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AGRICULTURAL USE OF LAND AS A GLOBAL PUBLIC GOOD^{*}

di

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1. Introductory remarks. Soil protection and agricultural uses of land: bits and pieces of a modernist puzzle.

Soil quality and land sustainable use are quite recent concerns both in international and European policies, despite their natural connection with several traditional fields of supranational environmental law. Indeed, human wellbeing and the Global (as well as, more specifically, European) economy are highly dependent on a multitude of critical ecosystem services and soil functions. In fact, soil is a biological engine which sustains life and regulates a number of essential ecosystem cycles. It provides and/or preserves biodiversity, it involves the fight against global-warming, it is a filter storing waters and neutralizing pollutants, it contributes to the maintenance of geological and architectural patrimonies. Moreover, it is also able to affect international economic relations, being a source of food, minerals and other riches.

Despite its undeniable importance, soil protection is a fragmented and quite neglected discipline, that has raised a merely indirect interest at international level so far¹. Indeed, as we will see hereinafter, we cannot find, at present, any international binding instrument, endowed with universal effectiveness, specifically referred to soil. The situation does not change at European level: unlike air, sea and freshwaters, there is no EU legislation specifically targeting soil protection or fixing limits and conditions for agricultural land exploitation. As a consequence, the efforts put in place by the European Commission and the EU legislators are fragmented in bits and pieces of a metaphorical modernist puzzle, spread all over several supranational policies defined by the Treaties.

The crude state of the art claims for an increasing attention to the phenomenon: the data which have been collected during the last decade generally show a steep decline of fertile lands, in favour of a persisting phenomenon of urbanization. The negative trend is also accompanied and worsened by indirect agricultural uses, as in the case of biofuel crops yields, as well as by the challenges that over-exploited lands have to face. On one side, the massive implementation of intensive and extensive agricultural practices produces an almost irreversible impoverishment of ground, which is thus deprived of its qualities and productive capability. On the other side, as fully demonstrated by numerous studies², such

¹«La question d'une protection juridique des sols s'ancre ainsi profondément dans l'histoire du droit de l'environnement, à la genèse duquel elle participe indirectement, comme une sorte de "présent absent" dont la dimension transversale semble privilégiée aux dépens de son intérêt juridique intrinsèque.», S. DOUMBE-BILLE, *La protection des sols au plan international et communautaire*, in *Aménagement – Environnement*, no. 2 (special), 2012, p. 7-19.

² K. E. GILLER, M. H. BEARE, P. LAVELLE, A.-M. N. IZAC, M. J. SWIFT, *Agricultural intensification, soil biodiversity and agro-ecosystem function*, in *Applied Soil Ecology*, no. 6, 1997, pp. 3-16.

impoverishment of soils quality can lead to desertification, irreversible loss of biodiversity – or, more precisely, of *agro-biodiversity*, that is to say the biological diversity in cultivated lands³ – and climate change.

Consequently, States lacking suitable and productive lands glance up beyond their boundaries toward foreign territories to be acquired and subject to intensive agricultural cultivation. Obviously, the phenomenon involves, on the one hand, poor and less-developed Countries, willing to cede part of their farmable surface – loosing, therefore, their agricultural productivity and capacity to provide for eating demand of their own population⁴ – in return for an immediate income⁵. On the other hand, the “typical purchaser” State is a developed or developing Country, unable, in turn, to satisfy the food demand of its population (China is an explicative example) or destitute of cultivable terrains (as, for example, Saudi Arabia or Emirates)⁶.

A series of threats endanger soils also across the EU⁷, where large agricultural or non-developed areas are lost to urban sprawl, industrial expansion or transport infrastructures⁸.

³ R. BILLETER, *et alii*, *Indicators for biodiversity in agricultural landscapes: a pan-European study*, in *Journal of Applied Ecology*, no. 45, 2008; K. HENLE, *et alii*, *Identifying and managing the conflicts between agriculture and biodiversity conservation in Europe—A review*, in *Agriculture, Ecosystems and Environment*, no. 124, 2008, available online at www.sciencedirect.com; M. STOCKING, *Agrodiversity: definition, description and design*, in *Global Environment Change*, no. 9, 2009. Wishing to render numerically this loss, we can consider that in 1975 every human being had an average of 0,3 hectares of agricultural soils for his nutrition, while in 1995 the hectares were only 0,2 per person and, even, 0,19 in the next 14 years. Data available at www.unep.org (15 March 2013).

⁴ The Food and Agriculture Organization (FAO), in the occasion of the High-Level Conference on World Food Security of 2008 (“The Challenges of Climate Change and Bioenergy”), denounces the loss of local agricultural production as cause of economic weakness and defeat of competitiveness of poor Countries, as well as of the lack of footstock designed to local population. www.fao.org.

⁵ In 2009 the phenomenon reach the limen of 8 million of hectares, mainly situated in Africa. Data available at www.unep.org (15 March 2013).

⁶ For a closer examination: World Bank Organization, *Rising global interest in farmland: can it yield sustainable and equitable benefits?*, The International Bank for Reconstruction and Development/The World Bank, Washington, 2011. In its report the WBO considers that «[m]any investments [...] failed to live up to expectations and, instead of generating sustainable benefits, contributed to asset loss and left local people worse off than they would have been without the investment. In fact, even though an effort was made to cover a wide spectrum of situations, case studies confirm that in many cases benefits were lower than anticipated or did not materialize at all». Furthermore, it refers repeatedly to the portal “farmlandgrab.org” in order to report its database and considerations; L. COTULA, S. VERMEULEN, R. LEONARD, J. KEELEY, *Land grab or development opportunity? Agricultural investment and international land deals in Africa*, FAO, IIED, IFAD, London/Rome, 2009; S. BORRAS JR., J. FRANCO, *From Threat to Opportunity? Problems with the Idea of a “Code of Conduct” for Land-Grabbing*, in *Yale Human Rights & Development Law Journal*, vol. 13, 2010.

⁷ Contamination caused by industrial or agricultural activities involves approximately 3 millions of sites all over Europe. Salinization, erosion, organic matter decline, degradation and desertification are increasingly widespread and severe problems, often worsened by climate change.

⁸ This phenomenon entails the removal of upper layers of the soil, which are usually essential to perform important functions: food production, water storage, temperature regulation. Between 1990 and 2000, an average of 275 ha were lost every day in the EU, amounting to 1.000 Km²/year. In the last years, such loss increased by 3%. According to data collected by the EU Commission, between 1990 and 2006, with large regional variations, EU Member States lost a potential agricultural production capability amounting to 6.1 tonnes of wheat. For

The complexity of the phenomenon is also a matter of science and culture: over 320 major soil types have been identified in Europe and each of them sharply differs in physical, chemical and biological characteristics. Moreover, land use in Europe highly varies depending on climate zones, geography and local culture⁹. As an example, the land use at former collective State farms in the Czech Republic is very different from agricultural organization in neighbouring Poland's subsistence farms. Ground use has also been influenced by the installation of the Common Agricultural Policy (CAP) in the early 60ies, which enforced some level of harmonization between Member States. Consecutive CAP reforms, frequently designed to facilitate the integration of new accession Countries agricultural systems or to accommodate them to international trade agreements, have sharply influenced national traditions on land use¹⁰.

Such background must be borne in mind when trying to answer to the leading question the analysis addresses: can soil – and in particular lands destined to agricultural uses – be considered a Global Public Good (GPG)? Or should it be better conceived as a means through which soil-related common goods are either directly or indirectly fostered?

Trying to find an answer to these questions, the work proposes a preliminary conceptualization of GPGs, introducing the category from a general and theoretical point of view. This step is essential in order to properly understand the context into which we are developing our assumption.

Subsequently, the analysis is divided into two sections. The first one provides an overview of the international legal framework concerning soil protection and an analysis of the implications of soil management for other “environmental goods”. The second section focuses on the European approach: after a brief overview on the relevant provisions of the Lisbon Treaty, it considers the unfruitful efforts displayed by the European Commission to set up a common policy on soil protection. As a last step, the second section selects the most relevant consequences and implications of the European action on agricultural lands, trying to link soil protection with various public goods.

further information see the Joint Research Centre and European Environmental Agency report *The State of Soil in Europe*, available at <http://ec.europa.eu/dgs/jrc> (13 February 2013)

⁹ See Y. POLET, *Changes in European Land Use as a result of CAP and EU Enlargements*, Global Agricultural Information Network Report no. E-49027, 2009.

¹⁰ Such influence can be detected also in relation to other EU policies, namely the field of territorial, economic and social cohesion; the detailed and abundant environmental law; consumers' protection; internal market and free movements of goods.

The purpose of the paper is to highlight the proximity of soil to GPGs nature and the reciprocal dependency that associates soil (a global public good?) management and other public goods.

