using the same name in commerce, provided that this use complies with the principles of professional propriety";
- at Arts. 29 and 30, "the use of geographical labels and denominations of origin that identify a town, region, or locality, when they are adopted to designate a product which originates from and whose quality, reputation, or characteristics are owed exclusively or essentially to the geographic area of origin, including natural, human, and traditional factors [. . .] is prohibited, when it is likely to deceive the public or when it entails an undue exploitation of the protected denomination, the use of geographic labels and denominations of origin, as well as the use of any means in the designation or presentation of a product that indicate or suggest that the product itself comes from a locality that is different from its true place of origin, or else that the product presents the qualities that belong to the products that come from a locality designated by a geographic label."
On the protection of trademarks (collective, territorial, of quality), of protected geographic labels, and of protected denominations of origin, see Giacomini et al. (2007); Ubertazzi and Muñiz Espada (2009); Angelicchio (2014), pp. 345–386; Caforio (2014).

property[15]; criminal law analyzes crimes linked to agricultural production activities (as, e.g., adulteration and counterfeiting of agri-food products)[16] and the penal protection of trademarks and indications of provenance, of origin, and of quality, including those relative to agri-food products (e.g., olive oil)[17]; labour law regulates labor in agriculture (e.g., work health and safety, employment contracts)[18]; landscape law deals with rural landscapes[19]; cultural property law covers the protection of the material and immaterial rural cultural heritage[20]; town planning law deals with planning uses in the rural territory (besides the urban) and legal designation of some areas as

[15] Alpa et al. (2001), pp. 412 et seqq.; Moscarini (2009), pp. 177 et seqq.

[16] Gargani (2013), pp. 273 et seqq.

[17] Cingari (2008), particularly pp. 139 et seqq.; Mazzanti (2013), pp. 561–582. Art. 4, Paras. 49 and 49-bis, of Law 350/2003 establishes that "the importation and exportation for commercial ends, i.e. commercialization, or the commission of acts directed in an unequivocal way at commercialization of products bearing false or misleading indications of origin or source constitutes a crime and is punishable within the meaning of Art. 517 of the Penal Code. A false indication is constituted by stamping "made in Italy" on products and goods that do not originate in Italy within the meaning of the European regulation on origin; a false indication is also constituted, even when foreign origin and provenance of products or goods are indicated, by the use of signs, figures, or other things that might induce a consumer to believe that the product or good is of Italian origin including the false or misleading use of business trademarks within the meaning of the regulation of deceptive trade practices [. . .] The offenses are committed with the presentation of the products or goods in customs for release for consumption or in free circulation or in retail sales. The false labeling of goods can be remedied on the administrative level with the removal by and at the expense of the offender of the signs or figures of whatever else might create a belief that it is a product of Italian origin. The false labeling of origin or provenance of products or goods can be remedied on the administrative level through the correct indication of the origin or the removal of the "made in Italy" printing. A false labeling is constituted by the use of a brand, by the owner or the licensee, in such a way as to lead a consumer to believe that the product or good is of Italian origin within the meaning of European regulation on origin, without the same being accompanied by precise and evident indications of the foreign origin or provenance or in any event sufficient to avoid any misunderstanding by the consumer on the real origin of the product, or without being accompanied by the attestation, made by the owner or licensee of the brand, about the information, that by him, will be made during commercialization on the real foreign origin of the product. For food products, for real origin is meant the place of cultivation or breeding of the agricultural raw materials used in the production and preparation of the products and the place in which substantial transformation took place [. . .] Subject to the provisions of Para. 49-*ter* and subject to the sanctions referred to in Art. 16, Para. 4, of Legislative Decree 135/2009, amended, with modifications, by Law 166/2009, false labeling in the use of brand, referred to in Para. 49-*bis*, is punishable, as regarding virgin olive oil, within the meaning of Art. 517 of the Penal Code."

[18] Pelliccia (2011); D'Imperio (2011), pp. 1195–1198.

[19] See the contributions of BROCCA and BUIA & ANTONUCCI in this book.

[20] See the contribution of DENUZZO in this book and also De Giorgi Cezzi (2005), pp. 2955 et seqq.; Istituto Nazionale di Economia Agraria (2001).

agricultural zones[21]; constitutional law faces the problem of the distribution of legislative powers between State and Regions in matters of agriculture, rural development, agri-environmental measures, agri-food markets[22]; tourism law is involved in subjects such as rural tourism, family rural hospitality, farm stays (in Italian, "agriturismi"), country houses, and camping sites.[23]

The list could go on, but it behooves us to stop and ask a few questions.

Is the deconstruction/fragmentation of the complex universe of *rus* into elementary and disjointed legal particles, accomplished by the *scientia iuris*, an inevitable landfall?

What are the results of this reductionistic and hyperspecialistic approach that, multiplying the level of analysis and legal regulation, does not bother to construct platforms connecting the different disciplinary fields to surmount the barriers and elevate the point of view?

---

[21] Jannarelli (2004), pp. 592 et seqq.; Mengoli (2009), especially pp. 189 et seqq.; Portaluri (2011), pp. 241–255; Urbani (2011), pp. 597 et seqq.; Russo (2013), pp. 163–174.

[22] See the contribution of TROISI in this book.

[23] Santagata De Castro (2012), pp. 96 et seqq. and 186–187; Righi (2013), pp. 129 et seqq.; Busti (2013), 198 et seqq.; La Torre (2013), 271 et seqq. The Code of Tourism (The Italian Tourism Act, Legislative Decree 79/2011) regulates:
- at Art. 12, Para. 9, and Art. 9, Para. 1, "the lodgings within the area of agro-tourist activities," which "are local sites in rural buildings managed by agricultural entrepreneurs," and "agro-tourism" referring to Art. 3 of Legislative Decree 228/2001 and to Law 228/2006 (which establish in detail the regulation of agro-tourism);
- at Art. 12, Para. 9, "accommodations in rural residences or country houses," which "are facilities located in country villas or rural buildings to be used for sports or recreation entertainment composed of rooms with kitchenette possible, that have food service open to the public";
- at Art. 13, "camping" in general and "camping within the area of agro-tourist activities" in particular;
- at Art. 23, "local tourist systems," which are homogenous or integrated tourist contexts, including territorial areas belonging even to different regions, characterized by the integrated offering of cultural heritage, environmental resources, and tourist attractions, "including typical products of agriculture" and local crafts, or by the widespread presence of individual or associated tourist enterprises;
- at Art. 29, Para 2, "nature tourism," which includes hospitality, recreational, didactic, and cultural activities and services aimed at the proper use and enhancement of natural resources, of wildlife and aquatic heritage, and of routes of recovery of the "bridleways" (horse trails) and of the "ancient rural roads."
"Family rural hospitality" is instead regulated by Art. 23 of Law 122/2001, according to which "the Regions, in the area of initiatives aimed at rural development and enhancement of the multifunctionality of the businesses, can regulate the activity providing service of lodging and breakfast in one's own home. Should said activities have a professional and continuing character and be undertaken by agricultural entrepreneurs, they become part of agro-tourist activities. The Regions [. . .] determine, with their own laws, the characteristics of real estate that can be used [. . .] as well as the characteristics of professionality and continuity of the activity. No physical person can be the owner of more than one authorization for the exercise of this activity. The requirement of the prevalence of one's own products and of products of agricultural businesses of the area in the meals provided in the agro-tourist activities is applicable also for rural hospitality activities."

Is it possible to seek an alternative path that leads (in the future) the *scientia iuris* to experiment with the elaboration of an *agroecological law* in the likeness of that which *agroecology* represents (today) for the *scientia ruris*? Or is it only a utopia, an illusion, a red herring impracticable for a legal scholar who aspires to be rigorous in the method he applies when "he does his craft?"

And, if perchance it is not a utopia, what characteristic traits could this new *agroecological law* present?

4 Agroecological Law: Utopia or Overlooked Possibility?

The answer to the foregoing questions, in our opinion, is the following: for the present, the divisive approach used by the law heretofore is not ineluctable[24] and, for the future, the gradual construction of a new *agroecological law* is not a utopia.

Instead, it is a concrete and underestimated possibility that challenges legal scholars and commits them to renew deeply their theoretical models, to inspire legislation and jurisprudence able to put into dialog, on one hand, areas of law that have heretofore been separated and, on the other hand, law and agroecology.

The examination of meaningful experiences in the course of experimentation at the international level confirms that agroecological law is practicable, concrete, present, and urgent.

A few examples suffice.

Nicaragua recently approved the *Ley de Fomento a la Producción Agroecológica u Orgánica* (Law 765/2011).[25] This law is of considerable interest, inasmuch as:

– it strives to furnish a legal definition of "*agroecosistemas*" (agroecosystems),[26] as well as other concepts like "*bienes naturales*" (natural resources)[27] or "*sistema sucesional*" (successional systems)[28];

[24] Recently, some legal scholarship is exploring the possibility of building a "new law" based on systematic, integrated, and comprehensive understanding of social-ecological systems, by rethinking the idea of rule of law, which could evolve into "ecological rule of law" or "rule of law for nature," and introducing a legal concept of "ecological public order." For some references, see Monteduro (2014), pp. 1–44.

[25] Approved 14 April 2011 and published in the Gaceta n. 124 of 5 July 2011.

[26] Art. 3, Para. 1, Law 765/2011: "Agroecosistemas: Sistema ecológico que cuenta con una o más poblaciones de utilidad agrícola y el ambiente con el cual interactúa, cuyos componentes principales son los subsistemas de cultivos o de producción animal, identificados con las parcelas o áreas de la finca donde se tienen cultivos y sus asociaciones o las unidades de producción pecuarias."

