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Rethinking Property Rights in the Age of Climate Change: Lessons from the Japanese Commons and the Italian Approach

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Abstract This article reflects on the role of property in addressing climate change and environmental degradation through the lens of the theory of goods. It examines the relationship between private property and commons as tools for sustainability, drawing on the foundational debates sparked by Hardin, Ostrom and Heller, as well as recent discussions in Japan and Italy. The aim is to highlight the strengths and limits of current legal frameworks and to explore how property law might evolve, even beyond the domain of environmental law, to promote sustainability, equitable access to resources and protection of future generations.

Keywords Environmental sustainability. Social sustainability. Private property. Commons. Anticommons. Environmental commons. Iriai. Satoyama. Beni comuni. Usi civici. Dominii collettivi. Assetti fondiari collettivi. Échelle de communalité.

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1 Introduction

Today, sustainability occupies a central position in both political and legal discourse, with increasing efforts to reconceptualize it beyond its traditional environmental dimension toward a broader vision that includes social equity and institutional governance.

Despite its normative appeal, the concept of sustainability remains ambiguous and open to interpretation. Its Latin root, *sustinere* – meaning both 'to support' and 'to restrain' – aptly captures this dual nature: it enables protection while simultaneously imposing limits (Irti 2024, 1035). As articulated in the 1987 Brundtland Report, sustainability refers to a form of development that meets the needs of the present without compromising the ability of future generations to meet their own. This definition is widely regarded as a foundational principle for the responsible use of resources.

In the face of climate change, much of the research on sustainability has so far focused on the ecological consequences of industrialization – particularly those related to deforestation and the degradation of environmental common-pool resources (McKean 2000) – as well as on the social dimension of sustainability (Palinkas, Wong 2019; Wang, Ke 2024).

Nowadays, however, the challenges extend beyond merely analyzing these ecological consequences of industrialization to encompass a broader examination of the institutional arrangements that may either mitigate or exacerbate these impacts (Agrawal, Chhatre, Hardin 2008; Ostrom 2005). Among these, the paradigm of private property, as conceptualized in nineteenth-century Western legal traditions, holds particular significance.

Building on this premise, this contribution aims to offer some reflections on the role of property in addressing the challenges posed by climate change and the degradation of environmental resources, approaching it through the lens of the theory of goods. In particular, it will explore the relationship between private property and commons as tools for promoting environmental sustainability, drawing on the foundational analyses originally sparked by Hardin, Ostrom and Heller, that have formed the core of scholarly debate on the subject. Their work has indeed significantly influenced – with different and somehow opposed perspectives – the study of commons and natural resource usage, laying the groundwork for much of contemporary environmental law and representing a conceptual bridge to the issues now regarded as central to this article.

By doing so, the article aims to ultimately illuminate the strengths and limitations of current legal frameworks and discussion on commons, contributing to broader reflections on how property law might evolve, even beyond the domain of environmental law, to

more effectively promote sustainability, ensure equitable access to resources, and safeguard the interests of future generations.

2 The Legal Challenges of Climate Change: The Role of Property Law

As a preliminary step, it may be useful to briefly outline the legal instruments that have been employed to date in addressing the challenges related to climate change. The following reflections offer only a brief overview of a much broader and ongoing debate within legal scholarship. Nevertheless, this initial reconstruction is essential to contextualize the focus of this paper, which engages with just one of the many tools available within private law.

The evolution of scholarship on (environmental) sustainability reveals an increasing hybridization of diverse legal tools, as environmental harms have been addressed through a combination of civil liability paradigms, contractual regulation, and proprietary mechanisms (Pozzo 2024, 801).[1]

Particularly noteworthy in this regard are studies and reflections on the role of property law in addressing environmental challenges, which stand at the centre of an ongoing and lively debate – within both civil law and common law traditions – highlighting the limitations as well as the potential of the private property paradigm in responding to environmental degradation.

On the one hand, in order to address environmental challenges, traditional instruments within property law, such as institutions governing neighbourhood relations, have been more and more reinterpreted in innovative ways, extending beyond cases in which damage can be specifically attributed to identifiable harm to persons or property (Pozzo 2024, 805). Judicial mechanisms have also been employed to provide protection in disputes between private parties, particularly in situations where the object of ownership is contaminated. In such cases, the property owner may be required to remediate the land unless they can demonstrate that they acquired it in good faith and did not purchase it at a significantly undervalued price due to its polluted condition. This may include proving, for instance, that an environmental due diligence was conducted prior to the acquisition (Pozzo 2024, 806).

1 Among these frameworks, one of the earliest developed to address the impacts of industrialization on environmental resources was, without doubt, the liability paradigm, which was primarily employed to discourage corporate behaviour leading to pollution-intensive activities. Another private law instrument widely employed to address environmental challenges in the era of climate change beyond civil liability has been the contract (Pozzo 2024, 804).

On the other hand, notwithstanding these potentials, the limitations of property in addressing environmental challenges are undeniable. A central issue in this regard lies in its absolutist conception – developed within nineteenth-century Western legal traditions – which has often been invoked since the 1800s to justify 'egoistic' (De Mauro 2025) behaviour in the private sector, even when running counter to the general interest in a healthy environment.

To counterbalance the excesses of an absolutist approach to private property, many legal systems already permit the expropriation of privately owned land of particular environmental significance for reasons of public interest, provided that no alternative means or instruments exist to ensure its protection (Pozzo 2024, 806). They may also impose easements to guarantee enhanced environmental safeguards on sites considered, from an ecological standpoint, to be either at high risk or of critical importance for the protection of human health or the preservation of specific geological features. A noteworthy example is that of France, which established a public agency affiliated with the Ministry of the Environment to implement a territorial policy aimed at protecting coastal areas, respecting natural sites, and maintaining the ecological balance of littoral zones (Pozzo 2024, 806). The Conservatoire du littoral is empowered to undertake various actions concerning real estate assets, including the purchase – and, where necessary, the expropriation – of land deemed more effectively managed for environmental purposes than if left in private hands.

However, a more systematic reflection around the possibility to challenge this 'egoistic' conception of private property has received less consistent support in the relevant literature. The reflections that follow are intended to advance scholarly inquiry in this regard.

3 From Exclusive to Inclusive Property Through the Lenses of Commons

Rooted in the absolutist conception of ownership that emerged during the codification era, and closely tied to industrialization, the Western legal tradition model for property has historically legitimized the misuse (including, overexploitation or underuse) of goods, including natural resources, and has failed to adequately protect unowned or collectively held assets, such as lands and environmental resources.