2. The Global Public Goods (GPGs): general instructions to solve the puzzle.

2.1. The globalization of GPGs.

The origin of the notion of GPGs dates back to the study Inge Kaul conducted for the United Nations Development Program (UNDP), in 1999¹¹. In this research, the author elevated the well-known concept of National Public Goods (NPGs) to a global level. Therefore, a complete understanding of this category should start from an analysis of *domestic* public goods.

Pure public goods (both national and global) are, by definition, ‘non-rival’ in consumption and ‘non-excludable’ in their benefits. «Each individual’s consumption of such a good leads to no subtraction from any other individual’s consumption of that good»¹² and nobody can be excluded from the enjoyment of their benefits. Due to these typical characteristics, the provision of Public Goods avoids the classical market system, being subjected to the risk of *freeriding*. Indeed, the ‘non-excludable’ and ‘non-rivalrous’ nature of such goods draws the potential consumer to take advantage from them without contributing to their maintenance and provision¹³.

A classic example of pure public good is street-light: everybody – citizens, tourists, short-stay and occasional visitors – can enjoy it, irrespective of their contribution to the provision of the service. For these reasons, any individual would take the advantages without paying for a service that, anyway, is provided thanks to others’ contribution. At *national* level, this market failure - dominated by the relationship between bid and ask, and regulated by the prices mechanism - is overcome thanks to imposition of taxes, that solves the absence of provision incentives. The same happens, for instance, for national defense, another NPG: each taxpayer could consider his own contribution to be unnecessary for the achievement of the common

¹¹ I. KAUL, I. GRUNBERG, M. A. STERN (eds), *Global Public Goods: International Cooperation in the 21st Century*, New York, UNDP and Oxford, Oxford University Press, 1999.

¹² P. A. SAMUELSON, *The Pure Theory of Public Expenditure*, in *The Review of Economics and Statistics*, Vol. 36, no. 4, 1954, pp. 387-389. In this paper the author examined, for the first time, the notion of National Public Goods highlighting the element of ‘non-rivalry’ that, as we will see, characterized also Global Public Goods in direct opposition of “classical private goods”.

¹³ Already Adam Smith had noted that the nature of such kind of goods prevents the conferral of profits exactly (and exclusively) to those that have paid for the provision. Therefore, cannot be expected that any individual has the interest in contributing to their supply.

final goal. Then, the deficiencies of volunteerism is faced by public institutions, by introducing taxation systems¹⁴.

Taking into account this background, the globalization process leads to a crossing of borders – both in terms of space and time – that suggests the economists elevating the category of public goods at a *global* level¹⁵. We assist, thus, to a phenomenon of “globalization of public goods”, and in particular to the raise of goods which can be provided only at a supranational level¹⁶. To this regard, the main characteristic of GPGs is the quasi-universal nature of their benefits, in favor of States, peoples and generations. Indeed, the positive externalities¹⁷ of GPGs cover more than a Country, benefiting (almost) all population and reaching both present and future generations¹⁸.

2.2. GPGs: peculiar features.

Even at international level, public goods suffer from the free riding problem, as a market failure display. Nonetheless, contrary to national level, there are no public institutions entitled to solve under-provision concerns. The supply of GPGs is left exclusively to voluntary contributions and, for this reason, prone to political or economic contingencies.

¹⁴ Some authors consider that the redirection of incentives is the primary reason for institutions existence. However, the sole taxation system could be insufficient when the temptation to contribute little (or to not contribute at all) is strong – as happens, for example, with regards to national security. Thus, a system of fine and compliance norm, coming abreast of it, could be necessary to reach the final goal.

In this sense, S. BARRET, *Why cooperate? The Incentive to Supply Global Public Goods*, Oxford University Press, Oxford, 2007.

¹⁵ In a context of new territorial space and boundaries, of new supra-territorial and trans-border social, political and economic relations, the GPGs theory is perceived as the way to address those challenges and reach the common interests. In this sense, U. LELE, C. GERRARD, *Global Public Goods, Global Programs and Global Policies: Some Initial Findings from a World Bank Evaluation*, in *American Journal of Agricultural Economics*, vol. 85, no. 3, 2003.

¹⁶ We can think of both immaterial goods – such international peace and security, financial stability (see A. VITERBO, *International Economic Law and Monetary Measures. Limitation to State's Sovereignty and Dispute Settlement*, ELGAR, Cheltenham, 2012), etc. – and material goods – such environment preservation, ozone safeguard, air, water or food quality, etc.

¹⁷ We can define externalities as the relationship between costs and benefits that is not bore by the same person. That is, the beneficiary of the good does not pay exclusively for it and the payers of the good are not the soles beneficiary of it. Costs are negative externalities and goods or activities that produce only public disutilities (as realizing pollutants into a river) are classified, from an economic point of view, as “Public Bad”; on the contrary, goods or activities that produce only public utilities are classified as “Public Goods”. For a first introduction to the concept, I. KAUL, I. GRUNBERG, M. A. STERN, cit.; I. KAUL, P. CONCEICAO, K. LE GOULVEN, R. L. MENDOZA (eds.) *Providing Global Public Goods: Managing Globalization*, 2003, Oxford University Press, Oxford; P. HUGON, *L'économie Ethique Publique: Biens Publics Mondiaux et Patrimoines Communs*, UNESCO, Paris, 2003; S. DENEULIN, N. TOWNSEND, *Public Goods, Global Public Goods and the Common Good*, in *International Journal of Social Economics*, no. 34, Vol. 1-2, 2007, pp. 19-36; I. KAUL, *Re-conceptualizing Public Goods and Global Public Goods*, December 2009, reperibile all'indirizzo <http://www.ingekaul.net>; T. SANDLER, *On Financing Global and International Public Goods*, The World Bank eLibrary, July 2001.

¹⁸ I. KAUL, I. GRUNBERG, M. A. STERN, cit.

In reference to incentives, hence, the economists classify GPGs in three categories: “single best efforts”, “weakest links” and “aggregate efforts” GPGs. *Single best efforts* global public goods are identified when the consequences of the under-provision can be avoided with the intervention of a single actor and the costs of under-provision are considerably higher than the cost of an individual intervention (i.e. the incentive to supply the GPGs are numerous). The supply of such goods is almost certain. On the contrary, in reference to GPGs that can be provided only through collective (universal) cooperation, but the supply of which is, equally, higher preferable than under-provision, *weakest links* GPGs are at stake. In this last event, the incentive to provide the said goods is strictly dependent on the assurance that other actors will behave the same way. Finally, we deal with *aggregate efforts* GPGs in case their provision, achieved only through a collective effort, generates costs which are almost equivalent to under-provision failures. In this case the incentives to supply this kind of goods are very low and the assurance of others’ contribution is not enough¹⁹.

Therefore, at global level the most expected answer to under-provision is international cooperation, which, through voluntary and conventional subjection to a common regulation of public goods, solves the uncertainty in contribution (or, economically speaking, the “prisoner dilemma”²⁰).

This economic definition of global public goods finds its “normative *alter ego*” in the well-known concept of Common Heritage of Mankind (CHM)²¹ and in the management of this “common patrimony”, characterized by an intergenerational and solidarity logic. Indeed, the CHM represents the International Community’s attempt to regulate the exploitation of a space designated to the enjoyment of the whole humanity and, as such, taken away from national sovereignty and entrusted to the non-State actors’ management²².

¹⁹ S. BARRET, cit.; J. J. GABAS, P. HUGON, *Les biens publics mondiaux et la coopération internationale*, in *L’économie politique*, no. 12, vol. 4, 2001; P. DRAHOS, *The regulation of public goods*, in *Journal of International Economic Law*, no. 2, vol. 7, 2004; A. BINGER, *Global public Goods and Potential Mechanisms for Financing Availability*, Background paper prepared for the 5th session of the Committee for the Development Policy meeting, April 2003. D. Bodansky offers some possible answers the International Community could provide to promote the provision of aggregate-effort public goods, D BODANSKY, *What’s in a Concept? Global Public Goods, International Law, and Legitimacy*, in *The European Journal of International Law*, Vol. 23 no. 3, 2012, p. 9.

²⁰ The prisoners dilemma explains the difficult arising from a lack of communication when cooperation would represent the best choice for all the actors involved. For a close examination of the theory, I. KAUL, I. GRUNBERG, M. A. STERN, cit.; S. OSKAMP, D. PERLMAN, *Factors affecting cooperation in a prisoner’s dilemma game*, in *The Journal of Conflict Resolution: a quarterly for research related to war and peace*, vol. 9, no. 3, p. 359-374; R. RADLOW, *An experimental study of “Cooperation” in the Prisoner’s Dilemma Game*, in *Journal of Conflict Resolution*, vol. 9, no. 2, p. 221-227.

²¹ For a very general introduction to the concept: R. WOLFRUM, *Common Heritage of Mankind*, in *Max Planck Encyclopedia of Public International Law*, 2009.

