Agriculture, Sustainability and Climate Change.
A Study on the Possible Role of Agricultural Cooperatives Recognised as Producer Organizations

Georg Miribung*

Abstract

Since modern agro-food producing systems strongly support climate change, I raise the question of whether this proved connection can be integrated into Italian private law. Frankly speaking, as agro-food producers contribute to climate change, why not make them responsible – that is, liable – for its consequences, that is to say, responsible for damage because of climate change? For this discussion, I consider a production chain constituted by a group of small farmers and a PO (using the legal form of agricultural cooperative) coordinating this chain's activities.

I stress that the question concerning agro-food production systems is of special relevance as the current legal framework (internal market of the EU) strongly subsidises farming and, thus, food production, arguing that agriculture is sustainable. But, as sustainable behaviour is also considered behaviour that mitigates climate change, and as modern food production and agriculture strongly contribute to climate change, one can doubt the logic of this approach.

Considering private law, my analysis has shown that the role and responsibility of modern (agro-)food production in relation to climate change – which would require specific sustainable behaviour to mitigate – is weakly accentuated at present. Of particular relevance is the fact that it is currently not possible, especially with lack of proof of a causal link, to charge the actor (who has caused environmental damage with a certain influence on climate change) with the damage that third parties have suffered, such as due to a tornado, whirlwind or extremely long drought.

Trying to make agro-food producers more responsible for climate change would necessitate more clearly defining the purpose of the companies and the duty of care of the administrators charged with putting the purpose into practice. To help boards in making decisions, it is proposed to develop an external mechanism that supervises the sustainable behaviour of companies (ie rating or certification systems), including verifiable indicators to make the whole system less vulnerable to abuse.

Moreover, to grasp the problem at its roots, it is necessary to extend liability to the whole production chain. These observations are based on network theory, which, as the example of product liability shows, is already part of the Italian legal thinking and structure.

I. Introduction

Although scientists cannot accurately predict the effect of anthropogenic

* Assistant Professor of Agricultural Law, Free University of Bozen-Bolzano.

climate change, threat scenarios are becoming increasingly clear. Global warming of two degrees Celsius is seen as a potentially irreversible turning point[1] and a serious threat to food supplies in many parts of the world.[2] 'Modern' food production is not only particularly affected by climate change, as increasing extreme weather events such as droughts or floods show, but it is also one of its main causes. There are various reasons for this. One key driver of anthropogenic climate change is the burning of fossil fuels, constituting a precondition of the predominant form of food production in industrialised countries. It applies to all stages of the conventional food system, from the provision of mineral fertilisers, fuels, machinery and other inputs through distribution systems to storage, packaging and waste disposal. Other key sources of greenhouse gas (GHG) emissions are the agricultural processing of the soil, the clearing of forests for food production and animal husbandry.[3] This shows that agro-food production must be an essential focus of climate policy.

Mostly, standards of production are influenced by public law and especially public authorization. Here, significant legal research has already been done.[4]

[1] The implementation of the political decisions is modest. In fact, it is already focussed on reducing the consequences and no longer on preventing global warming. IPCC, *Global warming of 1.5°C: Summary for Policymakers* (2018) Earth League and Future Earth, 'The 10 Science 'Must Knows' on Climate Change' (2017), available at tinyurl.com/ycogm2y3 (last visited 7 July 2020).

[2] See IPCC, *Global warming of 1.5°C*, U. Ermann et al, *Agro-food studies: Eine Einführung* (Köln, Weimar, Wien: Böhlau Verlag, 2018), 81. Also consider WMO, 'Greenhouse Gas Bulletin' (2017), available at tinyurl.com/ycevxew9 (last visited 7 July 2020), or W.J. Ripple et al, 'World Scientists Warning to Humanity: A Second Notice' 12 *BioScience*, 1026-1028 (2017). Some even think that there are global effects on the security of supply due to climate change, as the food industry has become more susceptible to disruption because of its complexity and global connectivity. M.E. Brown and V. Kshirsagar, 'Weather and international price shocks on food prices in the developing world' 35 *Global Environmental Change*, 31-40 (2015).

[3] See U. Ermann et al, n 2 above; M.E. Brown and V. Kshirsagar, n 2 above; C. Schmitz et al, 'Trading more food: Implications for land use, greenhouse gas emissions, and the food system' 1 *Global Environmental Change*, 189-209 (2012); N. Adler et al, *Umweltschutz in der Landwirtschaft* (Dessau: Roßlau, 2017); I. Härtel, 'Vom Klimawandel bis zur Welternährung – zentrale Weltprobleme' *Rechtsintegration und Zukunftsgesellschaft Nachhaltigkeit, Energiewende, Klimawandel, Welternährung: Politische und rechtliche Herausforderungen des 21. Jahrhunderts*; I. Härtel (Baden-Baden: Nomos, 1st ed, 2014), 13-70, FAO, *Climate change, agriculture and food security* (Roma: FAO, 2016). Also consider T. Garnett, 'Food sustainability: problems, perspectives and solutions' 72 *The Proceedings of the Nutrition Society*, 29-39 (2013) and H. Steinfeld, *Livestock's long shadow: Environmental issues and options* (Roma: Food and Agriculture Organization of the United Nations, 2006). Also consider L. Paoloni, *Politiche di forestazione ed emissioni climalteranti* (Roma: Tellus, 2009), F. Ekardt et al, 'Agriculture-related Climate Policies - Law and Governance Issues on the European and Global Level' 12 *Carbon & Climate Law Review*, 316-331 (2018) and A.M. Loboguerrero et al, 'Food and Earth Systems: Priorities for Climate Change Adaptation and Mitigation for Agriculture and Food Systems' 11 *Sustainability*, 1-26 (2019). See also n 91.

[4] See K. Hart, *Research for AGRI Committee, the consequences of climate change for EU agriculture: Follow-up to the COP21-UN Paris climate change conference study* (Brussels: Policy Department B. Structural and Cohesion Policies, European Parliament, 2017); D. Blandford and K. Hassapoyannes, 'The Common Agricultural Policy in 2020: Responding to climate change', in J. McMahon and M.N. Cardwell eds, *Research Handbook on EU Agriculture Law* (Cheltenham,

Less – but with important indications for this study – has been said about the role of businesses and their responsibilities towards sustainable management to mitigate climate change.[5] Little has been said on the issue of whether agro-food producers – which can usually be held liable for the damage they cause as legal entities[6] – should also specifically be held responsible for damage caused to third parties due to their role in climate change. This essay deals with this question from an Italian perspective; it is of legal relevance because, for example, damage to the property of third parties can be caused by extreme weather events resulting from climate change. It is also relevant because modern agro-food producers are supported not only financially by public administrations but also by a specific legal framework which gives them specific competitive advantages over other market participants. So, should agro-food producers be held liable for climate change damage? Would this be legally possible at all, or are there insurmountable limits? Such thinking requires consideration of how the Italian legal order deals with the responsibility for agro-food business. The responsibility, or better, the liability of legal entities is primarily an issue of Italian tort law and of business law. Thus, the present analysis concentrates on these branches of law.

For this investigation, it is first necessary to determine more precisely whose roles are being investigated. For the sake of simplicity (the reasons for this are explained in more detail in Chapter II, Section 2), I consider, with reference to the plaintiff, Mrs Rossi, whose property (forest) was destroyed by windthrow. It is argued that windthrow is a phenomenon that has been intensified by climate change.[7] Concerning the defendant, I refer to an *agricultural cooperative*

Gloucestershire, United Kingdom: Edward Elgar Publishing, Incorporated, 2015), 170-202; M.N. Cardwell and J. McMahon, 'Looking back to look forward', in J. McMahon and M.N. Cardwell eds, *Research Handbook on EU Agriculture Law* (Cheltenham, Gloucestershire, United Kingdom: Edward Elgar Publishing, Incorporated, 2015), 531-539. Also consider N. Adler et al, n 3 above.

[5] On this issue, M. Spitzer and B. Burtscher, 'Liability for Climate Change: Cases, Challenges and Concepts' 2 *Journal of European Tort Law*, 137 (2017); F. Ekardt, 'Umweltschutz und Zivilrecht: Nachhaltigkeit durch Kapitalgesellschaftsrecht' 9 *Zeitschrift für Umweltrecht,* 463-472 (2016); J. Dine, 'Corporate Regulation, Climate Change and Corporate Law: Challenges and Balance in an International and Global World' *European Business Law Review*, 173-202 (2015); B. Sjafjell and B.J. Richardson eds, *Company Law and Sustainability Legal Barriers and Opportunities* (Cambridge, United Kingdom: Cambridge University Press, 2015); P. Kara, 'The Role of Corporate Social Responsibility in Corporate Accountability of Multinationals: Is It Ever Enough Without Hard Law?' *European Company Law*, 118-125 (2018); B. Sjafjell, 'Why Law Matters: Corporate Social Irresponsibility and the Futility of Voluntary Climate Change Mitigation' *European Company Law*, 56-64 (2011); T. Lambooy, 'Reforming Company Law for Sustainable Companies' *European Company Law*, 54-57 (2014).

[6] On this issue, see, eg, P.M. Sanfilippo, 'Gli amministratori', in M. Cian ed, *Diritto commerciale - Vol. III: Diritto delle società*, (Torino: Giappichelli, 2017), 461-537, 527. See also *L'interesse sociale tra valorizzazione del capitale e protezione degli* stakeholders*: In ricordo di Pier Giusto Jaeger atti del convegno, Milano, 9 ottobre 2009* (Milano: Giuffrè, 2010).

[7] One example is the destruction caused by Hurricane Vaia, which in 2018 destroyed large areas of forest in Val di Fiemme is argued that the unusual severity of the storm is probably due to climate change. See R. Motta et al, 'Silviculture and wind damages. The storm Vaia' 15 *Forest@ - Rivista di Selvicoltura ed Ecologia Forestale*, 96 (2018). On this issue, see Chapter V.

recognised as a producer organization.[8] This approach requires determining what the notions of agricultural cooperative and producer organization (PO) imply.

Under Italian law, the term *agricultural cooperative* means that a cooperative meets specific requirements, and, thus, it is to be regarded as an agricultural entrepreneur.[9] Basically, the cooperative conducts an agricultural activity as determined by Art 2135 Civil Code[10] – either directly or indirectly. More specifically, the term agricultural cooperative implies that the cooperative is based on the joint cultivation of the members' land or the joint rearing of the members' animals (workers' cooperative).[11] In other types of agricultural cooperatives, members use the services offered by the cooperative or buy goods from it (consumer cooperative), which they also sell to non-members. Finally, a service cooperative processes the products of its members, as in the cases of social cellars, social oil mills and social cheese factories.[12]

[8] This form of cooperation between farmers is typical for the modern agro-food producing system and results from increased competition, due to the market liberalisation that has put pressure on single farmers, thereby fostering horizontal (ie, cooperation between producers) and vertical integration (ie, cooperation between producers and industrial entrepreneurs through, eg, agro-industrial contracts). The increased role of large distribution chains reflects these changes, leading to a more stringent coordination between production, processing and distribution and fostering the establishment of common trademarks, brand-based development strategies and – as is especially true for European (agro-)food producers – the adoption of geographical indications.

[9] On this issue, see A. Germanò, *Manuale di diritto agrario* (Torino: Giappichelli, 2016), 118, and L. Costato and L. Russo, *Corso di diritto agrario italiano e comunitario* (Milano: Giuffrè, 2015), 374.

[10] See also Chapter III, Section 1.

[11] Under Italian law, these activities comprise an agricultural enterprise by meeting the requirements of Art 2135 of the Italian Civil Code. See Chapter III Section 1.

[12] The activities carried out in the latter two cases correspond to those referred to in Art 2135, para 3, Civil Code. See also Chaper III.1. In this context, it is useful to recall that the requirement of *unisoggettività*, as laid down in Art 2135 of the Italian Civil Code, requires both activities – the cooperative activity (ie, the processing service) and the activity of its members (ie, the production of grapes, olives or milk) – to be carried out by the same subject. Although these last two types of cooperatives (the agricultural consumer and agricultural service cooperative) may lack this requirement, their qualification as agricultural entrepreneurs is expressly recognised by the legislature on the basis of Art 1, para 2, decreto legislativo 18 May 2001 no 228. It thus accounts for the fact that the agricultural cooperative is constituted and functions as a common body for individual farmers. (See M. Cavanna, 'Le cooperative agricole' in G. Bonfante ed, *La società cooperativa* (Padova: CEDAM, 2014), 641-649, 645; S. Carmignani, '2135 (L'imprenditore agricolo cooperativa)' in O. Gagnasso ed, *Dell'impresa e del lavoro: Artt. 2118-2187* (Torino: UTET, 2013), 858; S. Carmignani, 'Le società agricole', in L. Costato et al eds, *Trattato di diritto agrario: I* (Torino: UTET, 2011), 231-262, 259. See also E. Casadei, 'La nozione di impresa agricola dopo la riforma del 2001' *Rivista di diritto agrario*, 309-358 (2009); E. Rook Basile, *La coltivazione dei terreni in società nell'esperienza giuridica italiana e francese* (Milano: Giuffrè, 1981), G. Giuffrida, *Le cooperative agricole* (Milano: Giuffrè, 1981) and R. Alessi, 'L'impresa agricola' *Impresa e società nel diritto comunitario: Estratto da Il diritto privato dell'Unione europea, Trattato di diritto privato diretto da Mario Bessone* (Torino: G. Giappichelli, 2006), 1234-1274, 1248, and G. Miribung, *Agricultural Cooperative in the Framework of the European Cooperative Society: Discussing and Comparing Issues of Cooperative Governance and Fin* ([sl]: springer nature, 2020), 97. In fact, cooperatives are membership-based; as a rule, the legal personality of the cooperative cannot 'hide' the persons of its members who join together to carry out the last phase of their

By fulfilling specific requirements, which basically implies that an agricultural cooperative cooperates primarily with its members, a cooperative is eligible for various supporting legal regimes (eg, a favourable tax regime). Furthermore, under Italian law, financial aid is not only granted to single farmers but also to the coordinating entity – the agricultural cooperative – if it meets specific criteria, and thus, it is assigned the status of a professional agricultural entrepreneur (PAE).[13]

Basically, a PO is a legal entity that is voluntarily set up by agro-food producers.[14] It provides for the aggregation of several producers in a single-sector organization with the aim of achieving an economic rebalancing of the agro-food chain via the reduction and regularization of production prices. In general terms, the objective of the PO is to bring together the economic forces of the producers of various agro-food categories and, through the provision of EU co-financing, encourage a process of dissemination of new cultivation practices and advanced production techniques with reduced environmental impact. In fact, POs are financially supported by EU policies as these policies allow participating single entities (farmers) to reduce costs by means of economies of scale.[15] A further aim is to provide aid in the planning of production that is calculated based on an analysis of supply and demand to prevent the product from remaining unsold.[16]

Thus, I am dealing with a particular type agro-food producer, whose activity is – through the granting of the status of agricultural cooperative, PAE and PO – supported by various means and regulated, by various legal sources, in a favourable

business activity (this is called the principle of transparency). See also L. Costato and L. Russo, n 9 above, 383, G. Galloni, *Lezioni sul diritto dell'impresa agricola e dell'ambiente* (Napoli: Liguori, 1999), 465. See also A. Vecchione, 'L'imprenditore agricolo nelle fonti speciali e figure professionali ad esso equiparate', in A. Iannarelli and A. Vecchione eds, *L'impresa agricola* (Torino: Giappichelli, 2009), 353-386, 367. In addition, the legislature requires the agricultural cooperative to predominantly engage with its members by using members' products or offering members services and/or goods. This, however, also implies that an agricultural cooperative can process or transform products (eg, turn olives into oil) supplied by non-members, albeit to a limited extent.

[13] As a result, single farmers and companies – personal companies, capital companies and cooperatives – which meet specific conditions may be eligible for further subsidies and tax relief. The Italian Legislation has introduced the figure of the 'professional agricultural entrepreneur' (PAE), who has replaced the former figure of 'main agricultural entrepreneur' for applying the legislation to the agricultural sector. The PAE is the person who, in possession of professional knowledge and skills in accordance with Art 5 of Council Regulation (EC) 1257/1999 of 17 May 1999, dedicates to the agricultural activities referred to in Art 2135 of the Civil Code, directly or as a member of society, at least fifty percent of their total working time and earns from those activities at least fifty percent of their total income from work. For the entrepreneur operating in the disadvantaged areas provided for by Art 17 of Council Regulation (EU) 1257/1999, the requirements listed are reduced by twenty-five percent. For details, L. Costato and L. Russo, n 9 above, 374, A. Germanò, n 9 above, 118.

[14] In the PO, the decision of 'what, how and how much to produce' results from the sum of multiple free individual decisions, which are not shattered into disjointed entrepreneurial behaviours but contained in a collective will capable of orienting those behaviours.

[15] See Chapter V.

[16] For details, A. Germanò, n 9 above, 129, L. Costato and L. Russo, n 9 above, 386, and G. Holzer, *Agrarrecht,* (Wien: NWV, 4th ed, 2018), 191.

way. In order to simplify the discussion here, I generally refer to agricultural cooperatives founded as POs (abbreviated as agricultural cooperative/PO).[17]

Focussing on 'agricultural cooperatives recognised as POs' is expedient since various studies have revealed that POs are mostly organized by means of cooperatives even though there is no legal obligation to do so.[18] Another argument in favour of a PO in the form of a cooperative is the fact that although a PO can be seen as a type of organization to make farmers competitive,[19] it is not a legal form such as a corporation, partnership or cooperative.[20] Yet, as I am considering liability issues, which are first of all a matter of national jurisdictions and linked to natural or legal persons, it is necessary to determine the legal subject, whose liability must be assessed, in other words, the cooperative.

What is important for my study is that the regulation establishing the PO requires that the associated producers must adhere to a statute that also regulates placing the products on the market. Except for possible derogations, this must be done through the PO; non-compliance with the related obligations may lead to sanctions.[21] Thus, the PO is coordinates, monitors and leads the activities in the production chain and is able to channel information from customers (distribution) versus single farmers (production) and vice versa. In our case, this implies that an agricultural cooperative, acknowledged as a PO, is, compared to the farmers, in a stronger position due to the given information asymmetries. Moreover, if economically successful, the cooperative constitutes a value *per se*, to be separated from the individual entrepreneurial purposes of the single farmers. In fact, cooperatives are also considered as having a double nature – their aim is to support the individual interests of the members but, at the same time, act successfully in the market.[22]

[17] On this issue, see G. Miribung, *Agricultural Cooperative in the Framework of the European Eooperative Society*, in particular Chapter 3.3.4.

[18] Studies have revealed that POs are mostly organised by means of cooperatives. See J. Bijman et al, *Support for Farmers'Cooperatives: Final Report* (2012) and M. Hanisch and J. Rommel, 'Support for Farmers' Cooperatives. Producers Organizations in European Dairy Farming' Case Study Report (2012), available at tinyurl.com/ydcfg57c (last visited 7 July 2020). Also consider A. Ecorys and C. Wageningen, *Economic Research, Study on Producer Organisations and their activities in the olive oil, beef and veal and arable crops sectors* (Brussels: European Union, 2018), 12.

[19] A PO is a strategic tool developed by the European Commission, and this is fully in line with the broader objective of reforming the Common Agricultural Policy (introduced by Art 11 of Council Regulation (EC) 2200/96 of 28 October 1996 and confirmed by Council Regulation (EC) 1234/2007 of 22 October 2007 and European Parliament and Council Regulation (EU) 1308/2013.

[20] Under Italian law, they may be set up either as capital companies, as agricultural cooperatives or as their consortia, as consortia with external activities with asset autonomy and as consortia under Art 2615 *ter* of Civil Code. The common features are that they must all be legal persons and have a perfect/complete asset autonomy. This requires that they have specific bodies acting on their behalf. See Art 3, para 1, decreto legislativo 27 May 2005 no 102.

[21] See Artt 152 et seq of European Parliament and Council Regulation (EU) 1308/2013.

[22] See J.W. Kramer, 'Was kennzeichnet eine erfolgreiche Genossenschaft?', in H.-H. Münkner ed, *Zukunftsperspektiven für Genossenschaften: Bausteine für typgerechte Weiterentwicklung*

All these aspects lead to standardised production systems in which the interaction between distribution and production is assigned to what is called a hub firm (*impresa guida*) in network theory.[23] To put it simply, a network represents some type of collaborative pattern between so-called knots. It is generally understood to be an order of cooperation between autonomous actors regulated in a decentralised way.[24]

A network can either be loose or formalised (eg, it can be established by creating a new legal entity).[25] Here, I consider the second, formalized type, namely,

(Bern: Haupt, 1st ed, 2006), 125-151, A. Fici, 'Definition and objectives of cooperatives', in G. Fajardo et al eds, *Principles of European Cooperative Law: Principles, commentaries and national reports* (Cambridge: Intersentia, 2017), 23, and Id, 'An introduction to cooperative law', in D. Cracogna et al eds, *International Handbook of Cooperative Law* (Berlin-Heidelberg: Springer Berlin Heidelberg, 2013), 3-64, 21.

[23] Networks exert a special fascination in many different scientific disciplines. Initially, organizational sociology was concerned with the investigation of inter-organizational relations, the organization set. This covered relationships between organizations that were not primarily based on competition, but instead, on cooperation. The term found its way into group sociology via personnel networks, which characterise loose forms of cooperation that lack both the intensity and bureaucratic disadvantages of formal organizations. Policy networks in political science describe a decentrally-organized order of political actors that especially play a role in the analysis of neo-corporatist phenomena. On this issue, see, among many others, W.M. Evan, 'Toward a Theory of Inter-Organizational Relations' 11 *Management Science*, 10 (1965); Id, 'The Organizaiton Set', in J.D. Thompson ed, *Approaches to organizational design* (Pittsbrough: University of Pittsburgh Press, 1966); N.M. Tichy, 'Networks in Organizations', in P.C. Nystrom and W.H. Starbuck eds, *Handbook of organizational design* (Oxford, New York: Oxford University Press, 1981). For the legal approach, consider, among many others, G. Teubner and H. Collins, *Networks as connected contracts* (Oxford and Portland: Hart Publishing, 2011), T. Raiser, *Grundlagen der Rechtssoziologie* (Stuttgart: UTB GmbH, 5th ed, 2009) 274, S. Baer, *Rechtssoziologie: Eine Einführung in die interdisziplinäre Rechtsforschung* (Baden-Baden: Nomos-Verl.-Ges, 1st ed, 2011) 204, R.M. Buxbaum, 'Is Network a Legal Concept?' 4 *Journal of Institutional and Theoretical Economics*, 149 (1993), available at tinyurl.com/y9u3orxj (last visited 7 July 2020), and G. Miribung, 'Genossenschaftliche Netzwerk in Südtirol. Versuch einer rechtssoziologischen Betrachtung', in M. Ganner et al eds, *Rechtstatsachenforschung - heute: Tagungsband 2016 Recht & Gesellschaft: Forschungsstand, Perspektiven, Zukunft* (Innsbruck: Innsbruck University Press, 1st ed, 2016), 179-218.

[24] Economists like to use suggestive modes like something between markets and hierarchies, managed economic systems and complex arrays of relationships among firms. The theory of hybrid arrangements by Oliver Williamson may be representative of this. Williamson conceives of a sliding scale of economic institutions of capitalism, from spot-market transactions to long-term contracts and integrated unit companies, which differ only in the intensities of their governance structures. Franchising and other hybrid arrangements then settle on this scale on a point between the market and the organization, resulting concretely from the transaction cost considerations of the resource owners involved. On this issue, see, among many others, H.B. Thorelli, 'Networks: Between markets and hierarchies' 7 *Strategic Management Journal*, 37-51 (1986), J. Johanson and L.G. Mattsson, 'Interorganizational Relations in Industrial Systems: A Network Approach Compared with the Transaction-Cost Approach' 17 *International Studies of Management & Organization*, 34-48 (1987) and O.E. Williamson, *The economic institutions of capitalism: Firms, markets, relational contracting* (New York: Free Press, 1985).

[25] On this issue, see, among many, S. Chetty and H. Agndal, 'Role of Inter-organizational Networks and Interpersonal Networks in an Industrial District' 42 *Regional Studies*, 175-187 (2008), P. Dubini and H. Aldrich, 'Personal and extended networks are central to the entrepreneural

an agricultural cooperative fulfilling the requirements for a PO and set up by single farmers; according to network theory, this can thus be considered as a collaborative structure, governed by a new legal entity. In this case, and in opposition to a capital company, the members of the production chain – that is, the single farmers – are not incorporated into the legal entity, but instead they at least formally remain autonomous actors, who – again, at least formally – are the dominant/prevailing actors.[26]

In the case examined here, the hub (PO) channels information from the market versus single farmers (and vice versa). In other words, it leads the activities in the production chain. For example, by adhering to a production system based on denominations of origins, single farmers are obliged to adopt specific production and safety requirements. This standardisation is linked to a strict monitoring process that is necessary for protecting the collective reputation. In fact, if one farmer violates the requirements, the others will also suffer damage. In Chapter V, I argue that these dynamics are an important aspect for holding the PO, which governs the agricultural activities of its farmer-members, liable for climate damage.