In light of the historical significance attributed to property during the 1800s – conceived as intrinsically linked to, if not the very embodiment of, individual freedom, and as defining the 'horizon of meaning' for the emerging bourgeoisie in stark contrast to the preceding feudal order (Barcellona 2016, 19) – it is easy to understand the central role that (private) property assumed in the codification

movements of the nineteenth century, as well as the symbolic weight attached to the notion of property as 'full and exclusive'.

From a comparative perspective, based on differing understandings of the prerogative to exclude third parties from the use, enjoyment, and disposal of an asset, two main conceptions of property emerge, broadly reflecting the approaches characteristic of the civil law and common law traditions.

Firstly, the civil law tradition, has – famously – depicted it as a tree with the trunk representing the core element of exclusivity and the branches symbolizing the various prerogatives and powers of owners, which can be adjusted or combined depending on the legal and factual characteristics of the asset. In this view, property is primarily understood as the relationship between an individual and a material object.

By contrast, in the common law tradition, property is conceptualized as a set of relationships between individuals, all interacting with one another through a defined structure of rights, powers, privileges, and immunities, alongside their corresponding duties and liabilities. These entitlements over an object are often described as a 'bundle of sticks', with the right to exclude representing only one of them, the absence of which – unlike in the civil law tradition – does not automatically disqualify a legal interest from being considered 'property' (Mattei et al. 2023, 9).

It is what has been called the 'bundle of rights theory', referring to the idea that

> private ownership is not an absolute right but what remains from the rights governed by state laws, local ordinances, private nuisance regulations, and institutions, and has intrinsic constraints. An owner has a set of rights to use, manage, and transfer within these limits, and can assign certain rights to other people. (Takamura et al. 2021, 262, recalling Hohfeld 1913)

In this view, property is understood less as rights to a 'thing' and more as a collection of rights vis-à-vis others (Johnson 2007, 247).[2]

In recent years, as in other areas of law, a convergence between civil law and common law traditions has been underway (Marini 2016). With respect to property, however, this convergence has been far from linear. On the one hand, as a byproduct of broader phenomena such as digitalization and globalization – which have

2 "It is a legal construct that has evolved to describe the rights as well as the responsibilities that attend ownership quite independently of whatever 'thing' is owned. The bundle of rights also demonstrates the many ways in which ownership can be divided. In this sense, the concept works to illustrate both tangible and intangible property equally well" (Johnson 2007, 247).

reinforced the dominance of economic structures in the governance of global challenges – an expansion of the 'exclusivity-driven' model of property has gained increasing traction.[3] On the other hand, diverse political and theoretical reflections have emphasized a weakening of the exclusivity 'trunk' of property, accompanied by a growing recognition of new configurations of power in the circulation of assets, particularly intangible ones.[4]

Based on these considerations, and indeed moving beyond them, even Western legal systems have begun to signal the desirability of a shift toward the theorization of more 'inclusive' property regimes, seeking to preserve the core of exclusive ownership while simultaneously acknowledging third-party entitlements to access and benefit from (natural) resources, and promoting active community involvement in their governance (Ostrom 1990).

These reflections emerge from the recognition of the limitations inherent in the traditional property paradigm – not only in ensuring the proper maintenance of goods essential to a healthy environment, but also, more broadly, in achieving a more equitable distribution and governance of wealth, as envisioned by global and national sustainability agendas.

A similarly renewed conception of property as an inclusive paradigm is rooted in the pioneering reflections (in Italy, Rodotà 1981; Rescigno 1972; Sacco 1968;Salvi 1986) on the theory of social function and social utility for private property, advanced by several legal scholars across various jurisdiction – whether or not[5] based on legal provisions on private property 'limitations'.[6]

3 This trend reflects a broader shift toward what Piketty (2020) has termed proprietarianism and is closely linked to the emergence of 'Knowledge capitalism'. The evolution of this new form of capitalism underpins the processes of commodification and the expansion of exclusive rights over resources that previously belonged to the public domain. It offers a compelling explanation for the accelerating privatization of intangible assets (Boyle 2003; Resta 2013).

4 An illustration of this is the proliferation of streaming services, that allow people to 'enjoy' a song, a movie, etc., without granting them full property to it.

5 In France, for example, the idea of limited private property in the name of its social function is not expressly provided for by law but has nevertheless been reconstructed from the thought of the jurist Josserand. He denied the purported unlimited nature of this right, claiming as evident that there are in it "a multitude of obstacles, barriers, borders that restrain its movement and oppose its expansion" (Josserand 2006, 16). The German theory of the social function of private law (*Sozialbindung des Privatrechts*) has a broader scope: according to it, it is the entire legal system that has a social nature, being aimed at finding an ideal compromise point between the interests of the individual and those of the community (Geiger 2013).

6 See Art. 17 of the EU Charter of Fundamental Rights, which recalls the possibility for the law to impose constraints on the indiscriminate use of property by virtue of the general interest. Similarly, Article 1 of Additional Protocol No. 1 to the ECHR also enshrines the possibility of setting restrictions in the name of the public interest.

The idea of property constrained by requirements of social utility is clearly expressed, for instance, in Article 42, § 2 of the Italian Constitution.[7] This provision affirms that "private property is recognised and guaranteed by law, which determines the ways in which it may be acquired, enjoyed and its limits in order to ensure its social function and to make it accessible to all". This constitutional framework grounds property rights in broader considerations of collective welfare and accessibility.[8]

This emerging perspective on property – apparently in logical and systematic tension with the idea of maximum freedom in the enjoyment of ownership – has led some scholars to reimagine the very notion of 'limits' to private property not merely as exceptional (external) derogations from the property regime, but rather as structural and inherent elements of a specific *modus essendi* of property itself (Macario 2006, 8).

Such limits, when understood as internal to property (Angiolini 2021, 505; Patti 2016; Macario, Miletti 2017), function as a directive for the legislators intervening with diverse sector-specific laws and have the task to systematize – acting as a common denominator – the different disciplines in which property can be operationalized, as well as to regulate the use and distribution of resources ('*utilizzazione*' and '*distribuzione delle risorse*') (Rodotà 1960, 1272, revised in Rodotà 1981, 324).