²² «[...] Espace dont l’utilisation obéit à un régime international d’exploitation au profit de l’humanité tout entière par une entité distincte des Etats. L’humanité est ici possesseur d’un bien exploitable. [...]», J. SALMON

To this end, the doctrine supports an expansion of the involved subjects: humanity is the beneficiary of that heritage, while private actors²³ or civil society as a whole are able to orient the production and enjoyment of the mentioned goods. Moreover, the acknowledged need for supranational cooperation and the above-mentioned role of the entire humanity entail a change (or a reduction?) in State's sovereignty, which cannot be disregarded while analyzing the international context²⁴.

So far, we have been considering the category of *pure* (global) public goods – i.e. goods showing both non-excludable and non-rivalrous characteristics. Nevertheless, such goods are very uncommon. In reverse, the most significant part of public goods is *impure*, alternatively presenting one of the mentioned characteristics. Indeed, some public goods are non-rival but excludable, while others are non-excludable but rival in consumption. In fact, an over-exploitation of those goods can cause the theorized “tragedy of the commons”: the situation in which individuals, ignoring their common long-term interest, deplete non-renewable resources to satisfy their present necessity²⁵.

The first class of goods – non-rival but excludable – is named “*club goods*” and usually consists of human-made commons (knowledge is a perfect example); the second – non-excludable but rival – is named “*common pool resources*” (CPR) and generally consists of natural global commons (such as ozone layer, climate stability, etc.).

The former category could include agricultural *soil*, as a (global?) good, the provision of which can orient the provision of other environmental goods. In Kaul's theorization, a third class of commons exists, on the basis of the value that people derive from the knowledge of their existence. They are named “*merit goods*” and include, among others, biodiversity or art expression, as monuments and artifacts²⁶.

At the international level, the majority of public goods are interwoven and connected one another. Indeed, as we will see hereinafter, the preservation of a specific GPG often pledges the conservation of a different one. For instance, economic stability (a pure GPG) is pursued

(sous la direction de), *Dictionnaire de droit international public*, Bruylant, Bruxelles, 2001, p. 810. For a very general introduction to the concept: R. [WOLFRUM](#), *Common Heritage of Mankind*, in *Max Planck Encyclopedia of Public International Law*, 2009.

²³ For the role of private actors in providing GPGs see S. DENEULIN, N. TOWNSEND, *Public Goods, Global Public Goods and the Common Good*, in *International Journal of Social Economics*, vol. 34, no. 1-2, 2007; U. LELE, C. GERRARD, cit.

²⁴ Some authors suppose that the role of States could be compared with the role of a Trustee, who holds and manages a property (the CHM, in this case) for the benefit of others (the whole humanity). Among others, A. C. KISS, *Une tentative de construction juridique*, in *La notion de Patrimoine commun de l'humanité*, The Hague Academy of International Law, 1982.

²⁵ For a deeper analysis of this theory, G. HARDIN, *The Tragedy of the Commons*, in *Science*, New Series, vol. 162, no. 3859, 1968.

²⁶ I. KAUL, I. GRUNBERG, M. A. STERN, cit.

through global peace and security (another pure GPG); similarly climate stability (a CPR) is conditioned by biodiversity conservation (a so called “merit good”), while the latter is granted, in turn, through a careful (agricultural) management of soil, often better guided by ancestral traditional knowledge (identified as a “club good”) as well as through the respect and protection of the different species and ecosystems.

Starting from these considerations, the purpose of the following line of arguments is to demonstrate how agricultural use of soil is able to influence the provision of several related Global Public Goods, displaying itself the features of a GPG.

Section I: International dimension

3. An attempt to solve the puzzle: agricultural soil as GPG.

The paper examines the international instruments referring to the preservation and management of soil, in order to investigate the possible effects of soil degradation on further common goods²⁷, such as biodiversity, climate stability, food or water quality and accessibility, widely recognized and accepted as GPGs.

3.1.A formal approach: the International legal framework.

The legislation concerning the protection of soil and the regulation of its (agricultural) use is mainly rooted at national level. Indeed, soil conservation has been for a long time perceived as a purely domestic affair, relating exclusively to food production and supply. The use of the ground, its conversion in cropland and the response to the risk of degradation were considered political choices depleting their effects within national borders²⁸. In later years, the awareness of the impact of soil (agricultural) management on environment has gradually raised, leading to the diffusion of some international instruments – at first non-binding instruments, subsequently the out-and-out regional and universal treaties and conventions – recognizing sometimes directly and sometimes just incidentally the connection between human activities and the conservation of the environment, in general, and of soil qualities, more specifically.

²⁷ Or, as we will see more precisely later, “common concerns of mankind”.

²⁸ In Kiss’s words, «[A]t the international level, cooperation started later than in other sectors of environmental protection, because it was generally considered that the soil conservation was mainly a domestic problem without international implications», A. KISS, D. SHELTON, Chapter 9, “Soil” *International Environmental Law*, 3rd edition, UNEP 2005.

We would then offer a brief overview of the mentioned instruments, in order to highlight this connection and to determine the (international) legal status of soil as well as the possibility to include such good among the GPGs.

a) Soft-law instruments.

The first international reference to soil dates back to 1972 and was elaborated under the auspices of the Council of Europe (CoE). We are referring to the *European soil charter* as the first, specific (although not binding) instrument stressing the need to discern the ways soil is managed, in order to preserve it for future generations. The Charter specifically refers to the need to «not only consider immediate needs but also ensure *long-term* conservation of the soil»²⁹, explicitly recognizing that«[i]ts productive capacity can be improved by careful management over years or decades but once it is diminished or destroyed reconstitution of the soil may take centuries»³⁰; therefore «the use made of it must depend on its properties, its fertility and the socio-economic services which it is capable of providing for the world of today and *tomorrow*»³¹. Even though a *soft-law* instrument, the Charter proposed, already in 1972, a concept of soil as a good worthy to be preserved for future generations and susceptible to suffer the consequences of a bad management.

As to the consecration of environmental law, in general, made under the CoE's aegis, the European Court of Human Rights (ECHR) case-law compensates for the silence of the European Convention of Human Rights. Indeed, the Court is not hesitant to invest some soft-law instruments (e.g. Stockholm declaration; Rio declaration; etc.) with a normative effect. Although no specific references to the use of soil can be found in the Court judgments, it is anyway notable to observe a strengthened orientation toward the predominance of environment protection on certain fundamental rights, among which the right to property³².

The above mentioned instrument was followed by a series of other soft-law documents, among which the Food and Agriculture (FAO) *World Soil Charter* of 1981 and the well-known *Agenda 21* of 1992. The first instrument recognizes the interdependence of land use

²⁹ European soil Charter, art. 12.

³⁰ *Ibidem*, art. 2.

³¹ *Ibidem*, art. 3.

³² «L'environnement constitue une valeur dont la défense suscite dans l'opinion publique, et par conséquent auprès des pouvoirs publics, un intérêt constant et soutenu. Des impératifs économiques et même certains droits fondamentaux, comme le droit de propriété, ne devraient pas se voir accorder la primauté face à des considérations relatives à la protection de l'environnement, en particulier lorsque l'Etat a légiféré en la matière. Les pouvoirs publics assument alors une responsabilité qui devrait se concrétiser par leur intervention au moment opportun afin de ne pas priver de tout effet utile les dispositions protectrices de l'environnement qu'ils ont décidé de mettre en œuvre.», *Hamer c. Belgique*, arrêts 21861/03, 27 November 2007.

and soil degradation, claiming for «land-use programmes includ[ing] measures toward the best possible use of the land, ensuring *long-term* maintenance and improvement of its productivity, and avoiding losses of productive soil»³³ and finally remarking the necessity to involve farmers and land-users in general. As to the second, the comprehensive plan of action named “Agenda 21” contains several references to soil and its management, introducing, among others, the concept of a “sustainable agriculture” and rural development as tools to combat food scarcity³⁴. Although, as previously stated, they all remain non-binding instruments, those documents represent the growing consciousness of the International Community on a thorny argument, that emerges at supranational level, leading States toward compulsory agreements.

b) Hard-law instruments.

The following step dates back to 1992 and it materializes into the *UN Convention on Biological diversity* (CBD) and the *UN Framework Convention on Climate Change* (UNFCCC). The CBD does not refer explicitly to soil and ground, but recognizes the influence of human activities – among which all those activities that cause soil degradation – on biodiversity conservation. Instead, as to the UNFCCC, the use of soil holds a prominent position in preventing the concentration of greenhouse gases. Indeed, scientists have demonstrated that agricultural activities play a central role in exacerbating the emission of those gases and soil degradation³⁵. With the UNFCCC Kyoto Protocol, the “sustainable use of soil” was officially promoted, in 1997, as one of the most effective tools to face climate changes³⁶.