[27] Art. 3, Para. 2, Law 765/2011: "Bienes naturales: Bienes comunes y servicios que proporciona la naturaleza sin alteración por parte del ser humano que contribuyen al bienestar y desarrollo de la vida en la tierra."

[28] Art. 3, Para. 7, Law 765/2011: "Sistema sucesional: Sistemas agroforestales que consiste en el asocio masivo de cultivos anuales y perennes con especies arbóreas de diferentes hábitos de crecimiento, usos y beneficios, que imitan la estructura y dinámica sucesional del bosque natural."

- it constructs around the agroecosystems a whole fabric of regulations intended to promote "*producción agroecológica*" (agroecological farming), defined as the process of production based on the synergic management of local resources of the agroecosystems through the use of practices that favor the biological and ecological complexity of the latter,[29] together with "*producción orgánica*" (organic farming), defined as the process of holistic production that applies organic methods rejecting the use of synthetic products[30];
- it establishes eleven legal principles[31] that represent the pillars of this regulatory complex: the *principle of sustainability* (duty to reach an overall result represented by the harmonic relationship between the factors of production and the ecosystems with their natural cycles, protecting biodiversity and respecting life in all its manifestations); the *principle of food sovereignty and safety* (protection of the individual and collective right to production, distribution, and consumption of food with quality and safety verifiable along the entire food chain); the *principle of healthiness* (requirement for production, conservation, processing, distribution, and consumption of products according to criteria of preventive health); the *principle of competition* (freedom to produce food and other products in a sustainable way for local and international markets, with quality, added value, and in a work setting that is safe, fair, and ecologically acceptable); the *principle of sustainable land management* (requirement to favor uses and productive practices in harmony with the spontaneous aptitudes and natural predispositions of ecosystems and agroecosystems, that they be able to reverse processes of degradation of soil and vegetation, erosion, loss of topsoil and fertile ground in arid, semiarid, and subhumid dry zones, caused mainly by inadequate human activities and climatic changes); the *principle of protection* (duty to apply activities, practices, and processes that are able to protect the integrity both of the ecosystems and of the human beings involved in production); the *principle of recognition* (duty to recognize, teach, and revitalize traditional and autochthonous knowledge in agricultural practices, reconciling the advancement of technological progress with the different conditions of each zone of production and its actors); the *principle of precaution* (duty to adopt, in the processes of agroecological and organic production, measures aimed at evaluating the social impacts together with the ecological ones in order to face the risks of irreversible damage to the ecosystems); the *principle of prevention* (duty to adopt, in the processes of agroecological and organic production, measures to minimize the negative impacts on the ecosystems and on human

[29] Art. 3, Para. 4, Law 765/2011: "Producción Agroecológica: Proceso productivo donde se aprovechan al máximo los recursos locales y la sinergia de los procesos a nivel del agroecosistema, utiliza prácticas que favorecen su complejidad, adoptando el control biológico y la nutrición orgánica de manera óptima en el manejo del sistema de producción o la finca."

[30] Art. 3, Para. 5, Law 765/2011: "Producción Orgánica: Sistema de producción holístico, que emplea al máximo los recursos de la finca mediante prácticas de gestión interna, aplicando métodos biológicos y descartando el empleo de productos sintéticos."

[31] Art. 4, Law 765/2011.

health); the *principle of fairness* (duty to assure a fair division of responsibilities and benefits deriving from access and use of natural resources in production processes); the *principle of participation* (duty to include—within legal and administrative procedures for decision, development, execution, and evaluation of the policies and strategies relative to agroecological production—public and private entities, institutions, companies, unions, civil society organizations, indigenous populations, ethnic groups, and communities of African origin);

- it entrusts to the *Ministerio Agropecuario y Forestal*, identified as "*Autoridad de aplicación*" of Law 765/2011,[32] a series of tasks, including conservation of genetic heritage and protection of the right of all producers to access, use, exchange, propagation, and protection of original germplasm; certification of agroecological and organic production systems on the basis of precise technical standards; promotion of training and instruction at all levels in agroecological and organic production, in coordination with competent institutions; validation of integrated and diversified production systems that involve both farmers and indigenes; protection of the immaterial cultural heritage represented by the traditional knowledge and wisdom of the indigenous populations[33];
- it gives to the *Ministerio Agropecuario y Forestal* and the *Ministerio de Fomento, Industria y Comercio* the task of informing the citizens and of sensitizing them to the consumption of agroecological and organic products; more generally, both Ministries are required by the law to promote, with apposite actions, the commercialization of agroecological and organic products both in domestic and foreign markets[34];
- it institutes a national Register of agroecological and organic producers[35];
- it institutes both a Specialized Unit (a governmental office) for the certification of agroecological and organic production systems and a Register of nongovernmental bodies empowered to certify, both nationally and internationally, agroecological or organic production systems[36];
- it institutes a national committee for reference and consultation on agroecological policies called the *Consejo de la Producción Agroecológica u Orgánica* (COPAGRO), which is participated in by representatives of the *Ministerio Agropecuario y Forestal*; the *Ministerio del Ambiente y de los Recursos Naturales*; the *Ministerio de Fomento, Industria y Comercio*; the *Instituto de Desarrollo Rural*; the *Instituto Nicaragüense de Tecnología Agropecuaria*; the *Consejos Regionales de las Regiones Autónomas de la Costa Atlántica*; the Municipalities; the public and private Universities with scientific research programs in agroecology; all the segments of the production and distribution lines;

[32] Art. 5, Law 765/2011.

[33] Art. 6, Law 765/2011.

[34] Art. 22, Paras. 2 and 3, Law 765/2011.

[35] Art. 8, Law 765/2011.

[36] Arts. 9–11, Law 765/2011.

agroecological and organic producers; and nongovernmental bodies involved in agroecological programs or projects;
– it envisions, in principle, a true and proper agroecological zoning and planning of the entire national territory, through recognition of agroecological and organic production zones (established in correspondence with the typologies and natural aptitudes of the soil and the agricultural productions correlated to them) and the successive planning of agroecological and organic production zones within the national territory.[37]

Of great importance also are Decree 2/2012 for the execution of the cited Law 765/2011[38] and, above all, the "*Norma Técnica Obligatoria Nicaragüense*" NTON 11 037-12/2013, having as its object the "*Caracterización, Regulación y Certificación de Unidades de Producción Agroecológica*."[39]

In Venezuela, Law Decree 6129/2008 entitled "*Ley de Salud Agrícola Integral*"[40] defines "*salud agrícola integral*" (integral agricultural health) as the primary health of animals, plants, products, and byproducts of animal or vegetable origin, soil, water, air, human beings, and the close relations between them: Law Decree 6129/2008 expressly proclaims the necessity for the legislature and the administrative authorities to act "*incorporando principios de la ciencia agroecológica*" within the legal regulations,[41] according to an approach based not on mandatory requirements or coercive sanctions but rather on measures of promotion, monitoring, and information that are adequately justified scientifically.[42] According to this Venezuelan law, developing agroecology as a science is indis-

[37] Art. 22, Paras. 4 and 5, Law 765/2011: "promover [. . .] la declaratoria de zonas de producción agroecológica u orgánica, garantizando que se establezcan en correspondencia al tipo y vocación de suelo, según el uso en la producción de que se trate; y promover el ordenamiento territorial de las zonas de producción agroecológica u orgánica en el territorio nacional."

[38] "Reglamento General de la Ley n° 765, Ley de Fomento a la Producción Agroecológica u Orgánica, Decreto no. 02-2012", approved 23 January 2012, published in the Gaceta no. 15 of 25 January 2012.

[39] "Norma Técnica Obligatoria Nicaragüense NTON 11 037 – 12 Caracterización, Regulación y Certificación de Unidades de Producción Agroecológica", approved 30 April 2013 and published in the Gaceta n. 123 of 3 July 2013. http://legislacion.asamblea.gob.ni/normaweb.nsf/b92aaea87dac762406257265005d21f7/32d6ad99d191b0fe06257bc200799142?OpenDocument. See Salazar-Centeno (2013), pp. 58–65.

[40] "Decreto n° 6.129, con Rango, Valor y Fuerza de Ley de Salud Agrícola Integral" (n. 5.890 Extraordinary of the Gaceta Oficial de la República Bolivariana de Venezuela, 31 July 2008).

[41] Art. 1, Law Decree 6129/2008.

[42] "Exposicion de motivos", Law Decree 6129/2008: "los principios de la agricultura lo más sana posible por medio de las prácticas agroecológicas [. . .] no pueden transformarse en normas jurídicas puras, que como tales implican coerción, obligatoriedad y sanción, pero que como principios metas y objetivos deben quedar insertas en la nueva ley, a fin de impregnar esta nueva cultura agraria a las normativas, procedimientos y actos del propuesto Instituto Nacional de Salud Agrícola Integral [. . .] el Titulo III, referido a la Agroecología, establece políticas, definiciones y objetivos, pero no normas coercitivas."

pensable for the goal of guaranteeing food safety and sovereignty.[43] So also is assuring popular participation through involvement of city, village, and indigenous community councils and any other form of social organization whose principal activities are tied to the rural world.[44] The entire Title III of Law Decree 6129/2008 (Arts. 48–51) is dedicated to "*la Agroecología*," defined as a science whose principles are based on ancestral wisdom of respect, conservation, and preservation of all the natural components of the sustainable agroecosystems, of any scale and dimension.[45] The Central Government is expressly tasked with applying agroecology as the scientific basis for sustainable tropical agriculture in order to transform the economic and social model of the Nation, developing agroecological projects to stimulate food production processes of good biological quality and sufficient quantity for the population, promoting instruction and training for learning agroecological practices.[46] In order to apply agroecology, the Central Government, in cooperation with local councils, populations, indigenous communities, and other communities, must examine the various problems of agricultural health provoked by ecologically unsustainable models of agricultural production; it must propose, for each problem identified, agroecological projects to reconcile agricultural production with the environmental and cultural context; it must gather and process all correlated statistical information in order to survey and direct organizational assets to agroecological production.[47] Finally, the *Instituto Nacional de Salud Agrícola Integral* (INSAI, a public body directed by the *Ministerio del Poder Popular* and organized in regional and local administrative units corresponding to the various socio-bio-regional areas of the national territory[48]) is required to adopt strategies, plans, measures, and projects for agricultural health "*sobre la base fundamental de los principios agroecológicos*[49];" within INSAI is constituted, for these purposes, an apposite *Dirección de Agroecología y Participación Popular*.[50]

Brazil has focused instead on agroecological zoning ("*Zoneamento AgroEcológico – ZAE*").