Thus, by using network theory, we can uncover a common pattern with a common goal, where the activity of single farmers is coordinated (by the hub firm – agricultural cooperative/PO) to pursue this aim (for example, conducting projects of common interest and sharing strategic objectives and resources).[27]

After having determined the role of the defendant under investigation, it is equally important to determine what type of behaviour is to be studied. As this essay deals with liability for climate change, it is, to begin with, necessary to

process' 6 *Journal of Business* Venturing, 305-313 (1991), available at tinyurl.com/ycty793j (last visited 7 July 2020); M. Holmlund and S. Kock, 'Relationships and the Internationalisation of Finnish Small and Medium-Sized Companies' 16 *International Small Business Journal: Researching Entrepreneurship*, 46-63 (1998), K. Hutchinson et al, 'The role of management characteristics in the internationalisation of SMEs' 13 *Journal of Small Business and Enterprise Development*, 513-534 (2006) and B. Johannisson, 'Network Strategies: Management Technology for Entrepreneurship and Change' 5 *International Small Business Journal: Researching Entrepreneurship*, 19-30 (1986). See also G. Teubner and H. Collins, n 23 above, 87, T. Raiser, *Grundlagen der Rechtssoziologie* (Stuttgart: UTB GmbH, 6th ed, 2013), 276 and S. Grundmann et al, 'The contractual basis of long-term organization. The overall architecture', in S.A. Grundmann et al eds, *The organizational contract: From exchange to long-term network cooperation in European contract law/edited by Stefan Grundmann, Fabrizio Cafaggi, Giuseppe Vettori* (London: Routledge, 2016), 3-38

[26] From economic theory we know that networks, under certain conditions, have a clear competitive advantage over both contractual relationships and integrated organizations. In fact, with networks, the involved parties can gain advantages of internal specialization and simultaneously gain advantages from the external production of other components at low transaction costs. On this issue, see G. Teubner and H. Collins, n 23 above, 87.

[27] In practice, modern agro-food-producing systems are normally formed by a so-called network of different producers (and single farmers) that are coordinated and/or governed by a bigger legal entity See P. Dicken, *Global shift: Mapping the changing contours of the world economy* (New York, NY: Guilford Press, 7th ed, 2015), 424. Also consider A. Bijman et al, *Support for Farmers' Cooperatives* n 18 above. In general J. Clapp, 'The trade-ification of the food sustainability agenda' 44 *The Journal of Peasant Studies*, 335-353 (2017).

question how climate change – which is not a legal category but a natural phenomenon – can be grasped by legal thinking and then be integrated into law. This is important because in order to be effective and efficient, law requires well-defined notions.[28]

Various studies have shown that, as a global phenomenon, climate change, from a legal perspective,[29] is often connected to issues of sustainability and especially environmental sustainability.[30] As will be seen, the proposed solutions discussed in Chapter VI link climate change to issues of sustainability. But why is the term 'sustainability' used? One reason is that the notion of sustainability determines specific behaviours, and in general, one can affirm that climate change is a consequence of non-sustainable actions.

At a global level, the term 'sustainability'[31] was first discussed extensively in 1972 as part of the United Nations Conference on the Human Environment in Stockholm.[32] Then, the commonly, so-called *Brundtland* ('Our Common Future') Report from 1987, introduced a more detailed concept for sustainable development.

[28] See C.M. Bianca, *Diritto civile* (Milano: Giuffrè, 2nd ed, 2002), 8, A. Liserre and F. Rocchio, *Lezioni di diritto privato* (Milano: Giuffrè, 2nd ed, 2009), 9, A. Torrente and P. Schlesinger, *Manuale di diritto privato* (Milano: Giuffrè, 17th ed, 2004), 6, In general, F. Bydlinski and P. Bydlinski, *Grundzüge der juristischen Methodenlehre* (Wien: Facultas.wuv, 2nd ed, 2012). Also consider European Group on Tort Law ed, *Principles of European Tort Law: Text and Commentary* (Vienna: Springer-Verlag/Wien, 2005) 75.

[29] Consider in this context the discussions regarding the Paris Agreement, or how World Trade Organization (WTO) and United Nations (UN) norms deal with this issue (eg, tinyurl.com/ycktmphj (last visited 7 July 2020). Also consider D. Blandford and K. Hassapoyannes, n 4 above.

[30] See M. Pennasilico, 'Sviluppo sostenibile, legalità costituzionale e analisi ecologica del contratto' *Persona e Mercato*, 37-50 (2015); J.C. Dernbach and J.A. Mintz, 'Environmental Laws and Sustainability: An Introduction' 3 *Sustainability*, 531-540 (2011), H. Härtel, 'Vom Klimawandel bis zur Welternährung - zentrale Weltprobleme, Rechtsintegration und Zukunftsgesellschaft', FAO, *Climate change, agriculture and food security*, N. Adler et al, n 3 above. Also consider A. Jannarelli, 'Il divenire del diritto agrario italiano ed europeo tra sviluppi tecnologici e sostenibilità' *Rivista di diritto agrario*, 11-35 (2013).

[31] On this issue, J. Monien, *Prinzipien als Wegbereiter eines globalen Umweltrechts?: Das Nachhaltigkeits-, Vorsorge-und Verursacherprinzip im Mehrebenensystem* (Baden-Baden: Nomos, 2014), K.E. Portney, *Sustainability* (Cambridge, Massachusetts: MIT Press, 2015), G. Guido and S. Massari eds, *Lo sviluppo sostenibile: Ambiente, risorse, innovazione, qualità; scritti in memoria di Michela Specchiarello* (Milano: F. Angeli, 2013), H. Härtel, 'Vom Klimawandel bis zur Welternährung' n 30 above, S. Manservisi, 'Il principio dello sviluppo sostenibile: da Rio+20 al diritto dell'Unione Europea e il suo fondamentale ruolo nel diritto agrario', in P. Borghi et al eds, *Il divenire del diritto agrario italiano ed europeo tra sviluppi tecnologici e sostenibilità: Convegno organizzato in onore del prof. Ettore Casadei, in occasione del suo settantesimo compleanno. Atti del Convegno IDAIC, Bologna-Rovigo, 25-26 ottobre 2012* (Milano: Giuffrè, 2014), 175-224. The German term *Nachhaltigkeit* (sustainability) is almost two hundred years old. Hans Carl von Carlwitz introduced the idea for proper forestry management in 1713, requiring that only as many trees might be cut as could grow naturally. One can also refer to the German scientists Wilhelm and Alexander Humboldt, who developed a comprehensive system of science and education. They highlighted that Earth is a complete system with interacting parts. Also, consider the Bavarian law of forestry from the 1850s.

[32] See tinyurl.com/ya7nze9v (last visited 7 July 2020).

Accordingly, sustainable development is development that

> 'meets the need of the present without compromising the ability of future generations to meet their own need'.[33]

This concept points to three facets of sustainability considering the following: (a) social sustainability, which refers to standard of living, education, jobs or equal opportunities; (b) environmental sustainability, referring to the use of natural resources, the prevention of pollution and bio-diversity; and finally (c) economic sustainability, which refers, for example, to economic growth, the creation of profits or the saving of costs.[34]

Although the three-pillar concept is currently widely accepted, there is disagreement over its implementation.[35] Above all, the fact that all three pillars must be applied in a balanced manner is criticized. It has been thoroughly argued that in the event of a conflict between these pillars and their contents, prioritization may be required.[36] This is especially true if one considers ecological sustainability, which, due to its link to the environment, constitutes the basis for all human action. Given the danger that climate change will lead to an enormous if not catastrophic change in the environment and thus in the basis of all human activity,

[33] See tinyurl.com/mtpt4pu (last visited 7 July 2020).

[34] The concepts described in the report formed the basis for the development of a comprehensive, and at least an attempt at a global, political strategy. The discussion on it continued to 1992. The Conference in Rio de Janeiro organised in this regard ended with the following five documents, all dealing with sustainability, to a greater or lesser extent: the Rio Declaration on Environment and Development (See tinyurl.com/y9vwabh2 (last visited 7 July 2020)), United Nations Framework Convention on Climate Change (UNFCCC) (See tinyurl.com/zf4mggo (last visited 7 July 2020)), Convention on Biological Diversity (CBD) (See tinyurl.com/yaroyhej (last visited 7 July 2020)), Forest Principles (See urly.it/372d9 (last visited 7 July 2020)) and Agenda 21 (tinyurl.com/yaxfkumf (last visited 7 July 2020)).

[35] On this issue see, among many others, M. Pennasilico, 'Sviluppo sostenibile' n 30 above; G. Guido and S. Massari, 'Introduzione', in G. Guido and S. Massari eds, *Lo sviluppo sostenibile: Ambiente, risorse, innovazione, qualità; scritti in memoria di Michela Specchiarello* (Milano: F. Angeli, 2013), 3-10; K.E. Portney, n 31 above, 1; S. Landini, 'Clausole di sostenibilità nei contratti tra privati. Problemi e riflessioni' *Diritto Pubblico*, 611-636, 614 (2015); K. Gehne, *Nachhaltige Entwicklung als Rechtsprinzip: Normativer Aussagegehalt, rechtstheoretische Einordnung, Funktionen im Recht* (Tübingen: Mohr Siebeck, 2011), 11. Also consider K. Mathis, 'Sustainable Development, Economic Growth and Environmental Regulation' in K. Mathis and B.R. Huber eds, *Environmental Law and Economics* (Cham: Springer International Publishing, 2017), 3-42; R. Norer, *Lebendiges Agrarrecht: Entwicklungslinien und Perspektiven des Rechts im ländlichen Raum* (Vienna: Springer-Verlag/Wien, 2005), 469; D. Monien, *Prinzipien* n 31 above, 150; S. Landini, n 35 above, 614; S. Manservisi, n 31 above; L. Bodiguel, 'Agricoltura sostenibile: il sogno di un diritto' in P. Nappi et al eds, *Studi in onore di Luigi Costato* (Napoli: Jovene, 2014), 191-198, 196; A. Jannarelli, n 30 above, 35.

[36] Depending on the political view, the content of the notion of sustainability can vary to a certain degree, or specific criteria or facets can be prioritised, thereby disfavouring other criteria. See n 35 above. Also consider L.P. Thiele, *Sustainability* (New York, NY: John Wiley & Sons, 1st ed, 2013) and E. Giovannoni and G. Fabietti, 'What Is Sustainability? A Review of the Concept and Its Applications', in C. Busco et al eds, *Integrated Reporting*, (Cham: Springer International Publishing, 2013), 21-40.

there are good reasons to prioritize environmental sustainability in the context of climate change issues. However, as is currently apparent, sustainability issues must be weighed against each other and placed on an equal footing. Thus, we are dealing with a not-so-clear concept linked to the environment and consequently often – but not exclusively – to agro-food production.[37]

It is, therefore, difficult to implement the concept of sustainability from a legal perspective as sustainability is a legal principle – and not a legal norm;[38] and typically, a clearly defined notion is therefore missing. Apart from some specific exceptions, which incorporate sustainability criteria into more concrete legal provisions, such as those contained in Title IV of European Parliament and Council Regulation (EU) 2013/1306 of 17 December 2013 on cross-compliance – linking direct payments to environmental, health, animal welfare and land use conditions[39]

[37] The discussion on sustainability as a topic of private law, especially business law, has intensified following the 2008 financial crisis. Basically, the various discussions have concentrated on the economic dimension of sustainability. In this context, there has also been growing interest in issues related to sustainable behaviour and the associated potential responsibilities of companies. Until then, this was not a central topic in the theoretical discussion/debate. If anything, it has been discussed in the context of corporate social responsibility (CSR). In addition, the role of companies in the context of pollution, environmental degradation and climate change is increasingly being discussed. Here, sustainability is discussed following a broader, more holistic approach that takes equal account of the three dimensions. In general, European Commission, 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Renewed EU Strategy 2011-14 for Corporate Social Responsibility' (2011) and European Commission, 'The EU Corporate Governance Framework: Green Paper' (2011). Alarming, tinyurl.com/t25et52 (last visited 7 July 2020). Also consider European Parliament and Council Directive 2014/95/EU of 22 October 2014.

The causes of the financial crisis were problems with incentives, shortcomings in techniques for measuring and monitoring risks and limits of risk-adequate pricing. It was acknowledged that the compensation schemes used fostered the focus on short-term returns rather than providing incentives for managers to pursue long-term prospects. Weaknesses and shortcomings in risk management practices and monitoring systems contributed to the aggravation of the crises. Therefore, it is argued that policymakers should take action to make enterprises more sustainable, especially in the economic sense, thereby preventing a future collapse of the economic system. In this context, consider the amended § 87, para 1, of the German AktG. On this issue, see see G. Deipenbrock, 'Sustainable Development, the Interest(s) of the Company and the Role of the Board from the Perspective of a German Aktiengesellschaft' 8 *International and Comparative Corporate Law Journal*, 8 (2011), and in general, J.L. Campbell, '2017 Decade Award Invited Article Reflections on the 2017 Decade Award: Corporate Social Responsibility and the Financial Crisis' 43 *Academy of Management Review*, 546 (2018), and S.O. Idowu et al eds, *Encyclopedia of Corporate Social Responsibility: With 227 Figures and 119 Tables* (Berlin, Heidelberg: Springer, 2013) Business law cannot be considered a specific field of sustainability policy, and in general, companies are confronted only with non-binding requirements, such as appeals to members of the board, consumers or investors.

[38] In general D. Monien, *Prinzipien* n 31 above. Also consider R.E. Kim and K. Bosselmann, 'Operationalizing Sustainable Development: Ecological Integrity as a Grundnorm of International Law' 24 *Review of European, Comparative & International Environmental Law*, 194-208 (2015) and K. Gehne, *Nachhaltige Entwicklung als Rechtsprinzip* n 35 above.

[39] Art 93 of European Parliament and Council Regulation (EU) 2013/1306 states: 'The rules on cross-compliance shall consist of the statutory management requirements under Union law and the standards for good agricultural and environmental condition of land established at national

– the notion of sustainability essentially refers to the abovementioned three different and sometimes conflicting aspects. Discussing sustainability and climate change together with the responsibilities of agro-food producers makes the situation even more complex, not least because liability – as the legal category of responsibility – requires identifiable duties and obligations.[40]

At this point, it is important to recall that subsidies for agricultural activities (including outside the European Union) are often justified by emphasizing that financial support is given on the condition that production corresponds to sustainability requirements, including environmental sustainability. It is this very characteristic that has become increasingly important in the context of the Common Agricultural Policy (CAP) regime over the last two decades. However, this seems somehow contradictory, considering the relationship between agro-food production and climate change. In general, the climate liability of corporations is taken quite seriously in the international literature,[41] and it has already triggered a wave of 'climate action lawsuits' in the United States.[42] While the peculiarities of the US legal system preclude further complaints,[43] the 'climate plaintiffs' are now reaching Europe.[44]

level as listed in Annex II, relating to the following areas: (a) environment, climate change and good agricultural condition of land; (b) public, animal and plant health; (c) animal welfare'.

[40] See A. Torrente and P. Schlesinger, *Manuale di diritto privato* n 28 above, 34 and 434; D. Carusi and N. Lipari, *Diritto civile* (Milano: Giuffrè, 2009), 4; A. Liserre and F. Rocchio, *Lezioni di diritto privato* n 28 above, 316. Also consider European Group on Tort Law, *Principles of European Tort Law* 75; and C.M. Bianca, *Diritto civile* n 28 above, 8.

[41] Consider for example R.F. Blomquist, 'Comparative Climate Change Torts' 46 *Valparaiso University Law Review*, 1053-1075, available at tinyurl.com/y8ozwzhr (last visited 7 July 2020) or M. Spitzer and B. Burtscher, n 5 above.

[42] See tinyurl.com/y2nrru5u (last visited 7 July 2020).

[43] See M. Spitzer and B. Burtscher, n 5 above, 143.

[44] For example, a Peruvian farmer recently sued the German energy utility RWE in front of the regional court Essen because his property was threatened with flooding due to the glacier melt: One of the factors responsible for the glacier melt would be RWE's CO2 emissions. Consider Lliuya v RWE (see tinyurl.com/ycczxzmu (last visited 7 July 2020)). The jurisdiction for such actions in Europe arises from Art 4, para 1, in conjunction with Art 63, para 1, European Parliament and Council Regulation (EU) 1215/2012 of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters. Thus, the place of jurisdiction is the country of domicile of the defendant. It is true that, according to Art 4, para 1, of the Rome II Regulation (European Parliament and Council Regulation (EU) 864/2007 of 11 July 2007 on the law applicable to non-contractual obligations. The law of the place applies, where the damage arose (and in many cases the law of a third state). However, under Art 7 Rome II Regulation, the plaintiff can also choose the law of the place where the act has been performed. This can be in Europe. It therefore makes sense to consider whether – at least in theory – Italian food producers could be held liable for damage occurring due to climate change.

Art 4, para 1, European Parliament and Council Regulation (EU) 1215/2012 states: 'Subject to this Regulation, persons domiciled in a Member State shall, whatever their nationality, be sued in the courts of that Member State'. Art 63, para 1, European Parliament and Council Regulation (EU) 1215/2012 states: 'For the purposes of this Regulation, a company or other legal person or association of natural or legal persons is domiciled at the place where it has its: (a) statutory seat; (b) central administration; (c) principal place of business'. Art 7 Rome II Regulation states: 'The law applicable to a non-contractual obligation arising out of environmental damage or damage sustained

Taken together, I consider a situation where a specific activity (agro-food production) significantly contributes to climate change, whereby third parties can (also) be damaged (here, the forest of Mrs Rossi). The complexity of this research is enhanced by the fact that the scrutinized activity is conducted in a network of agro-food producers, that is, through different autonomous legal entities with a coordinating centre at their top, all of which may also be subsidized or supported by other fiscal means. In my opinion, this means that we should also think about whether the network manager – the PO[45] (using the legal form of a cooperative) – may also be held responsible for climate change and thus whether it is liable under Italian tort law. As the 'main actor' is an (agricultural) cooperative, it is necessary to specifically consider the civil obligations and responsibilities of its representatives, or better, managers (administrators/*amministratori*). At this point, it is also important to stress that I do not consider penal liability.[46]

I have chosen to specifically focus on agro-food producers as many legal norms concerning the sector of agriculture normally require that this activity should or even must be conducted in a sustainable way. However, the aim of this essay is *not to find a solid solution*, as more research is needed for this, but rather, to elaborate specific thoughts that will help in reconsidering agricultural activities in the light of climate change. Although I focus on a specific branch of business, the thoughts expressed here are very theoretical in nature, and they *do not* cover the complete dynamics of the producer networks or chains. A specific limitation emerges in that the Italian legal order considers network liability only to a limited extent, with the result that liability regarding a third party is primarily linked to a single entity and not the network itself. A further limitation of this study arises because it does not consider the extent of the damage that could possibly be caused by the behaviour of an agro-food producer.

But before going into further detail, we must first analyse how the Italian legal framework regulates the relationship between a damaging subject and third parties (ie, non-contractual liability). Here, the basic norm is Art 2043 Civil Code. The analysis of this norm is also a useful tool for determining the course of the examination. Thus, in Chapter III I consider whether it is possible within the current legal order to find features which help to construct a(n) (enforceable) duty which forces agricultural cooperatives/POs to produce agricultural products in an environmentally sustainable way, with the consequence that damage to

by persons or property as a result of such damage shall be the law determined pursuant to Art 4, para 1, unless the person seeking compensation for damage chooses to base his or her claim on the law of the country in which the event giving rise to the damage occurred'.

45 For a concise analysis and evaluation of Italian agro-food cooperatives, consider P. Bono, 'Support for Farmers' Cooperatives. Country Report Italy' (2012), available at tinyurl.com/ydcmovtd (last visited 7 July 2020).

46 In this context, Art 25 *undecies* decreto legislativo 8 June 2001 no 231 providing for a specific criminal liability of the legal person for environmental crimes committed by its officers and employees.

the climate is reduced.

Chapter IV discusses aspects concerning the role of the defendant. These include, firstly, the PO's duty of care and, secondly, its role in production chains and, in this context, the question of whether there could be a civil liability for climate-damaging acts resulting from the emissions produced along the whole production chain. To this end, I use observations taken from network theory to capture the dynamics of a production chain and link these to legal thought. This analysis is also important for the last step of my investigation: Chapter V addresses a central issue when applying Art 2043 Civil Code, which is the legal perspective on the connection between agro-food-producing entities and climate change. Providing evidence in this regard will of course be easier with large emitters than with smaller ones. This means, concerning my discussion, that the contribution of an individual farmer (or even fifty of them) will – I assume/for sure – be too tiny of a portion of any damage. This situation, however, might change if we consider a necessary number of farmers whose behaviour is connected to each other or, in other words, whose behaviour is uniformly controlled by a central unit, which, I argue in Chapter IV, Section 2, is actually happening in the case of a PO which steers the behaviour of its farmer-members.

After that, we can think about how to improve the legal framework (Chapter VI). Finally, the conclusion is set out in Chapter VII.

II. Explaining the Step-by-Step Analysis

1. Fundamentals on Act and Causality, Illegality and Fault

According to Art 2043 Civil Code, any intentional or culpable act that causes unlawful damage to someone else will oblige the person who committed the act to pay compensation. This general clause defines all the elements of liability, namely, act and causality, illegality and fault.

The basic prerequisite for liability is a human act. This refers to attributable human behaviour.[47] An action is attributable when it is performed consciously and intentionally, that is, it is controllable by the person concerned. It is sufficient if the injuring party can understand and want the unlawful act.[48] A precondition is that this party has caused the interference by a breach of duty contrary to due diligence. In other words, the party is liable only if it is guilty of misconduct.[49]

[47] This includes attributable human behaviour in the broadest sense, that is, both active deeds and omissions. See M. Sella, 'Art 2043', in A. Diurni and P. Cendon eds, *Artt. 2043-2053: Fatti illeciti* (Milano: Giuffrè, 2008), 24. In general G. Alpa, *La responsabilità civile: Principi* (Torino: UTET, 2nd ed, 2018).

[48] According to Art 2046, only the person who, at the time of the act, was not capable of reasoning through no fault of his own is exempt from liability. It follows from this that for liability under Art 2043 no special capacity to act on the part of the injuring party is required. Rather, it is sufficient if the injuring party was able to understand and could have wanted the tort.

[49] See M. Sella, n 47 above, 117, G. Alpa, *Manuale di diritto privato* (Padova: CEDAM, 7th

Taken together, these considerations show that the injuring party is only liable if its culpable act violates a legally protected interest of another party. This is to be understood as the violation of a subjective legal position in the broadest sense that is adequately causally attributable to the offender's act (so-called causal link).[50] This causal link performs several functions. It serves not only to reconstruct the events and the link between the damage and the liable party but also to select the area of compensable damages.[51]

Adequate for success are those causal factors which, based on general experience or objective predictability at the time of the action, were suitable for bringing about the harmful result. In other words, in the legal sense, there is always no legally relevant causal connection if a causal factor would not have led to harmful results after the regular course of events.[52] Here one can think of the example of a traffic accident caused negligently by A. B must therefore be hospitalised. However, B dies not because of the accident but because the doctor on duty is grossly negligent.

But it is also possible that it cannot be established whether the damage was caused by the independent actions of A or B. In this case, one speaks of alternative causality, provided that each event alone is sufficient to cause the entirety of the damage.[53] A school case of alternative causality is the so-called hunters' gall: two hunters shoot simultaneously in the same direction at an animal. One shot hits a passer-by. Which hunter shot the passer-by cannot be determined. In this case, Italian law excludes liability for the lack of identification of the real culprit. Joint liability under Art 2055 is also out of the question. This presupposes that all persons were actually (and not merely potentially) responsible for the damage.[54] Thus, in the case of the hunters, it is not possible to determine who has taken the hit. The mere potential causality due to the joint presence of several persons in question cannot, in principle, lead to liability. The principle of the exclusion

ed, 2011), 805.

[50] See M. Sella, n 47 above, 187. In general, G. Alpa, *La responsabilità civile* n 47 above, 201. Such a causal connection is always present if the action is a necessary condition for the occurrence of a certain result (injury). If the act in breach of duty cannot be thought away without the harmful result also being absent, a natural causal connection exists. See M. Capecchi, *Il nesso di causalità: Dalla condicio sine qua non alla responsabilità proporzionale* (Padova: CEDAM, 2012), 3. Within the framework of the doctrine of the *conditio sine qua non*, or equivalence theory (*teoria dell'equivalenza causale*), all conditions necessary for an outcome are to be regarded as basically equivalent. Indeed, the omission of a single condition would be sufficient to exclude the damage. See ibid 157. To avoid a disproportionate extension of liability, the theory of equivalence is limited by the theory of adequacy on the basis of Art 41 para 2 of the Italian Penal Code. In the sense of the theory of adequacy, an action is only to be assessed as causal in the legal sense if it is adequate for the outcome/event. See M. Capecchi, *Il nesso di causalità* (Padova: CEDAM, 2008), 68. See also P. Trimarchi, *Causalità e danno* (Milano: Giuffrè, 1967) and, in general, G. Alpa, *La responsabilità civile* n 47 above, 201.

[51] See G. Alpa, *La responsabilità civile* n 47 above, 199.

[52] See C. Salvi, *La responsabilità civile* (Milano: Giuffrè, 2nd ed, 2005), 226.

[53] On this issue, see, M. Capecchi, n 50 above, 159. See also P. Trimarchi, n 50 above, 5.