The way toward the adoption of international binding instruments relating to this topic continues with the *UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa* (CCD) of 1994. The Convention recognizes – in a context in which the concept of *agro-biodiversity*, introduced into the CBD context, has increasing importance – the leading role of a sustainable

³³ FAO World Soil Charter, art. 5.

³⁴ In 1992 the notion of ‘sustainability’ was referred, for the first time, to the concept of ‘development’ in order to face environmental problem. Indeed, principle 4 of the Rio Declaration stipulated: «to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it», UN, “*Informe de la Conferencia de Naciones Unidas sobre medio ambiente y desarrollo*” *Conferencia de Naciones Unidas sobre medio ambiente y desarrollo*, 3–14 June 1992, Rio de Janeiro.

³⁵ B. BOER, *Law For Sustainable Soils: International And National Aspects*, in [Review of European Community & International Environmental Law](#), Vol. 12, no. 2, article first published online: 23 July 2003.

³⁶ AA. VV., *Special Report 1998. The Accounting of Biological Sinks and Sources Under the Kyoto Protocol – A Step Forwards or Backwards for Global Environmental Protection?*, German Advisory Council on Global Change (WBGU), 1998.

agriculture, which can contribute to sustainable development goals, but also improve the rural people's standard of living³⁷. Nevertheless, the CCD structure fails to provide a comprehensive international framework on soil protection and preservation, because of its limited reference to some specific ecosystems (e.g. the African's ones).

The need for a specific (universal) attention to the "sustainable use of soil" was, thus, furthered by a series of IUCN (*International Union for Conservation of Nature*) resolutions of 2000, 2004 and 2008³⁸, promoting this principle and supporting the drafting of an international instrument on soil. The IUCN activities lead to the *Draft Protocol for the Protection and Sustainable Use of Soil* presented in September 2005, on the occasion of the International Soil Forum held in Iceland. The aim of this document, discussed at length between 2005 and 2009 and further revised as a draft protocol to the CBD, is to constitute the sole international binding instrument (universally oriented) specifically referred to soil management³⁹. It is notable, for the purposes of this paper, that in Article 6 of the mentioned Protocol has once again reaffirmed the existence of a specific «duty to protect and conserve soil for the benefit of present and future generations»⁴⁰.

At the moment, however, the only international binding instrument, specifically dealing with the protection of soil, remains the *Protocol on the Implementation of the Convention concerning the Protection of the Alps of 1991 in the area of Soil Protection*, signed in 1998. The Alpine Convention includes soil conservation in Article 2, par. 2 lett. d), in which it recognizes the objective to «reduce quantitative and qualitative soil damage, in particular by applying agricultural and forestry methods» and, as a consequence, imposes on Member States the adjustment of their national jurisdiction to the proclaimed purpose. The need for a specific instrument was satisfied, as said above, in 1998. All the members of the Convention (8 States and the European Union) have ratified the Protocol, which is binding upon them.

³⁷ L. STRINGER, *Can the UN Convention to Combat Desertification Guide Sustainable Use of the World's Soils?*, in *Frontiers in Ecology and the Environment*, vol. 6, no. 3, 2008.

³⁸ IUCN World Conservation Congress, Amman Jordan 4–11 October 2000, *Resolution 2.59 Legal aspects of the sustainable use of soils*; The World Conservation Congress, Bangkok, Thailand, 17–25 November 2004, *Resolution 3.072 Legal aspects of the sustainable use of soils*; The World Conservation Congress Barcelona, Spain 5–14 October 2008, *Resolution 4.093 Legal aspects of the sustainable use of soils*.

³⁹ For a more specific analysis of the Draft Protocol: A Background Paper for World Conservation Congress IUCN Commission on Environmental Law Workshop on a Soil Convention, 6 September 2012, *Rio+20: What Ambition for the Environment?*, Third Worldwide Conference of Environmental Law NGO and Lawyers Limoges, 29-30 September, 1 October 2011.

⁴⁰ Draft Protocol for the Protection and Sustainable Use of Soil, art. 6. This protocol was followed, in 2009, by the 'Draft Protocol for Security and Sustainable Use of Soil', elaborated by the Sustainable Use of Soils and Desertification Specialist Group (SGSS&D) to support UNCCD, which tends to the union of the concept of "soil security" to the concept of "sustainable use" of the same.

Once again, the reference to the need to safeguard «the functionality of soils [...] as well as their availability to *future generations* with a view to sustainable development», expressed in its Article 1, par. 5, is notable. Anyway, the main novelty of such an instrument is the recognition of the predominant position of soil protection over its use⁴¹.

Finally, the African *Convention on the Conservation of nature and natural resources* is noteworthy as well. It is a regional binding instrument signed in 2003 under the African Union's auspice and arguing the need to adopt specific strategies aimed at a «long term»⁴² conservation and management of natural resources, among which soil is expressly listed.

Retracing this normative evolution, the progress we are assisting to (although there is still much to do) is suddenly evident. The topic was, firstly, elevated to an international context and gradually led to a binding framework, increasingly devoted to this specific subject. Indeed, the International Community, initially pleased with the mentioned soft-law instruments, perceived more and more the need for binding instruments as far as equipping itself with sectorial conventions (some of them still in a draft version) specifically referred to soil management and protection.

Moreover, we are faced with an evolution in the concept of soil itself. Although the need to manage and preserve soil integrity for the benefit of future generations was clear since the origins of the International Community's involvement – and, as such, already showing a link with the notion of sustainable development and with the Global Public Goods regime –, it is possible to identify an increasing role of human activities (i.e. agricultural activity) in granting the provision of certain public good, such as biodiversity, climate stability or food access. This consciousness leads to the raise of the notion of “sustainable agriculture” as a factor directly influencing the standard of living.

These concerns lead us to consider, in the following paragraph, the implications of agricultural approach to the provision of other GPGs.

3.2.A functional approach: agricultural use of soil and implications for GPGs. Providing GPGs through agricultural use of soil?

Environmental GPGs can be classified by their nature as pure or impure, local or global public goods⁴³. Climate stability or ozone preservation are examples of pure environmental GPGs, as well as biodiversity, conceived as the information contained in the gene pool. On

⁴¹ A. KISS, *Droit international de l'environnement*, E. A. Pedone, 4me edition, Paris, 2010, p. 193.

⁴² African Convention on the Conservation of nature and natural resources, art. VI, par. 1.

⁴³ For an introduction on the topic: United Nation Industrial Development Organization, *Public Goods for Economic Development*, UNIDO, Vienna, 2008.

the contrary, biodiversity as the variety of species within each ecosystem is a local and quasi-private good, because of the possibility of appropriation that characterizes its (local) benefits⁴⁴.

The GPGs approach starts from an economic point of view focusing its analysis on the costs and externalities they are able to generate. Considering, for example, the costs of biodiversity loss, we can once again take into account the double nature of such a good: from a “global” point of view, the loss of genetic information produces universal bads affecting the overall population; considering, on the contrary, the “local” nature of biodiversity, we realize that the loss resulted from the reduction, fragmentation, exclusion or deletion of a specific ecosystem’s species represents the cost of local biodiversity loss⁴⁵.

On the other hand, taking into consideration the soil (and its agricultural management) from the same economic point of view, the costs of its degradation⁴⁶ – in terms of reduction or under-provision of related GPGs – are evident, although not easy to be quantified⁴⁷. The awareness of the global nature of soil and of the severe economic, social, and environmental impacts that can result from its degradation is recognized, as we will see hereinafter, also at regional level⁴⁸. So that a comprehensive intervention is urgently required in order to grant «soil protection, [taking into] account [...] all the different functions that soils can perform, their variability and complexity, and the range of different degradation processes to which they can be subjected, while also considering socio-economic aspects»⁴⁹.

Considering, even more specifically, the agricultural use of soil, scientists have no doubts in identifying several environmental impacts throughout the globe; those impacts involve and

⁴⁴ C. PERRINGS, M. GADGIL, *Conserving Biodiversity: Reconciling Local And Global Benefits.*, in I. KAUL, P. CONCEICAO, K. LE GOULVEN, R. U. MENDOZA (edited by), *Global Public Goods. Managing Globalization*, UNDP, Oxford University Press, New York, 2003, pp. 532-555. Some authors consider also soil as a quasi-private goods, identifying exactly in this characteristic the reason of international silence in this matter: «*l’air et l’eau sont protégés car ils sont juridiquement à l’usage de tous alors que le sol en tant qu’immeuble est objet de propriété, sa protection ne concerne donc que son propriétaire*», M. PRIEUR, *Droit de l’environnement*, 5^eed., Dalloz, Précis, 2004, p. 589. In reverse, we are here trying to demonstrate that soil management – although realized by private actors – is able to produce global effects – or, economically speaking, externalities – falling back to all humankind.

⁴⁵ *Ibidem*.