In particular, with Federal Decree 6961/2009, agroecological zoning for sugarcane expansion (ZAE Cana)[51] was established. The general goal of agroecological zoning, entrusted to the *Ministério da Agricultura, Pecuária e Abastecimento*,

[43] Art. 2, Para. 1, Law Decree 6129/2008.

[44] Art. 2, Para. 7, Law Decree 6129/2008.

[45] Art. 48, Law Decree 6129/2008.

[46] Art. 49, Law Decree 6129/2008.

[47] Arts. 49 and 50, Law Decree 6129/2008.

[48] Art. 52, Law Decree 6129/2008.

[49] Art. 56, Para. 7, Law Decree 6129/2008.

[50] Art. 63, Law Decree 6129/2008.

[51] Decreto Presidencial n. 6961 of 17 September 2009. https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/decreto/d6961.htm. See Almeida (2012), also for explanations on the position of the Federal Decrees (normative acts of the Executive) within the hierarchy of the sources of Brazilian law.

together with the *Ministério do Meio Ambiente*, is that of furnishing technical support for the formulation of public policies directed at the expansion and sustainable production of a specific crop. For the ZAE Cana, this involves the strategic necessity of evaluating, indicating, and spatializing the potential of the soil suitable for the expansion of the production of cane sugar crops (in rainforest conditions) for the production of bioethanol and sugar, as a basis for a comprehensive planning for the sustainable use of the territory in harmony with biodiversity. The ZAE allows, for example, the provision of sustainable economical alternatives to farmers, information for planning future development centers in rural zones, and useful data for coordinating rural development policies and energy policies.

The main indicators considered in the development of agroecological zoning are the vulnerability of the territory, climatic risk, potential for sustainable agricultural production, and existing environmental laws. Research is conducted to evaluate for each zone: *climatic suitability* (through a probability analysis of climatic risk), *pedological suitability* (through an estimate of the potential for agricultural production of a given crop in a particular model of crop management, on the basis of the classification of lands for physical and physiographic characteristics), *pedo-climatic suitability* (intersecting the results of the climatic and soil analyses),[52] and *use of the territory* (through mapping present uses and plant cover of the national territory, done with satellite imagery[53]).

The agroecological criteria introduced with the ZAE are important because they create a duty at the national level for all financial and credit institutions: namely, before financial institutions will issue loans (essential for large cultivation companies), they have to verify the compatibility of individual projects with agroecological zoning.[54]

[52] The pedo-climatic suitability gives rise to the classification of the soils in classes that are assigned certain letters: P, areas with high agricultural potential; R, areas with medium agricultural potential; MS, areas with low agricultural potential; ISC, areas not suitable because of the combination of soil and climate; IC, areas not suitable because of the climate, for thermal deficits or high risk of freezing; ID, areas not suitable because of the climate, by reason of unavoidable necessity of intensive irrigation; IE, areas not suitable because of the climate by reason of excess of water with prejudice to maturation and harvest; ICIS, areas not suitable both because of the climate and of the soil; IS, areas not suitable solely because of the soil.

[53] The legend of the uses in the territory is articulated in the abbreviations Ap (cultivated pastures), Ag (lands for agropastoral uses), and Ac (lands for agricultural use).

[54] See Almeida (2012), p. 33: "ZAE Cana is implemented through the Federal Decree 6.961 of 2009, which specifies the areas where sugarcane can be cropped and allows subsidised public and private financing only to existing or new sugarcane producers who expand within this zone. This financing is controlled by the National Monetary Council, which formulates policies for the Central Bank of Brazil. In November 2009, the National Monetary Council made the Rule 3.814, which prohibits public and private financing to sugarcane companies that produce sugar and/or ethanol and plan to expand outside ZAE Cana. ZAE Cana may also be implemented in the future by rules set up in the Resource Consent Bill 6.077 of 2009. This bill still needs to be approved by the House of Representatives and the Senate, and finally receive the presidential assent, to take legal effect. According to this bill, resource consents and the possibility to impose administrative, civil, and criminal penalties for illegal sugarcane expansions could become additional tools in the implementation of ZAE Cana." See also Oliveira Jr and Silva (2010),

Also, Federal Decree 7172/2010 follows a similar approach (though on the basis of different classifications of lands) by establishing the agroecological zoning for palm cultivation (*ZAE Palma de Óleo*),[55] in order to plan the expansion of Brazilian production of palm oil on a technical-scientific basis and to guarantee its sustainability economically, socially, and environmentally.

In Africa, similar attention has been given to agroecological zoning, for example, in Mali by Law 06-045/2006 ("*Loi d'orientation agricole*," promulgated by the *Président de la République du Mali* on 5 September 2006). After recognizing the importance for agricultural law of "knowledge" regarding "agroecological potential"[56] and "agroecological diversities,"[57] Law 06-045/2006 of Mali expressly establishes the principle by which local collectives must regulate their plans and management programs within the territory according to the different "agroecological zones of the Nation."[58] To this end, the local collectivities are required to identify, in their territorial planning projects, the "aptitudes of the lands" and the "types of production that best fit the potentials of each agroecological zone."[59] These territorial planning projects are then submitted for the opinion of the *Comité Exécutif Régional*, and then approved by the State, in order to assure integration with the strategies for interlocal and interregional land management.[60] In addition, Law 06-045/2006 requires that mandatory contributions or taxes to guarantee the

pp. 6343–6351. http://www.conpedi.org.br/manaus/arquivos/anais/fortaleza/3225.pdf; Strapasson et al. (2012), pp. 48–65.

[55] Decreto Presidencial 7.172/2010. http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2010/Decreto/D7172.htm.

[56] Art. 3, Law 06-045/2006: "La politique de développement agricole a pour but de promouvoir une agriculture durable, moderne et compétitive reposant, prioritairement sur les exploitations familiales agricoles reconnues, sécurisées, à travers la valorisation maximale du potentiel agro-écologique et des savoir-faire agricoles du pays."

[57] Art. 4, Law 06-045/2006: "La politique de développement agricole prend en compte les objectifs de la décentralisation et intègre les diversités agro-écologiques et la situation spécifique de chaque région du pays afin de déterminer les moyens à mettre en œuvre pour réaliser les objectifs visés. Elle intègre les stratégies et objectifs nationaux de lutte contre la pauvreté fixés dans le Cadre Stratégique de Lutte contre la Pauvreté."

[58] Art. 67, Law 06-045/2006: "La stratégie d'aménagement du territoire privilégie la gestion durable des ressources naturelles en conformité avec les engagements internationaux et la réduction des disparités inter et intra régionales. Elle tient compte des réalités des différentes zones agro-écologiques du pays dans le sens d'une responsabilisation effective des Collectivités territoriales, des exploitants agricoles et de leurs organisations. La stratégie d'aménagement du territoire intègre les contraintes majeures liées à l'aridité du pays périodiquement aggravée par les aléas climatiques."

[59] Art. 70, Law 06-045/2006: "Les Collectivités territoriales élaborent les schémas et programmes d'aménagement de leur ressort territorial qui sont soumis à l'approbation préalable de la tutelle après avis consultatif du Comité Exécutif Régional prévu à l'Article 190. Ces schémas précisent les vocations des terres et orientent les exploitants Agricoles vers les types de productions les plus conformes aux potentialités de chaque zone agro-écologique."

[60] Art. 70, Law 06-045/2006.

sustainability of agriculture must be differentiated based on different agroecological zones.[61]

As far as Europe is concerned, the most interesting legal experiment is taking place in France, on the initiative of Minister Le Foll. It is a bill for agriculture, food, and forests, already approved by the *Sénat* (on the first reading) on the evening between Tuesday 15 and Wednesday 16 April 2014, after 40 h of discussion, with 175 votes in favor and 134 against. It is now being examined by the *Assemblée nationale* (in its second reading).[62] This bill introduces important changes within the French *Code Rural* precisely in order to realize an agroecological law that is able to integrate agroecology into the law (see, on this subject, the contribution of HERMON in this book).

In particular, this bill inserts into the *Code Rural* a *Livre Préliminaire*, dedicated to the fundamental objectives of the public policies on agriculture, food, and maritime fishing, within which is the new Art. L.1 of the *Code Rural*,[63] according to which:

---

[61] Art. 74, Law 06-045/2006: "Les Collectivités territoriales peuvent prélever des redevances et taxes sur les aménagements et les infrastructures réalisés de leur ressort en vue d'assurer leur durabilité. L'assiette, le taux et les modalités de recouvrement des redevances et taxes sont déterminés par la législation, en tenant compte des spécificités régionales et agro-écologiques."