[54] On this issue, see M. Capecchi, n 50 above, 121.

of liability in cases of alternative causality is, however, overcome when an event has been caused intentionally. If, for example, A and B have mixed poison into a drink with the intent to kill C, and it is not possible to determine by which poison C died, A and B are jointly and severally liable pursuant to Art 2055 Civil Code The weaker (because potential) causal link is thus compensated by a particular degree of fault. Finally, joint and several liability also exists in cases in which a joint and deliberate act has caused a particular risk of damage to more people (eg, participation in a brawl).[55]

As explained, the damaging party is only liable if his culpable act violates a legally protected interest of someone else (illegal damage, *danno ingiusto*).[56] The term *danno ingiust*o means the violation of a subjective legal position in the broadest sense; this raises the question as to which interests are relevant in law and are thus protected under tort law. Traditional doctrine and jurisprudence have held that in tort law protection is granted exclusively to absolute subjective rights (for example, the right to health, life, freedom and property).[57] This was also the main difference between non-contractual liability and contractual liability. While relative subjective rights are affected in the case of breaches of contract, tort law should only apply where absolutely protected legal positions are infringed. This view is now outdated. As early as the 1960s, jurisdiction in the area of subjective legal positions protected by tort law began to expand increasingly more in order to include in its scope interests that cannot be qualified as subjective rights. The development towards the typological freedom of injustice (*atipicitià dell'illecito*) led to the recognition of claims for damages for the violation of completely diverging interests. These now include, firstly, the interests of a person (personal rights, the right to physical integrity and health, the right to an intact family relationship of the survivors in the event of death, etc) and, secondly, patrimonial interests (property rights, the right to undisturbed use of property, protection against emissions, the right to an intact nature, possession, legitimate

[55] This all-or-nothing principle was strongly criticised, and it was therefore proposed to introduce a partial liability which would lead to compensation for the part of the damage corresponding to the probability of an actual causal contribution. On this issue, see ibid, 205. In contrast, in the context of a very detailed discussion of the problem of mass damage/poisoning damage, it was suggested that in cases of alternative causality, where it is not possible or considerably more difficult to determine the actual injuring party, the so-called dual causation test should be applied. Accordingly, the injured party only has to prove the potential (abstract) causality, whereas the defendant is free to provide counterevidence in order to free himself from liability. See G. Baldini, *Il danno da fumo: Il problema della responsabilità nel danno da sostanze tossiche* (Napoli: Edizioni Scientifiche Italiane, 2008), 155. On this issue, see also G. Alpa, *La responsabilità civile* n 47 above, 207 and 419.

[56] On this issue, see M. Franzoni, *L'illecito* (Milano: Giuffrè, 2nd ed, 2010), 867. For basic debates, see also P. Schlesinger, 'La ingiustizia del danno nell'illecito civile', *JUS* (1960), available at tinyurl.com/y789kyjg (last visited 7 July 2020); R. Sacco, 'L'ingiustizia del danno di cui all'art. 2043' *Il Foro padano*, I, 1420 (1960), S. Rodotà, *Il problema della responsabilità civile* (Milano: Giuffrè, 1964).

[57] See C. Salvi, *La responsabilità civile* n 52 above, 82.

interests and pure patrimonial interests).[58] The expansion of the field of interests protected in tort reached a climax with a judgement of the court of cassation in 1999.[59] Since then, even the violation of merely legally relevant interests (*interessi giuridicamente rilevanti*) is sufficient to satisfy the requirement of illegality (*danno ingiusto*).[60]

Another element of liability under Civil Code Art 2043 is fault. To have fault, it is sufficient/necessary that the injuring party was capable of controlling his will and consciousness at the time of the unlawful act.[61] This includes intent and negligence. Intention is present if the damage was consciously and wilfully caused,[62] while in the case of negligence, the offender unintentionally causes the damage by his carelessness (*negligenza*), inattentiveness (*imprudenza*), inexperience (*imperizia*) or violation of the legal obligations imposed on him.[63] To ascertain the violation of obligations (specific fault, *colpa specifica*), it is sufficient to ascertain the violence of the offence, whereas in other cases (generic fault, c*olpa generica*), fault is established in accordance with the criteria of foreseeability. The judge takes into account the conditions in which the event could have been foreseen or prevented and the effort of the average man to achieve the result of

[58] See ibid, 91. The liability for damages due to the violation of rights to claims also gained great importance in the discussion about typological freedom of tortious injustice. This concerns the question of whether the frustration of the performance of the obligation to perform due to the tort of a third party constitutes a tortious claim for damages by the creditor if the creditor does not obtain adequate protection of his interest for performance by way of contractual liability (Art 1218 Civil Code). See M. Franzoni, n 56 above, 989.

[59] See Corte di Cassazione 22 July 1999 n 500.

[60] See A. Virgilio, 'Il danno ingiusto', in P. Stanzione ed, *Trattato della responsabilità civile* (Padova: CEDAM, 2012), 85-118. Illegality in its meaning of *non iure* means that there is no justification (*causa di giustificazione*) recognised by the legal system for the harm suffered by the injured party. The Civil Code mentions self-defence and necessity as justification grounds that exclude illegality. Self-defence (*legittima difesa*) is the defence of one's own right or the right of another (emergency aid) to defend against the present and unavoidable danger of an illegal attack. The defence, which is properly directed against the aggressor, has to be in reasonable proportion to the attack. In this case, the aggressor who has suffered damage is not entitled to compensation. In the case of a state of emergency *(stato di necessità*), however, there is no illegal attack. The aggrieved party attacks the legal interests of someone else because he feels compelled to save himself or a third party from the current danger of serious damage to the person. The unlawfulness of this intervention is only excluded if the damaging party has not deliberately caused the danger and if this danger could not be averted in any other way. In cases of necessity, the injuring party does not owe full compensation but rather compensation assessed by the court according to equity. While the Civil Code only provides for self-defence and necessity as grounds for justification, jurisprudence has also recognised the exercise of a right (*esercizio di un diritto*) or the fulfilment of an obligation (*adempimento di un dovere*) and the consent of the person concerned (*consenso dell'avente diritto*) as further grounds for justification. On these issues, see M. Franzoni, n 56 above, Chapter IX. See also G. Alpa, *La responsabilità civile* n 47 above, 212, and A. Virgilio, n 60 above.

[61] It is sufficient if, due to his mental maturity, he had to be aware of acting negligently or intentionally.

[62] On this issue, see M. Franzoni, n 56 above, 350.

[63] See also C. Salvi, *La responsabilità civile* n 52 above, 160.

avoiding the damage.[64] Moreover, fault in most cases is accompanied by other factors, such as the exercise of a profession, the keeping of things or animals or the exercise of dangerous activities.[65]

The legal norm analysed here is of a general nature and refers not only to natural persons but also, among other things, partnerships or corporations – in the latter case, considering the behaviour of its organs.[66] This results from the legal personality of the company and, thus, the ensuing special relationship between the administrators and company. Consequently, the company (here, an agricultural cooperative recognised as PO) is primarily liable, directly and exclusively, *vis-à-vis* third parties, for the damages covered by Art 2043 Civil Code and caused by the administrators/managers (who acted in the company's name and on its behalf).[67]

2. Defining Suitable Contours for Our Example: Whose Damage and Which Damage

Generally speaking, if all the conditions[68] described above are fulfilled, the liability of the person causing the damage[69] is justified. However, the injured party is only entitled to damages if she (here, Mrs Rossi) can prove that he has suffered real damage as a result of the tort.[70] In this sense, therefore, damage does not mean the violation of a protected legal position (*danno ingiusto*) but loss or impairment of the property or person of the injured party (d*anno pregiudizio*). Therefore, despite the existence of all liability conditions, a compensation claim is only justified if the (culpable) violation of the protected legal position has also caused damage in its natural sense.[71] This damage can be either financial loss or non-pecuniary loss.[72] This distinction is very important because the Italian legislature has very restrictively regulated the compensation of non-pecuniary damage and, in principle, only allows it in cases prescribed by law.[73] In order not to lead the discussion in this article into the bottomless depths, I only consider

[64] See G. Alpa, *La responsabilità civile* n 47 above, 155.

[65] ibid 156.

[66] In fact, while damage caused by employees of a company must be regulated in accordance with Art 2049, damage caused by the actions of the company's organs must be regulated in accordance with Art 2043.

[67] See G. Alpa, *La responsabilità civile* n 47 above, 119. With regard to the liability of employees, Art 2049 is applicable. In addition, the law regulates other aspects, especially the personal liability of the administrators (see Art 2392 Civil Code).

[68] That is, causal link, illegality and fault due to Art 2043 Civil Code.

[69] Or the person responsible for it. See Art 2049 Civil Code.

[70] See G. Alpa, *Manuale di diritto privato* n 49 above, 813, M. Sella, n 47 above, 45.

[71] See M. Franzoni, n 56 above, 82 and 56. The dual role of the causal link must be borne in mind: the imputation of liability, the demarcation of the area of compensable damage. See Alpa, *La responsabilità civile* n 47 above, 200.

[72] See M. Franzoni, n 56 above, 56.

[73] See Art 2059 Civil Code. On this issue, see above 59.

the financial damage/loss.[74]

In the context of pecuniary loss, a basic distinction is made between positive loss (losses suffered) and loss of prospective profits.[75] Positive damage results from all material losses suffered by the injured party in his existing assets. The lost profit, however, consists of the impediment of the acquisition of assets that were not yet acquired at the time of the occurrence of the loss but were expected to be acquired. The loss of profit is measured on an equitable basis.[76]

For my discussion, a starting point shall be the fact that the worst effects of greenhouse gas emissions are not expected until later in this century or thereafter. I stress that considering future damages leads to a number of obstacles for plaintiffs for various reasons, and I argue that plaintiffs are definitely better advised to identify the damages currently realized and link them to the ongoing damage caused by climate change instead. This shall be explained by an example.

The plaintiffs could try to allege that anthropogenic greenhouse gas emissions have created the need for adaptation planning in order to prepare for the worst impacts of climate change.[77] Yet, here the question arises as to the extent to which such precautionary measures should differ from normal good corporate governance.[78] Moreover, one may also ask whether the compensation of expected climate change expenditures eventually might not lead to an excessive – that is, disproportional and unfair – financial burden the defendant has to bear (regardless of which industries are held responsible for the costs of adaptation planning). These observations underpin that property infringement is a logical – because well presentable – *starting point* for climate liability suits.[79],[80]

[74] For example, one could examine the non-pecuniary damage that would be caused if certain cultural objects, territories or other localities were to be destroyed due to climate change.

[75] See Art 1223 Civil Code.

[76] See M. Franzoni, n 56 above, 56; see also 931. Special characteristics of the financial loss are the loss of use in the event of damage to a motor vehicle and the loss of an opportunity.

[77] Individual assessments of climate change vulnerability and the need for mitigation measures are now being undertaken throughout all levels of government and to a growing extent by the private sector, in many cases at the insurer's request. Such expenditure could be characterised as a reasonable and predictable consequence of the risk-increasing activities of (potential) defendants in connection with climate change.

[78] In this sense, D.A. Kysar, 'What Climate Change Can Do About Tort Law' 41 *Environmental Law*, 43 (2011).

[79] For example, the Peruvian farmer in *Lliuya* v *RWE* (see no 44) had to protect his property from flooding by a dammed glacial lake. In the United States, there were complaints from an Inuit community where the village had become uninhabitable due to erosion of the permafrost soil and from homeowners whose homes had fallen victim to Hurricane Katrina, which was presumed to have been exacerbated by climate change.

[80] After all, property rights are not only protected under constitutional law; rather, they also enjoy special protection under tort law: Art 2043 ZGB, with its broad general clause, counts property rights among the absolutely protected goods. Of course, life and health enjoy even greater protection among the absolutely protected goods. Thus, killings and bodily injury could also form starting points for climate liability in the future. Clearly, the damage potential extends far beyond the traditionally absolutely protected goods. The first thing to consider is consequential damage to property, such as loss of profit. In addition, genuine financial losses can also be

The damage will be manifold. In brief, climate change will irrevocably damage resources, such as traditional or customary fisheries and landing sites will be damaged. Next, climate change will also result in ocean warming and acidification, and this will impact specific coastal and fresh water fisheries. Then, climate change will result in the irrevocable and irreplaceable loss of land, resources and species with severe economic consequences. Moreover, the release of greenhouse gases results in increased temperatures, leads to a loss of biodiversity and biomass and a loss of land (including as a result of sea level rise) and brings about risks to food and water security, increasing extreme weather events; it will also lead to a loss of sites of cultural and historical significance.[81]

As known, in Italy, there are various sites of customary, cultural and historical significance not only to Italy, meaning the Italian people, but to mankind in general. Think of the Colosseum in Rome or the City of Venice. It is this town which is particularly endangered by climate change due to its close proximity to the sea – actually, it is partially built on it. In these cases, however, the actual damage is not yet deliverable, and this leads us to the abovementioned obstacles in the quantification of the damage.

Moreover, if we stay with the example of Venice, the question also arises as to who is the injured party (and therefore the plaintiff, according to Art 2043 Civil Code), only the owner of a property in Venice or at least all Italians whose cultural property and legacy is destroyed? And who, in this second case, would represent the injured parties? The complexity of the issues thus forces us to simplify. In this respect, my considerations therefore remain modest, and I sketch, as the injured party, a Mrs Rossi, whose forest was destroyed by windthrow, as mentioned in Chapter I. Just to remind the reader, I assume that windthrow is a phenomenon that has been intensified by climate change.[82]

But we need to be clear that, when viewed as a whole, our defendant's emissions might certainly be tiny in the context of global greenhouse gas emissions;[83] it will therefore be crucial to provide clear evidence not only of the damage caused but, in particular, of the defendant's contribution to the damage. As a matter of fact, the anthropogenic greenhouse effect is devastating only because

considered. In the context of climate liability suits, for example, one could think of a ski lift operator who can only offer customers green meadows instead of snow-covered slopes. However, even in the case of climate damage that could potentially occur anywhere in the world, there must be an end to it at some point, so that mere financial losses will generally not be able to recover. Ecological damage is also conceivable, such as the extinction of rare animal species, coral bleaching or the drying up of water bodies. However, if such ecological damage is not accompanied by damage to personal or property rights, compensation for it is unlikely. Of course, the mere intervention in an absolutely protected good only indicates illegality. A precondition for liability is that the defendant has caused the interference by a breach of duty contrary to due diligence. In other words, the aggrieved party is liable only if he is guilty of misconduct.

[81] See IPCC, *Global warming of 1.5°C*, see also S. Rahmstorf and H.J. Schellnhuber, *Der Klimawandel: Diagnose, Prognose, Therapie* (München: C.H.Beck, 9th ed, 2019), 55.

[82] See n 7 above

[83] Some kind of de minimis threshold seems necessary as a minimum requirement.

there are millions of emitters whose combined emissions cause the harmful effect. This seems to lead to joint and several liability. Yet, as will be explained in Chapter V, there are methods for determining the warming potential of the various greenhouse gases, and there are also methods for quantifying the contribution of a particular emitter to climate change. This means that as long as the emissions of a particular emitter can be measured, it is also possible to calculate that emitter's contribution to climate change. This is important because otherwise we would be referring to some kind of indeterminate liability.

So far, these are the theoretical assumptions, the key points for my case study, I use to discuss a possible non-contractual liability of POs for climate damage; they relate to the interests of the plaintiff and the harm she alleges. Based on the other elements contained in Art 2043 Civil Code – act and causality, illegality and fault – in Chapters III to V, I address the following three questions:

1. Are there obligations requiring agricultural cooperatives organised as a PO to conduct their business in an ecologically sustainable manner?

2. How should a PO deal with the issue of climate change, and which specific responsibilities might be relevant in this regard? This includes, on one hand, considering its duties of care to be observed in the performance of its activities and, on the other hand, the question as to whether it is possible to hold the agricultural cooperative/PO liable for damage to third parties because of its specific role as a network hub.

3. And lastly: Can a causal link be substantiated between the activities of the agricultural cooperative/PO and damage to third parties (eg, Mrs Rossi's destroyed property) caused by climate change?

All three of these questions concern, in one way or another, the abstract behaviour of the agricultural cooperative and the concrete behaviour of its managers and stem from the fact that, as mentioned in Section 1 of this chapter, when legal persons act, the conduct of its organ members must be taken into account. This aspect will be analyzed in particular in Chapter IV, that is, the second step, of this investigation.

III. First Step: Examining the Possibility of Developing a Duty to Do Agricultural Business in an Eco-Sustainable Manner Within the Framework of the Existing Legal Order

The question of the extent to which agro-food producers can be held responsible for climate change is linked to the legal framework within which an Italian agricultural cooperative, recognised as a PO, conducts its business. The question is whether obligations can be derived from this, according to which a PO must produce in an ecologically sustainable manner.

The starting point in this discussion is the concept of agricultural activity as defined in Art 2135 Civil Code. This is in fact the basic norm that determines

what an agricultural cooperative may ultimately do. Maybe the idea of (ecological) sustainability is directly linked to agricultural activity, as defined by Art 2135 Civil Code, and thus represents a substantial part of the activity itself.

The next aspect concerns the question of the extent to which, at present, companies overall, including agricultural cooperatives recognised as POs, specifically must operate their businesses in an ecologically sustainable manner. This also requires estimating the extent to which board members are free to pursue a climate-friendly strategy. Such assessments require examining what, according to the law, the purpose of business is or may be.

Then, an assessment of whether producers of agricultural products could be urged to reduce their harmful behaviour with respect to the climate must also include an analysis of whether specific requirements arise from the overall framework, that is, the EU law governing these companies and Italian constitutional and environmental law. The question of sustainable agricultural production leads us, as a final step, to the analysis of voluntarily entered production specifications or production standards, such as the use of ecolabels.

1. Environmental Sustainability and Agricultural Activities as Determined by Art 2135 of Civil Code

Art 2135 Civil Code defines agricultural activities in a rather open way. According to the article, these activities can be divided into two main categories, namely core activities and connected/related activities.[84] Of importance for this discussion is the first category, under which a legislator specifically subsumes cultivation of the land, forestry and animal husbandry.[85] To qualify as a farmer, it is necessary that these activities aim at the care and development of a biological cycle (or a necessary phase of the cycle), where land, forest or fresh, brackish or marine waters may[86] be used.[87] It should also be noted here that not only natural persons but also – under certain conditions – legal entities (eg, a cooperative)[88]

[84] For details L. Costato and L. Russo, n 9 above, 82.

[85] The mentioned openness of the norm can be shown via the example of animal husbandry: The introduction of the criterion of the biological cycle allowed inclusion of activities carried out not directly on the soil (ie battery farms) under the notion of animal husbandry. Moreover, animal breeding is not to be understood exclusively as direct breeding to obtain typical agricultural products, such as meat, milk, wool and working animals. Today, the notion of animal breeding also includes breeding of race horses or fur animals and cinotechnical activity, that is, activity aimed at breeding. Moreover, it comprises farmyard animals, that is, chickens and rabbits, as well as aquaculture, fish and mussels and also horticulture, greenhouse cultivation, nursery cultivation or floriculture. For details, A. Germanò, *Manuale di diritto agrario* n 9 above, 72, L. Costato and L. Russo, n 9 above, 331.

[86] May and not must. Thus, this is not necessarily obligatory.

[87] For details A. Germanò, *Manuale di diritto agrario* n 9 above, 65, L. Costato and L. Russo, n 9 above, 324.

[88] Cooperatives are basically divided into workers' cooperatives, consumer cooperatives and service cooperatives. In the agricultural sector, a workers' cooperative is formed by the hypothesis of the joint cultivation of the members' land and the joint breeding of the members' animals: In Italian law, this is an *agricultural enterprise* due to the meeting of all the requirements set out

can be qualified as farmers,[89] with the consequence that they are eligible for subsidies and tax relief.

The concept of the biological cycle contains aspects that link agricultural activities to environmental sustainability considerations, which is conclusive, since agriculture directly depends on a 'healthy' environment. This is most easily illustrated by the example of forestry, but it should also apply to the other two main activities. The special feature results from the object, that is, the forest. This not only enables the production of specific things (wood) in tune with the natural capacities of restoring the resource used but, due to its importance for soil strength, air purity and landscape conformity, can also be said to produce the environment.[90] The legislator especially safeguards this environmental aspect via specific legal norms (eg, by determining rules of good practice and forest management plans).

Looking at the relationship between climate change and animal husbandry, and implicitly, at the extent to which animal husbandry is (or can/must be) ecologically sustainable, it can be seen that, unlike forestry, the relationship between the production of economic value and the destruction of the environment cannot be directly captured. While the biological cycle in animal husbandry is shorter, and the possibility of earning money is improved, the consequence of unsustainable behaviour – and in particular in the context of climate change[91] –

in Art 2135 of the Italian Civil Code. The consumer cooperatives are based on the hypothesis that the agricultural products are supplied by the members, but at the same time, sold to non-members. The service cooperative consists, for example, in the processing of the members' products, as in the case of social cellars, social oil mills and social cheese factories. See also n 12 above.

[89] The service cooperative referred to in the previous note, in Italian law, is an agricultural enterprise by virtue of Art 1, para 2, decreto legislativo 18 May 2001 no 228, although, for the purposes of the connection between the cooperative's activity (the 'service' of processing) and the activity of its members (the production of grapes to be vinified, olives to be pressed and milk to be processed into cheese), the requirement of '*unisoggettività*' (that is both activities conducted by the same subject) in Art 2135 of the Italian Civil Code is lacking. The principle of transparency, in which the legal personality of the cooperative cannot veil the personalities of the members who join together to carry out the last phase of their business, means that the cooperative constitutes and functions as a common body for individual farmers.

[90] These functions have always been considered as the most important ones. In this regard, see A. Germanò, *Manuale di diritto agrario* n 9 above, 70. See also A. Sciaudone, 'L'azienda agricola tra esigenze della proprietà e sviluppo dell'impresa. (Il potenziamento delle strutture agricole e la promozione dell'azienda tra politiche europee e dinamiche interne)' *Rivista di diritto agrario*, 421 (2016).

[91] The production and consumption of meat leads to significant animal methane emissions. Furthermore, animal husbandry, which is spatially decoupled from forage areas, largely depends on the importation of cheap fodder for intensive fattening (eg soya imports from South America), and it leads to additional emissions due to expenditure on animal feed and manure management (fertiliser balance, disposal or energy recovery in biogas plants). In addition, the processing and storage, transport and preparation of food show climatic and environmental influences. See U. Ermann et al, n 2 above, 82. In contrast, organic farming, which does without synthetic fertilisers, is considered to be much more climate friendly than conventional agricultural production is. For example, a school canteen could reduce its carbon footprint by fifteen twenty percent by switching from conventional to organic food. A.K. Cerutti et al, 'Carbon footprint in green public procurement: Policy evaluation from a case study in the food sector' 58 *Food Policy*, 82-93 (2016). Globalised

is still only felt in the long term (by the next generation).[92] As the consequences are only felt in the long term, it seems rather unlikely that, in this specific case and example, people will move towards more environmentally sustainable behaviour. There is a missing link between the present actions and future consequences; in other words, there are asymmetries in feeling the consequences (damage) between market participants who do not play on the same stage but instead appear on stages that are strongly separated in time. In fact, the damage caused by one generation is not felt by that generation but instead by the next generation.

This raises the question of why the former should voluntarily change their behaviour at all. In contrast, it seems more likely that market participants would switch to environmentally friendly behaviour if they feel the negative consequences personally. No doubt, this can work in forestry or other activities that depend on the usage of a biologically healthy soil – as a production factor[93] – for creating economic prosperity.[94] Thus, as long as the environmental consequences of agricultural activities more or less directly correlate with the biological cycle – that being the period during which a farmer carries out the activity – it can be assumed that farmers will, voluntarily, pay special attention to environmental sustainability; however, if there is a time gap in this respect, and if it becomes larger and larger, environmentally sustainable behaviour on a voluntary basis is likely to be weakened.

The importance of agricultural activity – and implicitly, its effects on and importance for food production and on/for its environmental functions (the

food production requires complex transport systems. However, the transport of food is an especially tricky issue. At first glance, one might question the transportation of food over thousands of kilometres for environmental reasons. However, studies have revealed that one has to be careful about these assessments. Various calculations have shown that CO_2 emissions from imported fruit from overseas can be lower than that from fruits from domestic glasshouse production, while large, centralised bakeries and their transport logistics supply the population with bread and biscuits in a much more energy-efficient manner than small, decentralised bakeries do. This raises the question of energy efficiency and emissions along the entire value chain, with transport often only contributing to a small proportion of emissions compared with production and processing processes. Especially energy efficient, and thus, climate friendly, are transports with ocean-going vessels, followed by rail and large trucks; air transport is notably inefficient. However, consumers also contribute to emissions. Due to the low transport volume, transport in private cars is especially unfavourable. Also consider M. Schönhart et al, 'Sustainable Local Food Production and Consumption' 38 *Outlook on Agriculture*, 175-182 (2009), E.H. Schlich and U. Fleissner, 'The ecology of scale: assessment of regional energy turnover and comparison with global food' 10 *International Journal of Life Cycle Assessment*, 219-223 (2005).

[92] It is also important to note that intensive livestock farming, especially cattle and pigs, requires huge amounts of water and includes large areas of land for cereals. Water consumption and the increase in the land used exclusively for cereals have serious effects on the environment. As for the marketing of agricultural products, it should be noted that the focus on so-called zero-kilometre agriculture favours the reduction of transport, and therefore, leads to a significant reduction in CO_2 emissions.

[93] Not merely by constructing a building on it.

[94] One is soil erosion due to climate change, while the other is the destruction of the soil due to inappropriate cultivation methods.

production of non-tradable goods)[95] – has pushed the Italian legislator to adopt a rather open approach that allows not only considering traditional[96] agro-food producing activities and techniques (family farms) but also aligning the requirements of the classical agricultural entrepreneur with the necessities of globalized food production systems. This is shown, for example, by the abovementioned connected/related activities,[97] which will help to generate further income and other rules aimed to foster cooperation and, thus, produce economies of scale (including by using company forms).[98] As mentioned in Chapter I, this approach is then supported by other legal rules, including a favourable tax regime[99] or by granting the qualification of PAE.[100]

[95] On this issue, A. Germanò, *Manuale di diritto agrario* n 9 above, 295, A. Germanò and E. Rook Basile, *Manuale di diritto agrario comunitario* (Torino: Giappichelli, 3rd ed, 2014), 423.