Incorporating and operationalizing the idea of the social function of property is far from straightforward; it has, in fact, been at the centre of extensive scholarly reflection across time and jurisdictions. In the perspective advanced in this paper, however, this idea is conveyed through the conceptual lens of the commons.

The relationship between property and commons is by no means a simple one. Some scholars have theorized them as being in tension – if not in outright contradiction – with one another: on the one hand stands private property, and on the other, the commons, which challenge it on the terrain of resource governance and the "broader question of the relationship between forms of ownership

7 For broader reflections on the paradigm of social utility with reference to Article 41 of the Italian Constitution, which addresses the limitations to the freedom of private economic initiative, see Lemme (2018). For more comprehensive insights into the intersection of the environment, landscape, and constitutional values see Lemme 2025.

8 According to prominent Italian scholars, developments in this area reveal that the principle of social function has played a dual role. On the one hand, it has served as the normative core around which diverse forms and legal regimes of private property have been structured. On the other, it has helped to erode – or even neutralize – the traditional barrier created by the supposed exceptional nature of limitations on private property. This barrier had long prevented the integration of the numerous special legal regimes governing property into a coherent general theory. For broader reflections in this regard see Gambaro 1995, Pugliatti 1964 and Macario 2006.

and political community" (Marella 2012, 7). In this view, the owner's prerogative to exclude others from a given resource – framed even as a fundamental right[9] – has been viewed as being in direct tension with an opposing fundamental right: the right to access and inclusion, which constitutes the core of the commons discourse (Mattei et al. 2023, 9).

By contrast, an alternative conception sees these two rights (and related interests and powers) not as mutually exclusive, but as interconnected and this interconnection is mediated through the concept of the social function of private property, which enables a reimagining of property as an inclusive right.

As will be further explored below, the commons "aim at conceiving the proprietary relationship as qualitative rather than quantitative, based on access and inclusion rather than exclusion and deprivation" (Mattei et al. 2023, 6). The key characteristics of the 'material and immaterial goods' that can constitute a common lie in their nature as shared resources among individuals, which require the organization of collective action for their management and preservation. Examples of commons include natural resources (to be preserved for future generations), cultural patrimony, and traditional knowledge (Mattei et al. 2023, 8).

It is precisely at this juncture – particularly in light of the multiplicity of relationships that may exist around, and upon, the same asset(s) – that the connection between property and commons can be constructed. Drawing on the idea that the legal regime governing a resource emerges from the web of relationships that develop around it (Albanese 2024, 1289-95), the various interests of those who use, manage, and benefit from a resource classified as a common can be understood through the lens of the 'bundle of rights' paradigm.[10]

From this perspective, the expression 'commons' may refer to situations in which the existence of common interests affects the legal regime of a given asset by requiring the construction of specific entitlements for the holders of those interests – particularly when such interests are constitutionally recognized as fundamental rights – alongside private ownership rights and the public interest as represented by the State (Angiolini 2021).

Thus conceived, commons – when imbued with "an ecological sensibility rendered urgent by the current environmental crisis" – can

9 See Art. 17 EU Charter of Fundamental Rights.

10 This perspective allows for the conceptualization of a form of relational property, that is able to integrate the six components identified in Elinor Ostrom's framework for commons governance: access, withdrawal, and exploitation (use rights), alongside management, exclusion, and alienation (control rights), see Lawrence et al. 2021, 449.

serve as an entry point for reflections on the role of property not only in human life (because of its relationship with fundamental rights) but also 'in the life' of this legal institution (Mattei et al. 2023, 8).

4 Commons and Environmental Sustainability

Commons have played a central role in the field of environmental sustainability studies. Numerous investigations in this realm have indeed focused on forests and other landscapes, both in rural and urban contexts.

Over time, and across different regions of the world, many of the medieval practices that gave rise to the original notion of the commons[11] have either disappeared or come under significant pressure due to processes of economic restructuring, socio-cultural transformation, shifting policy frameworks, and evolving administrative regulations. Nonetheless, many of these practices have endured, albeit often in radically transformed forms, as the very concept of the commons has undergone substantial evolution (Hribar et al. 2023, 1).

As briefly noted above, the concept of commons today generically refers to "a broad set of resources, natural and cultural, that is shared by many people" (Hribar et al. 2023, 1). Under this broad understanding, the term encompasses a wide and diverse range of practices, institutions, and resources.

Among the many ways in which commons have been conceptualized so far, four approaches are worth mentioning: (i) first, an economic perspective, according to which the goods are to be classified as such based on their low/high excludability and low/high subtractability (and not their ownership regime). In this view, common-pool resources, for example, generally refer to natural resources characterized by subtractability (where one person's use diminishes availability to others) and non-excludability (where it is difficult to prevent access to the assets themselves) (Ostrom 2005); (ii) second, a political perspective (Rochfeld, Cornu, Martin 2021, 371), according to which commons are framed as instruments of radical social transformation and have been central in both contemporary social theory and political activism in the last decades (Mattei et al. 2023, 2). In this idea, they are viewed as tools for reimagining the structure of society (Barcellona 2016); (iii) third, a sociological perspective, which has

11 Historically, the term 'commons' refers to the practices by which communities in medieval Europe collectively managed land and other resources essential for their survival, resources that were held in common and subject to shared rules of use and governance. Traditional commons were typically sustained by commoners, that is, members of a community who made joint use of local resources over long time periods, often across multiple generations (Hribar et al. 2023, 1).

focused on the study of the factual characteristics of these goods and practices; (iv) finally, a legal perspective, according to which commons are primarily conceived as objects of regulation.

This study focuses principally on the two latter approaches.

From a sociological standpoint, it is noteworthy that scholarship has extended the concept of commons to include a range of related terms that refer to similar phenomena – though with subtle conceptual distinctions – such as common property regimes and common-pool resources (McKean 2000).[12]

The defining features of commons have been described by scholarship as the interconnection of four elements: the asset, the community, the relationship between community and the good, and the relationship with the outside world (Lawrence et al. 2021, 449). The commons indeed presuppose the existence of a "community of people" which jointly manage the asset (Lawrence et al. 2021, 449) – whose size varies according to the nature of goods and the related circumstances. In some cases, a local community is optimal; on the other hand, global commons require global communities (Mattei et al. 2023, 8).