[62] *Assemblée nationale*, n. 1892, "Projet de Loi modifié par le Sénat, d'avenir pour l'agriculture, l'alimentation et la forêt", registered by the *Présidence de l'Assemblée nationale* 17 April 2014.

[63] "Projet de Loi modifié par le Sénat, d'avenir pour l'agriculture, l'alimentation et la forêt", Art. 1: " I. – Avant le livre I^{er} du Code Rural et de la Pêche Maritime, il est inséré un Livre Préliminaire ainsi rédigé: LIVRE PRÉLIMINAIRE. OBJECTIFS DE LA POLITIQUE EN FAVEUR DE L'AGRICULTURE, DE L'ALIMENTATION ET DE LA PÊCHE MARITIME. Art. L.1. – I. – La politique en faveur de l'agriculture et de l'alimentation, dans sa triple dimension européenne, nationale et territoriale, a pour finalités: 1° Dans le cadre de la politique de l'alimentation définie par le Gouvernement, d'assurer à la population, dans des conditions économiquement et socialement acceptables par tous et en quantité suffisante, l'accès à une alimentation sûre et saine, diversifiée et de bonne qualité, produite dans des conditions favorisant l'emploi, le respect des normes sociales, la protection de l'environnement et des paysages et contribuant à l'atténuation et à l'adaptation aux effets du changement climatique; 1° bis De répondre à l'accroissement démographique, en rééquilibrant les termes des échanges en matière de denrées alimentaires entre pays, dans un cadre européen et de coopérations internationales fondées sur le respect des principes de la souveraineté alimentaire permettant un développement durable et équitable; 2° De soutenir le revenu et de développer l'emploi des agriculteurs et des salariés, notamment par un meilleur partage de la valeur ajoutée et en renforçant la compétitivité et l'innovation des différentes filières de production, de transformation et de commercialisation. Elle préserve le caractère familial de l'agriculture et d'autonomie et de responsabilité individuelle de l'exploitant. Elle vise à améliorer la qualité de vie des agriculteurs; 3° De contribuer à la protection de la santé publique, de veiller au bien-être et à la santé des animaux, à la santé des végétaux et à la prévention des zoonoses; 3° bis De promouvoir l'information des consommateurs quant aux lieux et modes de production et de transformation des produits agricoles et agroalimentaires; 4° De participer au développement des territoires de façon équilibrée, diversifiée et durable; 4° bis De prendre en compte les situations spécifiques à chaque région. Elle valorise en particulier les services écosystémiques; 4° ter De rechercher des équilibres sociaux justes et équitables; 5° De développer la valeur ajoutée dans chacune des filières agricoles et alimentaires et de renforcer la capacité exportatrice de la France; 5° bis D'encourager la diversité des produits, le développement des productions sous signes de qualité et d'origine, la

– the new public law of agriculture must be founded "on the practices of agro-ecology" and on "agroecological production systems," so that they may protect the autonomy of farmers, reconcile agricultural competition and profitability with reduction of consumption of energy, water, fertilizers, phytopharmaceutical products, and veterinary medicines, using biological interactions and natural potential found in water, biodiversity, photosynthesis, soils, and air, maintaining their capacity of renewal quantitatively and qualitatively, and favoring adaptation to the effects of climate change;
– the State has the duty to facilitate the recourse of farmers to "innovative cultivation practices and systems according to an agroecological approach" and to sustain the professional actors in the development of "biocontrol" solutions (namely, control measures of insect infestations based not on chemically synthesized products but rather on microorganisms or natural pathogenic agents), accelerating the procedures for evaluation and authorization into commerce of products that use agroecological biocontrol;
– the State must intervene to "facilitate interactions between social sciences and agronomic sciences in order to make possible the production and transfer of knowledge necessary for the transition to agroecological models."[64]

transformation sur zone ainsi que les circuits courts; 5° bis De promouvoir la conversion et le développement de l'agriculture et des filières biologiques au sens de l'article L. 641-13; 6° De concourir à la transition énergétique, en contribuant aux économies d'énergie dans le secteur agricole, au développement des énergies renouvelables et à l'indépendance énergétique de la Nation, notamment par une valorisation optimale et durable des sous-produits d'origine agricole et agroalimentaire dans une perspective d'économie circulaire; 7° De développer l'aide alimentaire; 8° De lutter contre la faim dans le monde, dans le respect des agricultures et des économies des pays en développement et en cohérence avec les politiques de développement et de solidarité internationale française et communautaire. La politique d'aménagement rural définie à l'article L. 111-2 et les dispositions particulières aux professions agricoles en matière de protection sociale et de droit du travail prévues au livre VII contribuent à ces finalités."

[64] "Projet de Loi modifié par le Sénat, d'avenir pour l'agriculture, l'alimentation et la forêt", Art. 1: " [. . .] Art. L.1. [. . .] II. – Afin d'atteindre les objectifs mentionnés au I du présent article, la politique conduite par l'État favorise: 1° L'ancrage territorial de la production et de la transformation agricoles ainsi que de la commercialisation des produits agricoles y compris par la promotion de circuits courts; 2° Le développement de filières de production et de transformation alliant performance économique, haut niveau de protection sociale, performance sanitaire et performance environnementale, capables de relever le double défi de la compétition internationale et de la transition écologique, en mettant sur le marché une production innovante et de qualité, en soutenant le développement des filières des énergies renouvelables, des produits biosourcés et de la chimie végétale; 3° La recherche, l'innovation et le développement; 4° L'organisation collective des acteurs; 5° Le développement des dispositifs de prévention et de gestion des risques; 6° Les actions contributives réalisées par l'agriculture et la sylviculture en faveur de l'atténuation et de l'adaptation au changement climatique; 7° L'équilibre des relations commerciales; 8° La protection des terres agricoles. Les politiques publiques visent à promouvoir et à pérenniser les systèmes de production agricole et les pratiques agronomiques permettant d'associer la performance économique, la performance sociale et la performance environnementale. Elles privilégient les démarches collectives et s'appuient sur les pratiques de l'agro-écologie, dont le mode de production biologique fait partie. Les systèmes de production agro-écologiques privilégient l'autonomie des exploitations agricoles et l'amélioration de leur compétitivité en maintenant ou en augmentant

Also, very interesting is the close link between agroecology and the "*Groupement d'Intérêt Économique et Environnemental*" (GIEE), introduced by this bill. According to the bill, the State representative in the region shall legally qualify a group as GIEE at the outcome of a selection: nevertheless, an indispensable condition to obtain legal recognition as GIEE is that of presenting a multiannual project that proposes "relevant actions of agroecology able to improve the economic, social, and environmental performances of agricultural productions, in particular favouring the technical, organizational, or social innovation of the agricultural experiments." Hence, there is no GIEE without projects scientifically based on agroecology.[65]

---

la rentabilité économique, en améliorant la valeur ajoutée des productions, et en économisant la consommation d'énergie, d'eau, d'engrais, de produits phytopharmaceutiques et de médicaments vétérinaires, en particulier les antibiotiques. Ils sont fondés sur les interactions biologiques et l'utilisation des potentiels offerts par les ressources naturelles, en particulier les ressources en eau, la biodiversité, la photosynthèse, les sols et l'air, en maintenant leur capacité de renouvellement du point de vue qualitatif et quantitatif. Ils contribuent à l'atténuation et à l'adaptation aux effets du changement climatique. L'État veille aussi à faciliter le recours par les agriculteurs à des pratiques et à des systèmes de cultures innovants dans une démarche agro-écologique. À ce titre, il soutient les acteurs professionnels dans le développement des solutions de biocontrôle et veille à ce que les processus d'évaluation et d'autorisation de mise sur le marché de ces produits soient accélérés. L'État veille à faciliter les interactions entre sciences sociales et sciences agronomiques pour faciliter la production et le transfert de connaissances nécessaire à la transition vers des modèles agro-écologiques. Les politiques publiques visent à promouvoir et à pérenniser les systèmes de production agricole et les pratiques agronomiques permettant d'associer la performance économique, la performance sociale et la performance environnementale. Elles privilégient les démarches collectives et s'appuient sur les pratiques de l'agro-écologie, dont le mode de production biologique fait partie. Les systèmes de production agro-écologiques privilégient l'autonomie des exploitations agricoles et l'amélioration de leur compétitivité en maintenant ou en augmentant la rentabilité économique, en améliorant la valeur ajoutée des productions, et en économisant la consommation d'énergie, d'eau, d'engrais, de produits phytopharmaceutiques et de médicaments vétérinaires, en particulier les antibiotiques. Ils sont fondés sur les interactions biologiques et l'utilisation des potentiels offerts par les ressources naturelles, en particulier les ressources en eau, la biodiversité, la photosynthèse, les sols et l'air, en maintenant leur capacité de renouvellement du point de vue qualitatif et quantitatif. Ils contribuent à l'atténuation et à l'adaptation aux effets du changement climatique. L'État veille aussi à faciliter le recours par les agriculteurs à des pratiques et à des systèmes de cultures innovants dans une démarche agro-écologique. À ce titre, il soutient les acteurs professionnels dans le développement des solutions de biocontrôle et veille à ce que les processus d'évaluation et d'autorisation de mise sur le marché de ces produits soient accélérés. L'État veille à faciliter les interactions entre sciences sociales et sciences agronomiques pour faciliter la production et le transfert de connaissances nécessaire à la transition vers des modèles agro-écologiques [. . .] IV. – La politique d'installation et de transmission en agriculture a pour objectifs: 1° De favoriser la création, l'adaptation et la transmission des exploitations agricoles dans un cadre familial et hors cadre familial; 2° De promouvoir la diversité des systèmes de production sur les territoires, en particulier ceux générateurs d'emplois et de valeur ajoutée et ceux permettant d'associer performance économique, haut niveau de protection sociale, performance sanitaire et performance environnementale, notamment ceux relevant de l'agro-écologie [. . .]."