⁴⁶ Among others, Stringer identified: «Land property depreciation; Insurance costs; Costs of protection measures against exposure; Fertility and crop losses; Flood damages to property and infrastructure; Degradation-induced income losses (eg tourism, loss of trade in agricultural produce); Higher agricultural production costs; Increased health-care costs; Cost of increased food safety controls; Sediment removal, treatment, and disposal costs; Increased costs relating to the release of greenhouse gases, offsetting carbon emission achievements; Loss of human life and well-being.», L. STRINGER, *Can the UN Convention to Combat Desertification Guide Sustainable Use of the World’s Soils?*, in *Frontiers in Ecology and the Environment*, Vol. 6, no. 3, April 2008, pp. 138-144.

⁴⁷ For an overview of the costs of soil degradation directly paid by the society: European Commission, *Soil Protection. The story behind the strategy*, in <http://ec.europa.eu/environment> (26 June 2013).

⁴⁸ *Ibidem*.

⁴⁹ *Ibidem*.

affect the provision of other “common concerns of mankind” as climate stability, food production and access, water and air quality, forests resources and even public health. Indeed, (incorrect) land use plays a role in changing the global carbon cycle and, consequently, global climate; furthermore it causes biodiversity loss⁵⁰ through the modification and fragmentation of habitats as well as the overexploitation of native species⁵¹. Additionally, modern agriculture can affect the long-term food production, causing losses in ecosystem services.

Thus, the proclaimed “sustainable agriculture” becomes, as such, central for the livelihood of rural peoples, food provision and poverty reduction⁵². Moreover, intensive agriculture often degrades water quality, increasing erosion and sediment load, leaching nutrients and agricultural chemicals to groundwater, streams and rivers⁵³. Land use practices can also affect air quality, altering emissions and changing atmospheric conditions; those modifications of habitats can, finally, increase the transmission of infections and diseases.

The agreed conclusion is an undeniable interconnection or, better, a reliance of environmental public goods on agricultural use and management of soil, that can produce both positive and negative externalities⁵⁴. As a consequence, the funding systems of the latter GPG become of vital importance for the survival of the related ones. Except the (both global and national) financial mechanisms correlated to specific international instruments⁵⁵, the attention is focused on the practice of foreign direct investments (FDI) and on the associated transfer of technology. FDI is driven by market opportunity and, therefore, apparently conflicts with the Global Public Goods approach⁵⁶. Nevertheless, they could have both environmental and social impacts. Indeed, they are often devoted to mining development, telecommunications,

⁵⁰ «À travers ses pratiques, les « perturbations » qu’il apporte, l’homme est qu’un élément, souvent déterminant, de la dynamique du système complexe auquel appartient la biodiversité», G. ROSSI, V. ANDRÉ, *La biodiversité : questions de perspectives*, in *Ann. Geo*, Armand Colin, no. 651, 2006, pp. 468-484.

⁵¹ In the period 1850-2005 roughly 35% of anthropogenic CO₂ emission resulted directly from land use. For data: AA.VV., *Global Consequences of Land Use*, in *Science*, vol. 309, 22 July 2005, pp. 570-574.

⁵² The attention addressed to the global consequences (or, better, costs) of agricultural practices results in some innovative movements such as “Conservation agriculture”, a strategy aiming at preventing soil degradation and loss of fertility through devised and forward-looking agricultural techniques. For a deeper analysis, FAO, *The State of Food and Agriculture*, FAO Information Division, Rome, 2002.

⁵³ *Ibidem*.

⁵⁴ «Cette multifonctionnalité des sols a été parfaitement mise en lumière par les sciences du sol. La reconnaissance juridique de celle-ci conduit, comme l’écrivent A. Kiss et D. Shelton, à ce que le sol fasse « l’objet d’une attention accrue en tant que secteur fondamental de l’environnement nécessitant des mesures spéciales et complexes de protection contre la perte de ses fonctions dans l’écosystèmes. », S. DOUMBE-BILLE, cit. See, also M. ROBERT, *Le sol, ressource naturelle à préserver pour la production et la protection de l’environnement*, Cahier agricultures, 1992.

⁵⁵ We are referring to the Global Environmental Facility (GEF) – established in 1991 and ensuring international cooperation and finance assistance for projects on biodiversity, climate change, international waters and ozone depletion, land degradation – and to the national financial mechanisms created under CBD, UNCCD, UNFCCC with the same, although sectorial, purposes.

⁵⁶ Dominated by the free-riders problem.

ports, roads and airport construction, water supply, sanitation, etc. All these activities have an influence on the mentioned social and environmental dimension. During the second part of the '90s we assist to a growing of attractiveness of those kind of investments also for private actors – due to deregulation programs, innovative financial strategies, privatization, etc. – that have improved financial impacts on the environment, leading some scholars to the idea of “ecological investments”⁵⁷.

Section II: European dimension

4. Addressing the modernist puzzle carefully: soil protection through the lens of the founding values of the EU and the provisions of the Lisbon Treaty.

As already stated, soil protection suffers from the absence of a specific legal basis in the Treaties, even after the Lisbon reform. At the same time, nonetheless, the matter is indirectly addressed by several primary provisions, either regarding the founding values of the EU and various specific EU policies.

From a general perspective, Article 3 TEU proclaims the main objectives of the European Union at the current stage of the integration process⁵⁸. If compared with former Article 2 TEU - the previous provision on the subject - Article 3 shows a sharp change in the political priorities codified in the Treaty by the Member States. The establishment of an Area of freedom security and justice has actually overtaken the traditional favor for the creation of the single market, which is no more at the top of this degrading pyramid. Moreover, former Article 2 TEU seemed to be highly influenced by the economic nature of the early development of the integration process and hardly took into consideration several non-market values, whose importance has now been acknowledged at both European and national levels.

In particular, current Article 3 TEU underlines that the European Union has to display any effort to promote solidarity, by the means of economic, social and territorial cohesion. Even if the status of the principle of solidarity is far to be clear⁵⁹, it can be said that the cohesion policy, ruled by Article 174 TFEU, can be legitimately numbered among the relevant legal basis affecting soil exploitation and related issues.

⁵⁷ T. PANAYOTOU, *Globalization and environment*, Center for International Development (CID), Cambridge, Massachusetts, Harvard University, Working Paper no. 53, July 2000.

⁵⁸ For a general overview of the European policies after the Lisbon Treaty see, among others, A. BIONDI, P. EECKOUT, S. RIPLEY, *The EU after Lisbon*, Oxford University Press, Oxford, 2012.

⁵⁹ M. ROSS, Y. BORGMANN-PREBIL, *Promoting Solidarity in the European Union*, Oxford University Press, Oxford, 2010.

Accordingly, Article 3 TEU expressly states that the growth of the European economy has to be oriented to the principle of sustainable development, which entails a high level of protection and improvement of the quality of the environment. The principle of sustainable development and the need for environmental protection are also affirmed by Article 37 of the Charter of Fundamental Rights of the European Union⁶⁰.

As to the provisions of the TFEU on environmental policy, Article 11 connects environmental protection and the promotion of sustainable development to the other EU fields of activity, while Article 191 enumerates the prudent and rational utilization of natural resources among the objectives that European institutions shall pursue.

Moving straight to the TFEU, the common agricultural policy (CAP) must be considered. The unique provision manifestly mentioning soil is Article 38 TFEU, former Article 32 TEC. This Article introduces the Title on agriculture and fisheries, but is mainly focused on the products of the soil and therefore is only indirectly linked to the subject under consideration.

On the contrary, the wording of Article 39, on the main goals of the CAP, is much more interesting to our purposes. Indeed, such provision underlines that EU policies have to pursue the rational development of the factors of production and their optimum utilization, also taking into account the needs, peculiarities and culture heritage of agricultural communities. The TFEU therefore refers to another aspect which proves to be relevant for the matter at stake, that is to say the defense of the cultural background of local communities. This dimension is also evoked by Article 3 TEU, according to which the EU shall respect national cultural diversity and enhance Europe's cultural heritage.

In conclusion, even leaving aside the abundant secondary legislation, which will be considered hereinafter, this brief and not exhaustive overview sheds a light on the fragmentary nature of the current legal background, which can be hardly tidied up.

In order to collect all the pieces of this puzzle and to propose some general considerations on the feasibility, in the European context, of the application to soil or soil-related goods of the GPGs category, it seems crucial to analyze each tile of the mosaic separately. The starting point are the unsubstantiated efforts of the European Commission to give shape to a common EU policy on soil uses and protection.

⁶⁰ The Charter has now been conferred the same legal value as the Treaties by Article 6 TEU.

5. The European Commission up against the puzzle: the communication COM(2006)231 and the failure to adopt common rules on soil protection.