As for the relationship between the community and the asset, this can be structured in such a way that the community exercises a range of prerogatives, extending from simple access and use to active participation and control – with this latter often meaning not only having a "a right to voice an opinion or participate in some way" but rather having significant management forest (Lawrence et al. 2021, 458); while, concerning the relationship with the outside world, particularly significant is the right to access to the asset by the non-owners – view as a mechanism to avoid the atrophy resulting from possible absentee owners or governments.

From the legal perspective, instead, scholarship has mainly focused on identifying how legal systems recognize and regulate commons, often highlighting the absence of statutory definitions of commons (Mattei et al. 2023, 15). One notable exception is the provision of the category of *choses communes*, which appears both in the Code Napoléon as well as in the Belgian and Quebec Civil Codes, but is absent from other jurisdictions. This category includes things that cannot be privately owned, such as air or water. Within this framework, scholarly attention has focused on the possibility of constructing models for the management and governance of resources that transcend both market-based logic and the traditional *summa divisio* between public and private powers (Angiolini 2021; Cascione

12 According to McKean, drawing on earlier work by Bromley (1992), the common property regime designates a form of collective private property in which "access is limited to a specific group of users who hold their rights in common".

2013). In particular, legal professionals are typically exposed to the concept of commons through the lens of property law, a perspective that tends to constrain its interpretive and regulatory scope (Mattei et al. 2023).

In line with this approach, commons can be understood differently depending on the property regime upon which they are grounded. More specifically, the scope and meaning of this category vary depending on whether the jurisdiction in which commons are conceptualized bears the historical legacies of feudalism, colonialism, or socialism (Mattei et al. 2023).

Among these legal systems, the continental European tradition – once governed by feudal regimes – offers an interesting example for the scope of this paper. In this context, certain features of the commons can be found in goods belonging to State apparatuses – which explains why still now in European legal systems commons are generally addressed through the lenses of public property ("stressing its management in the interest of a community and its common usage") (Mattei et al. 2023, 13). This conception is based on two elements: (i) the principle of inalienability that governs public goods included in the public domain, and (ii) their designation for common use (Mattei et al. 2023, 13). Interestingly, even in Europe commons are understood not only as shared resources, but also as institutional or governance arrangements that enable and regulate the collective use of such resources.

This perspective explains the relation of the notion of 'commons' to the legal structure and rules governing it (Hribar et al. 2023, 2) and brings the European view closer to the original U.S. conception of this institution, where a central role was granted to communities ('communing'), to the position of the commons outside the realm of the market, and "social rules, customs, and institutional arrangements that can be introduced to govern the commons beyond traditional public or private structures" (Mattei et al. 2023, 11).

It is within these broader reflections that the relationship between commons and the environmental challenges brought about by industrialization at the core of this analysis must be framed. The foundational debate on this topic originates from the dialectical opposition between the views of Hardin, Ostrom, and Heller, each addressing the role of commons in either causing, amplifying, or mitigating the effects of industrial expansion, human intervention, intensive pollution, and the depletion of natural resources.

Garrett Hardin, in his seminal work on the 'Tragedy of the Commons', argued that commons were inherently incapable of preventing individual overuse (and over-exploitation) of shared resources under an open-access regime. To address the risk of resource depletion, he advocated for the imposition of 'strongly

defined' governance mechanisms[13] through the assignment of private property rights. In his classical narrative, commons are portrayed negatively, as mirror of a fundamentally inefficient system. He suggested that without the concentration of decision-making power in either private owners or a centralized authority, communities would inevitably fail to manage shared resources. In this sense, Hardin's depiction of commons echoes the perceived inefficiencies of feudal structures (Mattei et al. 2023, 424).

At the opposite end of the spectrum, yet sharing the same pessimistic outlook, Michael Heller introduced, several years later, the concept of the 'Tragedy of the Anticommons' (Heller 1998), wherein the risk of deterioration of a resource stems not from over-exploitation, but from underutilization, resulting from the excessive fragmentation of ownership rights among too many actors. In this model, a large number of rights holders each possess the power to exclude others from using the resource. As the number of stakeholders increases, so do the transaction costs associated with obtaining unanimous consent for use, ultimately rendering the resource unusable – resulting in a paralysis of use, where potential beneficiaries abandon any attempt at access or exploitation (Takamura et al. 2021, 260).

The concerns raised by Hardin and Heller have been extensively studied and debated over the past decades. Interestingly for the scope of this analysis, the risks they identified can be observed, for instance, in the ecological crises affecting *satoyama* (里山) landscapes in Japan – a traditional form of secondary natural environment shaped by long-standing sustainable human intervention.[14] Some studies by the Japanese scholarship (Shimada 2015, 488) have indeed observed the emergence within *satoyama* landscape of three forms of crisis: (i) the degradation of habitats and the loss of biodiversity, attributable to excessive human activity – which echoes Hardin's warnings about overuse and resource depletion in open-access regimes; (ii) the underutilization and abandonment of *satoyama* systems, leading to the decline of ecosystems that rely on continuous human management (under-use can, for example, threaten biodiversity) – thus resonating with Heller's theory of underuse resulting from fragmented rights

13 The idea that property rights are 'strong' recalls the considerations raised by Rodotà who argued that "la proprietà, per lungo tempo, ha costituito la situazione forte per eccellenza" (Rodotà 1981, 43).

14 "*Satoyama* is a Japanese term for landscapes that comprise a mosaic of different ecosystems including secondary forests, agricultural lands, irrigation ponds and grasslands, along with human settlements. In France, a similar landscape is called 'bocage'. People cultivate gently sloping hills as farms and orchards. To protect crops and cattle, they have preserved forests surrounding their land. This agricultural environment, maintained by people, has created di-verse wildlife habitats" (Shimada 2015, 488).

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or limited access;[15] and (iii) the disruption of ecosystems caused by the introduction of invasive species and chemical contamination (Shimada 2015, 488). This third form of degradation suggests, however, that the root causes of *satoyama*'s ecological decline may not lie inherently in its commons-based structure, but rather in a more complex set of socio-environmental dynamics that go beyond the binary logic of overuse and underuse.

The same risk akin to the 'tragedy of the anticommons' has also been studied with reference to rural and forestry areas in Italy. As early as the mid-nineteenth century, the abandonment of land due to declining profitability had begun and the situation worsened during and after the two World Wars. One of the most severe consequences of rural depopulation and reduced human presence in the landscape has been the widespread fragmentation and dispersion of rural and forest property. This extreme parcelisation has long caused a series of problems, including significant difficulties in land cultivation and management, increased production costs, inefficiencies in farm operations, the need for complex labour coordination, frequent disputes among neighbouring landowners, and ultimately, the abandonment of land management altogether (Crosetti 2017, 58).