[96] It seems useful to remember that traditional food-producing activities can be granted specific safeguards (ie protection of geographical indications).

[97] These law govern working, preserving, processing, marketing and refining products. It is required that these activities are carried out mainly from an essential agricultural activity by the same agricultural operator (through the predominant use of equipment and means of production that is normally used). The notion of related activities also refers to supply of goods or services if carried out through the predominant use of equipment and means of production commonly used in the agricultural activity (including activities for improving the soil and the agricultural and forestry heritage or connected with the accommodation and hospitality of guests in the manner laid down by law). The legal rule contains a subjective condition – the same agricultural operator – and an objective one. Regarding the first, one can conclude that an entrepreneur who processes or markets the agricultural products of others is not an agricultural entrepreneur. The qualification of agricultural entrepreneurs, however, is extended to cooperatives of agricultural entrepreneurs and their consortia when they mainly use the products of their members or mainly provide their members with goods or network services for the care and development of the biological cycle. In these cases, there is no subjective identity between those who produce grapes or olives – the members of the cooperative – and those who produce wine or oil – the company. From the point of view of objective connection, the current notion innovates with respect to the previous one. For this reason, it no longer requires that the activities of alienation processing of agricultural products are part of the normal exercise of agriculture, and it does not require that related activities other than these have an ancillary character. These criteria have been replaced by the criterion of predominance. They should be limited to activities involving products obtained mainly from the exercise of the essential agricultural activity or to goods or services provided through the predominant use of farm equipment or resources. It is sufficient that the related activities do not take precedence over the essential agricultural activity from the point of view of economic importance. For details, L. Costato and L. Russo, n 9 above, 353, A. Germanò, *Manuale di diritto agrario* n 9 above, 82. See also A. Sciaudone, 'La specialità dell'azienda agricola' *Rivista di diritto agrario*, 309-352, 335 (2019).

[98] The most common company forms used in the agricultural sector are the simple company (*società semplice*) and cooperative. In addition, it is also possible for farming activities to be conducted by means of capital companies (*società per azioni*, spa). Even though in practice this option has not yet been fully exploited. See A. Germanò, *Manuale di diritto agrario* n 9 above, 118, L. Costato and L. Russo, n 9 above, 374.

[99] Moreover, the farmer enjoys preferential treatment over the commercial entrepreneur. He is subject only to the rules laid down for the entrepreneur in general and exempted from the application of the rules of the commercial entrepreneur; that is, he or she is not required to keep accounts or subject to bankruptcy and other insolvency procedures.

Specific tools for fostering cooperation between farmers and within the agro-food producing value chain include agro-industrial contracts (its object is regulating the contractual relations

All these tools help make small producers competitive by reducing specific costs, thus safeguarding agro-food production along with its effects and importance regarding environmental sustainability. But again, if subsidies, special tax benefits and specific organizational instruments are granted, especially because agriculture performs certain functions – both in terms of efficient food production and in relation to non-tradable goods – it indeed seems legitimate to ask how this can be reconciled with the influence of modern agricultural and food production systems with respect to climate change. The answer that Art 2135 can give in this regard is modest, but perhaps clearer guidelines will emerge from those norms that generally regulate the business purpose of a cooperative.

2. Evaluation of the Requirements Concerning the Business Purpose of an Agricultural Cooperative Recognised as a PO

According to Italian law, an agricultural cooperative, – like any other company,[101] apart from some specific exemptions (ie social cooperatives) – pursues an egoistic purpose. This not only refers to maximizing profits but also, primarily, enables the pursuit of mutualistic scopes.[102] This implies granting services, such as the processing of members' products at a cost that – at least in theory – is more convenient than offered on the market.[103] Here, we see the double characteristic of the cooperative as follows: a) making profits so that the cooperative can successfully fulfil its purpose and b) offering services to the members at a favourable price.[104]

Within the criteria outlined above, shareholders – in our case, farmers as members of the PO/agricultural cooperative – determine the cooperative's purpose, thereby defining the abstract egoistic purpose according to their ideas. This aim is put into practice by the board members, who must observe the given

between farmers, processors, distributors and traders. On these issues, see A. Germanò, *Manuale di diritto agrario* n 9 above, 306), agro-food districts, productive districts (see A. Germanò, *Manuale di diritto agrario* n 9 above, 303) or POs (for details, L. Costato and L. Russo, n 9 above, 386, A. Germanò, *Manuale di diritto agrario* n 9 above, 129), which are also the linchpin of this discussion.

[100] See n 13 above.

[101] Art 2247 Civil Code defines the purpose of a company contract. Accordingly, two or more persons shall provide goods or services for the joint pursuit of an economic activity for the purpose of sharing profits. From this, it follows that the shareholders conduct the activity to realise profits to be assigned to the single shareholders. For details, among many others, M. Cian, 'L'organizzazione produttiva: elementi costitutivi' in M. Cian ed, *Diritto commerciale, Volume III: Diritto delle società*, (Torino: Giappichelli, 2017), 1-51, 46, D.U. Santosuosso and M. Avagliano, 'Art 2247', in M. Cian ed, *Artt 2247 - 2378* (2015) 13.

[102] For examples relating to agricultural consumers, workers and producer cooperatives, see Chapter I.

[103] See R. Santagata, 'Le società cooperative', in M. Cian ed, *Diritto commerciale. Volume III: Diritto delle società*, (Torino: Giappichelli, 2017), 807-843, 809. Also consider, among many others, L.F. Paolucci, 'Definizione e aspetti caratterizzanti', in L.F. Paolucci ed, *Le società cooperative*, (2012), 1-24, 3.

[104] In this sense, J.M. Kramer, n 22 above, 126.

limits according to the mutualistic (but still egoistic) scope. This concept grants them wide-ranging discretion. In fact, they can develop strategies that not only put the classical interest of shareholders/members – which is favourable prices – in the middle, but rather, they may, in addition, consider the interests of other stakeholders. In this context, it is argued that, in the long run, a pluralistic approach may also lead to a concrete economic advantage for a company.[105]

Even though the board members have to deal with the modalities of implementing the mutualistic scope,[106] there is ultimately no specific mandate between the board and the shareholders/members; the law empowers the members of the board to weigh the different interests of the various stakeholders involved (ie, employees, creditors, shareholders/members, other interests) when making decisions for the cooperative. In practice, this is done on a case-by-case basis. It follows that this pluralistic approach makes it possible to increase 'member value' but that there is no strict obligation to do so. This discretion, however, is definitely limited by the duty to safeguard the continued existence of the cooperative, requiring *lasting profitability*.[107] Therefore, as long as a strategy focussing on environmental sustainability does not reduce the profitability of the company/cooperative but includes aspects that eventually even improve profitability, a specific provision allowing such decisions seems unnecessary. In other words, in line with the object[108] of a PO – here, using the legal form of a cooperative – its board members are free to make such decisions without the explicit decision of the shareholders/members, nor are they bound by instructions from third parties.[109]

It is true, cooperatives are often described as sustainable enterprises, but the idea of sustainability is only vaguely contained in the norms considered here.[110] This shows the typical approach to questions such as how to implement the principle of sustainability into a legal norm, namely, that the legislature adopts legal norms with vague content.[111]

[105] See M. Cian, 'L'organizzazione produttiva: elementi costitutivi' n 102 above, 48; D.U. Santosuosso and M. Avaglione, 'Art 2247' n 101 above, 13.

[106] The specifications of Art 2545 Civil Code are a good example for this.

[107] See R. Santagata, n 103 above, 809. Also consider M. Cian, 'L'organizzazione produttiva' n 102 above, 48.

[108] As laid down by the statutes (articles of association).

[109] See R. Santagata, n 103 above, 832, P.M. Sanfilippo, 'Gli amministratori' n 6 above, 462.

[110] However, if a cooperative is predominantly mutual (according to Art 2512 Civil Code), a relatively sustainable orientation results from the conditions deriving from the earmarking of the cooperative's assets. On this issue, see, H. Henrÿ, *Guidelines for Cooperative Legislation* (Geneva: International Labour Organization, 2012), 18. See also G. Miribung, 'Thinking beyond the principle – from an attempt to legally substantiate the principle of sustainability using the example of agricultural cooperatives' *Cooperative Law, in Honor of Hagen Henrÿ (tribute book)* and G. Miribung, 'Riserve indivisibili nelle cooperative e patrimonio separato: spunti di riflessione' *www.giustiziacivile.com* (2015)

[111] This approach is even more true for capital companies in terms of the shareholder value concept (see P.M. Sanfilippo, 'Gli amministratori' n 6 above, 462), which is also contained in

The rules relating to the business purpose of a cooperative establish the general framework, but specific details must be added based on the specific criteria established for a PO. As regards the production of the producers concerned, European Parliament and Council Regulation (EU) 1308/2013 of 17 December 2013 proposes specific objectives, at least one of which can be pursued. Most of them have a clear focus on economic sustainability, for example (a) 'ensuring that production is planned and adjusted to demand, particularly in terms of quality and quantity' or (b) 'concentration of supply and the placing on the market of the products produced by its members, including through direct marketing'. Others combine aspects of economic and environmental sustainability, for example (c) 'optimising production costs and returns on investments in response to environmental and animal welfare standards and stabilising producer prices'; (d) 'promoting, and providing technical assistance for the use of environmentally sound cultivation practices and production techniques and sound animal welfare practices and techniques'; (e) 'carrying out research and developing initiatives on sustainable production methods, innovative practices, economic competitiveness and market developments' or (f) 'the management of by-products and of waste in particular to protect the quality of the water, soil and landscape and preserving or encouraging biodiversity'. But the regulation also mentions an objective specifically aimed at combatting climate change. It explicitly provides for the contribution 'to a sustainable use of natural resources and to climate change mitigation'. Interestingly, regarding the objectives of POs operating in the milk sector, the regulation completely ignores any reference to environmental sustainability since it only refers specifically to points (a), (b) and, in part, (c). The latter, however, omits the reference to 'returns on investments in response to environmental and animal welfare standards' and only mentions 'optimising production costs and stabilising producer prices'.[112]

the Corporate Governance Code. See tinyurl.com/y3z9f2u3 (last visited 7 July 2020). This may also be mentioned here, as POs may also be organized by using the legal form of a company. By defining standards for listed companies, it explicitly determines the creation of value for the shareholders over a medium- to long-term period as their object (see Principles 1.P.2 and 6.P.2.). Based on this, the board must consider any risk that may affect the sustainability of the business in a medium- to long-term perspective (see Art 1, comment, Corporate Governance Code). In addition, the reference to other stakeholders in connection with the supervision of sustainability issues also reflects the pluralistic approach of company purpose (see Art 4, comment, Corporate Governance Code), thereby rejecting, at least indirectly, the pure shareholder perspective. It is worth recalling the debates in which it was stressed that companies must assume their responsibilities in society, and therefore, they cannot be seen in isolation (see n 257). Although the Corporate Governance Code is not legally binding, what this implies is that its recommendations have to be explicitly inserted into the articles of association, it gains legal relevance due to the main principle n. IV of the Corporate Governance Code. Accordingly, listed companies must explain which recommendations have been inserted (and why) and which have not (and why). Yet, not only does the Corporate Governance Code not contain any obligation to adopt such provisions, but it does not even define, in a precise manner, what sustainability ultimately implies. In addition, it does not refer to further clarifications.

[112] See Art 152, para 3, European Parliament and Council Regulation (EU) 1308/2013.

From these observations, I conclude that, considering the concept of the business purpose of an agricultural cooperative, organised as a PO, 'our' PO must not conduct its agro-food business in a climate-friendly manner. Interestingly, however, the legal framework regulating the agricultural sector strongly emphasises the link between environmental sustainability and agro-food production. The next section explains how this is done. Perhaps this can lead to clearer guidelines.

3. Assessment of the Framework for the Production of Agro-Food Products

The behaviour of agro-food businesses – and thus of agro-food producers (POs) – in Europe is first determined by EU law and the various mechanisms that determine the functioning of the internal market. Thus, it is necessary to consider whether the internal market and, especially, the agricultural sector are linked to the idea of sustainability.

Art 39, para 1, of the Treaty on the Functioning of the European Union (TFEU)[113] contains five objectives of the CAP, thereby concretising the general objectives of the European Union as set out in Art 3 of the Treaty on the European Union (TEU).[114] They are exhaustive, and in principle, they take precedence over the general objectives of the Treaties. For the internal market and competition, this priority is expressly derived from Art 38, para 2, and Art 42 TFEU. This implies that a measure that does not pursue at least one of the five objectives does not fall within the scope of application of the CAP and, therefore, does not fall under the authorization basis of Art 43, para 2, TFEU.[115] While Art 3 TEU explicitly refers to sustainable development, Art 38 TFEU does not. A less vague reference to sustainability could, where appropriate, be established based on the wording 'ensuring the rational development of agricultural production and the optimum utilization of the factors of production', as contained in point (a) of Art 39 TFEU.[116]

[113] It states: 'The objectives of the common agricultural policy shall be: (a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; (b) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture; (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices'.

[114] Regarding sustainability, this specifically states that 'the Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance'. For details, see, eg, C. Calliess, 'Art 3 EUV', in C. Calliess and M. Ruffert eds, *EUV - AEUV: Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta Kommentar* (München: C.H. Beck, 5th ed, 2016), 124-154.

[115] See W. Frenz, *Europarecht* (Berlin, Heidelberg: Springer-Verlag, 2011), 223.

[116] Also consider D. Blandford and K. Hassapoyannes, n 4 above; in general, J. Martinez, 'Art 39 AEUV' in C. Calliess and M. Ruffert eds, *EUV-AEUV: Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta Kommentar* (München: C.H. Beck, 2016), 770 and

The criteria set for the protection of the environment are more precise. Art 3, para 3, subpara 1, sent 2 TEU calls for a high degree of environmental protection and improvement of the quality of the environment. According to Art 11 TFEU,[117] these environmental protection requirements must also be included in the definition and implementation of all EU policies and measures, and thus, they also refer to agriculture.[118]

Art 191 TFEU further concretises these rules and refers to climate change. It requires the EU to establish an environmental policy 'promoting measures at the international level to deal with regional or worldwide environmental problems, and in particular combating climate change'.[119] Nevertheless, an EU-internal obligation to mitigate climate change is less clear as according to the cited rule the EU shall promote this at the international level rather than acting internally, that is, within its borders.

These rules do not refer to the principle of sustainable development, nor is there conformance between the explicitly mentioned precautionary principle and the principle of sustainable development. An overall view with the preamble to the TEU (recital 9),[120] Art 3, para 3, subpara 1, sent 2 TEU and Art 11 TFEU, however, shows that the scope of environmental policy indeed refers to the promotion of sustainable development: Improving people's economic and social living conditions must be reconciled with the long-term safeguarding of natural resources. Thus, the principle of sustainable development aims to ensure development for future generations without destroying the natural basis of life. For environmental protection, it follows that it must necessarily be an integral part of every development. It becomes an intrinsic factor of economic and social development. By applying the principle of sustainable development to safeguarding

R. Norer, 'Art 39 AEUV', in M. Pechstein et al eds, *Frankfurter Kommentar zu EUV, GRC und AEUV* (Tübingen: Mohr Siebeck, 2017), 652. In this context also see the various Community legal acts (for example, Council Regulation (EC) n 1782/2003 and Council Regulation (EU) n 1305/ 2013) which refer to the sustainable management of natural resources and the mitigation of climate change as objectives of agriculture. Also the recent European Parliament and Council Regulation (EU) 2018/848 of 30 May 2018 on organic production and labelling of organic products states that this way of practising agriculture contributes to protecting the environment and the climate. See also European Parliament and Council Directive 2001/81/EC of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

[117] It states: 'Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development'.

[118] Art 3, para 3, subpara 1, sent 3 TEU. See W. Frenz, n 115 above, 246. Also consider L. Costato and L. Russo, n 9 above, 275.

[119] Art 191, para 1, TFEU. See W. Frenz, n 115 above. On this issue, also see A. Germanò and E. Rook Basile, *Manuale di diritto agrario comunitario* n 12 above, 405.

[120] It states that the signatory parties are 'determined to promote economic and social progress for their peoples, taking into account the principle of sustainable development and within the context of the accomplishment of the internal market and of reinforced cohesion and environmental protection, and to implement policies ensuring that advances in economic integration are accompanied by parallel progress in other fields'.

the use of the environment by future generations as well, it especially covers actions aimed at safeguarding the natural foundations of life in the long term.[121]

Based on these general requirements, the European legislator has adopted various legal acts that stress the importance that agricultural activity is conducted sustainably. A good example is given by European Parliament and Council Regulation (EU) 1305/2013 of 17 December 2013 on support for rural development,[122] which includes the terms 'sustainability' and 'sustainable' 52 times, stressing the necessity, among other things, of improving sustainable management,[123] promoting sustainable tourism,[124] supporting sustainable and climate-friendly land use,[125] promoting sustainable farming and food production systems[126] and, in general, contributing to sustainable growth.[127] Another example to be mentioned here is the concept of *greening* in European Parliament and Council Regulation (EU) 1307/2013 of 17 December 2013, which involves support payments for climate and environment-friendly agricultural practices. Specifically supported are crop diversification and the maintenance of existing permanent grassland and areas with an ecological focus. Further specific rules are contained in European Parliament and Council Directive 2011/92/EU of 13 December 2011, which provides for procedures for assessing the environmental impact of certain public and private projects. These also concern projects in the fields of agriculture, forestry and aquaculture, such as projects for the restructuring of rural land holdings; the use of uncultivated land or semi-natural areas for intensive agricultural purposes; and water management for agriculture, including irrigation and land drainage projects or intensive livestock installations.[128]

Ultimately, however, the legislator does not clarify what may be the (precise) content of sustainability. If anything, it becomes clear that sustainability has more dimensions, and therefore, the understanding of the term should be in line with the general acknowledged definition. Nor is the sustainability concept used here constructed as a strict obligation but as an obligation under a specific contract, where the EU legislator provides incentives in return for environmental sustainability. Considering that European agro-food producers still contribute considerably to climate change shows that this approach currently fails with respect to achieving behaviour that mitigates climate change. The new CAP seems

[121] See W. Frenz, n 115 above. See also C. Calliess, 'Art 3 EUV' n 114 above.
[122] Also consider L. Costato and L. Russo, n 9 above, 278.
[123] That is, recitals 13 and 16.
[124] That is, recital 18.
[125] That is, recital 20.
[126] That is, recital 25, Art 4 lett *c*), Art 35, para 1, lett *c* and *h*), Art 55, para 1, lett *b*).
[127] That is, recital 41 and Art 5.
[128] For further information, see M.M. Benozzo and F. Bruno, *La valutazione di incidenza: La tutela della biodiversità tra diritto comunitario, nazionale e regionale* (Milano: Giuffrè, 2009) and V. Cicchiello, 'La VAS, la VIA e l'IPCC nel d.lgs. 3 aprile 2006, n. 152: quando la fretta eccessiva produce una riforma problematica' *Diritto e giurisprudenza agraria, alimentare e dell'ambiente*, 355-367 (2006).

to be more promising in this regard.[129]

At the national level it is similar: In Italy, an analysis that examines whether environmental sustainability is anchored in the legal framework leads to similarly unclear results. The Constitution does not contain any specific norm in this regard. One reason for this can be that, when the Constitution was drafted, issues such as environmental protection did not have the importance they do now.[130] Yet, the Italian Constitutional Court has elaborated this aspect with the help of Art 9 of the Constitution, which deals with landscape and cultural heritage.[131]

Moreover, also relevant in this regard are Art 32,[132] dealing with people's health, and Art 44,[133] dealing with rational exploitation of the soil.[134]

[129] In this regard, see, for example, G. Holzer, 'Die neue Ökoarchitektur der GAP und ihr Beitrag zum Klimaschutz', in R. Norer and G. Holzer eds, *Agrarrecht: Jahrbuch 2019* (Wien: NWV Verlag, 2019), 171-204; J. Martinez, 'Klimaschutz und nachhaltige Landwirtschaft. Rechtliche Herausforderungen', in X. Fang et al eds, *Nachhaltigkeit und Landwirtschaft in China und Deutschland: Eine rechtsvergleichende Perspektive* (Baden-Baden: Nomos, 2019), 101-114, G. Miribung, 'Lo sviluppo rurale nell'ambito della nuova Politica Agricola Comune (PAC): una prima analisi' *Atti dei georgofili 2019*, and G. Miribung, 'Agro-food production and climate change: Some reflections on the new CAP' *EFFL*, 126-137 (2020).

[130] See L. Costato and L. Russo, n 9 above, 275.

[131] On this issue, see M. Cecchetti, '9' *Commentario alla Costituzione: Artt. 1 - 54* (Torino: UTET, 2006), 217-241.

[132] It states: 'The Republic safeguards health as a fundamental right of the individual and as a collective interest, and guarantees free medical care to the indigent. No one shall be obliged to undergo particular health treatment except under the provisions of the law. The law cannot under any circumstances violate the limits imposed by respect for the human person'. On this issue, see, for example, A. Simonicini, 'Art 32' *Commentario alla Costituzione: Artt. 1 - 54* (Torino: UTET, 2006), 655-674.

[133] It states: 'For the purpose of securing the rational exploitation of the soil and to establish equity in social relationships, the law imposes obligations and constraints on private ownership of land, fixes limitations to the extension thereof according to region and agricultural zone, encourages and imposes land reclamation, the transformation of large estates and the re-organization of productive units; it assists small and medium-sized holdings'. On this issue, see, for example, F. Angelini, 'Art 44' *Commentario alla Costituzione: Artt. 1 - 54* (Torino: UTET, 2006), 902-914.

[134] On these issues, M. Pennasilico, 'Sviluppo sostenibile' n 30 above, 39; also consider A. Nervi, 'Beni comuni, ambiente e funzione del contratto' in M. Pennasilico et al eds, *Contratto e ambiente: L'analisi ecologica nel diritto contrattuale* (Napoli: Edizioni Scientifiche Italiane, 2016), 35-60, 56. One can also argue from a general perspective that constitutionally protected and universally acknowledged freedom rights require sustainable behaviour. In this regard, it is highlighted that a 'just' basic order must be based on maximum equal freedom for individuals. This does not imply that all individuals can decide how they want to live with impunity. Such a universally justified claim to freedom also applies to future generations: They are holders of human rights, and thus, have a right to freedom. However, what if the foundations of life are currently damaged in such a way that our action no longer guarantees freedom from impairments to the minimum subsistence level, life and health of future human beings? What if our generation causes irreversible damage? As a consequence, freedom rights could no longer do what they are supposed to do, that is, guarantee secure protection against impairment. Accordingly, it is also argued that the elementary physical preconditions of freedom should be included when interpreting freedom rights. This should involve the existence of a reasonably stable resource base and a corresponding global climate. In fact, without this, there is no freedom. See F. Ekardt, 'Klimawandel, Menschenrechte und neues Freiheitsverständnis – Herausforderungen der politischen Ethik' 19 *Jahrbuch für Recht und Ethik/Annual Review of Law and Ethics*, 107-144 (2011). In general,

What about the Italian environmental act of 2006?[135] Here, Art 3 *quarter*, para 3, of the environment act determines only that

> 'the principle of sustainable development must make it possible to identify a balanced relationship, within the inherited resources, between those to be saved and those to be transmitted, so that the dynamics of production and consumption also include the principle of solidarity to safeguard and improve the quality of the environment in the future'.

It adds that

> 'the resolution of environmental issues must be sought and found in the perspective of ensuring sustainable development, so as to safeguard the proper functioning and evolution of natural ecosystems from the negative changes that can be produced by human activities'.

Still, how this should ultimately happen is not quite clear as the conflict between the various aspects of sustainability has not yet been resolved. One may argue that it is better to use a case-by-case approach instead of explicitly prioritizing environmental sustainability. This is correct; however, in the case of climate change, it does not seem helpful, especially as climate change appears to be occurring faster than expected.[136]

Although the various norms, as considered above, do not exhaustively clarify what is ultimately meant by sustainability, they show that sustainability – and the idea of a long-term perspective – is a codified term and, as such, is of particular importance for agricultural activities and agro-food production. Moreover, if specific sustainability requirements are met, the activity is supported by different measures (eg subsidies). This supporting approach is followed by the Italian legislature, who not only must adhere to the European criteria in terms of

F. Ekardt, *Das Prinzip Nachhaltigkeit: Generationengerechtigkeit und globale Gerechtigkeit* (München: Verlag C.H. Beck, 3rd ed, 2014). Also consider Urgenda v Netherlands, where it states: "Urgenda and the State both agree that the emission of greenhouse gases, such as CO2, entails serious risks for life on earth. Urgenda therefore wants the State to take action to achieve lower emissions sooner than within the time frame currently envisaged by the State. The Hague Court of Appeal shares Urgenda's view on this matter. Considering the great dangers that are likely to occur, more ambitious measures have to be taken in the short term to reduce greenhouse gas emissions in order to protect the life and family life of citizens in the Netherlands. The Court of Appeal has based its ruling on the State's legal duty to ensure the protection of the life and family life of citizens, also in the long term. This legal duty is enshrined in the European Convention of Human Rights (ECHR). The Court disagrees with the State that courts have no right to take decisions in this area. The Court has to apply directly effective provisions of treaties to which the Netherlands is party. These provisions form part of the Dutch legal order and even take precedence over deviating Dutch laws.