In 2002, the European Commission issued a communication to the Council and the Parliament, laying the foundations for a future thematic strategy for soil protection in Europe⁶¹. In order to build on political commitment to soil protection, the document described the existing factual and legal scenario, thereby underlining the importance of an integrated long-term approach. In order to achieve such goal, the Commission clarified the steps it would have taken under several EU policies – namely environment, agriculture, territorial cohesion, transports and scientific research – in the next future, also fixing the timetable for the adoption of horizontal measures in each policy involved⁶².

On the basis of that document and of the debate that soon followed, the Commission decided to take a second step, by adopting another communication generally focusing on the matter⁶³. The new document was aimed at claiming a more comprehensive and practical approach to land preservation and remarked the need to advance practical solutions to address the various threats soil is affected by⁶⁴. Some features of the communication must be highlighted to the purposes of the current analysis.

First of all, the arguments the Commission expressly grounded its communication on the several essential functions the soil performs, as a non-renewable limited resource playing an irreplaceable socio-economic, cultural and environmental role⁶⁵. Soil undergoes an extremely slow process of formation and is often essential to opposing and incompatible uses, which in turn are all crucial to meet many human needs. In a few words, as to the Commission, soil does not share the non-rivalrous consumption and non-excludable use characteristics which qualify GPGs according to their conceptualization by economists.

61 Commission communication to the Council, the Parliament, the European Social and Economic Committee and the Committee of Regions, COM(2002)179 final, of 16 April 2002, not published in OJ.

62 The purpose of the communication was to raise political commitment to soil protection, since «*soil is a vital and largely non-renewable resource increasingly under pressure. The importance of soil protection is recognized both internationally and within the EU*». See L. MARMO, *La strategia tematica per la protezione del suolo e la proposta di direttiva quadro della Commissione europea*, in *Rivista Giuridica dell'Ambiente*, 2007, p. 175.

63 Commission communication to the Council, the Parliament, the European Social and Economic Committee and the Committee of Regions, COM(2006)231 final, of 22 September 2006, not published in OJ.

64 The Commission also presented six other Thematic Strategies, covering air pollution, the marine environment, waste prevention and recycling, natural resources, the urban environment and pesticides.

65 According to the introductory remarks of the communication, soil «*serves as a platform for human activities and landscape and as an archive of heritage and plays a central role as a habitat and gene pool. It stores, filters and transforms many substances, including water, nutrients and carbon. In fact, it is the biggest carbon store in the world (1,500 gigatonnes). These functions must be protected because of both their socio-economic and environmental importance*».

Secondly, for the first time, the Commission connected soil protection to human health and food safety. The Commission also contextualized the European action in the international background, since soil protection must be considered a global concern. Therefore, the institution underlined the need for a collective response to land threats, because of their inevitable trans boundary or even global consequences.

Thirdly, the rationale of the proposal was to adopt a multistakeholder approach, involving horizontally several European policies and calling the different recipients to their duties. The document lied on four key-pillars, including raising people awareness, integrating European and national measures, closing knowledge gaps through research programmes and data collection, adopting framework legislation on sustainable land use and soil protection. In particular, as to the last point, the Commission proposed the adoption of a framework directive covering the main challenges to soil quality and establishing conditions and procedures for a proper cooperation between European institutions and national authorities⁶⁶. Different EU policies were actually contributing to soil protection, but as these policies pursue other scopes of action, they were not considered sufficient to ensure an adequate level of protection for all soils in Europe. At the same time, in spite of the importance of the matter, the Commission pointed out the lack of a comprehensive and effective set of rules, at both national and European levels. The framework directive was therefore intended to set a non-prescriptive and flexible legal background, in order to allow Member States to set their own levels of ambition on targets and to select the measures under the programmes and remediation strategies which they consider most appropriate and most cost-effective⁶⁷.

In 2012, breaking an enduring silence, the Commission issued a report on the implementation of the 2006 thematic strategy, in order to assess results and shortcomings of the embryonic policy on soil protection⁶⁸. The report presents an updated resume on soil degradation trends,

⁶⁶ More precisely, the text of the framework directive was submitted by the Commission in a further communication on a **Proposal for a Directive of the European Parliament and of the Council establishing a framework for the protection of soil, COM(2006)232 final, of 22 September 2006, not published in OJ.**

⁶⁷ For instance, with regard to land erosion and organic decline, the Commission undertook the duty to fix common conditions for the selection of risk areas. The identification of such areas would have been implemented by the means of monitoring systems established at national level, according to minimum common European standards. Member States would have been in charge of targeting the measures required in each risk area and of reporting advances and pitfalls to the Commission. The same scheme “common European conditions and common definitions – State responsibility in monitoring and selecting risk areas – cooperation with EU Commission and reporting” would have to be followed also in other sectors: a general approach to different threats to soil protection would then apply, favouring coherent action by the EU and the Member States and filling the existing normative gaps at both levels.

⁶⁸ See communication of the Commission to the Council, the Parliament, the European Social and Economic Committee and the Committee of Regions, COM(2012)46 final, of 13 February 2012, not published in OJ. The Commission also provides a series of data regarding the evolution of soil conditions all over the EU, according

upholding the need for a comprehensive European approach to the problem. Despite some remarkable achievements with regard to the first three pillars of the strategy, the Commission has been forced to raise its hands in front of the stumbling blocks the legislative process for the adoption of the framework directive – the most strategic aspect of the whole plan – has met. The European Parliament adopted its first reading on the proposal in November 2007 by a majority of about two thirds. Nonetheless, at the March 2010 Environment Council, a minority of Member States blocked further progress on grounds of subsidiarity, excessive cost and administrative burden. No further progress has since been made by the Council and the framework directive currently remains at the proposal stage.

In conclusion, the most relevant aspect of the integrated approach fostered by the Commission is now facing severe scrutiny by the Member States and the Council itself. The persistent *status quo* undermines the true launch of a European policy on soil protection and risks to endanger the effectiveness of the whole strategy. The initiatives led by the Commission have therefore to be read under this perspective: a proper understanding of the current state of the art necessarily implies to pass through each tile composing the mentioned fragmented modernist puzzle portraying the EU policies on soil use, management and protection.

6. Soil protection by the means of horizontal EU policies: agriculture as a key environmental and socio-cultural factor.

The fragmentary normative landscape calls for an attempt to rationalize the wide variety of fields concerned. As a consequence, the analysis may not bring us to assemble the whole puzzle, since it needs to focus on a selection of non exhaustive aspects. In particular, the view supported in the first part of the paper leads us to concentrate on agricultural soil protection and its implications. The purpose of this paragraph is to select some key-issues, by the means of a brief theoretical and multidirectional approach to relevant EU acts.

6.1. An “environmental” approach: protecting agricultural soil from agricultural uses themselves.

Soil protection can be pursued first of all through purely environmental rules, which often deal with land threats. European environmental policy has sharply developed during the last

to the researches carried out on the basis of the Strategy and to the risk areas identification partially developed by Member States.

two decades and nowadays enumerates an impressive amount and variety of secondary acts⁶⁹. To our purposes, a major example is the 2004/35 directive on environmental liability⁷⁰, which prescribes to take all necessary measures to avoid land damage, taking into account its uses and characteristics. At the same time, however, according to the field of application of the directive, environmental liability occurs only in case land contamination creates a significant risk for human health⁷¹. The duty to adopt any necessary remedial activity to protect soil therefore depends on the possible threats to another fundamental value, that is to say human health.

Soil is also indirectly taken into consideration by the freshwaters package of directives⁷². In this context, ground is mentioned in order to define underground waters and to set up a comprehensive legal framework to deal with their contamination, a phenomenon which inevitably involves different soil layers as well. Also in this case, the protection of soil can be considered a secondary objective, since freshwaters quality is the main concern.

Even if the list of relevant pieces of legislation may continue further on, what seems to be most interesting to us is environmental risk or harm to agricultural lands deriving from agriculture itself. Indeed, as testified by the current legal framework on the matter, agricultural uses of lands can themselves turn out to be demanding challenges to soil. Indeed, as any other economic activity, agriculture causes negative externalities such as pollution, water contamination, waste products. At the same time, unlike other entrepreneurial activities, farmers' interest to maximize profits reveals several meeting points with the public interest to a healthy and flourishing environment. Indeed over-exploitation or pollution of natural resources may affect negatively the productivity of the factory farm.

To this regard, directive 86/278/EEC on sludge use in agriculture seems to be the main act considering soil protection as a primary value⁷³. Indeed, sewage sludge has valuable agronomic properties, as it provides the plants with the nutrients they need. However, some

⁶⁹ For an exhaustive and updated presentation of the legal background on the subject see J. H. JANS, H. VEDDER, *European Environmental Law After Lisbon*, Europa Law Publishing, Groningen, 2012.

⁷⁰ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, in OJ L 143 of 30 April 2004, p. 56.

⁷¹ See in particular the conditions for liability in annex II.