That said, even though a more optimistic perspective on the commons took some time to emerge, it nonetheless eventually did – twenty years after Hardin's seminal work – thanks to the publication of *Governing the Commons: The Evolution of Institutions for Collective Action* by Elinor Ostrom.

Although her work primarily focused on preventing overuse in situations marked by social dilemmas (and not also the different issue of underutilization), the Nobel Prize-winning economist and political scientist decisively challenged the prevailing assumption that commons are inherently tragic or ungovernable and that "markets and their foundational institution – private property based on exclusion" – are "the only efficient mechanisms for managing resources" (Mattei et al. 2023, 3).

On the contrary, her research showed that local communities often succeed in establishing and maintaining robust institutional arrangements for collective governance, effectively preventing the depletion of shared resources and demonstrating a remarkable capacity for resilience. Interestingly, Ostrom did not frame commons

15 More specifically, in Japan, the profound economic transformations of the past century have significantly diminished people's reliance on commons as a foundation for their livelihoods. As a result, many commons have undergone substantial changes in character and now suffer from chronic underuse – closely linked to the declining economic value of natural resources as productive inputs (Shimada 2014). This issue of underuse is not unique to Japan; it is also shared by many European countries facing similar socio-economic dynamics (Olsson, Austrheim, Grenne 2000; Shimada 2015, 488).

as necessarily governed by either private or public institutional arrangements (Mattei et al. 2023, 3). Rather, she acknowledged that the form of governance depended on the specific features of the particular common resource in question.

Building on her theory, a growing body of research has sought to assess whether such community-based institutional arrangements can also be effective in preventing or addressing the underutilization of resources and, more broadly, in supporting sustainable landscape management. This includes ensuring the sustainable use of natural resources, the provision of ecosystem services or "nature's contributions to people" and the preservation of cultural landscapes (Hribar et al. 2023, 2).

To this end, scholars have grounded their analyses in empirical case studies to address the conceptual ambiguity surrounding the notion of the commons (Mattei et al. 2023, 11) and particularly those that are referred to as 'environmental commons' (Flanagan et al. 2020). Given that some of the earliest studies on this topic focused on the Japanese system,[16] the reflections below will likewise explore the dimension of Japanese commons, the so-called *iriai* (入会権), as effective models for sustainable resource governance.[17] These studies offer concrete examples of best practices and alternative governance models, which can serve as a foundation for the subsequent comparative analysis with the current Italian framework.

16 "The centuries-old common lands of traditional Japanese villages are particularly worthy of inclusion in our comparative study of common property, for several reasons. First, they fall squarely into most our pristine definition of common property: they are common lands with identifiable communities of co-owners, as opposed to being vast, open access public areas used by all and in essence owned by no one. Second, Japanese villages developed elaborate regulations, even written codes, for their commons; even a tiny fraction of the many thousands of traditional villages offers ample variety on most variables of interest. Third, the documentation and historical records allow us to inquire not only into formal rules but also into their operation and enforcement, thus offering more data than we have in other cases of common-property institutions. Fourth, Japanese villages employed threats of ostracism and banishment to control social behavior and as ultimate penalties for abusing the commons; we therefore find a fascinating resemblance between the sanctions they employed and the concept of exclusion that is so important in theories of public goods and property rights used in the study of common property. Fifth, from the mid-seventeenth to the mid-nineteenth century, Japan closed its ports to trade; as a result Japanese society spent two centuries in a conveniently isolated 'test tube' uncontaminated by the world economy and living within the limitations imposed by nature and local technology" (McKean 1992, 63).

17 "Ostrom identifies iriai as a robust institution and appropriate model to devise the principles and uses it as one of several cases from which she builds design principles for maintaining long-enduring common-pool resources (CPR) institutions that support sustainable production" (Shimada 2014, 208).

4.1 Lessons from the Japanese *iriai*

In rural Japan, for centuries local communities have collectively managed forest, semi-natural grassland resources, rivers, fisheries and marine areas – forming a complex ecological and cultural mosaic throughout Japan (Duraiappah, Nakamura 2013).

They did so through the traditional *iriai* (communal) system (Shimada 2014; Muroi 2021), which allows still now local inhabitants to collectively use the land to procure timber, firewood, and other natural resources (Hribar et al. 2023, 3).

This system is interesting insofar as it provides for a highly formalized and codified example of common property management, where the regulatory arrangements are designed to accommodate the diverse interests of community members (Lees 1993, 107). The 'decentralized' regulations represent the traditional wisdoms (Satsuka 2014, 89) and typically delegate to the communities the authority to establish detailed guidelines concerning the methods, timing, and quantities of resource extraction permitted to each household, ensuring that resource use remains sustainable and supports local livelihoods.[18]

The *iriai* regime is also particularly interesting when examined within the broader context of Japanese culture, which has often been portrayed (at least, in Western comparative legal scholarship) as a 'unique' legal and social tradition, where social duties are emphasized over individual rights, and the individual is understood as existing in relation to, and for the benefit of, the collective. Within this framework, the Japanese notion of individualism has historically been, and appears to remain, closely tied to the group: the individual is seen as existing within, and only through the support of, the group (Imparato 2024, 385). This narrative depicts Japan as a society in which civic duties take precedence over individual rights, and where the community functions as the primary point of reference. Such a representation is often linked to the Confucian roots of the Japanese legal tradition, in which the very concept of the autonomous individual had little relevance (Colombo 2018, 34).

The risk of romanticizing this narrative is high. It is a depiction that tends to oversimplify Japanese legal consciousness, if not, even, to reconstruct a completely different cultural identity (Colombo 2018, 33).

This is not the place to fully examine or critique such a 'mildly stereotypical' view (Colombo 2018, 33); nevertheless, the centuries-old

18 A key feature of these systems was the autonomous regulation of resource use: local residents created detailed rules governing how, when, and how much each household could harvest (McKean 1992).

iriai tradition inevitably evokes the historical dimension of Japanese legal development and it is in this perspective that the reference to this narrative must be interpreted.