[65] "Projet de Loi modifié par le Sénat, d'avenir pour l'agriculture, l'alimentation et la forêt", Art. 3: "Le Code Rural et de la Pêche Maritime est ainsi modifié. 1° Le chapitre Ier du titre Ier du livre III est complété par des articles L. 311-4 à L. 311-5-1, L. 311-6 et L. 311-7 ainsi rédigés. Art.

Finally, this French bill establishes that agroecology must be integrated into educational programs of the public system of education, professional training, development, and research in agriculture, agronomy, and veterinary sciences.[66]

In Switzerland, it suffices to mention the "*Règlement 910.21.1 sur l'Agroécologie (RAgrEco)*" of 15 December 2010 approved by the Canton of Vaud, which became applicable in January 2011. It contains "*les modalités d'exécution des dispositions relatives à l'agroécologie de la Loi sur l'agriculture vaudoise*" (LVLAgr) of 7 September 2010. These are legislative measures and regulations whose principal objective is to address the public economic and financial subsidies to farmers, with respect to agroecological objectives, such as the "promotion of voluntary ecological measures" by farmers;[67] the realization of "collective agri-environmental projects;"[68] the "maintenance of the fertility of the soil" through safeguarding and increasing "lawns"[69] and "pilot projects of cultivation by direct sowing;"[70] the

L. 311-4. – Peut être reconnue comme groupement d'intérêt économique et environnemental toute personne morale dont les membres portent collectivement un projet pluriannuel de modification ou de consolidation de leurs systèmes ou modes de production agricole et de leurs pratiques agronomiques en visant une performance à la fois économique, sociale et environnementale. Le projet pluriannuel contribue à renforcer la performance sociale en mettant en œuvre des mesures de nature à améliorer les conditions de travail des membres du groupement et de leurs salariés, à favoriser l'emploi ou à lutter contre l'isolement en milieu rural. Cette personne morale doit comprendre plusieurs exploitants agricoles et peut comporter d'autres personnes physiques ou morales, privées ou publiques. Les exploitants agricoles doivent détenir ensemble la majorité des voix au sein des instances du groupement. La reconnaissance de la qualité de groupement d'intérêt économique et environnemental est accordée par le représentant de l'État dans la région à l'issue d'une sélection. Le suivi, la diffusion des innovations ou l'accompagnement des groupements d'intérêt économique et environnemental relèvent de l'article L. 820-2. La qualité de groupement d'intérêt économique et environnemental est reconnue pour la durée du projet pluriannuel. Art. L. 311-5. – Pour permettre la reconnaissance d'un groupement comme groupement d'intérêt économique et environnemental, le projet pluriannuel mentionné à l'article L. 311-4 doit: 1° Associer plusieurs exploitations agricoles sur un territoire cohérent leur permettant de favoriser des synergies; 2° Proposer des actions relevant de l'agro-écologie permettant d'améliorer les performances économique, sociale et environnementale de ces exploitations, notamment en favorisant l'innovation technique, organisationnelle ou sociale et l'expérimentation agricoles; 3° Répondre aux enjeux économiques, sociaux et environnementaux du territoire où sont situées les exploitations agricoles concernées, notamment ceux identifiés dans le plan régional de l'agriculture durable mentionné à l'article L. 111-2-1 et en cohérence avec les projets territoriaux de développement local existants; 4° Prévoir les modalités de regroupement, de diffusion et de réutilisation des résultats obtenus sur les plans économique, environnemental et social. L'accompagnement, le suivi, la capitalisation et la diffusion des innovations des groupements d'intérêt économique et environnemental sont assurés par les organismes de développement agricole, dont les têtes de réseau ont conclu avec l'État un contrat d'objectifs ou un programme pluriannuel de développement agricole et rural dans des conditions définies par décret."

[66] "Projet de Loi modifié par le Sénat, d'avenir pour l'agriculture, l'alimentation et la forêt", Art. 26 and Art. 27.

[67] Art. 9, "Règlement 910.21.1 sur l'Agroécologie (RAgrEco)" of 15 December 2010.

[68] Chapter III, RAgrEco.

[69] Art. 18, RAgrEco.

[70] Art. 19, RAgrEco.

protection of the "biodiversity and the diversity of the countryside;"[71] the creation of a "network of compensatory ecological surfaces,"[72] etc.

The discussion on the necessity of overcoming barriers between environmental law and agricultural law and constructing a new "agroecological law" is in embryo also in Asia, in great countries such as China. Even though they have not yet adopted specific laws on the subject, the debate is under way.[73]

According to researchers involved in this discussion, what is needed is to conceive of an "agro-eco-environment legislation" that is not merely a conglomeration of environmental and agricultural laws and regulations heaped up in disorder, indifferently, confusedly, and in conflict with one another but rather "a systemized, interdependent organic whole classified according to definite standards"[74] that is centered on "ecological interest supremacy" and agroecology.[75] A

[71] Chapter VI, RAgrEco.

[72] Arts. 26–33, RAgrEco: "Le service, en collaboration avec le service en charge de la protection de la nature, détermine les exigences d'appréciation en matière de qualité biologique particulière et de mise en réseau des surfaces de compensation écologique (ci-après: réseau), conformément aux exigences minimales fixées par l'ordonnance fédérale sur la qualité écologique (ci-après: OQE) et par les instructions de la Confédération. Il requiert l'approbation de la Confédération. Ces exigences sont régulièrement mises à jour en fonction de l'évolution des connaissances [. . .] Le réseau doit permettre le développement de la flore et de la faune spécifiques de la région concernée. Il doit être constitué de surfaces de compensation écologique, au sens de l'ordonnance fédérale sur les paiements directs, en relation avec d'autres milieux naturels, tels que biotopes, forêts ou cours d'eau. Il doit tenir compte des inventaires nationaux, régionaux ou locaux, de documents scientifiques ou de plans directeurs publiés, et respecter d'autres projets de préservation des écosystèmes existants dans le périmètre [. . .] Le projet de réseau doit notamment indiquer: a. le promoteur et les partenaires du projet; b. le professionnel qualifié qui conseille les exploitants bénéficiaires du projet; c. le périmètre concerné; d. un descriptif de l'état initial des milieux naturels; e. la liste des inventaires et données de base prises en compte; f. les objectifs et les synergies avec d'autres projets; g. les types de mesures mises en place sur le terrain; h. les dispositions d'évaluation et de suivi du projet; i. le financement du projet [. . .] Le réseau doit couvrir au minimum 100 hectares de surface agricole utile ou impliquer, en tout ou partie, au moins 5 exploitations agricoles. Le service en charge de la protection de la nature peut demander une extension du périmètre d'un projet lorsque les objectifs en matière de biodiversité et de liaisons biologiques l'imposent ou lorsque la complémentarité est nécessaire avec un autre projet [. . .]."

[73] Lin (2010), pp. 1261–1265; Jin-hua et al. (2010), pp. 19465–19467; Legislation based on agro-ecological and environmental protection (June 10, 2014). http://www.nt20.com/index.php/archives/4859. Accessed 30 Sept 2014.

[74] Lin (2010), p. 1261: "The existing problems of agro-eco-environment legislation. First, poor match coordination. As a system, the internal structure of agro-eco-environment law composed of law and regulations are not piled up together with disorder, but a systemized, interdependent organic whole classified according to definite standard. Up to now, there exist in the frame system conflict and confusion at the level of legal validity [. . .] the intercross between different agricultural environmental laws and regulations, combined with the immature legislative techniques, leads to contradiction and conflict phenomenon among these laws and regulations and there is still some gap to fill."

[75] Lin (2010), pp. 1262–1263: "To improve further the path choice of ecological agricultural environmental legislation [. . .] Ecological interest supremacy. Ecological interest should be put

future horizon for Chinese legislation could be, therefore, "to formulate a unified agricultural ecological environmental protection law."[76]

5 Interlegalities and Coordination in Agroecological Law

The rapid examination of experiences under way throughout the world strengthens the conviction that it is possible to work on the idea of agroecological law, even if the way seems long and hard.

This does not require imagining a *super-law* that, top-down and hierarchically, purports to *incorporate* and *replace* the existing legal fields with their specializations (e.g., agricultural law and environmental law). On the contrary, it requires constructing a *trans-law* that, bottom-up and progressively, attempts to *link* and *coordinate* regulatory measures between different legal fields, respecting their autonomy and distinction but, at the same time, emphasizing their common roots in *rus*.

From this point of view, the concept of "interlegality," understood as "an intersection of different legal orders,"[77] is very useful. The contribution of HOSPES in this book refers to this notion.

Many legal fields, gravitating around the universe of rurality and gathering each a single fragment of agroecosystem regulation, create many "legal force fields" that interfere with each other. The "interference zones" between different legal force fields represent "interlegal niches" in which can be manifested both repulsive type interferences (which give way to disturbances, attrition, and noise, if left to themselves) and attractive type interferences (which synergically involve the forces of each sector multiplying its regulatory power, if channeled through appropriate coordination tools).