[135] See, in this context, A. Germanò et al, *Commento al Codice dell'ambiente* (Torino: Giappichelli, 2nd ed, 2013); also consider A. Germanò, 'L'agricoltura nel codice alimentare' *Diritto e giurisprudenza agraria, alimentare e dell'ambiente*, 349-354 (2006).

[136] See n 1 above.

agriculture and sustainability but also has determined, as explained in Chapter III Section 1, clear but still rather open criteria outlining what agricultural activities are and who can conduct them. The aim is to combine the necessities of agro-food production, environmental protection and globalised markets.[137] This approach shall contribute to making agro-food production durable in the long run and thus facilitate its sustainability, at least in its economic sense.

All these approaches and thoughts seem to acknowledge the undeniable, but they are not rigorous or – given the potential problems of climate change – courageous enough to really focus on what is necessary. Although there are no mandatory requirements/obligations, production standards, compliance with which is voluntary, can lead to ecologically sustainable food production. This is nowadays not unusual in practice and will now be discussed in Section 4 of this chapter.

4. Certification Schemes

The question as to whether agriculture is environmentally sustainable is not only a question of the specific legal framework but can also be a question of the voluntarily chosen quality standards of the products, compliance with which should help towards remaining competitive in the highly competitive market for agricultural products.[138] There are specifications defined by the legislature and specifications defined by other, usually private, organizations. One of the former is

[137] See L. Costato and L. Russo, n 9 above, 275, A. Germanò, *Manuale di diritto agrario* n 9 above, 281, A. Germanò and E. Rook Basile, *Manuale di diritto agrario comunitario* n 95 above, 405.

[138] See A. Germanò et al, *Diritto agroalimentare: Le regole del mercato degli alimenti e dell'informazione alimentare* (Torino: Giappichelli, 2nd ed, 2019), 127, and 167; see also A. Di Lauro, 'Labels, names and trade Marks', in L. Costato and F. Albisinni eds, *European and global food law* (Milano: Wolters Kluwer, 2nd ed, 2016), 369-386 and L. Leone, *Organic regulation: A legal and policy journey between Europe and teh United States* (Tricase: Libellula, 2019), A. Meisterernst, *Lebensmittelrecht* (München: C.H.Beck, 2019), 206. In general, A. Banterle et al, 'Environmental sustainability and the food system', in H. Bremmers and K. Purnhagen eds, *Regulating and managing food safety in the EU: A legal-economic perspective* (Cham: Springer, 2018), 57-88.

Anyone who puts effort into sustainability programmes will want to use their efforts to their own promotional advantage and inform the consumer about this. Any entity which wants to advertise its sustainability work should therefore plan its advertising with consideration of the legal framework. In this context, see, for example, Art 8 of the General Food Law Regulation (European Parliament and Council Regulation (EU) 2002/178 of 28 January 2002): It stipulates that food law aims to protect consumer interests and must offer consumers the opportunity to make an informed choice with regard to the food they consume. The following must be prevented: firstly, practices of fraud or deception; secondly, the adulteration of foodstuffs; and thirdly, all other practices which could mislead the consumer. In addition, the rules on presentation (Art 16) require that the labelling, advertising and presentation of foods or feeds, as regards their shape, appearance or packaging; the packaging materials used; the way they are arranged and in the context of their presentation and the information they disseminate, by whatever medium, must not mislead consumers. Similar rules can be found, for example, in the European Parliament and Council Regulation (EU) 2007/824 of 10 July 2007 (see Art 23) or European Parliament and Council Regulation (EU) 2018/848 (Art 30). On these issues, see A. Germanò, M.P. Ragionieri, and E. Rook Basile, n 138 above; F. Albisinni, *Strumentario di diritto alimentare europea* (Milano: Wolters Kluwer, 4th ed, 2020), 229; A. Meisterernst, n 138 above, 208.

organic farming as defined by European law.[139] This is a system of sustainable food production that takes account of ecosystems. The production of food should therefore be carried out using production methods that are as gentle as possible, taking into account ecological considerations and the objectives of environmental protection and animal welfare.[140]

The use of synthetic pesticides, mineral fertilisers, genetic engineering and hormones is strictly limited or prohibited. No flavour enhancers, artificial flavourings, sweeteners, colourings or preservatives may be added to organic products before they are sold.[141] Organic farming is legally standardized; participating farms must be certified and externally controlled.[142] Compared to conventional agriculture, the biodiversity in agriculture is on average one-third higher. Organic farming scores with a far more favourable nitrate balance, phosphate balance and pesticide balance. It leads to better soil quality but also requires more land to produce the same amount of food as conventional agriculture. The indirect effects of organic farming can be found in the containment of the excessive use of hormones and antibiotics in animal husbandry, which have negative effects on soil and water systems and the animals living there and which are also held responsible for antibiotic resistance in humans.[143]

This legally protected, externally certified, controlled ecolabel is complemented by many other – voluntarily applied – ecolabels, such as those of the Rainforest Alliance (eg, sustainable coffee) or the Marine Stewardship Council (MSC; sustainable fishing). Some of these labels should also help to preserve ecologically valuable or identity-creating landscapes.[144] For example, the MSC has set itself the task of certifying sustainable fishing with its blue label, which provides consumers with information that the fish product comes from a responsibly

[139] On this issue, see, among others, A. Germanò and E. Rook Basile, *Manuale di diritto agrario comunitario* n 95 above, 299; A. Germanò, M.P. Ragionieri, and E. Rook Basile, n 138 above, 168; I. Canfora, *L'agricoltura biologica nel sistema agroalimentare: Profili giuridici* (Bari: Cacucci, 2002); E. Cristiani, 'Il metodo di produzione biologico', in L. Costato, A. Germanò and E. Rook Basile eds, *Trattato di diritto agrario: III*, (Torino: UTET, 2011), 81-102; I. Canfora, 'Organic foods', in L. Costato and F. Albisinni eds, n 138 above, 463-478; E. Cristiani, *La disciplina dell'agricoltura biologica fra tutela dell'ambiente e sicurezza alimentare* (Torino: Giappichelli, 2004); N. Lucifero, 'Il regolamento (Ue) 2018/848 sulla produzione biologica. Principi e regole del nuovo regime nel sistema del diritto agroalimentare europeo' *Rivista di diritto agrario*, I, 477-508 (2018).

[140] See recital 1 European Parliament and Council Regulation (EU) 834/2007.

[141] See Arts 5 et seq. European Parliament and Council Regulation (EU) 834/2007. For references see n 139 above.

[142] See recital 7 and Art 1 European Parliament and Council Regulation (EU) 834/2007. For details, see A. Germanò, M.P. Ragionieri and E. Rook Basile, n 138 above, 168.

[143] See tinyurl.com/chbfzbr (last visited 7 July 2020) and tinyurl.com/y4po8owr (last visited 7 July 2020). See also Art 3 European Parliament and Council Regulation (EU) 834/2007. For references, see n 139 above.

[144] See A. Germanò, M.P. Ragionieri and E. Rook Basile, n 138 above, 127 and 133, and 136. See also E. Cristiani and G. Strambi, 'Public and private standards. Official control', in L. Costato and F. Albisinni eds, n 138 above, 323-342, and U. Ermann et al, n 2 above, 90.

managed fishery and does not contribute to the problem of overfishing.[145]

What the environmental labels have in common is that they promise or guarantee consumers high biological and, in some cases, also social production standards.[146] Yet, these specifications may vary. For example, compared to the requirements as determined by European Parliament and Council Regulation (EU) 2007/834 of 28 June 2007, the German label *Bioland*[147] has higher standards regarding, for example, the use of nitrogen fertilizer, maximum livestock numbers (and in this context maximum values for nitrogen arising) and the utilisation of copper.[148] Taken together, this may also lead to higher costs for the farmer.

We conclude that the possibilities provided for in the legal system to encourage POs to produce in an ecologically sustainable manner, currently, are based on voluntarism. In this context, however, the question can be raised as to whether an agricultural cooperative organised as a PO, by virtue of the activity carried out, is not obliged to view this activity in the context of climate change. This question is conclusive, especially since, as the analyses in Chapter III, Section 1 have shown, the activity is directly related to the environment and thus also to climatic conditions. As will be explained in the following section, this duty relates to the managers' duty of care. These analyses are relevant because, as mentioned,[149] agriculture is not only a perpetrator but also a victim of climate change. Thus, to what extent should the managers of an agricultural cooperative consider climate change when making their decisions? As seen, taking decisions requires considering all possible risks that may affect the business of the agricultural cooperative.

This is one of the issues that relates to the role of the defendant and that is dealt with in the next chapter. The other issue concerns the role of the PO as manager of the agro-food production chain (network manager). In my case study, this aspect is of importance because I stress that the contribution of an individual farmer will be too tiny of a portion of any damage. Yet, considering a necessary number of farmers whose behaviour is uniformly controlled by a central unit, as in the case of a PO, might lead to a correspondingly large scale of emissions. It is, therefore, a question of whether the network manager could be held responsible for the entirety of the damage.

Both questions refer to the role of the defendant and are examined in the next chapter; the analyses begin with the managers' duty of care.

[145] See tinyurl.com/yyew9erf (last visited 7 July 2020).

[146] However, not all of them are externally controlled. Some are even discredited for whitewashing or misleading and fraudulent advertising statements that suggest an eco-bonus but do not correspond to actual production methods (greenwashing).

[147] See tinyurl.com/y3qw53lm (last visited 7 July 2020).

[148] For a detailed comparison, see tinyurl.com/yyk8fz4e and tinyurl.com/y3rfd8zs (last visited 7 July 2020).

[149] See Chapter I.

IV. Second Step: Specific Issues Concerning the Defendant

1. On the Role of the Board: Climate Change Risks and Their Relevance for the Fulfilment of the Duty of Care

In order to answer the question of the role that climate change can or should play in the decision-making process of a PO, it is first necessary to determine who can take such action. In principle, this would be the board of directors in accordance with Art 2380 *bis* Civil Code. However, these are bound by the provisions of the statutes defined by the shareholders (farmer-members). If the statutes lead to a production method that is extremely harmful to the climate, the role of the general meeting of shareholders should also be considered. As will be mentioned in Section 2 of this chapter, in practice, there are various models of influence that can give members less or more say. In many cases, this concerns strategic decisions in which the members are also asked to exert influence. Yet, to simplify the discussion here, it is assumed here that the most significant actions are taken by the board of directors, in accordance with Art 2380 *bis* Civil Code, which contains a catch-all clause.[150] This raises the question as to how the PO shall be governed in order to avoid fault. As mentioned, this does not necessarily depend exclusively on the behaviour of the board members. However, we can conclude from the concept of the duty of care imposed on the board of directors which forms of conduct *should* not be culpable.

As explained in Chapter III, it is not mandatory for an agricultural cooperative, organized as a PO, to conduct its agro-food business in a climate-friendly manner; such obligations must be determined by the statutory mandate or other contracts. In this context, however, the question can be raised as to whether managers of an agricultural cooperative organised as a PO, by virtue of the activity they carry out and the diligence linked to it, are not obliged to view this activity in the context of climate change. This question is conclusive, especially since, as the analyses in Chapter III Section 1 have shown, the activity is directly related to the environment and thus also to climatic conditions. Thus, to what extent should the managers of an agricultural cooperative consider climate change when making their decisions? As seen, taking decisions requires considering all possible risks that may affect the business of the agricultural cooperative. The next section deals with this issue.

Art 2392 para 1 Civil Code regulates the liability of the members of the management organ (in regard to their company)[151] and determines, for the

[150] Accordingly, the statutes explicitly define the competence of the general meeting and assign the remaining decisions to the organs. Art 2380 *bis* Civil Code states: 'The management of the company shall be carried out in compliance with the provision set forth in art 2086, second para, and shall be the exclusive responsibility of the directors, who shall carry out the operations necessary for the implementation of the corporate purpose'.

[151] *In primis,* it refers to a behaviour that puts the cooperative/company as such in danger (because profits or the patrimony is diminished). This liability has a contractual nature.

applicable standard of due diligence, a qualified duty of due diligence.[152] According to this rule, the members of the board must fulfil the duties required by law and statutes; in addition, the rule states that they are jointly liable for damages due to non-observance of these duties.[153] According to the law, the members of the board must fulfil their duties with the diligence required by the nature of their appointment and their specified tasks.[154] This implies that diligence relates to the level of care one may expect from a reasonable manager in a similar position. This does not imply that standardised criteria can be applied. Rather, one has to consider how diligence is related to the position assigned.[155]

The duty of care established in this way requires board members to make decisions on a well-informed and reasoned basis (from their specific knowledge), considering all the risks involved.[156] This obligation is violated when decisions are made which are irrational and incompatible with entrepreneurial logic/ thinking. In other words, managers may be held responsible for their decisions

[152] See G. Alpa, *La responsabilità civile* n 47 above, 155.

[153] The law contains specific provisions that refer to self-dealing, corporate opportunities and prohibition of competition. In this context, one has to consider Art 2391 para 5 Civil Code, according to which a member of the organ is also liable for damages arising from the use of data, information or business opportunities in connection with his or her office. It is important to stress that this use must be made for his or her benefit or the benefit of third parties. However, the Italian Civil Code does not explicitly address duties of confidentiality. It is argued that they form part of the general duty of loyalty as determined by law. Regarding the duties of confidentiality, specific limits can be found in the law. For example, it is possible to refer to the competence of auditors in requiring specific information necessary to fulfil their tasks. For details, P.M. Sanfilippo, 'Gli amministratori' n 6 above, 515; R. Ricci, 'Art 2392', in P. Cendon ed, *Commentario al codice civile artt. 2363-2396. Società per azioni. Assemblea, amministratori* (Milano: Giuffrè, 2010), 691-705, 691; L. Sambucci, 'Art 2392', in D.U. Santosuosso ed, *Artt. 2379-2451* (Torino: UTET, 2015), 361-383, 361.

[154] Here, diligence does not refer to the medium or generic diligence, but rather, to diligence required by the nature of the task. As determined according to Art 1176 para 2 Civil Code. P.M. Sanfilippo, 'Gli amministratori' n 6 above, 516.

The duty of care obliges the members of the board to act in a diligent way. Italian law distinguishes between a general duty of care and specific duties of care. In the latter case, the required behaviour is determined by law, whereas in the former case, it is general in nature. P.M. Sanfilippo, 'Gli amministratori' n 6 above, 516; L. Sambucci, n 153 above, 361.

[155] For instance, one can consider the reasons for appointing a specific member, his competences, or the fact that a member is assisted by a general manager. P.M. Sanfilippo, 'Gli amministratori' n 6 above, 516; L. Sambucci, n 153 above, 366. Diligence is considered a subjective duty, and it is necessary to consider how a member of the board conceives the interests of a company when he makes a specific decision. Therefore, a court cannot conduct a review of the decision on different grounds, and it must also consider the time and circumstances when a decision has been made. See P.M. Sanfilippo, 'Gli amministratori' n 6 above, 517; L. Sambucci, n 153 above, 366.

[156] According to Art 2381 para 6 Civil Code, members are required to act in an informed way. In addition, one can mention Art 2392 para 2 Civil Code. It requires members to do everything in their power to prevent harmful acts or eliminate or reduce harmful consequences. Members of the organ are jointly liable. Exemptions are given if the functions are assigned exclusively to one or more members of the organ. However, they are jointly liable in any case, if they were aware of harmful acts but did not do everything in their power to prevent them or did not try to eliminate or reduce the harmful consequences. Then, the law provides for rules excluding personal liability.

if those decisions were absolutely irrational, the managers did not carry out suitable preliminary investigations or conflicts of interest arose.[157] Concerning my investigation, this implies, in short, that the members of the board[158] of the agricultural cooperative must be aware of the risks to which the PO might be exposed. This includes information on whether these risks can have a negative or positive effect on the business.[159] Therefore, board members need to think about whether something needs to be done to reduce this risk or, alternatively, how to gain from its consequences.

Diligent decision making requires contrasting the foreseeable risk of damage with the potential benefit that could result from a non-modified activity. Such an assessment may include factors such as the extent of the risk, the degree of likelihood of its occurrence, the costs involved or the difficulty/inconvenience of taking measures. Considering climate change risks, this should be a complex task requiring profound expertise.[160]

A weighty argument against the violation of due diligence is that, normally, emitters of GHGs have an authorisation issued by a public body. For example, in the EU, projects with severe consequences for the environment are subject to an environmental impact assessment.[161] This includes the consideration of possible consequences for the climate. Considering that the issuer complies with the requirements set out in the authorisation, it seems difficult to prove the breach of duty of care. Here, one could argue that the circumstances of a specific case, which must be assessed by a judge on a case-by-case basis, may require a higher and more specific duty of care. This could mean that the public permit/ approval of operating facilities does not automatically exempt the manager from civil liability. For example, it is possible that scientific knowledge may have changed and come to point to new risks, with the consequence that the agency, at the moment of the authorisation, was simply unable to foresee specific risks. Thus, it seems

[157] The concept of diligence is the instrument for determining whether the duties have been fulfilled. The standard used is gross negligence. In the event of legal proceedings, the plaintiff – here, the PO/agricultural cooperative– must prove the circumstances, which, in a given situation, determine the content of the duty of care. See P.M. Sanfilippo, 'Gli amministratori' n 6 above, 517; L. Sambucci, n 153 above, 373. Also consider F. Vassalli, 'L'art. 2392 novellato e la valutazione della diligenza degli amministratori', in G. Scognamiglio ed, *Profili e problemi dell'amministrazione nella riforma delle società* (Milano: Giuffrè, 2003), 23-39, 34; A. Tina, *L'esonero da responsabilità degli amministratori di s.p.a* (Milano: Giuffrè, 2008), 53 and 72, and G. Miribung, 'Quale Business Judgment Rule? Osservazioni dall'ordinamento giuridico italiano e austriaco', in F.A. Schurr and M. Umlauft eds, *Festschrift für Bernhard Eccher* (Wien: Verlag Österreich, 2017), 709-722.

[158] Both dependent and independent ones. Even though to a different extent: all of them, however, must be combined to safeguard the interests of the company.

[159] See also Art 2428 para 3 no 6 Civil Code.

[160] See M. Faure and M. Peeters, 'Liability and Climate Change', in M. Faure and M. Peeters eds, *Oxford Research Encyclopedia of Climate Science* (Oxford: Oxford University Press, 2019), 1-30, 14.

[161] In application of Council Directive 85/337/EEC of 27 June 1985 as amended European Parliament and Council Directive 2011/92/EU of 13 December 2011.

legitimate to ask whether the authorisation can completely exclude due diligence. However, this should be the case if the facilities produce their typical known effects.[162]

To mitigate the effects of GHG emissions, the EU legislator has implemented a cap-and-trade regime. Accordingly, issuers that possess the necessary pollution rights[163] clearly act in accordance with their obligations as otherwise these rights would be of little use. With this, a higher level of duty of care seems precluded. The EU emission trading system, however, does not apply to agriculture and covers 'only' power plants and factories, which together account for almost half of all GHG emissions, whereas in transport and agriculture, where CO_2 emissions are also high, there is no need to buy certificates.[164] Thus, is it possible that a higher level of duty of care applies here? Not necessarily.

As mentioned, the law requires that the members of the board must use a standard of diligence that corresponds to the nature of the task. In other words, how would a reasonable board member in a similar position – in our case, a manager of an agro-food-producing cooperative/company – decide? At this point, it is helpful to recall that the European Commission, in the Italian Version of the Commission Regulation (EC) 1750/1999 defining Good Agriculture/Farming Practices (Art 28), expressly refers to diligence, determining that this concept refers to 'the standard of farming which a reasonable (*diligente)*[165] farmer would follow in the region concerned'. Thus, could this concept have some relevance for the diligence as determined by Art 2392 Civil Code, especially as POs organised as cooperatives could also be considered as farmers? More generally, can good agricultural practice be an example of how food production can be linked to

[162] Yet, these the typical effects – rising sea levels, glacier melt – cause the current climate change lawsuits. In this regard, B. Burtscher and M. Spitzer, 'Haftung für Klimaschäden' 21 *Österreichische Juristenzeitschrift*, 945-953 (2017).

[163] Pollution rights (or emission permits) include companies' right to emit a certain amount of carbon dioxide (per year). If the concerned company produces fewer emissions, it can sell its permits to other companies. However, if it pollutes more, it must buy permits from other companies (or the government). This leads to a pollution permit market where the price is determined by supply and demand. The aim is creating market incentives for companies to pollute less, resulting in lower external costs. For further information, see, among many others, D.A. Starrett, 'Property Rights, Public Goods and the Environment', in K.G. Mäler and J.R. Vincent eds, *Handbook of Environmental Economics: Volume 1: Environmental degradation and institutional responses* (Burlington: Elsevier, 2003) 97-125.

[164] Although including agriculture in a cap-and-trade regime would be possible. For the various solutions, consider Bundesministerium für Ernährung und Landwirtschaft, *Klimaschutz in der Land- und Forstwirtschaft sowie den nachgelagerten Bereichen Ernährung und Holzverwendung: Gutachten des Wissenschaftlichen Beirats für Agrarpolitik, Ernährung und gesundheitlichen Verbraucherschutz und des Wissenschaftlichen Beirats für Waldpolitik beim Bundesministerium für Ernährung und Landwirtschaft* (Berlin: 2016), 81. Also consider B. Lünenbürger, 'Klimaschutz und Emissionshandel in der Landwirtschaft', available at tinyurl.com/y386m522 (last visited 7 July 2020).

[165] The Italian Version is '*l'insieme dei metodi colturali che un agricoltore diligente impiegherebbe nella regione interessata*'. The German Version uses the term *verantwortungsbewußt*.

sustainability? Here, it seems worthwhile to briefly consider the debates about the meaning of this notion conducted in Germany,[166] especially as there was no similar discussion in Italy. In Germany, good agricultural practice is also referred to as *ordnungsgemäße Landwirtschaft*.

The debate essentially revolved around the question of whether (and to what extent) ecological requirements are to be included in the definition or whether (and to what extent) they are already inherent in the term. The position that accommodated farmers' interests most subsumed the *status quo* under this notion. However, this was not correct. In fact, it was not just the misconduct of a few 'black environmental sheep' among farmers; it was precisely the farmers' practice – and thus, the *status quo* – that contributed to the known problems in the environment.[167] In other words, it was the cause for the adaptation of the law.

It is clear nowadays that good agricultural practice requires the observance of scientifically proven and field-proven agricultural and economic knowledge. With this observation, however, the content of this concept is not fully explained. Like any other activity, agricultural activity must also be integrated into the legal system. Thus, good practice must also mean 'according to the legal order'. It would not make sense to assume that the legislature wishes to classify an act as good practice although contrary to its own standards. From this, it follows that environmental elements must be included in the term – if they are determined by the law.[168] Thus, good agricultural practice requires compliance with law as well as the observance of scientific evidence proven in practice (*art rules*) or, in other words, the technically correct execution of the activities. Therefore, the concept as such is flexible, inasmuch as not only can new legal rules develop its content but also in that new scientific evidence can lead to better techniques.[169]

Basically, this outcome also applies to the Italian norm. In fact, the word 'diligence' as used by the concept of Good Agricultural Practices[170] is in line with the criteria as determined by Art 2392 Civil Code. The discretion contained therein takes place in a framework determined by the observance of law and techniques that other board members would also apply. The main difference is that diligence linked to good agriculture practice specifically requires techniques

[166] For the various debates, consider F. Paul, 'Ordnungsgemäße Landwirtschaft - Stand der Diskussion' *Berichte über die Landwirtschaft* 75, 4, 539-561 (1997) and C. Grimm and R. Norer, *Agrarrecht* (München: C.H. Beck, 4th ed, 2015), 11.

[167] Especially water pollution.

[168] These include, for example, the provisions of the waste, water, phytosanitary and nature conservation laws, regardless of whether they are contained in laws, regulations or statutes.

[169] This is the typical consequence and often even the reason for the use of indefinite legal concepts/terms. Legislators are increasingly resorting to this method, especially in areas with strong development, so that they do not have to keep up with rapid changes, for example, in the field of technology or even in the area of environmental protection. In this regard, C. Grimm and R. Norer, n 166 above, 13.

[170] Also consider the Italian Code of Good Agricultural Practices (decreto ministeriale 19 April 1999). See tinyurl.com/y64f6dv5 (last visited 7 July 2020).

developed in line with scientific evidence. This means that scientific evidence alone is not enough; it is necessary that new scientific evidence and the consequences for production are tested in practice. It seems reasonable that a board member of an agro-food cooperative would consider this knowledge because modern food production is strongly driven by new scientific evidence. This concerns new production systems and techniques as well as new types of food.

In terms of a commitment to climate-friendly action, this is ultimately of no legal value. Even if one could argue that a diligent or responsible farmer should especially use climate-friendly techniques, the legal term 'business purpose', which must be observed in this context, is too vague and openly formulated to ensure that an agricultural cooperative/PO, or better its managers, ultimately behave/s responsibly enough. Nor should it be forgotten that climate change can also create new business opportunities, which as such can be covered by the business purpose of a PO according to its statutes. In fact, it has been shown that due diligence serves as a means of determining whether certain duties have been fulfilled (as a reference, gross negligence is used).[171] In our example, this implies that, first of all, the board members must be aware of the risks to which a PO may be exposed. In this regard, a crucial question is whether specific risks are sufficiently predictable and what this could imply[172] – and this opens the door to the question of the extent to which climate change risks could be relevant to the fulfilment of the duty of care.

Now, as already indicated, the members of the board are not legally prohibited from considering climate change and their risks related to it in terms of economic, environmental and social issues as these risks can be material to the interests of the cooperative/company. They may, indeed, be not only foreseeable risks for the cooperative/company and its business model but also specific corporate opportunities. Thus, there could be good arguments that members of the board should not only consider the effect of these risks on the business of the cooperative/company but that they also must do so.