Consequently, although it is increasingly argued that today's Japanese society has shifted from a collectivist model toward a more individualistic one (Imparato 2024, 386), it is interesting to notice that this system emerged in a period when Japanese society was deeply grounded in notions of honour and shame (arising from non-compliance with social obligations) and highly receptive to the (not-to-be romanticized) idea of social 'harmony'[19] which required individuals to maintain a strong sensitivity to the needs of others. It remains essential to keep this broader cultural and historical framework in mind when analyzing the *iriai* system particularly in light of the observation by some scholars that some of these features of Japanese society have remained remarkably consistent over time.[20]

4.1.1 Evolution of the *iriai* System: From Paradise to Purgatory?

Within the study of Japanese commons, a distinction is often made between traditional – those that "have been handed down for hundreds of years" – and non-traditional commons – that "arose after the rapid economic development in the 1960s and 1970s", including those called 'transforming commons', that embrace new practices, such as benefit distribution or governance models (Hribar et al. 2023, 3).

Primarily established during the Edo period (1603-1867), traditional commons have been transmitted across generations for centuries and deeply embedded in communal life (Poljak Istenič 2012). Before the modern land-tenure system emerged in the late 1800s, these resources were controlled by local communities under customary law. Although the land was formally owned by feudal lords, villagers had long-standing usage rights and the duty to care for the land to ensure its renewal (Satsuka 2014, 89).

In contrast, commons that arose during or after the rapid economic expansion of the 1960s-1970s are classified as non-traditional (Hribar et al. 2023, 3). These, as said, often incorporate new principles of governance or distribution and differ significantly from the medieval traditions upon which they were originally based (Satsuka 2014, 90).

19 This idea of social harmony (associated with the *Nihonjinron* discourse and the theory of *wa* – see Imparato 2024, 386) was shaped by specific structures and dynamics of power (rather than having emerged from the people themselves).

20 It has been interpreted in this way the fact that, even nowadays, the Supreme Court affirms that individual freedoms may be reasonably restricted when necessary for public welfare or for the preservation of peace and public order (Imparato 2024, 386).

The transition from traditional to non-traditional commons was driven by concerns of policy makers in the second half of the twentieth century about the fact that common forests governed under customary *iriai* rules were underutilized from the perspective of timber production and plantation forestry. They believed that changing the legal status of these lands – by consolidating them into forest producers' cooperatives or even dividing them into individually owned plots – would enhance their productivity (Matsushita 2012). Following years of research and debate among bureaucrats and experts, these concerns ultimately led to the enactment of the Common Forests Modernization Act in 1966 (Takahashi et al. 2019, 1022).

According to some observers, following the enactment of the Common Forests Modernization Act, a common is considered 'modernized' when it no longer meets (altogether) the three traditional criteria historically associated with the institution: revenues used for the local community, rights based on custom, and residency of rights-holders within the community (Takahashi et al. 2019, 1022).

Beyond this politically driven transformation, however, the evolution of commons in Japan has also been shaped by a variety of other factors: most notably, economic and social changes whose effects are still felt today.

The first factor relevant to this analysis is the transformation of the Japanese economy in the aftermath of World War II. Rapid industrialization and economic growth in the second half of the twentieth century led to drastic changes in both energy provision (Takamura et al. 2021, 260) and land use (Shimada 2015). In particular, the demand for firewood and grasses sharply declined as Japan shifted toward a modern lifestyle, increasingly relying on imported timber and fossil fuels. This transformation was part of a broader trend associated with industrialization that also touched other modern industrialized countries, where the direct use value of local natural resources diminished, due to the availability of substitutes and imports (Shimada 2015, 489).

In addition to this economic transformation, and closely linked to it, there has been a significant social transformation, marked by rapid urbanization and the depopulation of rural areas, which aligned with national patterns of economic growth and urban development (Hribar et al. 2023, 3).

This process has triggered a vicious cycle with regard to *iriai* commons – a cycle that begins when the group benefiting from common-pool resources no longer coincides with the group responsible

for their maintenance.[21] As a result, local communities become less incentivized to uphold high-quality management practices (Shimada 2014; Hribar et al. 2023, 3), leading to the gradual deterioration of these resources (Shimada et al. 2014, 209) and, eventually, their abandonment. In recent years, many *iriai* systems – once sustained by interpersonal alliances and collaborative bonds that underpinned local autonomy – have been increasingly neglected. Today, much of Japan's rural population has ceased to manage its common property forests (Shimada 2014, 209). As a consequence, these dynamics have resulted not only in the underuse of *iriai* commons but also in a significant loss of biodiversity.[22]

More recently, however, there has been a growing movement to revitalise these commons, alongside a renewed emphasis on the multi-level benefits that natural resources can offer (not only to their direct users but also to a broader audience, including society in its entirety).[23] This shift has contributed to the emergence of various new commons centred around landscapes rich in ecological value (Hribar et al. 2023, 3; Shimada 2014, 209; Yamamoto 2013).

4.1.2 Three Case Studies

Several case studies illustrate the effectiveness of commons in improving natural resource management from an environmental protection perspective (McKean 1992). Three of them are particularly significant for the type of asset on which they rely, as well as the type of organisation and the content of rules established to meet a specific (different in each case) need within the relevant community.

One of the cases analysed here concerns the community of Tarōji (太郎路) – located in the village of Soni (Soni-mura 曽爾村) in Nara Prefecture (Nara-ken 奈良県) – and its management of semi-natural grasslands and forests (Shimada 2015).

21 In the Japanese context, Shimada has observed that the transition from direct use values to indirect, multi-level, values of these resources has created a disconnect between the costs borne by local resource managers and the benefits increasingly enjoyed by external actors, who become free riders (Shimada 2015, 489; Shimada 2014, 209).

22 Shimada (2015) notices that in response to these concerns, the Japanese Ministry of the Environment formulated a National Biodiversity Strategy, grounded in the principles of the Convention on Biological Diversity signed at the 1992 Earth Summit.

23 In recent years, Japanese citizens have, for example, mobilized to restore *satoyama* – traditional agrarian landscapes – as a strategy to counteract the perceived harms of modern life on both human well-being and the environment. These landscapes have also become important sites for biodiversity conservation aimed at securing a more sustainable future (Satsuka 2014, 87).

This community has succeeded in continuing for years the management of its semi-natural grasslands by layering new governance structures on top of traditional communal practices. Originally, this collective management arose from the need to produce thatching material – grass used for the roofs of traditional houses. Economically, indeed, it would not have made sense for each household to manage its own individual plot: maintaining the grassland requires substantial work every year, a task unmanageable by a small number of individuals. To address this, the community adopted a collaborative approach, pooling labour and resources to ensure the sustainable upkeep of the landscape.