The task of constructing agroecological law, in this perspective, is twofold:

– counteract the *antinomic interlegalities* between the various legal fields appurtenant to *rus*, through tools of *negative coordination*;

---

the supreme place when enacting agro-eco-environmental legislation, because as a part of the ecosphere, human development can't surpass the ecological allowed limit. With ecological interest supremacy principle, the enactors are required to ensure economic growth on the basis of ecology while enacting laws. The sustainable agricultural development guided and achieved by ecology standard demands to abide by ecological law, like biodiversity rule, ecosystem cycle and regeneration law and ecological balance rule and so on. Soil and water loss, desertification, violent sandstorm in recent years in some districts of our country, they are all punishment nature return to human for violating ecological rule. In fact, the basic theory of ecology is the basic principle that we must obey today while dealing with the environmental problems and is the theoretical basis enacting environment and natural resources law."

[76] Legislation based on agro-ecological and environmental protection (June 10, 2014). http://www.nt20.com/index.php/archives/4859. Accessed 30 Sept 2014.

[77] Santos (1987), pp. 279–302, especially pp. 297–298; Santos (2002); Darian-Smith (2013), pp. 168 et seqq.; Tuory (2014), pp. 41 et seqq.

– catalyze instead the *compatible interlegalities*, through tools of *positive coordination*.[78]

6 Concluding Remarks

What are the main categories of operative tools that agroecological law could use to coordinate "rural interlegalities" through a horizontal platform shared by different legal fields?

Some can be suggested, with the warning that this is an open list, exemplifying, not exhaustive:

I) agroecological information collecting and sharing (AICS);
II) agroecological zoning (AZ);
III) agroecological planning (AP);
IV) agroecological impact assessment (AIA).

The first category of tools (AICS) requires that the public authorities (from the local level to the national level) be required to perform structured and systematic "readings" of rural territories, aimed at acquiring and continuously updating data and information on the characteristics of the various agroecosystems. This public survey requires the involvement and participation of the rural communities: not only producers, workers, and consumers but also, more generally, the inhabitants, starting with the nuclear farmer families, including also the scientific communities and the researchers of the rural traditions of those places. This means "photographing" and "mapping" the various agroecosystems present in the territory: the difference compared to the current public registers is that the AICS looks at the agroecosystems as social-ecological systems, whose characteristics and boundaries depend not only on material parameters of biophysics, agronomy, or economy but also on immaterial parameters dealing with historical, cultural, and social identity (for example, typical products of the agri-food traditions should be considered). The AICS consists therefore in the creation on a local, regional, national, and European scale of "agroecological cadastres," which should be hosted on open-access public media platforms, with the right for all to consult them and to propose to the competent authorities any corrections, integrations, improvements, and updates that reflect more accurately the reality of the surveyed and described agroecosystems.

The second category of tools (AZ) moves from the information gathered on the various agroecosystems through the AICS and aims to subdivide the territory into agroecological zones (or "rural districts," to use the terminology already present in

[78] On positive and negative coordination, see Scharpf (1994), pp. 27–53; Bobbio (1996), pp. 83–85.

the Italian legislation: see the contribution of BUIA & ANTONUCCI in this book).[79] The agroecological zones must be delimited intersecting the data relative to the agricultural aptitudes of the lands, the soil and climate parameters, the historical processes of settling and growth of the rural communities present in the territories, their social composition, the specific conditions of the agri-food market, the traditions of the autochthonous rural civilization, and so on. The purpose of the AZ is to order the rural territory, prohibiting types and modes of agricultural production that are incompatible with the characteristics of each agroecological zone and allowing, instead, those that respect the identity and uniqueness of each zone.

The third category of tools (AP) has the purpose of rendering consistent the numerous administrative planning acts that affect the agroecological zones delimited with the AZ. The coordination of the "first level" heterogeneous plans (about the environment, urban spaces, socio-economic activities, infrastructural development, tourism, coastal zones, etc.) can take place through "second level" agroecological plans (metaplanning) that analyze the "first level" plans and their impacts on rural territories, focus on all the points of convergence and divergence, and establish measures (including financial ones, through disbursements or denials of public subsidies) that help minimize antinomic interferences and maximize synergic interferences, in order to respect the characteristics of each agroecological zone.

Finally, the fourth category of tools (AIA) must provide an administrative procedure (co-managed through forms of consultation among the various competent public authorities for the different legal fields) that subordinates the realization of any *project of transformation of a rural territory* to the preventive evaluation of its *agroecological impact*. This is not an evaluation only of the *environmental* impact but of the interrelated complex of impacts that are ecological, economic, occupational, social, and cultural for that given rural area, to ensure compliance to the provisions of the AZ and AP so that an agroecological degradation or collapse is not caused.

The AIA should protect not only the land considered as a collection of ecological systems and as a resource for future generations: it also should preserve the equilibrium of the *human-rural environment*. More generally, to use the expression of DE NITTO in this book, the object of the inviolable rights protected by agroecological law is, ultimately, the "humanity of land": the heritage of past generations fills the forms and flavors of the land, marks the identity and the welfare of present generations, becomes the genetic heritage of future generations in a perspective of continuity of knowledge and at the same time the potential for evolutionary diversification, thanks to the formidable treasure chest of the biological and cultural

[79] The "rural districts" are defined Italy by Art. 13 of Legislative Decree 228/2001 as "the local production systems [. . .] characterised by a homogeneous historical and territorial identity deriving from the integration between agricultural activity and other local activities, as well as by the production of goods or services of particular specificity, coherent with the natural and territorial traditions and vocations."

diversities that reside not only in nature but also in the history of man's cohabitation with it.

References

Adam E (2014) Multifunctionality of agriculture and international trade. In: Eckinger J, Kaplan DM (eds) Encyclopedia of food and agricultural ethics. Springer, Dordrecht

Agnoletti M (ed) (2013) Italian historical rural landscapes: cultural values for the environment and rural development. Springer, Dordrecht

Albisinni F (1998) Lo spazio rurale come elemento d'impresa – Note per un diritto rurale. In: Various Authors, Agricoltura e Ruralità. Quaderni dell'Accademia dei Georgofili, vol 7. Studio editoriale fiorentino, Firenze, p 139

Albisinni F (2000) Ruralità come regola di diritto per uno sviluppo sostenibile. In: Various Authors, Agricoltura e diritto. Scritti in onore di Emilio Romagnoli, vol I. Giuffrè, Milano, p 421

Almeida M (2012) Analysing the Brazilian sugarcane agroecological zoning: is this government policy capable of avoiding adverse effects from land-use change? MSc dissertation, School of Geography, Environment and Earth Sciences, Victoria University of Wellington, Wellington. http://researcharchive.vuw.ac.nz/bitstream/handle/10063/2418/thesis.pdf?sequence=1. Accessed 30 Sept 2014

Alpa G, Bessone M, Fusaro A (2001) Poteri dei privati e statuto della proprietà, vol 1. Nozione e rilevanza costituzionale. SEAM, Roma, p 412

Altieri MA (1983) Agroecology. University of California Press, Berkeley

Altieri MA (1987) Agroecology: the scientific basis of alternative agriculture, 2nd edn. Westview Press, Boulder

Altieri MA (1989) Agroecology: a new research and development paradigm for world agriculture. Agric Ecosyst Environ 27(1–4):37–46

Altieri MA (1991) Agroecologia: prospettive scientifiche per una nuova agricoltura (trans: Angelini P). Muzzio, Padova

Angelicchio G (2014) Indicazioni geografiche e denominazioni di origine. In: Scuffi M, Franzosi M (eds) Diritto industriale italiano. Tomo I: Diritto sostanziale. Cedam, Padova, pp 345–386

Basile E, Romano D (eds) (2002) Sviluppo rurale: società, territorio, impresa. Franco Angeli, Milano

Battista Ferri G (2005) La "nuova" impresa agricola. Diritto e giurisprudenza 120(1):1–15

Bland WL, Bell MM (2008) A Holon approach to agroecology. Int J Agric Sustain 5(4):280–294

Bobbio L (1996) La democrazia non abita a Gordio: studio sui processi decisionali politico-amministrativi. Franco Angeli, Milano

Bohlen PJ, House G (eds) (2009) Sustainable agroecosystem management. Integrating ecology, economics and society. CRC, Boca Raton

Bonnal P, Bonin M, Aznar O (2012) Les évolutions inversées de la multifonctionnalité de l'agriculture et des services environnementaux. VertigO – La revue électronique en sciences de l'environnement 12(3). doi:10.4000/vertigo.12882

Bosworth G, Somerville P (eds) (2014) Interpreting rurality: multidisciplinary approaches. Routledge, London

Brouwer F (ed) (2004) Sustaining agriculture and the rural environment: governance, policy and multifunctionality. Edward Elgar, Cheltenham

Brouwer F, van der Heide CM (eds) (2009) Multifunctional rural land management: economics and policies. Earthscan, London

Bryden JM et al (eds) (2011) Towards sustainable rural regions in Europe: exploring inter-relationships between rural policies, farming, environment, demographics, regional economies and quality of life using system dynamics. Routledge, New York

Buller H (2004) The 'espace productif', the 'théâtre de la nature' and the 'territoires de développement local': the opposing rationales of contemporary French rural development policy. Int Plan Stud 9(2–3):101–119

Busti S (2013) L'agriturismo. In: Franceschelli V, Morandi F (eds) Manuale del diritto del turismo, 5th edn. Giappichelli, Torino, p 198

Caforio G (2014) La tutela delle tipicità appartenenti alla pubblica amministrazione. Aedon 17(1). http://www.aedon.mulino.it/archivio/2014/1/caforio.htm. Accessed 20 Oct 2014