The way in which risk assessment must be performed strongly depends on the business model. Here, I consider the example of a PO using the legal form of an agricultural cooperative and leading an organised agro-food production chain. Given the recent scientific developments providing clear evidence that climate change is taking place, it could be difficult for members of the board to neglect risks that could significantly affect their companies' business as a result of climate change. As they must make their decisions on a well-informed basis, they should ask how to exercise their due diligence on risks related to climate change. This means that they must assess what the effect of such decisions on the business of the company may be. In other words, well-informed decision making implies thinking about how they should exercise their discretion (especially with regard to

[171] See Chapter II.
[172] See P.M. Sanfilippo, 'Gli amministratori' n 6 above, 516.

external stakeholders) and, then, which measures are necessary. This can be done by conducting a specific risk analysis[173] that first reviews how climate change affects the company's business. The crucial question is as follows: How will the business develop considering the two degree Celsius scenario (in the given timeframe). This also requires evaluating which costs occur if no action is taken.

With regard to the information process that management must direct, reference must be made to Art 2428 Civil Code; according to Art 2428 para 2 Civil Code,[174] the annual report of the management organ must contain a faithful, balanced and comprehensive analysis of the company's situation and of its operating performance and results.[175] The analysis must be consistent with the size and complexity of the cooperative/company's business and must contain (to the extent necessary for an understanding of the company's position and the performance and result of its operations) financial and, where appropriate, nonfinancial performance indicators. This depends on the specific business activity of the company and may include relevant environmental information.[176] Thus, one can argue that the disclosure requirements/obligations should also include information on risks arising from climate change, including information on when and how these risks can occur.

Even though this norm solely installs a reporting system that, ultimately, will not be especially relevant regarding environmental issues and climate change,[177] based on this reporting system, it might be possible to find a hook to indicate that the managers of the PO have understood the connection between the agricultural activity carried out and anthropogenic climate change. But at the same time it must be recalled that, currently, under Italian tort/business law, there is no clear obligation for an agricultural cooperative (organised as a PO), and here, for its managers, to establish a climate-friendly business strategy.

One explanation for this may be that food security is given special attention in the context of climate change.[178] I refer to Art 2 of the Paris Agreement,

[173] Including scenario analysis.

[174] It contains disclosure requirements for capital societies, and in general, requires description of a company's main risks and uncertainties. In addition, it calls for the description of non-financial performance indicators – for example, information on the environment or workers, insofar as they are important to understanding business development – without, however, requiring integration of environmental concerns into business decisions. For details, see L. de Angelis, 'Art 2428', in D.U. Santosuosso ed, *Artt. 2379-2451* n 153 above, 1050-1056 and P. Balzarini, 'Art 2428', in P. Cendon ed, *Commentario al codice civile. Artt. 2421-2451. Società per azioni. Libri sociali, bilancio, modificazioni dello statuto. Società con partecipazione* (Milano: Giuffrè, 2010), 239-256.

[175] As a whole and in the various sectors in which it has operated, including through subsidiaries.

[176] Where appropriate, the analysis should include references to and additional clarifications of the amounts disclosed in the financial statements. Art 2428 para 2, last sent. Civil Code.

[177] See B. Sjafjell, n 5 above, 61.

[178] On this issue, see S. Rahmstorf and H.J. Schellnhuber, *Der Klimawandel* n 81 above, 74; G. Miribung, *Agro-food production and climate change: Some reflections on the new CAP* n 129 above; FAO, *Climate change, agriculture and food security* (Roma: FAO, 2016). For

which states that the measures to be taken regarding climate change adaptation must not endanger food production. No reference is made to the way in which food is produced. If we now consider that in the year 2050 there will be about 9.7 billion people living on Earth,[179] all of whom will want to be fed, then all food producers will have to supply more products than at present – unless we, as humanity, substantially change our consumption of food (and with it the waste of food; at present about 30% of food is thrown away[180]).[181] This consumption behaviour will presumably lead to higher resource utilisation and probably also to higher emissions. A similar conclusion is reached when analysing Art 5 of the new CAP Strategic Plan Regulation. Its requirements also demand that food production be secured. In view of this necessity, only farmer-members (by a specific statutory amendment) can urge their PO (and its managers) to make more than the legally required contribution to climate change control. From this follows that a specific duty of care in line with environmental sustainability exists only within the given legal conditions (as demonstrated, there are many elements in the existing legal framework that obligates consideration of this aspect, yet, none of them establishes a concrete duty to conduct business in a climate-friendly manner). Thus, if one asks whether a PO would not have to produce more eco-sustainably on its own initiative, that is, voluntarily (on one's own authority/ responsibility), in order to make an – appropriate – contribution as an emitter to mitigating climate change, and if it does not do so, whether it could then be held liable for climate damage, then the answer is that the only obligation to do so can be imposed by the drafters of the PO's statutes, that is, the farmer-members.

2. Could the Producer Organization Be Blamed? Some Suggestions from Network Theory

As this study specifically addresses the liability of a PO, which, as mentioned in Chapter I, can be considered as a network where the hub strongly influences the behaviour of the participating network partners, it can also be questioned whether this constellation gives rise to some kind of network liability. This question is salient because the hub firm – the cooperative acknowledged as a PO – could potentially influence the production process.[182] Regarding tightly

specific information on food security, see, eg, A. Germanò and E. Rook Basile, *Manuale di diritto agrario comunitario* n 95 above, 105; F. Albisinni, *Strumentario di diritto alimentare europea* n 138 above, chapter 16; see also FAO, *The state of food security and nutrition in the world: Safeguarding against economic slowdowns and downturns* (Roma: FAO, 2019).

[179] See tinyurl.com/yytfyqhx (last visited 7 July 2020).

[180] See tinyurl.com/kthb5ws (las visited 7 July 2020).

[181] On these issues, see FAO, *Climate change, agriculture and food security*

[182] In (interdisciplinary) legal thinking, network theory is used for analysing, among other things, the dynamics of franchise systems and virtual enterprises (see, for example, G. Teubner, ' "Verbund", "Verband" oder "Verkehr"? Zur Außenhaftung von Franchise-Systemen' *Zeitschrift für das gesamte Handels- und Wirtschaftsrecht*, 154, 295-324 (1990); G. Teubner and K. Aedtner, 'Virtuelle Unternehmen: Haftungsprobleme in ein-und mehrstufigen Netzwerken' 6 *Kölner Schrift*

organised sales systems,[183] it is thoroughly argued that, in practice, they are often conceived as a unit of action and, simultaneously, a variety of actions. Such networks cannot be accommodated on the traditional scale between contract and organization because, in practice, individual and collective elements can gain in importance simultaneously.[184]

From an economic point of view, all transactions are simultaneously oriented towards profits for both the network and individual actors (profit sharing). The result of the combination of these apparently opposing aspects is self-regulation based on a double orientation of action.[185] This double orientation acts as a constraint – insofar as all transactions have to meet the double test – and at the same time, an incentive – insofar as network advantages are linked with individual advantages. Thus, networks should be conceived as institutions 'beyond' contract and organization. With this view, the logic of networks becomes apparent and reflects a public debate that often claims to attribute the responsibility for one action to the organization and individual unit at the same time.[186]

In my opinion, these observations on network dynamics are in line with the basic orientation of POs. They not only highlight the importance of the principle

zum Wirtschaftsrecht, 1-9 (2015), as well as regarding production chains (see, for example, F. Cafaggi and P. Iamiceli eds, *Inter-firm networks in the European wine industry* (European University Institute, 2010); F. Cafaggi and P. Iamiceli, 'Supply chains, contractual governance and certification regimes' *European Journal of Law and Economics*, 37, 1, 131-173 (2014) and F. Cafaggi and P. Iamiceli, 'Contracting in global supply chains and cooperative remedies' *Uniform Law Review* 20, 2-3 135-179 (2015)); moreover, in contract law, it is employed to designate contractual associations in bank payment transactions (see W. Möschel, 'Dogmatische Strukturen des bargeldlosen Zahlungsverkehrs' *Archiv für civilistische Praxis*, 186, 187-236 (1986).

[183] For example, franchise systems. See n 149 above.

[184] See G. Teubner and H. Collins, n 23 above, 77. On this issue, see also M. Cian, 'La nuova legge sull'affiliazione commerciale (l. 6 maggio 2004, n. 129)' *Le nuove leggi civili commentate,* V, 1153-1182, 1157 (2004).

[185] As mentioned above, this double nature is also discussed in cooperative theory.

[186] See G. Teubner, n 182 above, 309; G. Teubner and H. Collins, n 23 above, 241. In legal theory, we are commonly accustomed to seeing the relationship between contractual and corporate elements as a zero-sum game in which one part always wins at the expense of the other. In the transition from the short-term exchange contract to the long-term relational contract and private-law cooperation, we regularly observe that collective elements increase in weight precisely to the extent that individual elements lose weight. Networks are characterised by a fixed institutionalised difference between market mechanisms and organizational mechanisms, making it possible to strengthen contractual and organizational elements simultaneously. It can be said that market principles penetrate into the firm's resource allocation and organizational principles creep into the market allocation. Interpenetration occurs to remedy the failure of pure principles in the market or organization. Thus, it is necessary to firmly recognise this aspect, which provides the key for a legal definition adequate for the concept of a network. What has been said about purpose orientation is also discussed concerning the attribution of action, or in legal terms, liability. Should this double attribution also provide the model for a network-compatible liability? It seems that indirect behaviour control by means of deterrence (through liability law) can only affect the centre in the network - which must consider the interests of both the chain and single farmer - if it can affect the double orientation of network action. See G. Teubner, n 182 above, 309; G. Teubner and H. Collins, n 23 above, 241.

of solidarity but also refer to persons responsible for the damage – instead of using a narrower concept, such as producers. As mentioned, the 'hub' can have different means of influencing the production; due to the aforementioned information asymmetry, it may control what is produced as well as the quality of the products. This strong position is reinforced by the legal obligation to belong to only one PO and the possibility of imposing sanctions for non-compliance with the statutes or other rules. It may also limit/make the PO refrain from adopting new production processes because it possesses the mark or geographic indications that label the products. These signs, especially if they are strong and are, therefore, of economic value, may favour entrepreneurial decisions pushing towards conservation instead of innovation.

Studies show that strong integration of farmer-members within a PO enhances the efficiency and effectiveness of the whole production stage and leads to improved competitiveness.[187] Particular drivers are, specifically, delivery contracts, operational programmes and supply contracts. By means of these instruments, farmer-members are urged to observe rules about what shall be produced and with what kind of quality. This strongly interferes with their own entrepreneurial discretion, that is, this strongly limits their entrepreneurial discretion.

An example to illustrate these possible dynamics is Art 170 European Parliament and Council Regulation (EU) 2013/1308 of 17 December 2013, which allows a PO in the beef sector to negotiate contracts on behalf of its members. These negotiations may include all relevant conditions – price, quantities, quality, payment deadlines and agreements on the collection and delivery of products.[188] This can have a significant impact on sustainable production. In fact, in order for Art 170 to apply, a PO must have been formally recognized in accordance with Art 152 para 1 European Parliament and Council Regulation (EU) 1308/2013. A prerequisite for this recognition may be that the PO has the objective of promoting environmentally sound cultivation and production methods and provides technical assistance in this respect. More generally, the aim of the PO may also be to contribute to the sustainable use of natural resources and to combating climate change. In our example, the PO (and its farmer-members) should thus produce ecologically sustainable.

[187] See Ecorys and Wageningen Economic Research, 'Study on Producer Organisations and their activities in the olive oil, beef and veal and arable crops sectors' and J. Bijman et al, *Support for Farmers' Cooperatives* n 18 above, 56 and 110; see also K. van Herck, *Assessing efficiencies generated by agricultural producer organisations* (Luxembourg: Publications Office, 2014) and F. Montanari et al, *Study of the best ways for producer organisations to be formed, carry out their activities and be supported* (Brussels, 2019). On this issue, see also M.E. Koopmans et al, 'The role of multi-actor governance in aligning farm modernization and sustainable rural development' *Journal of Rural Studies*, 59, 252-262 (2018).

[188] On this issue, see European Commission, 'Guidelines on the application of the specific rules set out in Articles 169, 170 and 171 of the CMO Regulation for the olive oil, beef and veal and arable crops sectors' (2015), available at urly.it/371_s.

For Art 170 to be applicable to a PO, the objectives shall be (a) the concentration of supply, (b) the marketing of members' production or (c) the optimisation of production costs.[189] These objectives specify the possibilities in contract negotiations for products – which, as explained above, in our example are to be made in accordance with ecological sustainability criteria – and are met if the resulting integration of activities leads to significant efficiency gains. This is possible, for example, through joint advertising and can be illustrated by the example of the development and marketing of a higher value – that is to say biological – product. If a higher value product (for example, organically produced beef) is to be produced, joint advertising is part of the marketing of this integrated sales strategy. In other words, joint advertising is one of several activities for implementing this integrated sales strategy.[190]

Thus, it seems possible for the PO to differentiate the product[191] from competitors' products according to, for example, feed, production system, place of origin or breed. This makes it possible for the PO to define the specifications for the product and also to ensure compliance with them.[192] In order to do this, it is likely that appropriate specifications will be developed, but it will also be necessary to plan the production process and quality controls in relation to these specifications. Similarly, the necessary equipment must be procured to ensure that these specifications are complied with along the whole production chain.[193]

As a first interim result, it can therefore be stated that the PO – in its function as a network hub – has considerable influence in the actual design of the entire production chain. Yet, such a concerted action is only allowed if the organization meets certain democratic requirements.[194] For this reason it can be argued that the farmers' members are involved in the decision-making process and are not ultimately pushed to take measures that run counter to their own convictions and values. Such concerted behaviour leads to economies of scale, which in turn translate into cost and risk reduction. If, however, in this particular case, the application of the network liability perspective is denied, risk reduction also implies a *risk splitting* with the consequence that not the total volume of emissions and thus not the total extent of damage has to be taken into account but only

[189] The difference between the activities referred to in Arts 152 para 1 letter c (ii) and 170 European Parliament and Council Regulation (EU) 1308/2013, both of which aim to concentrate supply and market the production of their members, is probably that in the second case the products do not have to be transferred to the ownership of the PO.

[190] See European Commission, 'Guidelines on the application of the specific rules set out in Articles 169, 170 and 171 of the CMO Regulation for the olive oil, beef and veal and arable crops sectors' 19 and 22.

[191] Their members products. See L. Costato and L. Russo, n 9 above, 163.

[192] Due to Arts 170 and 152 para 1 letter c (ii) and (v) European Parliament and Council Regulation (EU) 1308/2013.

[193] See European Commission, 'Guidelines' n 190 above, 22.

[194] According to Art 153 para 2 letter c, European Parliament and Council Regulation (EU) 1308/2013, 'the statutes of a producer organisation shall also provide for rules enabling the producer members to scrutinise democratically their organisation and its decisions'.

that extent of damage which is related to the activity of the individual farmer member.[195] This illustrates the complexity of governance and the resulting responsibility. Due to the legal requirements, there is thus influence from above, that is, from the managers who negotiate contracts within the framework of the strategic requirements, as well as influence from below due to the democratically oriented co-determination rights. This relationship will now be further analyzed.

In general, it has been observed that there has been a gradual process of delegation of operational decisions to cooperative management or the management of subsidiaries that focus on processing and marketing of final consumer products. Moreover, it is highlighted that members have delegated decision rights to a Board of Directors, which is the primary body to decide on the strategy and policies of the cooperative. In fact, in most cooperatives the actual management of the cooperative firm is left to professional managers.[196] The way decision rights are allocated between the board and the managers is thus of crucial relevance also because managers normally require enough room for entrepreneurial decisions.[197] This is necessary to foster competitiveness and to evaluate new strategic directions. Moreover, farmer-members delegate decision making to the Board of Directors, but still participate – by delegation – in the decision making process.[198] Limiting the entrepreneurial discretion of the farmer-members is further incentivised because strong leadership decreases coordination costs. In other words,

> 'a strong central coordinator enables the group to save on both total transaction information transmission and decision-making costs. The leader contributes to saving on internal transaction and coordination costs and thus is expected to have a positive impact on the likelihood of the formation of successful POs'.[199]

I assume that the more competitive the POs, the more farmers are – probably – willing to limit their entrepreneurial discretion.

This willingness for self-restraint is also influenced by consumer expectations. In this regard, too, the PO may be in a strong/dominant position in relation to the farmers because it is the former that is in touch with retailers and consumers

[195] In extreme cases, one could – perhaps – also argue that in doing so the disclosure of the cause of the damage is knowingly distorted.

[196] See C. Iliopoulos, 'Ownership, Governance and Related Trade-Offs in Agricultural Cooperatives' 2(4) *The Dovenschmidt Quarterly*, 159-167, 161 (2014). See also M.L. Cook and C. Iliopoulos, 'Generic solutions to coordination and organizational costs: informing cooperative longevity' *Journal on Chain and Network Science* 16, 1, 19-27 (2016) and F. Chaddad and C. Iliopoulos, 'Control Rights, Governance, and the Costs of Ownership in Agricultural Cooperatives' *Agribusiness* 29, 1, 3-22 (2013).

[197] See Chapter III Section 2 and Chapter IV, Section 1.

[198] Thus, decisions are shared between the PO and the farmer-members. Should not the same approach also be applied to liability?

[199] See F. Montanari et al, *Study* n 187 above 115.

and thus possesses a valuable information advantage, allowing it to determine the farmers' behaviour.[200] In other words,

> 'the monitoring of accurate, timely and relevant information allows a PO to continually enhance its competitiveness not only through improving its interaction with its members but also with suppliers and buyers when individual producers, often, do not have time to perform such monitoring'.[201]

The practical importance of this position is very well demonstrated in the above example, and all these observations and comments clearly show that the PO, in its two essential functions as (a) information provider (and let it be remembered: he/she who advises, leads) and (b) decision maker, is therefore of central importance for the smooth functioning of the entire production chain and for the behaviour of the individual farmer. This also shows the complexity of the application of Art 2428 para 2 Civil Code, which, as seen, requires the managers of an agricultural cooperative/PO to conduct a risk analysis consistent with the size and complexity of the business.[202] Are they not in a position of superiority – here in particular in respect to the farmer-members – because they are in possession of privileged information? Are they not the persons who can foresee or prevent damage due to environmental circumstances?[203]

Yet, if one really wants to demonstrate network liability in a given case, it will be inevitable to show how, in practice, decisions are ultimately made and how orders trickle down from the top to the bottom.[204] To discuss this by way of example, I refer to the dairy sector. Even if in this case the Regulation does not specifically mention sustainability aspects as specific objectives that a PO operating in the dairy sector has to meet in order to be recognised (as explained in Chapter III, Section 2), in practice the production of organic milk is often part of the business strategy of a PO. This is in line with the objectives mentioned in Art 152 para 2 European Parliament and Council Regulation (EU) 1308/2013. In these cases, specific labels are often used to demonstrate the high quality of the product.

Let us assume that an Italian dairy cooperative (recognised as a PO) produces a certain amount of organic milk in accordance with the relevant European legal requirements; part of the milk is also exported to Germany. This ensures that the milk produced can be sold on the market at a certain price. In addition, 'our' PO also processes milk produced according to the traditional production method (conventional production). This can also be sold on the market at a certain price, which is however considerably less than the price paid for organic milk.

[200] See Chapter I.

[201] See F. Montanari et al, *Study* n 187 above, 117.

[202] See Chapter III Section 3.

[203] See G. Alpa, *La responsabilità civile* n 47 above, 163.

[204] Studies show that in practice there are many deviations from the basic internal governance structure as determined by law using non-mandatory clauses. See n 196 above.

Then I assume that, for strategic reasons (eg, to remain competitive), the managers of the PO decide – due to their competencies in line with the business purpose of the PO – that the production of organic milk shall comply with the specifications developed by the organization *Bioland*, which go (as mentioned in Chapter III, Section IV) beyond those developed by the European legislature. This could be necessary to be able to continue to sell organic milk successfully in this increasingly competitive organic milk market. The managers argue convincingly that the EU requirements are no longer sufficient to defend the market position.

Such far-reaching sales strategies are, in my opinion, covered by the European law, which defines objectives that are rather wide in content. As explained in Chapter III, Section 2, a PO working in the milk sector shall pursue one or more of the following objectives: (a) ensuring that production is planned and adjusted to demand, particularly in terms of quality and quantity; and/or (b) concentrating the supply and placing on the market the products produced by its members; and/or (c) optimising production costs and stabilizing producer prices. I argue that due to the far-reaching competencies provided by Art 2380 bis of the Italian Civil Code, it seems quite possible that the managers of the cooperative/PO decide to apply the more stringent requirements according to *Bioland* and consequently ask their members to produce according to these criteria. As they are stricter, costs will presumably rise (eg, higher concentrated feed costs). Furthermore, it is possible that the changeover may also require constructional measures which could entail specific investment costs for the farmers. Alternatively, the PO will bring their milk – which still complies with the European requirements regarding organic production – to the market as conventional milk instead, with the consequence that the price which can be paid to the members is considerably lower. Although in this example the concerned member can decide for himself how he wants to produce, *de facto* the freedom of choice is significantly limited. This is also important because in many cases small farmers supply only that dairy cooperative which is relatively close to their own production facilities.

Moreover, if the board of directors of the cooperative/PO, due to its competencies, has to (significantly) reduce the price of conventional milk due to market developments, this will steer members more towards organic milk production. Again, formally, they are free to decide, but in practice they are not, as often the only alternative is to close down the agricultural business.

Studies have shown that the influence of farmer-members on management depends on various factors. In principle, the more homogeneous the membership base, the better the will of the members can be manifested and thus influence strategic development. The larger a cooperative or PO becomes, the greater the actual influence of the management is on the strategic direction. This is also related to the fact that large cooperatives (have to) operate in large markets, which means that the individual members are in a correspondingly dependent relationship due to the given information asymmetries (to their disadvantage

and to the advantage of the management).[205]

Taken together, the 'hub' *may have* such a far-reaching influence that the liability arising during the production process *must* affect the hub firm. This is especially true regarding agro-food producing systems because the single farmer, as a member of an agricultural cooperative organised as a PO, is subject to situation-dependent production, inspection or information obligations, depending on how concretely the farmer is involved in the production and distribution process.[206] This statement is important from the point of view of the PO's liability as it briefly and concisely describes a particular aspect of the dilemma to be resolved. However, the Italian legal system does not currently provide a satisfactory solution to this problem. While there are two specific sets of rules which can be mentioned in relation to such network dynamics, none of them is legally relevant if a PO manages an agro-food production chain.

In Italy, the term 'network' is associated with the network contract (*contratto di rete*). Legge 9 April 2009 no 33[207] offers the possibility for concluding a multi-party agreement (including, if necessary, the establishment of a separate legal entity) in which the parties can implement common objectives of various types. Still, the term is vague, and there have been discussions on whether and how it can be integrated into legal doctrinal thinking.[208] This type of contract, however, cannot be used to set up a PO.

The second approach is product liability.[209] Art 121 of the Italian Consumer Act states, 'if more than one person is responsible for the same damage, they are all jointly and severally liable for compensation'. This rule is applicable not only to producers but rather it applies to all members of the production chain if they can influence the production process. Product liability seems to have some network-adequate features. It allows considering the top of the production chain with specific obligations and may justify its liability for the entire organizational area insofar as the network is subject to the possible control of the hub firm.[210] At the same time, however, the concept as delineated in the Consumer Act is

[205] See G. Miribung, *Agricultural cooperative in the framework of the european cooperative society: Discussing and comparing issues of cooperative governance and fin* (New York: Springer Nature, 2020) 167, 172 and 173; M.L. Cook and C. Iliopoulos, 'Generic solutions to coordination and organizational costs: informing cooperative longevity' n 196 above, 22; C. Iliopoulos and V. Valentinov, 'Member Heterogeneity in Agricultural Cooperatives: A Systems-Theoretic Perspective' *Sustainability* 10, 4, 1271 (2018); C. Iliopoulos, 'Ownership' n 196 above; and H. Hansmann, *The ownership of enterprise,* (Cambridge, Massachusetts: Belknap Press of Harvard Univ. Press, 1st ed, 1996), 134.

[206] See F. Cafaggi and P. Iamiceli, *Inter-firm networks* n 182 above. Also consider F. Cafaggi and P. Iamiceli, 'Contracting in global supply chains and cooperative remedies' n 182 above.

[207] Legge no 33 of 2009 was amended by legge 7 July 2011 no 122, legge 7 August 2012 no 134, legge 17 December 2012 no 221 and legge 28 July 2016 no 154.

[208] For details see, for example, G. Spoto, *I contratti di rete tra imprese* (Torino: Giappichelli, 2017). See also n 23 above.

[209] In this sense, G. Teubner, n 182 above, 312.

[210] See Art 121 para 2 Italian Consumer Act.

decentralised because it allows the assigning of complementary duties of conduct to the network and nodes according to the internal task distribution. In fact, Art 121, para 2 of the Consumer Act provides for the division of tortious contractual duties; it aims at reflecting the contractually committed division of labour in the network and allocates responsibilities accordingly. Product liability, as determined by Art 121 of the Consumer Act, should thus enable self-control of the network with sufficient precision.[211] I conclude that legal network thinking also exists in Italian legislation.[212]

[211] For details, see V. Carfi, 'Art 121', in V. Cuffaro, A. Barba and A. Barenghi eds, *Codice del consumo e norme collegate*, (Milano: Giuffrè, 4th ed, 2015), 756-759. As it imposes behavioral duties on the actors in accordance with their actual competence to act, irrespective of whether the distribution-chain is governed by contract law or company law it thus internalises negative external effects and is neutral in terms of its legal form. In this context is suggested that tort obligations should be concentrated on compensating the production risks in the broader sense, ie the technical risks, the operational dangers of the traffic of production and distribution regardless of the chosen legal form. Transaction risks, on the other hand, ie those that arise precisely from the chosen legal form of the transaction - contract, partnership, corporation, group - cannot be treated as legally neutral. Rather, they should be dealt with in the factual context of the respective legal field, taking into account the specific advantages and disadvantages of the parties involved. See G. Teubner, n 182 above, 315.