⁷² See in particular the so called water framework directive: Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, in OJ 327 of 22 December 2000, p. 1. See E. LOUKA, *Water Law and Policy: Governance without Frontiers*, Oxford University Press, Oxford, 2008.

⁷³ Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture, in OJ L 181 of 4 July 1986. See M. BENOZZO, *La gestione dei rifiuti agricoli dopo il Trattato di Lisbona*, in L. COSTATO, P. BORGHI, L. RUSSO, S. MANSERVISI (eds.), *Dalla riforma del 2003 alla PAC dopo Lisbona. I riflessi sul diritto agrario, alimentare e ambientale*, Napoli, 2011, p. 211.

heavy metals may be toxic to plants and humans. As a consequence, the use of sludge must be properly regulated and the directive lays down limits for concentration of damaging components which may be introduced into the soil. At the same time, such practice is strictly limited in case of grasslands and forage crops. Limitations are prescribed for also with regard to fruit and vegetable crops during the growing season. An adequate quality of soil is therefore at the same time the goal of the directive and the means through which further purposes – for instance human health, quality of products, long-term productivity of crops, underground waters safety – are pursued.

On the contrary, further acts on agricultural pollutants confine the protection of soil to a secondary stage. The nitrates directive focuses on land application of fertilizers and similar chemical substances, but it is once again mainly aimed at safeguarding freshwaters⁷⁴. In fact, States are asked to identify vulnerable areas of land in their territories which drain into the waters, thereby implementing any measure in order to avoid surface and underground waters pollution. At the same time, the regulation on fertilisers establishes minimum nutrient content required for each type of fertiliser, in order to allow for a proper and efficient agricultural use of lands. The regulation clearly states that the conditions set up for the use of fertilisers are primarily devoted to the protection of human health and the environment in general, but does not address the concerns related soil protection specifically.

In conclusion, we may underline that agricultural soil is often considered from a productive perspective: the preservation of its quality is essential to agricultural production and represents a means through which further fundamental values – human health, environmental protection, consumers rights, food safety – are safeguarded. To this respect, the proposed reform of the common agricultural policy for the 2014-2020 period seems to mark a steep change of approach⁷⁵. Indeed, the Commission has grounded its legislative proposals on three pillars, among which the protection of natural resources plays a key role, due to the increased awareness of the pressure agricultural activities can put on soil.

⁷⁴ Council directive 91/676 of 12 December 1991 **concerning the protection of waters against pollution caused by nitrates from agricultural sources, OJ L 375 of 31 December 1991.**

⁷⁵ The reform process is due to come to an end by 2013. The Commission has proposed a set of legislative proposals which are now being discussed by the European Parliament and the Council for their adoption. All these proposals derive from a wide public debate, launched by the Commission communication COM(2010)672 final on CAP towards 2020, meeting food, natural resources and territorial changes of the future. See N. CANTORE, J. KENNAN, S. PAGE, *Common Agricultural Policy (CAP) Reform and Development*, Overseas Development Institute Working Paper of 14 May 2011.

6.2. An “agricultural” approach: active farmers and the maintenance of agricultural soil in good agronomic conditions.

Since the very beginning of its implementation, the major purpose of the common agricultural policy was the promotion of agricultural productivity. In fact, the European institutions wanted to avoid any lack of food and food raw materials supply at a large scale. Food security, availability and accessibility were – and are still today – among the core purposes of agricultural policies, together with the efforts to grant adequate incomes to farmers and to avoid the depopulation of agricultural areas.

The European Union has walked this path over the years and such priority is now guiding the mentioned reform process of the common agricultural policy. Indeed, the first pillar of the proposed reform is grounded on the need to preserve the food production capacity of the European agricultural system, in order to face the new threats to food supply: market instability and climate change. To this respect, the Commission has stressed the role of agricultural activities in satisfying important collective interests, mentioning the «basic public goods desired by European society» and the «the public benefits generated through agriculture». In fact, the Commission seems to embrace our vision of agricultural soil as a source of further public goods, by stating that agriculture «plays an essential role in producing public goods, notably environmental such as landscapes, farmland biodiversity, climate stability and greater resilience to natural disasters such as flooding, drought and fire»⁷⁶.

Under this point of view, the essence of the whole system and of its reform is represented by the figure of the «active farmer», since a more sustainable and fair agriculture necessarily entails a due regard for the direct relationship between land and farmers. The increased awareness on the importance of such fruitful relationship has given shape to one of the most relevant novelties of the 2014-2020 regime of the CAP. Under the previous legal scheme, the disbursement of direct payments to farmers in support of their activity was decoupled from the incomes deriving from their final products⁷⁷. As a consequence, the funding of agricultural activities was not dependent on the amount, quality and variety of the products: the direct support prescribed for by regulation 1382/2003 was fixed and represented a compensation scheme in favour of each farmer, who was incentivized to limit his overall

⁷⁶ See the above mentioned Commission communication on the CAP towards 2020, par. 3.2. This particular view of the agricultural sector has been to a certain extent expressed also by the Italian Supreme Court, judgment of 14 February 2011, no. 3665, according to which public authorities have to protect not only State property lands, but also those areas which – due to their particular features and the collective interests they meet – can be considered public goods. The judgment was pronounced with regard to the Venice Lagoon, as a unique landscape and habitat.

⁷⁷ V. ADAM, D. BIANCHI, *La PAC à l'heure du découplage. Une dernière réforme soutien à l'agriculture européenne*, in *Revue du Marché Commun et de l'Union Européenne*, 2004, p. 89.

production with due regard for the need and limitations of the market. Farmers receiving direct payments were bound to comply with a series of requirements concerning his own activity, such as environmental protection, animals' wellbeing, food safety and the maintenance of lands in good agricultural conditions⁷⁸.

Despite this strict conditionality regime, the system of direct payments proved to be inefficient for both the European budget and the preservation of agricultural soils⁷⁹, because of the separation between agricultural activities and financial support. Indeed, decoupling farmers from an efficient use of agricultural lands generated abuses and shortcomings⁸⁰. Under the proposed regime, the Commission upholds to a certain extent the coupling of payments and some delicate productions, because the activity of each farmer is functional to the achievement of the fundamental goals the reform itself pursues, such as food safety, environmental protection, preservation of agricultural communities. In this way, the European institutions are planning to support agricultural activities in relation and in proportion to the collective goods they ensure, adding new fundamental values and interests to the need to maintain lands in good agricultural conditions.

6.3.A "cultural" approach: soil protection and agricultural communities' culture.

The implications of agricultural soil protection are further displayed by a cultural approach to the matter. Under many points of view, agricultural lands are a powerful source of cultural expressions, which include both local communities' traditions and the specificities of agricultural practices, methods and products. In many cases, safeguarding soil stands for safeguarding mankind's cultural heritage⁸¹.

This particular view has also been expressed by the Commission in its proposed CAP reform. Actually, the second and the third pillars the proposal is structured on reveal an unpredictable priority for agricultural-led cultural treasures. The former is represented by the support to farming communities, that provide the European citizens with quality, value and diversity of food produced sustainably. The latter focuses on the efforts to maintain viable rural communities, whose activities deliver multiple social, cultural and environmental benefits,

⁷⁸ C. BLUMANN, *La réforme de la politique agricole commune*. in *Cahiers de droit européen*, 2004, p. 297.

⁷⁹ See the criticism expressed by the Court of Auditors in its Annual Reports for the financial year 2009, in <http://www.europarl.europa.eu> (18 February 2013).

⁸⁰ See the Rural Policy Centre Research Report on the Assessment of impact of partial decoupling on prices, production and farm revenues within the EU, December 2008, in <http://www.oecd.org> (18 February 2013).

⁸¹ M. VECCO, *A Definition of Cultural Heritage. From Tangible to Intangible*, in *Journal of Cultural Heritage*, 2010, p. 321.

preserving characteristic local landscapes and ensuring wide choice of quality products for consumers⁸².

Under this perspective, the reform of the system of the direct payments seems to achieve more ambitious goals than a mere support to farmers' incomes. According to the Commission, active farmers are granted a compensation for the social advantages their activity ensures and for the public goods it safeguards. Among the others, many authors underline the need to protect typical agricultural practices, as well as the right to contemplation of sites where the symbiosis between man and nature has given shape unique landscapes⁸³.

Another important aspect of this cultural approach is a characteristic feature of the European context and has to do with the preservation and promotion of local high-quality agricultural productions⁸⁴. Indeed, the European Union has been adopting an increasingly complex and exhaustive legislation on the topic. In particular, the European legislator stresses the importance of products labelled with denominations of origin and geographical indications for both economic and cultural reasons. The definition of geographical indications or designations of origin is itself explicative to this regard. They are forms of intellectual property which identify a product as originating in a region or locality in a particular country. As to geographical indications, their reputation for quality or authenticity must be intimately linked to their geographical origin. This entails the incorporation of all the values (historical, economic, social, cultural) that a territory and a local community express. Such incorporation is even more evident in the case of designations of origin, whose quality or properties are significantly or exclusively determined by the geographical environment, including natural and human factors⁸⁵.