Specifically, the community relied on the *yui* (結) system – a traditional form of mutual assistance involving joint labour for large-scale tasks during peak periods. This cooperative practice extended beyond collective work to include the exchange of gifts and resources, particularly for the purpose of roof maintenance. As noted in historical records, these gifts often covered nearly all the materials and provisions a household would require for re-thatching, including not only construction supplies but also food. Homeowners meticulously recorded these exchanges in registers, enabling them to reciprocate with equivalent gifts when neighbours undertook similar repairs in subsequent years (Shimada 2015, 499).

In the 1970s, Nara Prefecture purchased the semi-natural grasslands from the community of Tarōji. However, it did so under the condition that local residents could continue to use the grasslands in accordance with long-standing customary practices. In return, the prefecture paid the Tarōji community a maintenance fee, acknowledging that the grasslands generated benefited extending beyond the local level (Shimada 2015, 501). The revenue was used to support various community activities. For a time, this arrangement, referred to by some as a 'contract' (Shimada 2015, 501), functioned effectively. However, in 2007, during a community assembly meeting, the residents of Tarōji decided to cease direct community maintenance of the grasslands due to the increasing difficulty posed by the ageing population. Responsibility for grassland management was subsequently transferred to a community-based volunteer organization, the Soni Highland Preservation Society.

Since then, a new governance framework has been developed, involving collaboration among the Tarōji community (together with the volunteer organization), Soni Village, and Nara Prefecture. This new system distributes management responsibilities and costs across a broader base of beneficiaries. Its key features include: (i) the continued involvement of Tarōji residents, who contribute essential labour and ecological knowledge; and (ii) the financial support of local governments at both village and prefectural levels, representing a form of public investment by taxpayers.

The literature analyzed suggests that the property is formally under public ownership. However, its governance structure is shaped by a multi-level arrangement that helps bridge the gap between the costs borne by local communities and the benefits enjoyed by broader society and respond to multi-layered interests (ranging from local communities to prefectural authorities and extending to national and global stakeholders) (Shimada 2015, 507; Hribar et al. 2023, 11).

Two additional case studies reported by Hribar further illustrate the diverse configurations of commons in contemporary Japan (Hribar et al. 2023, 7).

The first is the Shiretoko (知床) case, which exemplifies a co-management system involving autonomous measures developed by local fishery operators. These actors draw on traditional ecological knowledge to balance marine biodiversity conservation with fisheries and tourism. This system emerged as a local response to the decline in fishery yields after the 1990s and relies on the motivation of fishers to sustain marine resources. The commons framework was established with the dual objective of conserving the marine ecosystem and securing stable fisheries through the sustainable use of marine resources within a designated Marine Natural Heritage Area. This case demonstrates the integration of public and private interests in a commons regime, where the natural resources are directly owned and managed by the commoners. A dispute resolution mechanism is also in place to mediate conflicts.

The second case concerns traditional rural commons in Ishikawa Prefecture (Ishikawa-ken 石川県), where the local government has implemented a volunteer matchmaking system. This initiative recruits companies, university students, and individual volunteers (both from within and outside the prefecture) to assist rural communities facing labour shortages due to depopulation and ageing demographics. Host communities work alongside volunteers in the maintenance of both the community and its surrounding natural resources, including farmlands, waterways, roads, and cultural landscapes. Unlike in Shiretoko case, formal monitoring mechanisms and sanctioning procedures are present in this case, but no dispute resolution mechanism.

Despite differences in ownership structure and institutional design, both cases are characterised by commoners operating under defined use rights accompanied by formal obligations and established rules of use.

4.1.3 The Beneficial Consequences of a Communal System

As noted by Hribar, collective management in the examined cases has produced benefits not only for local residents and government bodies but also for organized groups (often acting as benefit providers) as well as for tourists, visitors, and society at large (Hribar et al. 2023, 9).

Historically the benefits derived from commons were primarily economic in nature, functioning as a form of 'insurance against hard times' by helping to mitigate economic risks (McKean 1992, 69). However, beyond these core economic advantages, the literature has long recognized a range of non-economic benefits associated with commons governance since the earliest forms of commons institutions.

One of these benefits was the enhancement of equity among co-owners.

Despite considerable inequality in private property holdings, many villages maintained a strong sense of fairness by distributing access to commons based on equitable principles, thus compensating for broader disparities in wealth distribution (McKean 1992, 88). Another benefit was the increased legitimacy of rules: rules governing commons did not require external or coercive imposition; instead, they gained legitimacy through internal democratic processes (often based on consultation and consensus) (McKean 1992, 89). Finally, an important additional advantage was the improved enforceability of rules, as most commons had established penalty schemes to ensure compliance. These typically began with the confiscation of illegally extracted resources and could escalate to temporary or permanent exclusion from the commons and, eventually, from the social and economic interactions within the community.[24]

Based on a series of interviews with individuals directly involved, Hribar observed that non-material benefits were more frequently cited by interviewees than material ones. These included the promotion of civic education, capacity development, and knowledge sharing. As he puts it, "the key benefits of commons are the enhancement of social capital, such as the cultivation of shared norms, values, and social networks" (Hribar et al. 2023, 12). Among the various forms of social capital identified, the capacity to build and maintain networks (along with the ability to collaborate with individuals or organisations) appears to be especially crucial for enhancing social resilience. Social resilience, in turn, is widely recognised as a key factor in enabling communities to mitigate and adapt to environmental change.

24 McKean (1992, 89) argues that, despite their apparent severity, these penalties were generally applied with moderation, as most violators preferred to confess and apologize rather than face harsher consequences.

As Hribar notes, social networks function as essential channels for the exchange of information and resources, both of which are indispensable for fostering sustainable environmental practices (Hribar et al. 2023, 12). Hence, the importance of social benefits in the era of climate change.

4.2 Insights from the Italian Forest Commons

Italy also presents a number of institutional arrangements that fall under the umbrella term of 'commons', as used in this analysis. A substantial body of literature has documented these commons – particularly forest commons (FCs) – focusing primarily on socio-economic dimensions and shedding light on the role of the State in their evolution. While several case-specific studies are available, a systematic overview remains lacking (Gatto, Bogataj 2015), due to the considerable institutional diversity across the Italian regions where the commons are situated.