[212] This network perspective can also be applied to a legal structure as regulated by Art 2497 Civil Code. In this context, the Italian legal framework contains specific rules that provide some answers to these questions, although they are not exhaustive. Arts 2497 et seq Civil Code were introduced by decreto legislativo 17 January 2003 no 6 and apply to all types of companies, both partnerships and companies with shared capital. The rules refer to networks where a company or another body/entity exercises management and coordination activities toward companies that are part of the network (these are the participating companies). This network leader is directly liable to the shareholders of the network members as well as to specific creditors, if he or she acts in personal or other business interests (conflict of interests) and in breach of the principles of proper (societal and entrepreneurial) management of the participating companies. Responsibility exists *vis-à-vis* the shareholders if there is a prejudice to the profitability and value of the shareholding and *vis-à-vis* the company's creditors in the event of an injury to the integrity of the company's assets. Thus, only shareholders and creditors are actively legitimated. Moreover, according to Art 2497 para 3 Civil Code, this liability claim can only be asserted in a subsidiary manner (on the condition that the claims have not been met by the company, which is subject to management and coordination). The law also provides for joint and several liability of those who have taken part in the damaging act and those (with limits. See Art 2497 para 2 Civil Code) who have consciously benefited from it. With this provision, it is possible to extend the liability to a multiplicity of subjects, even those not belonging to the group of companies, including natural persons (The liability of such persons, however, is limited by law to the advantage gained. See Art 2497 para 2 Civil Code). The extent to which these norms can be applied in individual cases must be specifically assessed and will not be investigated further here. The object of the liability claim is the management and coordination activities and the damage incurred must be their direct consequence. There are debates about the legal nature of this type of liability. According to case law and part of the doctrine, it is a non-contractual liability. According to another part of the doctrine, it is contractual liability. Regarding the protected damage, liability refers to prejudice caused to the profitability and value of the shares and covers the (network) company's creditors for the damage caused to the integrity of the company's assets (Art 2497 para 1 Civil Code). This means that third parties can only sue the individual (network) companies or network manager/leader for damages caused by activities in connection with the respective business purpose (based on Art 2395 Civil Code); they cannot claim damages caused by the management and coordination of the network. However, if they win,

However, this approach is not applicable here since, according to Art 117 of the Consumer Act, liability only arises if the product is defective. This is not the situation considered here because I am looking at the damage caused by a production process and not by the product itself (eg, the milk or steak offered to consumers).[213] Nevertheless, it gives some insight into how network accountability could be constructed; these results could then be used to explain how the rules are to be changed.

The investigation conducted so far is not yet complete, but what we can now recommend to 'our' Mrs Rossi so far is that she has to find a PO that has a correspondingly dominant position in the production chain and which is also obliged under its statutes to make a significant contribution to combating climate change. So, if a PO (by means of its managers) does not take the necessary strategic steps and does not direct (or influence) accordingly the production activities of its members, could it be liable? At the very least, there would be cause for a more detailed investigation.

One aspect for establishing liability according to Art 2043 has, however, not yet been discussed. As indicated in Chapter II, Section 1, the application of 2043 Civil Code requires proof that there is a link between the damage and a specific behaviour (here, the agricultural activity). The next chapter deals with this issue.

V. Third Step: Trying to Disclose the (Possible) Causal Link Between Agro-Food Production and Climate Change

Apart from the internal dynamics of liability explained above, which focus on the behaviour of the damaging party, non-sustainable action in the context of climate damage necessarily has an external dimension – it is the damage of third parties. Could Mrs. Rossi file a claim, for example, against a PO because her property (forest) has been damaged by a tornado (or some other extreme weather) by arguing that the concerned agro-food producer fosters climate change due to its production systems? Regarding this topic, further observations must be made. It has to be clarified whether a legal entity may be responsible for the

it is conceivable that, in a later step, the shareholders of the losing company may take legal action against the network manager. For details, F. Giannandrea, 'Artt. 2497-2497 *septies*', in P. Cendon ed, *Commentario al codice civile. Artt. 2484-2510. Scioglimento e liquidazione; trasformazione, fusione e scissione*, 217-290, 217. Also consider P. Montalenti, 'Organismo di vigilanza 231 e gruppi di società' *Analisi Giuridica dell'Economia,* 2, 383-395 (2009), and A. Daccò, 'I gruppi di società' in M. Cian ed, *Diritto commerciale-Vol. III: Diritto delle società* (Torino: Giappichelli, 2017), 773-806, 773. Also consider G. Teubner and H. Collins, n 23 above, 133, and in particular S. Giovannini, *La responsabilità per attività di direzione e coordinamento nei gruppi di società* (Milano: Giuffrè, 2007).

[213] For details, see V. Carfì, 'Art 117', in V. Cuffaro, A. Barba and A. Barenghi eds, *Codice del consumo* n 211 above, 739-743. See also M. Mazzo, *La responsabilità del produttore agricolo* (Milano: Giuffrè, 2007), 155, and M. Giuffrida, 'Dalla responsabilità dell'imprenditore all'imprenditore responsabile' *Rivista di diritto agrario*, 4, 545-567 (2007).

damage occurring due to climate change. This implies judging whether there is a causal relationship or, in other words, whether the behaviour of the polluter is linked – due to a causal relationship – to the sustained damage.[214] Basically, this implies that there is a link on the condition that, without the specific behaviour of the polluter, no damage would have occurred. It is important to emphasise that the burden of proving the causal link lies with the plaintiff,[215] which raises a significant problem. In climate change litigations, the plaintiff (here, Mrs Rossi) must prove that there is indeed a causal link between the emissions of the sued company and the damage that has occurred.

Considering scientific evidence and the possibilities of scientific methods, this is far from easy, and this can be shown if we consider what science actually knows about climate change. What is known is that climate change is a consequence of many factors. In addition to numerous natural influences, there are also so-called anthropogenic factors, that is, climatic influences to which humankind contributes. The most well-known of these is the emission of GHGs, which alter the world's climate by locking up the sun's energy reflected by the Earth and sending it back to Earth (the greenhouse effect). The most important GHG is water vapour, which accounts for 50–85% of global warming.[216]

In the public debate, CO_2 and methane play an important role.[217] This is because they are part of a vicious circle: On one hand, they are GHGs and heat the climate; on the other, a heated climate also generates more water vapour, which further fuels the climate.[218] According to the UN Intergovernmental Panel on Climate Change,

> 'it is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together'.[219]

This will not change that rapidly as, for example, the lifetime of CO_2 is between

[214] In this regard, see P.M. Sanfilippo, 'Gli amministratori' n 6 above, 532.

[215] See Chapter II.

[216] Consider, among many others, S. Solomon et al eds, *Climate change 2007: The physical science basis; contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (New York: UNEP, 1st ed, 2007), 661; IPCC, *Global warming of 1.5°C* 6 n 81 above; Z. Hausfather, 'The Water Vapor Feedback' (2008), available at tinyurl.com/w9ny364 (last visited 7 July 2020).

[217] The contribution of CO_2 to global warming should be 9-26%, while that of methane should be 4-9%. See J.K. Choi and B.R. Bakshi, 'Attribution of Global Warming', in S.G. Philander ed, *Encyclopedia of global warming and climate changer* (Los Angeles: Sage, 2008), 95-99.

[218] It is little reassurance that the concentration of CO_2 and methane in the atmosphere - depending on the source of information - is either at an 800 000 year high or has even reached a level that has not been reached in the past 15 million years. See M. Inman, 'Carbon is forever' *Nature Reports Climate Change*, 156-158 (2008).

[219] See IPCC, *Climate Change 2014 - Synthesis Report: Summary for Policymakers* (2015), 5.

twenty and two hundred years on average.[220]

For law, the complex mix of causes, effects and interactions is not a good starting point. Simply consider CO_2. If more than half of climate change is caused by humans, and the contribution of CO_2 varies between nine and twenty-six percent, and, moreover, if the lifetime of CO_2 molecules is twenty – two hundred years, then the (classic) attribution of damages to the likely polluter will 'not be easy'.[221] Therefore, it is difficult to determine who is responsible for the damage and what actually happens between the moment of emission and the occurrence of the damage.

But maybe more precise statements can be made by approaching the question (yet, still in general and abstract terms) as to which agricultural products contribute to climate change to what extent. For example, studies calculate the emission of CO_2 gases in relation to the production of one litre of milk, one kg of beef or on kg of cheese.[222] In the actual application of these calculations, however, again caution is called for, and one should not do the calculation without the host. For instance, the latest studies look at an extended value chain and argue that the CO_2 removed from the atmosphere by the plants grown to feed livestock is greater than the sum of CO_2 equivalent emitted by agricultural processing emitted by physiological ruminal fermentation and caused by the manure management.[223]

To complicate matters further, it is important to be aware that most climate-related damage is caused by phenomena (eg, hurricanes) that occur in principle independently of climate change. So, to what extent does anthropogenic climate change cause damage? This seems to be explainable when analysing sea-level rise with the help of climate models.[224] However, this also seems possible for other

[220] See *The Guardian* 'How long do greenhouse gases stay in the air?,' available at tinyurl.com/krmertk (last visited 7 July 2020).

[221] See ibid. See also IPCC, 'Climate Change 2001: The Scientific Basis' 2001, available at tinyurl.com/yxnt3ywp, 38 (last visited 7 July 2020).

[222] In general, one can observe that 'the sector's GHG emissions have increased by eighteen percent between 2005 and 2015 because overall milk production has grown substantially by thirty percent, in response to increased consumer demand. The trends in absolute emissions reflect changes in animal numbers as well as changes in the production efficiency within the sector. Between 2005 and 2015, the global dairy herd increased eleven percent. At the same time, average global milk yield increased by fifteen percent. Increased production efficiency is typically associated with a higher level of absolute emissions (unless animal numbers are decreasing). Yet without efficiency improvements, total GHG emissions from the dairy sector would have increased by thirty-eight percent. So while total emissions have increased, dairy farming has become more efficient resulting in declining emission intensities per unit of product.' See FAO, *Climate Change and the global dairy cattle sector: The role of the dairy sector in a low-carbon future* (Roma, 2019), 7.

[223] See R. de Vivo and L. Zicarelli, 'Relationship between the emissions of farmed animals and the contribution of cultivated plants to feed them' 11 *International Journal of Current Research*, 4772-4774 (2019).On these issues, see also, eg, E. Sabia et al, 'Dairy sheep carbon footprint and ReCiPe end-point study' 185 *Small Ruminant Research* 185, 106085 (2020), and E. Sabia et al, 'Effect of Feed Concentrate Intake on the Environmental Impact of Dairy Cows in an Alpine Mountain Region Including Soil Carbon Sequestration and Effect on Biodiversity' *Sustainability,* 12/5, 1-15 (2020).

[224] See tinyurl.com/ze7wwhb (last visited 7 July 2020). For general information, IPCC,

phenomena, such as heat waves. For example, one study shows that the 2003 heat wave in Europe was very likely caused by climate change.[225] It is also worth noting the link between climate change and windthrow, which in 2018 caused great damage to forests in the Italian region of Trentino Alto Adige/Südtirol.[226] Thus, there should indeed be credible scientific evidence helping to *generally* establish a causal link between weather phenomena and climate change. Generally speaking, this seems possible. But does this also apply to a specific case of damage, such as Mrs Rossi's destroyed forest?

The concrete attribution of a single sequence of damage to global climate change is definitely only possible through complex models that depend not only on a large number of comprehensively documented facts but also on assumptions which are the result of scientifically modelling the causal link. If liability claims are justified on this basis, this would inevitably open up new perspectives for law. As these models are based on probabilities, their acceptance will not be that easy but – *maybe* – not impossible. For instance, the Italian legal system has already acknowledged that the causal link can also be demonstrated if it is based on high probability.[227] For example, in sentence n. 13530 from 11 June 2009 the Court of Cassation argued that for the purposes of the configurability of the causal link between an illegal act and a damage, it is not necessary that the latter be a certain and unequivocal consequence of the event, but it is sufficient that the causal derivation of the former from the latter can be established on the basis of a criterion of high probability and that the intervention of a subsequent factor such as to disconnect the causal sequence thus established has not been proved. Moreover, it has been stressed that the ascertainment of the civil law causality link between the illegal act and the damage must be conducted on the basis of a probabilistic assessment according to the rules of the prevalence of probabilities (more likely than not) compared to the stricter rules of the penal causality assessment.[228]

Global warming of 1.5°C n 81 above.

[225] See P.A. Stott, D.A. Stone, and M.R. Allen, 'Human contribution to the European heatwave of 2003' *Nature* 432, 7017, 610-614 (2004).

[226] See R. Motta et al, n 7 above. For general information R. Seidl and W. Rammer, 'Climate change amplifies the interactions between wind and bark beetle disturbances in forest landscapes' *Landscape ecology* 32, 7, 1485-1498 (2017) and R. Seidl et al, 'Forest disturbances under climate change' *Nature climate change*, 7, 395-402 (2017). Much will depend on the damage that will be caused. For example, determining the causal link between climate change and health impacts is complicated because of the lack of long-term data.

[227] On this issue sue also G. Alpa, *La responsabilità civile* n 47 above, 208.

[228] See G. Alpa, *La responsabilità civile* n 47 above 210. Moreover, it is also stressed that the non-application of a so-called threshold liability rule (obliging the plaintiff to prove that the defendant's conduct caused the damage with a probability of more than fifty percent), coupled with the move to a so-called proportional approach, could significantly increase the possibilities for applying tort law to climate change. See M. Faure and M. Peeters, n 160 above, 18. On this issue, see also M. Duffy, 'Climate Change Causation: Harmonizing Tort Law and Scientific Probability' 28

But could this approach really be helpful in the scenario examined here? The probalistic rule is definitely helpful in cases where the last fact connected with the event appears not to be the only one in the causal chain to have caused it, and it is not easy to see any regularity in the event that would allow the qualification of the last fact as the sole and exclusive cause of the event. It is clear that if other conditions influence the way in which the event occurred, the judge will have to take them into account in determining the damage, but he cannot ignore the causal relevance of the last event. This is precisely the case when a person with serious health conditions is hit by another person and dies after the impact. If the accident had affected a person of sound and robust constitution, it is very likely that this person would have remained alive. By using the probalistic principle, an appropriate solution is obtained because the person liable is identified, but account is taken of the specific circumstances that mitigate the amount of damage claimed by the relatives of the deceased victim.[229]

So, what might this mean for my study? If it is indeed possible to convincingly model a causal relationship based on the principle of proportionality between climate-damaging actions and damage to property, then only one aspect, albeit not an unimportant one, of the causal relationship has been clarified, but we still do not know who caused a specific form of damage due to a specific episode of windthrow. In other words, the actual damaging party cannot be determined. Or, to be more precise, although we indeed can rather *adequately*[230] calculate that much of the emissions of a specific agricultural activity foster climate change, which then leads to damage due to windthrow, we cannot say who – among the many polluters – exactly can be blamed for 'our' specific instance of windthrow harming Mrs Rossi's property. If we consider 'our' PO as one polluter out of many and try to develop an *alternative* causality, then we know that in such cases liability can only be established on the condition that the event has been caused *intentionally*. As explained in Chapter II, Section 1, this may lead to *joint and several liability* and includes situations in which the joint and deliberate act caused a particular risk.[231]

I assume that in our case the managers of the PO know – also because of

Temple Journal of Science, Technology & Environmental Law, 185-242, 206 (2009), and D.A. Kysar, n 78 above, 62.

[229] See G. Alpa, *La responsabilità civile* n 47 above, 210. See also M. Capecchi, n 50 above, 250 and Chapter VIII.

[230] That is, based on general experience or objective predictability at the time of the action. See Chapter II, Section 1.

[231] Joint and several liability does not derive from the combination of behaviours connected with a voluntaristic psychological link, being that an objective link is sufficient, provided that there is the unicity of the damaging fact. The causes can be autonomous. Joint and several liability is a hypothesis attributable to subjectively complex obligations. The injured party can claim from each person jointly and severally liable the integrity of the compensation except for the right of recess. See G. Alpa, *La responsabilità civile* n 47 above, 211. On these issues, see also M. Capecchi, n 50 above, 121.

the obligations contained in Art 2428 Civil Code – that (a) agro-food production leads to climate change and – and this should not only be known by the managers of a PO – that (b) climate change leads to severe damage. Here, however, one can object that it is also necessary to determine the exact point in time when exactly an obligation to reduce emissions could exist and when a polluter could have reasonably foreseen that his emissions would cause damage. These points are necessary to determine when culpable action began and are therefore essential to determine the causal link.[232] This concerns the foreseeability of the damage: from what point on can it be assumed that this was the case?

Even if we now briefly hide this aspect, and therefore, assume a judge would accept the outlined (somewhat daring) explanation of this link (ie, of what happens in reality),[233] then he would probably open the door at the same time for a series of further actions against the same defendant, and this because it is not possible – due to the abovementioned complex mix of causes – to model whether the defendant's emissions are only responsible for this specific property damage or not also for a series of other damages, together with other polluters. As a very large number of people will be harmed in one way or another by climate change, defendants could potentially be held liable by anyone who is able to claim damages from climate change. This would be, to put it modestly, probably not very proportionate,[234] and this is, in my view, the main problem in assessing the causal link. In fact, with our current tools (be they mathematical models, be it legal thinking[235]) one can only (at least theoretically) scientifically model whose actions contribute to a certain damage without determining, however, where and when exactly the damage has occurred. Whether there will be suitable solutions in the future remains to be seen.

VI. Trying to Tackle the Problem – Some General Observations on how to Do so (Remaining Defiant)

[232] Such assumptions must also be based on scientific considerations.

[233] The distinction between factual, or physical, causality and legal causality is abstractly clear: the former is the reconstruction of all the causes that can be identified with scientific criteria, while the latter is only the causes selected on the basis of those identified with scientific criteria. The selection criteria are created by jurisprudence and doctrine. See G. Alpa, *La responsabilità civile* n 47 above, 203.

[234] See ibid, 201.

[235] In some jurisdictions (eg, the USA), the imputation of liability, exceptionally, is made without regard to the causal link. This is the case of so-called toxic torts, where the effects of asbestosis; tobacco smoke; factors of water, air, soil pollution, etc, are not easily attributable to an act or activity of the person or persons who could be held liable. Jurisprudence shows that in cases such as these, the courts have not followed uniform guidelines but have referred to different theories from time to time, with more subjects considered stochastically responsible. It is stressed that each of these theories is susceptible to verification in the light of the economic analysis of the law in order to ascertain which of them is more efficient, that is, more appropriate to the distribution and bearing of costs. See F. Parisi and G. Frezza, 'La responsabilità stocastica' *Responsabilità civile e previdenza*, 3, 824-847 (1998). See also G. Alpa, *La responsabilità civile* n 47 above, 419.

In Chapter III we saw that the legal rules deal with (environmental) sustainability to varying degrees. Some rules address it more directly,[236] others more indirectly.[237] What clearly emerges is that agro-food production, especially if subsidised (due to cross-compliance), is linked to sustainability requirements not only from a social science perspective but also a legal one. The concept of cross-compliance also provides for the possibility of imposing administrative penalties on beneficiaries for noncompliance with the relevant rules.[238] Yet, no mandatory provision based on private law exists; and although indications of sustainable (in the sense of climate-friendly) agriculture can be found, these are not sufficient to prove a corresponding obligation – neither based on the notion of agricultural activities nor linkable to the business purpose of an agricultural cooperative/PO and neither enshrined in the general legal framework regulating agricultural activities nor due to potential damage to third parties. Clear obligations arise only on the basis of voluntary commitments, such as by laying down a corresponding obligation in the statutes or by producers – voluntarily – agreeing to comply with certain production standards (eg, *Bioland*).

But specific approaches developed by scholars may be helpful. In particular, I am looking for approaches that help to better substantiate sustainable behaviour, also in the context of the network dynamics mentioned; however, I am not further investigating whether there are concrete models that help to prove the causal link between action and damage (as required by Art 2043 Civil Code).[239] Currently, this kind of ex-post evaluation does not work; the solutions discussed below have an ex-ante approach.

The question therefore concerns the content of a possible norm which requires a certain conduct. Generally, it is argued that despite better knowledge, voluntary behaviour does not promote real sustainability, especially since short-term perspectives have a stronger influence.[240] However, in principle, this should not apply to farmers, who will always bear in mind that if, for example, they pollute the soil or groundwater, they are directly harming themselves because they are destroying their production factors. At least this should be the case when the consequences are felt in the near future.[241] Legislators need to be aware of these circumstances, and therefore, they should better establish specific rules that

[236] For example, provisions of the TFEU, the Italian environmental act or the Civil Code.

[237] Consider the mentioned examples from the Italian constitutions. Also consider F. Ekardt, 'Klimawandel' n 134 above; F. Ekardt, 'Recht, Gerechtigkeit, Abwägung und Steuerung im Klimaschutz – Ein 10-Punkte-Plan für den globalen und europäischen Klimaschutz' in M. Voss ed, *Der Klimawandel: Sozialwissenschaftliche Perspektiven*, (Wiesbaden: VS Verlag für Sozialwiss, 1st ed, 2010), 227-244.

[238] See Art 91 European Parliament and Council Regulation (EU) 1308/2013.

[239] See Chaper V.

[240] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 463; B. Sjafjell, n 5 above; P. Kara, n 5 above. Also consider S. Landini, n 35 above.

[241] See Chapter III Section 1.

commit to change, not only in the long term but especially in that timeframe.[242]

This raises the question of which requirements such private law provisions should satisfy to align a cooperative towards sustainability. It should be remembered that, in general, sustainability is still regarded as a principle in legal theory, often without clear content. It frequently refers to rather trivial claims that need to be weighed against each other and relate to different life circumstances rather than calling for a long-term economic lifestyle.[243] Due to this inaccuracy, this concept is not easy to enforce under private law. In fact, one has to bear in mind that private law, as opposed to 'classical' environmental policy – and the corresponding laws of public law – does not use (public law) regulations enforced by national authorities or supranational authorities. Instead, the sustainability approach serves to influence or change the relationship between different (natural and legal) persons, and typically, companies – and cooperatives.[244] To this end, it is necessary to concretize the concept of sustainability. The necessity for this becomes clear when one considers that, under certain circumstances, a business entity's (eg, company, cooperative) concrete actions must be identified as sustainable or non-sustainable. Otherwise, the concerned persons can hardly draw the line between permissible and inadmissible behaviour. Thus, the clear definition of this limit is a fundamental task of law.

Defining the content is challenging and fundamental, including because environmental protection often conflicts with other social demands. For example, we may ask the following: To limit climate change, is it necessary to limit the production of meat? Or even more drastically, is it necessary not only to completely forbid the consumption of meat but also the consumption of any animal products because the use of land/soil always produces emissions (including without the use of mineral fertilisers)? At least in theory, one could argue that human beings' lives are endangered even in cases of modest climate change.[245] Even more complex to respond to is the question of how to look at the intricate interactions of different sustainability issues, such as climate, energy, biodiversity, soil and water conservation. From these rather brief observations and questions, it becomes clear that it is important to weigh and find compromises.

This is even more true if one considers that the purpose of companies is primarily to generate profits;[246] defining a rule that seeks to reconcile different

[242] Although things have seemed to change lately. It is increasingly required that binding rules (laws) be adopted. Consider F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above; P. Kara, n 5 above; B. Sjafjell and J. Mähönen, 'Upgrading the Nordic Corporate Governance Model for Sustainable Companies' 2 *European Company Law*, 58-62 (2014); B. Sjafjell, n 5 above.

[243] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 466. Also consider, for example, C. Felber, *Die Gemeinwohl-Ökonomie: Eine demokratische Alternative wächst* (Wien: Deuticke, 2012) and F. Ekardt, *Das Prinzip Nachhaltigkeit* n 134 above, 27.

[244] See C.M. Bianca, *Diritto civile* n 28 above, 36; A. Torrente and P. Schlesinger, *Manuale di diritto privato* n 28 above, 16.

[245] In this context, F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above.

[246] See M. Cian, 'L'organizzazione produttiva: elementi costitutivi' n 101 above, 48.

social goals with expected shareholder returns should not be that easy. In fact, such a solution would imply that board members, when making business decisions, must be able to determine when these different goals are equally met; however, while profits are expressed in money, this is not easily possible for the various aspects that characterise the concept of sustainability. Indeed, it seems difficult to compare the distinct goals, which is a necessary exercise for determining when equality exists.

In comparison with the purpose of the company, the purpose of the (agricultural) cooperative (here used to form a PO) – which on one hand is to provide benefits for its members and on the other to ensure the profitability of the cooperative – appears more open.[247] However, here, the members of the board face the same dilemma if they have to reconcile climate-friendly action with the goal of their cooperative. It is useful to be reminded at this point that POs may specifically determine climate change mitigation amongst their objectives. But as mentioned, this is at the discretion of the drafters of the statute and does not constitute an obligation. Thus, instruments must be found that not only help balance the various aspects but also prioritise one – maybe toward environmental sustainability – which will serve as a cornerstone for mitigating climate change.