Camaioni B et al (2013) Quanto è "rurale" la Politica di sviluppo rurale? Agriregionieuropa 9(34). http://agriregionieuropa.univpm.it/content/article/31/34/quanto-e-rurale-la-politica-di-sviluppo-rurale. Accessed 30 July 2014

Caporali F (1991) Ecologia per l'agricoltura. Teoria e Pratica. Utet, Torino

Caporali F (2011) Agroecology as a transdisciplinary science for a sustainable agriculture. In: Lichtfouse E (ed) Biodiversity, biofuels, agroforestry and conservation agriculture. Springer, Dordrecht, p 1

Caporali F, Campiglia E, Mancinelli R (2010) Agroecologia: teoria e pratica degli agroecosistemi. Città studi, Grugliasco, IT

Carbone A (2009) Agriculture multifunctionality: the contribution that the European primary sector can give to preserve and possibly to reinforce local cultural identities. Agricoltura Istituzioni Mercati 6(1–2):133–144

Carmignani S (2012) Agricoltura e ambiente. Le reciproche implicazioni. Giappichelli, Torino

Carroll CR, Vandermeer JH, Rosset PM (eds) (1990) Agroecology. McGraw-Hill, New York

Carrozza A (1994) Lineamenti di un diritto agrario ambientale. I materiali possibili. I leganti disponibili. Rivista di diritto agrario 73(2):151–172

Caruso MA (2011) Temi di diritto dei beni immateriali e della concorrenza. Giuffré, Milano

Cingari F (2008) La tutela penale dei marchi e dei segni distintivi. Wolters Kluwer Italia, Milano

Cleveland DA (2013) Agroecology. In: Gibson D (ed) Oxford bibliographies online: ecology. Oxford University Press, New York. doi:10.1093/obo/9780199830060-0117

Contò F (ed) (2005) Olivicoltura e ambiente: un nuovo equilibrio tra marginalità, condizionalità, multifunzionalità e sviluppo del territorio. Franco Angeli, Milano

Cossu M (2003) La "nuova" impresa agricola tra diritto agrario e diritto commerciale. Rivista di diritto civile 49(1):73–100

Costato L (2008a) Corso di diritto agrario italiano e comunitario. Giuffrè, Milano

Costato L (2008b) La lezione di Antonio Carrozza (e qualche possibile fraintendimento). Rivista di diritto agrario 87(1):15–24

Costato L, Rook Basile E, Germanò A (eds) (2011) Trattato di diritto agrario, vol II. Il diritto agroambientale. Utet, Torino

Cristiani E (2008) Le riviste agraristiche italiane e i nuovi contenuti del diritto agrario. Rivista di diritto agrario 87(4):464–479

D'Addezio M (2008) Le attività di servizi agroambientali nell'ordinamento giuridico sopranazionale italiano e comunitario: questioni di qualificazione. Agricoltura Istituzioni Mercati 5(2):9–34

D'Imperio G (2011) Sicurezza sul lavoro e utilizzo dei macchinari in agricoltura. Diritto e pratica del lavoro 28(20):1195–1198

Dalgaard T, Hutchings NJ, Porter JR (2003) Agroecology, scaling and interdisciplinarity. Agr Ecosyst Environ 100(1):39–51

Darian-Smith E (2013) Laws and societies in global contexts: contemporary approaches. Cambridge University Press, Cambridge

Daugstada K, Rønningena K, Skarb B (2006) Agriculture as an upholder of cultural heritage? Conceptualizations and value judgements – a Norwegian perspective in international context. J Rural Stud 22(1):67–81

De Giorgi Cezzi G (2005) Tutela dell'identità dei luoghi e rilevanza "monumentale" di un ulivo secolare. Foro Amministrativo – TAR 4(9):2955 et seqq

de los Desamparados Llombart Bosch M (1999) Las interrelaciones del Derecho Agrario y el Derecho Ambiental. In: Ballesteros Hernández LM, Oliván del Cacho J (eds) Actas del Congreso español de Derecho Agrario y ordenación rural. Instituto de Derecho Agrario de la Universidad de Zaragoza, Zaragoza, p 217

Doussan I (2002) Activité agricole et droit de l'environnement, l'impossible conciliation? L'Harmattan, Paris

Esposti R, Sotte F (eds) (2002) Le dinamiche del rurale: letture del caso italiano. Franco Angeli, Milano

Flora C (ed) (2001) Interactions between agroecosystems and rural communities. CRC, Boca Raton

Francario L (1993) Agricoltura e ambiente: nuovi stimoli per l'approccio giuridico. Diritto e giurisprudenza agraria e dell'ambiente 2(10):517 et seqq

Francis C et al (2003) Agroecology: the ecology of food systems. J Sustain Agric 22(3):99–118

Friedland WH (2002) Agriculture and rurality: beginning the 'Final Separation'? Rural Sociol 67 (3):350–371

Gargani A (2013) Reati contro l'incolumità pubblica. Tomo II: Reati di comune pericolo mediante frode. In: Grosso CF, Padovani T, Pagliaro A (eds) Trattato di diritto penale. Parte speciale, vol IX. Giuffré, Milano, p 273

Giacomini C et al (2007) Lo sviluppo dei marchi geografici collettivi e dei segni distintivi per tutelare e valorizzare i prodotti freschissimi. Franco Angeli, Milano

Giliberti B (2013) Il principio di precauzione nel diritto alimentare e farmaceutico. GiustAmm.it: Rivista di diritto pubblico 10(2):1 et seqq. http://www.giustamm.it/

Gliessman SR (ed) (1990) Agroecology: researching the ecological basis for sustainable agriculture. Springer, New York

Gliessman SR (2006) Agroecology: the ecology of sustainable food systems, 2nd edn. CRC, Boca Raton

Gonzalez de Molina M (2013) Agroecology and politics. How to get sustainability? About the necessity for a political agroecology. Agroecol Sustain Food Syst 37(1):45–59

González Linares N (2011) Derecho agrario contemporáneo y derecho civil. San Marcos, Lima

Gray J (2000) The common agricultural policy and the re-invention of the rural in the European community. Sociologia Ruralis 40(1):30–52

Hamilton ND (1999) A changing agricultural law for a changing agriculture. Drake J Agric Law 4 (1):41–58

Henke R (ed) (2004) Verso il riconoscimento di una agricoltura multifunzionale: teorie, politiche, strumenti. Edizioni Scientifiche Italiane, Napoli

Hernandez Zakine C (1998) L'influence du droit de l'environnement sur le droit rural. Conservation de la faune sauvage, droit communautaire, droit National. Ruralia, Revue de l'Association des ruralistes français 3:133–155

Hudault J (1987) Droit rural, droit de l'exploitation agricole. Dalloz, Paris

Hudault J (2006) L'evolution et les fondements actuels du droit rural. Rivista di diritto agrario 85 (3):247–260

Iacoponi L (1998) La sfida della moderna ruralità: sviluppo rurale, ambiente e territorio. In: Regazzi D (ed) L'agricoltura italiana tra prospettiva mediterranea e continentale. Atti del 33° Convegno di studi della Società Italiana di Economia Agraria – SIDEA, Napoli, 26–-28 September 1996. SIDEA-Officine grafiche Grafitalia, Cercola, Napoli, p 51

Istituto Nazionale di Economia Agraria (2001) Beni culturali: una risorsa per lo sviluppo rurale. INEA Working Paper, Roma. http://inea.it/reteleader/pubblica/working/cultura.PDF, Accessed 20 Oct 2014

Jannarelli A (2004) Concessione edilizia tra destinazione "agricola" della zona e qualificazione "agricola" dell'attività: un rapporto da chiarire. Diritto e giurisprudenza agraria e dell'ambiente 13(9):592 et seqq