Also the topic of designations of origin and geographical indications has been subject to the reform process. In particular, the Commission has proposed adoption of a set of four legislative acts – the so called “quality package” – aiming at launching a comprehensive

⁸² F. SALARIS, *Mantenimento delle terre agricole in buone condizioni agronomiche e ambientali, beni comuni e ruralità*, in L. COSTATO, P. BORGHI, L. RUSSO, S. MANSERVISI, *cit.*, p. 449.

⁸³ See A. MCVITTIE, D. MORAN, S. THOMSON, *A Review of Literature on the Value of Public Goods from Agriculture and the Production Impact of the Single Farm Payment Scheme*, Rural Policy Center Research Report no. 4/2009, available at <http://www.oecd.org> (18 February 2013).

⁸⁴ The protection of geographical indications had its original legal basis on the Council regulation no. 2081/92 of 14 July 1992 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs. The regulation was then amended in 2006, by the means of Council regulation no. 510/06 of 20 March 2006, in OJ L 93 of 31 March 2006, p. 12, based on current Article 43 TFEU. The “quality package” proposed by the Commission also deals with this aspect of EU food law. Indeed, its proposed reform of the Commission claims for a more effective assistance to farmers to better communicate agricultural product quality, providing the consumers with adequate information. See, from a general point of view, S. MASINI, *PDO, PGI and TSG*, in L. COSTATO, F. ALBISSINI (eds.), *European Food Law*, Padua, 2012, p. 351.

⁸⁵ T. KONO, *Geographical Indications and Intangible Cultural Heritage*, in B. UBERTAZZI, E. MUNIZ ESPADA (eds.), *Le indicazioni di qualità degli alimenti. Diritto internazionale ed europeo*, Milan, 2009, p. 289.

European action for the support of high-quality local food productions. The package will enter into force within the current year and establishes a common set of rules for all the various quality systems of food products. In particular, new rules have recently entered into force as to marketing, labelling and certifications of agricultural foods, in favour of both the consumers and local producers. A new regulation, in fact, has reformed many practical aspects of the previous legal regime on geographic indications⁸⁶. To this respect, it is worth underlining that the newly adopted regulation, paving the way for further developments and fostering “cultural foods” safeguards, allows for an optional protection in favour of products from mountainous regions, where environmental factors highly influence local traditions, culture and agricultural practices. Also, one of the proposals is devoted to fostering the share of agricultural best practices, in order to allow for the best solutions to be applied anywhere possible.

The proposed comprehensive reform once again supports our view of agricultural soil protection as a powerful tool to foster further public goods directly and inevitably related to it.

7. Concluding remarks: no chances for a self-solving puzzle?

The current legal background on soil protection raises some conclusive remarks, which are intended to metaphorically glance at the mentioned modernist puzzle, through the eyes of a traditionalist observer. Indeed, we would like to apply to the fragmented efforts to face soil challenges the views expressed by Carl Schmitt in his well-known 1942 essay *Land und Meer*⁸⁷.

In his book, Schmitt travels through the history of humanity, searching for the core it is based on and trying to link the key-concepts of land and space to the fundamental rules of any legal order. According to Schmitt, the essence of a legal order lays on territorial borders and on the involvement of a certain portion of land. The reason for this assertion comes from the ancient Greek noun “*nomos*”, which appears to be rooted on the verb “*neimen*”, whose meaning is recalled by the German verb “*nehmen*”, standing for “to conquer, to appropriate”. As a consequence, “*nomos*” first of all should be linked to the concepts of “conquest and

⁸⁶ See the regulation (EU) 1151/2012 of the European Parliament and the Council of 21 November 2012, on quality schemes for agricultural products and foodstuff, in OJ L 343 of 14 December 2012, p. 1. As to the proposals related to the “quality package”, see the Commission green paper on agricultural product quality, COM(2008) 641 of 15 October 2008 and the subsequent Communication on agricultural product quality policy, COM(2009) 234 of 28 May 2009 as well as the Communication on agricultural products quality schemes COM(2010) 733 final of 10 December 2010.

⁸⁷ C. SCHMITT, *Land und Meer*, Leipzig, 1942. See also *Der Nomos der Erde im Völkerrecht des Jus Publicum Europaeum*, Greven Verlag, Köln 1950. For a comprehensive comment on Schmitt's essay see S. LEGG, *Spatiality, Sovereignty and Carl Schmitt*, New York, 2011.

appropriation”. More specifically, the ancient Greek verb “*neimen*” has three main meanings: to appropriate, to divide and split each portion and finally to graze.

The third meaning, in particular, entails the use, farming and productivity of the conquered lands, eventually till their consumption. Any passage from one phase to the other of this chain of appropriation, in Schmitt's prophetic view, is caused by the change of global political balances and the subsequent rush to the conquest of new lands to be partitioned, ruled and exploited.

Such traditional and land-centered vision of legal orders appears to be a good description of the modernist puzzle of soil protection, at both international and European levels. Despite the phenomenon of globalization, political and legal approaches to soil threats seem still sharply dependent on the chain “appropriation - use and production – consumption”. And the scenario doesn't change when dealing with agricultural soils, despite - or maybe due to? - the essential functions they perform and their importance for several basic human needs.

First of all, the evoked phenomenon of land grubbing highlights the search for a new global political equilibrium, mainly driven by economic and demographic factors. This modern form of rush to the conquest of (formally) foreign lands to be exploited for the benefit of most influent States shows a strong Schmittian paradigm.

Secondly, the current fragmentation of supranational soil protection policies reveals the persisting role of national sovereignties, willing to maintain exclusive control on such strategic resources, even in case supranational rules are intended to protect agricultural land quality and productivity in favour of future generations. This is self evident, for instance, when considering the stumbling blocks that States have opposed to the European Commission proposed strategy on soil protection or the absence of legally binding multilateral agreements at international level.

Thirdly, the main efforts put in place by States and international organizations deal with each step of the Schmitt's triad “appropriation - use and production – consumption”. The “grazing” of agricultural grounds seems to be merely devoted to the maximization of the capacities of each ring of this chain and very limited consideration is shown as regards the “pro-active” protection of further soil-related goods.

Nonetheless, as the results of our analysis show, such traditional approach is under the pressure of an increasingly widespread awareness of the impressive amount of agricultural soil-driven public goods. As we have seen, the appearance on the international stage of

Sustainable Agriculture and Rural Development's (SARD)⁸⁸ programmes seals the supranational consciousness on the interlaced design of this topic. Human activities and, especially here, agricultural management could be the vehicles of environmental policies such as biodiversity conservation, air and water cleanness and freshness, maintenance of soil productivity, as well as of social (and sometimes demographic) policies aiming at free food access, poverty reduction, economic development.

Nevertheless, supranational regulation gets behind these assimilated and concurred realizations. The international protection of soil sets in the tangle of environmental law, although, at the origins, just in an indirect manner. The reasons for this partial vision could be found, as we have seen⁸⁹, in the double nature of this good, traditionally perceived as an exclusively private one. Indeed, the public dimension of soil was not so evident till the awareness of its role in preserving related primary environmental goods raised. The existing legal instruments, at both international and European levels, fail to adequately underline the interdependence of environmental goods, providing for a barely alluded “multifunctional role of soil”⁹⁰.

Despite the criticisms of the introduced framework, we cannot ignore the progresses and steps forward we are assisting to. The well-established scientific consciousness of soil implications for the other environmental public goods is being paired by gradual legislative initiatives, supporting the same conclusion. As to the International Community, although the enduring absence of specific binding instruments, the need for a discipline expressly dedicated to this topic comes more and more to light. We could, thus, glimpse an effort to upgrade the normative production in consequence of the scientific achievements. The same conclusion occurs in regard to the European context: the enlightened “environmental”, “agricultural” and “cultural” approaches, that drive the Common Agricultural Policy, disclose the instrumental function of agricultural management.

Coming to the conclusion of this multilevel travel across the agricultural (legislative) policies of international bodies, we support that, although in embryonic form, groped into the thick and fragmented normative tangles, a preliminary and evolving perception of the indissoluble connection between agricultural activities and the provision of related environmental GPGs is traceable in both the international and European legal orders. Should States and international

⁸⁸ See Agenda 21, Promoting Sustainable Agriculture and Rural Development, <http://www.unep.org> (26 June 2013).

⁸⁹ *Supra*, footnote 43.

⁹⁰ In the words of the European Treaty Office, remarks on the signature of the Soil Protocol to the Alpine Convention.

organizations advance towards increasingly comprehensive efforts to address soil protection as a key strategic challenge, a shift from the traditional Schmittian pair “conquest and appropriation” to the more ambitious couple “contrast to land threats-benefit of future generations” may be reached.