As it would not be easy for a single enterprise (ie, a company or cooperative) to correctly determine which measure corresponds to climate protection and which does not, it has been rightly argued that the legislature should determine the appropriate balance between these different interests.[248] As this issue is of general interest, only parliament or some type of neutral institution/(scientific) agency should determine what is needed to protect the climate and how the different interests can be appropriately balanced.

Furthermore, reference can be made in this connection to framework legge 28 december 2015 no 208, which also regulates benefit companies and contains a special mechanism for monitoring sustainability criteria. It is worthwhile to consider this example because the benefit company explicitly moves the purpose of companies towards sustainability requirements.[249] This implies that business should be conducted with responsibility, sustainability and transparency towards people, communities, territories and the environment.[250] In addition, specific

[247] See Chapter III Section 2.

[248] F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 468.

[249] It is, however, not a new type of company, but rather, *explicitly allows* the 'traditional' companies to add to the profit-generating purpose the purpose of creating general public benefit. See M. Cian, 'L'organizzazione produttiva: elementi costitutivi' n 101 above, 50.

[250] Art 1, para 376, legge no 208 of 2015. Thus, benefit corporation's managers operate the business with the same authority as in a traditional company, but they are required to consider the effects of their decisions, not only on shareholders, but also on society and the environment. Here, shareholders judge performance based on the company's social, environmental and financial performance.

According to legge no 208 of 2015, this concept shall lead to positive and/or restrict negative externalities. This term refers to the effects that arise through the production process

transparency provisions require the publishing of annual benefit reports of the company's social and environmental performance by using a comprehensive, credible, independent and transparent third-party standard. For my discussion, this rule is fundamental as it not only obliges the disclosure of the internal dynamic of the company, but in addition, it requires assessing and evaluating the success of the company by means of independent (third-party) standards. Here, success has been explicitly linked to sustainability targets,[251] without excluding the need to make profits.[252]

On the contrary, if sustainability clauses followed a more general approach – here, I refer to clauses without specified content[253] and thus no guideline on how to solve conflicts between the various issues – many questions arising from their implementation would have to be answered by a court ruling. Presumably, this would often not be that easy,[254] considering that modern production chains are complex, including because of globalisation. To arrive at a fair verdict, they must be fully assessed and understood. This issue of transparency, however, is not easy to solve when it comes to implementation and requires an international approach.[255]

to the advantage (positive external effects) or disadvantages (negative external effects) of third parties. In other words, 'an externality is the cost or benefit that affects a party who did not choose to incur that cost or benefit. Economists often urge governments to adopt policies that "internalise" an externality, so that costs and benefits will affect mainly parties who choose to incur them'. For example, the manufacture of certain products may pollute the air, but the resulting costs (for example, for health or repairing the damage) must be borne by society, not the polluter. A similar situation arises when a person decides to make his or her house fireproof. Here, third parties can benefit from the reduced risk of fire. When external costs arise, such as in the case of air pollution, the producer may decide to produce more products without incurring higher costs than under conditions where he would have to bear all the associated environmental costs. Thus, some consequences for self-directed action are outside the actor, that is, they are externalised. Conversely, if there are external benefits, such as public safety, less may be produced than under conditions where the external services provided were paid. Now, if unregulated markets (for goods or services) have significant externalities, prices are generated that do not reflect the full social costs or benefits of the transactions. Therefore, these markets are not efficient. On these issues, J.C.J.M. van den Bergh, 'Externality or sustainability economics?' *Ecological Economics* 69, 11, 2047-2052 (2010).

[251] For tax purposes, however, benefit companies are treated like all other companies.

[252] In fact, economic sustainability and economic success cannot be separated from entrepreneurship. See M. Cian, 'L'organizzazione produttiva' n 101 above, 50. As a matter of fact, what is common to all types of companies is not the idea of profit maximisation but the feature of efficiency. This is one of the essential features characterising the professionalism of an entrepreneur. It has been argued that this company type may be a valuable instrument because enlarging the scope of business ensures that, in case of doubt, the board members still act in observance of their duty of care; it is also important in case the adopted business strategy does not lead - not even in the long run - to a pure economic competitive advantage. See M. Cian, 'L'organizzazione produttiva' n 101 above, 51. For details, see, among others, S. Ronco, *La società benefit tra profit e non profit* (Napoli: Editoriale Scientifica, 2018).

[253] For example, by merely requiring that 'companies must be sustainable'.

[254] These problems, either from a normative or empirical point of view, become even more severe if one refers to abstract formulated social belongings, like fair distribution of income or equal distribution of education chances. F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 467.

[255] This does not mean that legislators can decide on sustainability at their own discretion,

The aspect of globalised production chains is also important from another perspective. Given these possibilities, it is understandable that the businesses (ie companies and also cooperatives) would seek the optimal legal framework for their business, not only within the Member State where the business was initiated or the EU but also outside its territory. This helps in avoiding specific national or supranational rules. Entrepreneurs will tend to relocate their headquarters to jurisdictions where sustainability requirements are less stringent (forum shopping). The same is true for making investments. From an economic point of view, forum shopping may even be more attractive than fulfilling environmental requirements based on stricter law requirements.[256]

The discussion above leads to a further observation: One can correctly argue that, due to their influence on the development of society, companies, as well as cooperatives, must help to make the transition to a more sustainable economy. A key question is how to achieve this without threatening the role of companies as they are essential to wealth creation.[257] Therefore, the existing system should not be *per se* endangered but gradually changed, with appropriate sanctions defined.

Thus, it can be said that for sustainability rules to have an effect on combatting or mitigating climate change, enforcement problems and shifting effects should be avoided.[258] Law sustainability approaches (which are not based on voluntariness) must have the following characteristics: (1) they must be sufficiently concrete, (2) implemented step by step, (3) contain appropriate sanctions and (4) probably be raised to at least a supranational level so that the abovementioned shift effects can be avoided to a large extent.[259]

The mentioned accuracy should also consider network dynamics. In fact, considering climate change, an approach based on network liability would not only be more effective if one considers what has been affirmed in Chapter V but also more appropriate if one considers the general interest in climate protection. Whereas the network (ie, PO that cooperates, for example, with research centres)

as they must comply with specific constitutional requirements. These include not only those rules that guarantee the freedom of individuals and protection of life and health but also those that set minimum requirements for water, safety, food and so on. The protection of these interests requires sustainability in the sense of a long-term and global protection of natural resources. B. and J. Mähönen, 'Upgrading the Nordic Corporate Governance Model' n 242 above, 58; F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 466. See also J. Martinez, 'Klimaschutz und nachhaltige Landwirtschaft' n 129 above, 108.

[256] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above; B. Sjafjell and J. Mähönen, n 242 above. See also J. Martinez, 'Klimaschutz und nachhaltige Landwirtschaft' n 129 above, 108.

[257] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 463 and B. Sjafjell and J. Mähönen, n 242 above.

[258] In addition, the so-called rebound effect should be considered in this context. This refers to the fact that the beneficial effects (ie increased efficiency of resource use) of new technologies are often offset by behavioural responses. Therefore, the expected advantages are reduced. Known instruments to mitigate or avoid this problem are cap and trade regimes or specific taxes. On these issue, K. Mathis, 'Sustainable Development' n 35 above.

[259] On this issue, see J. Martinez, 'Klimaschutz' n 129 above, 108.

produces all the information (based on scientific evidence) and thus should take responsibility for information acquisition, single decisions are made at the grassroots level when implementing the measures defined by the hub. Seemingly, individual agro-food producers often act as a type of informal *longa manus*; at the same time, they must assume full responsibility for individual, but coordinated, decisions. Thus, are there not inconsistencies between real behaviour and legal perception?

Without going into too much detail, I will try to give some general responses to these issues by briefly discussing some of the legal solutions that could prompt companies, but also cooperatives, to act more sustainably.

A first proposal complements the existing obligations and states that there is no breach of due diligence even if the board makes a business decision based on standards that comply with human rights or social or environmental requirements of international treaties signed by the home state. Here it is emphasised that the obligation of the managers of the cooperative/company to comply with the law, at least indirectly, should also require compliance with international treaties.[260] Indeed, these contracts do not directly bind the members of the board as the norms set out in these treaties refer primarily to nation states.[261] However, if the board currently adheres voluntarily to such standards and this would lead to higher costs, one could argue that due diligence has been broken, with the consequence that board members could be held liable for damages. The solution presented here should help avoid such consequences.

Another (again open) proposal allows the board to prioritise long-term viability (or efficiency) in relation to short-term profit maximisation. This solution does not specify a certain behaviour; therefore, one can ask how such an assessment should be implemented. Although, in terms of mitigating climate change, the consequences of such an open provision may therefore be rather limited, it could help restrain specific excesses of (transnational) corporations. At the same time, such a provision would ensure that shareholders pursuing a short-term perspective cannot exert too much pressure on the members of the management organ that plans and acts longer term.[262] Thus, like that of the first proposal, the consequence of this rule is limited, and it primarily leads to a reduction of liability.

As a corollary to more stringent duties, it also seems necessary to re-address the audit tasks of a company/cooperative regarding the supply chain. To date, due to the mentioned vague network liability, their effect is relatively modest. It is proposed to clearly define the corresponding audit obligation and especially define the corresponding responsibilities.[263] Such obligations could also extend to

[260] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 470.

[261] See E. Cannizzaro, *Diritto internazionale* (Torino: Giappichelli, 3rd ed, 2016), 6; M. Herdegen, *Völkerrecht* (München: C.H. Beck, 15th ed, 2016), 1.

[262] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 470.

[263] See B. Sjafjell and J. Mähönen, n 242 above, 60.

long-term business risks, such as the 'carbon bubble'.[264] Here, it is stressed that such phenomena are often neglected when making business decisions. However, the effectiveness of such a provision will again be limited due to evidence issues. These, as explained above,[265] result from the complex empirical relationships. In practice, the management organ would be required to assess (*elusive*) long-term risks[266] in combination with clear short-term profit expectations. Such difficult assessments cannot be solved without giving broad discretion.[267]

If one considers the possible effect of these proposals on mitigating climate change, one must state that they are rather vague and grant a wide range of discretion to the management organ. Are solutions that focus on duties prohibiting climate damaging behaviour – and thus limit the discretion granted to the management organ – more promising?

A first example requires avoiding *excessive* emissions. Here, one can observe that, whereas from a global perspective, the effect of climate change (ie the resulting/emerging damage) can be mitigated through the use of (financial) means/funds, from an individual point of view (and this is the perspective taken in private law), however, measures to reduce GHG emissions could put the existence of a business model in danger. For instance, from an overall societal standpoint, it would be reasonable to stop the production of SUVs (sport utility vehicles), whereas it is probable that the single car producer cannot afford such measures as long as the demand for these products is significantly high.[268] As a result, it is not easily possible to require car manufacturers to shut down entire production facilities, but it should be possible to require them to avoid excessive emissions.[269] These are those that can be efficiently reduced compared with the costs of the potential damage. However, it is not clear how a judge should rate and compare social costs and benefits. For example, is it better – more sustainable – to use air conditioning in summer or import strawberries in winter?[270]

Another approach re-determines the notion of the purpose of the company/ cooperative by specifically integrating sustainability into it.[271] Thus, similar to the

[264] See tinyurl.com/y2ldlrxs (last visited 7 July 2020).

[265] See Chapter IV.

[266] Eg, the the actual consequences of climate change.

[267] See F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 471.

[268] See B. Burtscher and M. Spitzer, 'Haftung für Klimaschäden' n 162 above, 948.

[269] This approach has been proposed by a group of experts that have elaborated the 'Oslo Principles on Global Climate Change Obligations': tinyurl.com/yy6hnghw (last visited 7 July 2020).

[270] See B. Burtscher and M. Spitzer, 'Haftung für Klimaschäden' n 162 above, 948. One can also discuss whether and how small businesses should be delimited/separated from private persons. Why should a small business owner be held responsible for excessive GHG emissions while private individuals cannot be held accountable? It is argued that, if there is a duty to reduce GHG emissions, this duty should be borne by all persons. B. Burtscher and M. Spitzer, 'Haftung für Klimaschäden' n 162 above, 948. Consider, in this context, Ekardt on cap-and-trade regimes and the necessity to distribute pollution rights equally. F. Ekardt, 'Klimawandel' n 134 above, 107 and F. Ekardt, 'Recht' n 237 above.

[271] Amending the purpose inevitably affects the rights and duties of the board.

approach adopted to benefit companies, the purpose is realigned. For instance,[272] it is proposed to link the purpose to the concept of planetary boundaries. Accordingly,

> 'the purpose of a company is to create sustainable value through the balancing of the interests of its investors[273] and other involved parties within the planetary boundaries'.

Here, the term *sustainable value* is used to codify the long-term perspective.[274] This concept builds on the state-of-the-art[275] of natural science and considers different aspects to shape the content of sustainability.[276] In addition, it is proposed

[272] Another proposal that leaves aside voluntarism obliges companies to observe specific and essential standards. For example, the legislator could reframe the purpose of a company/ cooperative by requiring that they must be neutral regarding GHG emissions. Regarding national producers, this should not provide further problems. However, if such a duty has to be observed along the complete production chain, then the aforementioned problems of transparency still have to be solved F. Ekardt, 'Umweltschutz und Zivilrecht' n 5 above, 469. It is positive that such solutions seem to be concrete enough and allow the required step-by-step approach, for instance, by explicitly allowing a timeframe. The legislator could also determine specific interim/ intermediate goals. Sanctions could refer to high fines; injunctive reliefs due to unfair competition also seem useful. Despite this, such an approach has deficits. Compared with cap-and-trade regimes, such clauses probably work in a suboptimal way. In fact, whereas both systems require reduction of GHG emissions, only the latter uses the trade mechanism, making it extremely efficient. Here, companies buy or obtain rights for pollution. As these rights are tradeable, the companies can decide to shift to less polluting production systems and sell the excessive pollution rights or not. As this is also a question of efficiency, cap-and-trade systems create monetary-based incentives. On this issue, M. Betsill and M.J. Hoffmann, 'The Contours of "Cap and Trade": The Evolution of Emissions Trading Systems for Greenhouse Gases' *Review of Policy Research* 28, 1, 83-106 (2011) and L. Wicke, J. Knebel, and H. Dalton-Stein, *Beyond Kyoto - a new global climate certificate system: Continuing Kyoto commitments or a global 'cap and trade' scheme for a sustainable climate policy?* (Berlin: Springer, 2005). There is also no specific answer to the problem of displacement effects. For example, a company/cooperative may move the parts of the production chain that are most polluting to another jurisdiction, thereby circumventing legal requirements. Eventually, such an approach may rather be an incentive to shifting production systems, implying economic disadvantages for the affected legal system, but without reducing emissions. This also illustrates the importance of network thinking. See F. Ekardt, 'Umweltschutz' n 5 above, 469.

[273] It is stressed that using investors instead of shareholders helps to better outline the complex structure of finance by means of debt, equity and grants.

[274] See B. Sjafjell and J. Mähönen, n 242 above, 59.

[275] The boundaries may be revised through new scientific evidence; of course, scientific uncertainty is unavoidable.

[276] This approach is very detailed and not only refers to climate change but also includes other aspects significant for environmental protection. Such a broad approach requires a detailed – and perhaps cost-intensive – reporting system to ensure that the required balancing of interests is properly conducted. The boundaries are as follows: (1) Stratospheric ozone depletion, (2) Loss of biosphere integrity (biodiversity loss and extinctions), (3) Chemical pollution and the release of novel entities, (4) Climate Change, (5) Ocean acidification, (6) Freshwater consumption and the global hydrological cycle, (7) Land system change, (8) Nitrogen and phosphorus flows to the biosphere and oceans and (9) Atmospheric aerosol loading. Basically, these boundaries define some kind of 'safe haven for humanity'. According to the paradigm, 'transgressing one or more planetary boundaries may be deleterious or even catastrophic due to the risk of crossing thresholds

to define due care as including 'a duty to implement a life cycle analysis of the business of the company and an integrated internal control and risk management system'.[277] With this solution, the management organ would be especially obliged to act if the company/cooperative is unsustainable in both ecological and economic terms. This means that due diligence and proper risk management functions must be in place. Such tools should consider network dynamics, and therefore, they must not only focus on producers (farmers) controlled by the *network hub* (PO/agricultural cooperative). Instead, preferably, they should also consider other contracting parties.[278]

All these duties of the board must be fulfilled in accordance with the criteria of planetary boundaries. Because of the described problems in properly determining the causal link between agricultural activities and damage to third parties, this can, in the first place, only be achieved by an *ex ante* evaluation of which activities are permitted and which are not. In other words, this approach requires analysing in advance – that is, before agro-food is introduced into markets – the climate-damaging effects of the various agro-food products. Such an assessment is, as seen, already possible to a certain extent. A scientifically based assessment system (eg conducted by an autonomous authority) could, for example, determine whether products are climate-neutral or harmful to the climate. The concept of planetary boundaries could prove helpful as it uses a science-based – and therefore, neutral – guiding mechanism, offering a certain clarity and traceability. Thus, in its approach, this concept is similar to the one used by benefit companies: in both, the environmental sustainability aspects are removed from the management's discretionary scope. Yet, such systems should allow compensation mechanisms. If a certain product has a climate-damaging effect, the damaging

that will trigger non-linear, abrupt environmental change within continental-to planetary-scale systems'. Regarding the concept of planetary boundaries, consider, for example, F. Biermann, 'Planetary boundaries and earth system governance: Exploring the links' *Ecological Economics* 81, 4-9 (2012) and J. Rockström et al, 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity' *Ecology and Society*, 2 (2009).

[277] See B. Sjafjell and J. Mähönen, n 242 above, 61. In the event that the company/cooperative conducts activities in host countries with less stringent environmental regulations, it is necessary to require compliance with the home state's standards; otherwise, significant adverse effects may not be adequately addressed.

[278] ibid 60. Based on the environmental chapter of the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises, it is proposed to formulate the duties as follows: 'The duties of the board include setting the strategy for the company and supervising the management of the company implementing it. The supervisory role of the board shall encompass the establishment, implementation and maintenance of: (a) Life-cycle based analysis of the components of the core business of the company to identify and mitigate material negative environmental impacts so as to remain safely within the planetary boundaries; (b) Systems for internal control and risk management appropriate to the extent and nature of the company's business including that which is conducted through entities and activities which it controls; (c) Due diligence systems throughout the company and any entities and activities it controls and its regular suppliers and supply chains to ensure that the business of the company remains safely within the planetary boundaries'. See B. Sjafjell and J. Mähönen, n 242 above, 61.

party can compensate for this effect with other activities.[279] Thus, the entrepreneurial issue would be: innovate and save costs or pollute and pay for it. Whether such an approach can ultimately work also depends on specific and appropriate reporting systems that can identify and classify the concerned risks throughout the production chain. *I admit that, considering the global dimension of modern agro-food production, this should be relatively difficult*.

VII. What Can Be Learned?

Since modern agro-food producing systems strongly support climate change, I have raised the question of whether this proved connection can be integrated into Italian private law. Frankly speaking, as agro-food producers contribute to climate change, why not make them responsible – that is, liable – for its consequences, that is to say, responsible for damage because of climate change?[280] For this discussion, I consider a production chain constituted by a group of small farmers and a PO (using the legal form of agricultural cooperative) coordinating this chain's activities. As a fictitious plaintiff, I referred to a Mrs Rossi, whose forest was destroyed by a whirlwind (windthrow) caused by climate change. From the outset, it was clear that the observations and comments made were very selective and limited as the current legal framework does not adequately consider the liability (and thus, the responsibility) of supply chains or producer networks. Conversely, however, in debates on modern agro-food production systems, often headed by a *hub firm*, climate-damaging effects are generally considered and discussed in relation to the whole production chain. Both the EU and Italy recognise the necessity to cooperate and have adopted specific legal instruments to foster cooperation along the agro-food production chain. At the EU level, one may think about POs and specific subsidies for cooperation; at the national level, one may consider the specific rules for cooperatives and supply chain contracts but also consider the openness and flexibility in Art 2135 of the Civil Code.

In my view, the question concerning agro-food production systems is of special relevance as the current legal framework (internal market of the EU) strongly subsidises farming and, thus, food production, arguing that agriculture is sustainable. But, as sustainable behaviour is also considered behaviour that mitigates climate change, and as modern food production and agriculture strongly

[279] For example, by planting trees or buying 'pollution'-certificates, like in a cap-and-trade regime.

[280] It has been coherently observed that, in general, preventing climate change is not yet a high priority if one considers norms and rules that influence the activities of food producers. According to a recent study, within the three-dimensional concept of sustainability, the social aspect indeed seems more prioritized. Nor do national rules seem adequate. The fact that the implementation of the CAP has been devolved to member states makes a coordinated approach concerning climate change issues more difficult. This is problematic, as this issue – due to its complexity – requires a coordinated approach. See D. Blandford and K. Hassapoyannes, n 4 above, 202.

contribute to climate change, one can doubt the logic of this approach – but it is possible that, from a European perspective, one may have overlooked that measures to mitigate climate change must be consistent with the postulate of food security.

In the various (legal) debates, climate change is often associated with issues of sustainability or sustainable behaviour. It has been found that this notion is a codified (and therefore legal) term that has some significance in relation to agro-food production. Basically, more sustainable acting implies better public funding. Considering private law, however, my analysis has shown that the role and responsibility of modern (agro-)food production in relation to climate change – which would require specific sustainable behaviour to mitigate – is weakly accentuated at present. Of particular relevance is the fact that it is currently not possible, especially with lack of proof of a causal link, to charge the actor (who has caused environmental damage with a certain influence on climate change) with the damage that third parties have suffered, such as due to a tornado, whirlwind or extremely long drought (in my example I referred to a windthrow). In other words, Art 2043 of the Italian Civil Code is not applicable.[281] It is important to stress that there is a developing international debate on these issues, focussing on solutions which seek to close this gap using scientifically tested models.

Trying to make agro-food producers more responsible for climate change would necessitate more clearly defining the purpose of the companies and the duty of care of the administrators charged with putting the purpose into practice. However, redesigning the rules regarding purpose and duties should inhibit entrepreneurial discretion only to the extent necessary to mitigate climate change. To help boards in making decisions, it is proposed to develop an external mechanism that supervises the sustainable behaviour of companies (ie rating or certification systems), including verifiable indicators to make the whole system less vulnerable to abuse. A well-elaborated example[282] in this regard, at least in theory, can be found in the concept that links both purpose and due diligence to the concept of planetary boundaries. This would also fulfil the requirement of clear content, which – as has been seen – is necessary if the notion of sustainability should be made applicable as a legal norm under private law. Here, it is argued that the environmental aspect of sustainability should be prioritised.

Moreover, to grasp the problem at its roots, it is necessary to extend liability to the whole production chain. These observations are based on network theory, which, as the example of product liability shows, is already part of the Italian

[281] Private law on civil liability, as expressed in Art 2043 of the Civil Code, does not appear to be applicable in this case because of the need to prove a causal link between the specific act of the agent and the specific damage suffered by the third party. In contrast, public law provides for penalties, including criminal penalties, to be imposed on the person who causes environmental damage by his conduct, such as in the event that a forest owner proceeds in the reckless felling of an ample forest, which most likely, will lead to climate change.

[282] Some good attempts can also be found in benefit companies; the Italian law contains some features that can serve as a blueprint.

legal thinking and structure. Regarding this aspect, one must be aware that the harmful effects on the climate could be significant due to the combination of incorrect behaviours (from an environmental point of view) of all the entrepreneurs working together in the agricultural network. Yet, the (substantially) illegal 'instructions' of the board of the network hub would ultimately end up having to be judged in terms of their harmful consequence for third parties according to the yardstick of civil liability under Art 2043 of the Civil Code. As mentioned above, this norm cannot be applied here, and therefore, this kind of *ex-post* evaluation currently does not work. This problem could be addressed by an *ex-ante* evaluation based on the mentioned external mechanism that supervises the sustainable behaviour of companies.

To sum up, it is correct to affirm that modern agro-food production strongly contributes to climate change. However, the legal instruments to be found in (Italian) private law do not provide for a proper solution.[283] Thus, currently, only public law remains, which sanctions the behaviour of everyone and not just that of a farmer causing environmental damage. The contribution of the new CAP, which is supposed to be specifically geared to climate protection, remains to be seen. But here, too, climate-friendliness is a matter of payment (subsidies) rather than individual responsibility. Probably the most coherent alternative would be to set a suitable CO_2 price as this, in my opinion, makes it possible to reconcile the functioning of the market with environmental needs and, as a consequence, to include individual consumers in the framework for action.[284] Measures based on voluntary action (eg, measures based on corporate social responsibility[285]) have proved to have too little effect at present.[286]

[283] Admittedly, if companies were sanctioned, they would try to pass on the costs to their customers. Thus, consumers are on board anyway. Moreover, even a discussion as to whether state liability would not be more appropriate than corporate liability, if politicians have not yet resolutely combated climate change, would only make limited sense. After all, state liability claims would also have to serve the entire population – through higher tax burdens.

[284] See M. Grubb, *Planetary Economics: Energy, climate change and the three domains of sustainable development* (New York: Routledge, 2013), 207.

[285] For some critical observations, see D. Whyte, 'The Autonomous Corporation: The Acceptable Mask of Capitalism' *King's Law Journal* 29, 1, 88-110 (2018).

[286] See Ekardt, F. Ekardt, 'Umweltschutz' n 5 above, 464; see also D. Mottershead et al, *Evaluation study of the impact of the CAP on climate change and greenhouse gas emissions: Final report* (Luxembourg: Publications Office of the European Union, 2018).