Jannarelli A, Vecchione A (2008) L'impresa agricola. In: Buonocore V (ed) Trattato di diritto commerciale, Sezione I, vol 2.2. Giappichelli, Torino
Jin-hua et al (2010) Legal safeguard of agro-ecological environment. China J Anhui Agric Sci 34:19465–19467
La Torre M (2013) I contratti di ospitalità. In: Franceschelli V, Morandi F (eds) Manuale del diritto del turismo, 5th edn. Giappichelli, Torino, p 271
Lichtfouse E (ed) (2013) Agroecology and strategies for climate change. Springer, Dordrecht
Lin H (2010) The path choice of legislation on agro-eco-environment in China. Adv Mater Res 113–116:1261–1265
Lukić A (2013) Tourism, farm diversification and plurality of rurality: case study of Croatia. Eur Countryside 5(4):356–376
Marsden T (2003) The condition of rural sustainability. Royal Van Gorcum, Assen
Martin K, Sauerborn J (eds) (2013) Agroecology. Springer, Dordrecht
Martinez MJ (2010) Nueva ruralidad, la remake del término pluriactividad. Nómadas. Revista Crítica de Ciencias Sociales y Jurídicas 26(2):1–16
Martinez De Marigorta Andreu J (1987) El problema del medio ambiente en el marco del Derecho agrario español. Revista de derecho agrario y alimentario 3(8):19–30
Massart A, Sánchez Hernández A (eds) (2001) Manual de instituciones de derecho agroambiental euro-latinoamericano. ETS, Pisa
Mazzanti E (2013) Nuove disposizioni penali in materia di olio d'oliva: uso fallace di marchi, responsabilità dell'ente per frodi alimentari, sanzioni accessorie (L. 14.1.2013 n. 9 "Norme sulla qualità e la trasparenza della filiera degli oli di oliva vergini"). La Legislazione Penale 33 (3):561–582
Mazzarino S, Pagella M (2003) Agricoltura e mondo rurale tra competitività e multifunzionalità. Franco Angeli, Milano
Mengoli P (2009) Manuale di diritto urbanistico, 6th edn. Giuffré, Milano
Merusi F (2007) Il diritto ambientale. Rivista di diritto agrario 86(4):495–501
Milone P (2009) Agricoltura in transizione. Donzelli, Roma
Monteduro M (2013) Environmental law and agroecology: a transdisciplinary approach to public ecosystem services as a new challenge for environmental legal doctrine. Eur Energy Environ Law Rev 22(1):2–11
Monteduro M (2014) Per una "nuova alleanza" tra diritto ed ecologia: attraverso e oltre le "aree naturali protette". GiustAmm.it: Rivista di diritto pubblico 11(6):1–44. http://www.giustamm.it/
Moscarini LV (2009) Proprietà terriera, autonomia privata e impresa nella questione dei "patti agrari". In: Moscarini LV (ed) Diritto privato e interessi pubblici. Saggi di diritto civile (2001–2008). Cedam, Padova, p 177
Navarro Fernández JA (ed) (2010) Introducción al Derecho agrario. La organización jurídica de las explotaciones agrarias. Supuestos prácticos y materiales. Tirant Lo Blanch, Valencia
OECD (2008) Multifunctionality in agriculture: evaluating the degree of jointness, policy implications. OECD Publishing, Paris
OECD (2009) Summary of the conference "Policy Forum on Agriculture and Rural Development", Paris. Rete Rurale Nazionale italiana. http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/2414
Oliveira CB Jr, Silva CSG (2010) Zoneamento Agroecológico da Cana-de-açúcar como Mecanismo de Efetivação do Princípio Constitucional do Desenvolvimento Sustentável. In: Anais do XIX Encontro Nacional do Conselho Nacional de Pesquisa e Pós-Graduação em Direito (Conpedi). Fundação Boiteux, Fortaleza, p 6343
Pastorino LF (2009) Derecho agrario argentino. Abeledo-Perrot, Buenos Aires
Pastorino LF (2012) Objeto y extensión del derecho agrario. Anales de la Facultad de Ciencias Jurídicas y Sociales de la Universidad Nacional de La Plata 9(42):50–59. http://sedici.unlp.edu.ar/handle/10915/26993. Accessed 28 July 2014
Pelliccia L (2011) Lavoro e legislazione sociale in agricoltura. Maggioli, Santarcangelo di Romagna (RN)

Perfetti LR (2014) Principi della disciplina pubblicistica dell'alimentazione: premesse ad un diritto amministrativo dell'alimentazione. Rivista di diritto agrario 93(1):3–20
Portaluri PL (2011) L'ambiente e i piani urbanistici. In: Rossi G (ed) Diritto dell'ambiente, 2nd edn. Giappichelli, Torino, pp 241–255
Potter C, Thomson K (2011) Agricultural multifunctionality and Europe's new land debate. In: Oskam A, Meester G, Silvis H (eds) EU policy for agriculture, food and rural areas, 2nd edn. Wageningen Academic, Wageningen, p 213
Prado de Albuquerque M (2007) O conteúdo do Direito Agrário Brasileiro na doutrina jusagrarista. Revista Amazônia Legal de estudos sócio-jurídico-ambientais 1(1):69–82
Righi L (2013) Le strutture ricettive. In: Franceschelli V, Morandi F (eds) Manuale del diritto del turismo, 5th edn. Giappichelli, Torino, p 129
Ruiz Rosado O (2006) Agroecología: una disciplina que tiende a la transdisciplina. Interciencia 31 (2):140–145. http://www.redalyc.org/pdf/339/33911311.pdf. Accessed 31 July 2014
Russo L (2007) La condizionalità da condizione a fine. Rivista di diritto agrario 86(2):231–245
Russo L (2012) Agricultural law and food law. In: Costato L, Albisinni F (eds) European food law. Cedam, Padova, p 141
Russo L (2013) Il consumo di suolo agricolo all'attenzione del legislatore. Aestimum 63:163–174
Salazar-Centeno DJ (2013) Nicaragua: potencial faro regional para el diseño y evaluación de agroecosistemas agroecológicos. La Calera 13(20):58–65
Santagata De Castro R (2012) Diritto del turismo, 2nd edn. Utet, Torino
Santos B de Sousa (1987) Law: a map of misreading. Toward a postmodern conception of law. J Law Soc 14(3):279–302
Santos B de Sousa (2002) Toward a new legal common sense: law, globalization, and emancipation, 2nd edn. Butterworths LexisNexis, London
Scharpf FP (1994) Games real actors could play: positive and negative coordination in embedded negotiations. J Theor Polit 6(1):27–53
Schneider SA (2010) A reconsideration of agricultural law: a call for the law of food, farming, and sustainability. William Mary Environ Law Policy Rev 34(3):935–963
Serpieri A (1940) Corso di economia e politica agraria, vol I. G. Barbera, Firenze
Sevilla Guzmán E, Woodgate G (2013) Agroecology: foundations in agrarian social thought and sociological theory. Agroecol Sustain Food Syst 37(1):32–44
Snapp SS, Pounds B (eds) (2008) Agricultural systems: agroecology and rural innovation for development. Elsevier Academic Press, Amsterdam
Strapasson AB et al (2012) Agro-ecological zoning and biofuels: the Brazilian experience and the potential application in Africa. In: Johnson FX, Seebaluck V (eds) Bioenergy for sustainable development and international competitiveness: the role of sugar cane in Africa. Routledge, London, p 48
Sturiale L (2001) Possibili modelli di valutazione della compatibilità tra sviluppo e tutela con particolare attenzione alle aree protette. In: Bove E, Gajo P (eds) Gestione delle risorse naturali nei territori rurali e nelle aree protette: aspetti economici, giuridici ed estimativi. XXX Incontro di studio del Centro Studi di Estimo e di Economia Territoriale – Ce.S.E.T, Potenza, 5–6 ottobre 2000. Ce.S.E.T., Firenze, p 161
Szilágyi JE (2009) The dogmatics of agricultural law in Hungary from an aspect of EC law. Eur Integration Stud (University of Miskolc) 7(1):41–55
Tomich TP et al (2011) Agroecology: a review from a global-change perspective. Annu Rev Environ Resour 36(2011):193–222
Tuory K (2014) Transnational law: on legal hybrids and legal perspectivism. In: Maduro M, Tuori K, Sankari S (eds) Transnational law. Rethinking European law and legal thinking. Cambridge University Press, Cambridge, p 41
Ubertazzi B, Muñiz Espada E (eds) (2009) Le indicazioni di qualità degli alimenti: diritto internazionale ed europeo. Giuffré, Milano
Uphoff NT (ed) (2002) Agroecological innovations: increasing food production with participatory development. Earthscan, London, Sterling

Uphoff N (2007) Agroecological alternatives: capitalising on existing genetic potentials. J Dev Stud 43(1):218–236
Urbani P (2011) La disciplina urbanistica delle aree agricole. In: Costato L, Rook Basile E, Germanò A (eds) Trattato di diritto agrario, vol II. Il diritto agroambientale. Utet, Torino, p 597
Van Dam D, Nizet J, Streith M, Stassart P (eds) (2012) Agroécologie: Entre pratiques et sciences sociales. Éducagri Éditions, Dijon
Van Huylenbroeck G, Durand G (2003) Multifunctional agriculture: a new paradigm for European agriculture and rural development. Ashgate, Aldershot
Vandermeer J, Perfecto I (2013) Complex traditions: intersecting theoretical frameworks in agroecological research. Agroecol Sustain Food Syst 37(1):76–89
Warner KD (2007) Agroecology in action: extending alternative agriculture through social networks. MIT Press, Boston
Welan M (2002) Agrarrecht versus Umweltrecht. Agrarische Rundschau 56(3):48–53
Westhoek HJ, Overmars KP, van Zeijts H (2013) The provision of public goods by agriculture: critical questions for effective and efficient policy making. Environ Sci Policy 32:5–13
Westlund H, Kobayashi K (eds) (2013) Social capital and rural development in the knowledge society. Edward Elgar, Cheltenham
Wezel A, Jauneau JC (2011) Agroecology – interpretations, approaches and their links to nature conservation, rural development and ecotourism. In: Campbell WB, López Ortíz S (eds) Integrating agriculture, conservation and ecotourism: examples from the field. Springer, Dordrecht, p 1
Wezel A, Soldat V (2009) A quantitative and qualitative historical analysis of the scientific discipline of agroecology. J Agric Sustain 7(1):3–18
Wezel A et al (2009) Agroecology as a science, a movement and a practice. A review. Agron Sustain Dev 29(4):503–515
Wilson GA (2007) Multifunctional agriculture: a transition theory perspective. CABI, Wallingford
Wilson G (2010) Multifunctional 'Quality' and rural community resilience. Trans Inst Br Geogr 35 (3):364–381
Winkler W (1994) L'impact du droit de l'environnement sur le droit agraire en Allemagne. Rivista di Diritto Agrario 73(32):173–189
Winkler W (2002) Agrarrecht – Umweltrecht: Gegensatz oder Ergänzung? Agrarische Rundschau 56(3):5–18
Wojtkowski P (2008) Agroecological economics. Sustainability and biodiversity. Elsevier, Amsterdam
Zeledón Zeledón R (2009a) Derecho Agrario contemporáneo y Derecho Agrario AAA (agricultura, ambiente y alimentación). Revista Estudios Agrarios (México, Procuraduría Agraria) 15(40):9–26
Zeledón Zeledón R (2009b) Derecho agrario contemporáneo. Juruá Editora, Curitiba, Paraná, Brasil