Notably, the Alpine region is home to numerous long-standing traditional forest commons, whose community-based forest governance has persisted for centuries: despite episodes of decline or dysfunction, many of these institutions have indeed endured, and scholars have considered this region as a valuable 'laboratory' for studying forest commons and community-based resource governance (Gatto, Bogataj 2015).

In remote Alpine valleys, early settlers developed systems of communal ownership and management of forests and pastures as a survival strategy in response to harsh natural conditions and limited resources (Gatto, Bogataj 2015, 7). Over time, these communities established detailed rules governing membership – usually based on the household unit – along with the use of pastures, forests, and shared infrastructure. They also restricted individual appropriation, imposed fines for violations, and designated officials responsible for administration and monitoring.

One illustrative example of forest commons in Italy is offered by that situated in Cortina d'Ampezzo, where an eight-hundred-year-old community institution continues to manage a continuous-cover, uneven-aged coniferous Alpine forest. In this case, the land is jointly owned by the entire community, without individual property shares, reflecting a deep-rooted model of collective ownership and

management.[25] Many of these commons are currently managed by '*associazioni fondiarie*' (landowner associations) or other forms of associative governance, including that of so-called '*enti esponenziali*'.[26] These organizational structures have largely emerged in response to widespread underuse of agricultural and forest lands. As highlighted by some scholars, the crucial problems of land fragmentation and abandonment originated in the mid-nineteenth century, primarily due to rural exodus driven by the declining profitability of land use (Crosetti 2017, 58). What began as seasonal migration eventually turned into permanent emigration, particularly between the two World Wars, severely weakening the social and economic fabric of Alpine and hilly rural communities.

This depopulation led to the extreme parcelisation of land, often resulting in plots owned by a multitude of absentee or non-coordinated owners. Fragmentation was frequently compounded by the lack of physical contiguity between parcels belonging to the same owner, which were often separated by plots owned by others (Crosetti 2017, 58).

These persistent and well-documented structural inefficiencies in land use – echoing Heller's 'tragedy of the anticommons' – gave rise to multiple legal and policy responses. Some approaches, grounded in the liberal principle of private autonomy, envisioned voluntary initiatives among landowners as the primary solution. These included private agreements, purchases, exchanges, or the formation of landowner associations to re-aggregate and consolidate scattered parcels. Other approaches, emphasizing the primacy of public interest in productive and efficient land use, advocated for more interventionist strategies, including compulsory exchanges and transfers mandated by public authorities (Crosetti 2017, 59) (see *infra*).

That said, regardless of their specific legal form, emerging studies have begun to demonstrate, in Italy too, that collective management practices have generated significant positive environmental outcomes, specifically in terms of improved resource governance

25 Other examples of Italian commons illustrate the persistence and diversity of collective natural resource governance. These include the Bosco di Mestre (Mestre Woodland); the Associazione Forestale Veneto Orientale, now known as the Associazione Forestale di Pianura (Eastern Veneto Forest Owners' Association); the Comunanza delle Regole d'Ampezzo (Community of Ampezzo Forest Commons); the Partecipanza di Trino Vercellese (Trino Vercellese Forest Common); and the Foresta del Comune di Asiago (Asiago Communal Forest), among others, see Lawrence et al. 2021, 452.

26 "L'amministrazione dei demani collettivi è solitamente affidata agli enti esponenziali delle collettività titolari, quali per esempio le Università agrarie, i quali sono enti dotati di personalità giuridica di diritto privato; in alternativa, sono amministrati dai comuni con gestione separata. Le terre civiche sono considerate inalienabili ed indivisibili e, al pari dei beni demaniali, inusucapibili" (Cenini 2018, 1838).

and equitable distribution of benefits. These findings confirm the robustness and adaptability of forest commons as social-ecological systems (Gatto, Bogataj 2015).

However, much of the research on Italian forest commons has been approached from a public law perspective, often focusing on the role of the State as a key driver of change in forest commons governance. Some observers, for instance, have highlighted the undeniable and powerful influence of the State in the Italian common forests (both in disrupting and in supporting local communities), suggesting that internal governance structures alone are insufficient to ensure the long-term survival of commons-based systems (Gatto, Bogataj 2015).

One such study examines forest commons in the Veneto region, identifying two main types of community forest owners: municipalities and *Regole*, the latter being a distinctive form of collective forest ownership. Interestingly, the institutional arrangements governing these commons are documented in community charters and forest by-laws, with charters being important for defining the community's assets and the core institutional framework regulating internal governance, and by-laws essential for providing more detailed provisions concerning forest use.

5 Legal Qualification of the 'Environmental Commons'

Once the importance of commons in promoting environmentally sustainable practices and supporting the management of natural resources is acknowledged (hence the use of the term 'environmental commons' in this context) it becomes essential to undertake a more systematic effort to qualify and analyse the phenomenon from a legal perspective, despite the diversity of existing practices.

5.1 In Japan

From a legal standpoint, the Japanese *iriai* are regulated under Book II of the Civil Code,[27] which concerns real rights. The Code adheres to the principle of the *numerus clausus* of real rights,[28] which includes possession, ownership, superficies, emphyteusis, and servitudes, that are addressed in Chapters 2 to 6 of Book II. The subsequent four chapters are devoted to security rights *in rem*: the

27 *Japanese Civil Code* (1896) [*Minpō, Meiji ni jū kyū-nen hōritsu dai hachi jū kyū-gō,* 民法, 明治二十九年法律第八十九号], Law No. 89/1896.

28 See Art. 175 of the Japanese Civil Code.

right of retention (*ryūchi-ken*), preferential rights (*sakidori tokken*), pledge, and mortgage.

Within this framework, the two provisions specifically addressing right to common property (*iriaiken*), Articles 263 and 294, are included respectively in the chapters on ownership and servitudes. They stipulate that such rights are primarily governed by local custom and, where compatible, by the provisions of the Civil Code (Ortolani 2011, 439).

Specifically, the two articles provide: (i) "Rights of common that possess the nature of co-ownership are governed by local custom and are otherwise subject to the application of the provisions of this Section (Co-ownership)";[29] (ii) "Rights of common that do not possess the nature of co-ownership are governed by local custom and are otherwise subject to the mutatis mutandis application of the provisions of this Chapter (Servitudes)".[30]

The Code's formulation is terse, almost tautological. However, this may be due to the centuries-old nature of these traditions, which are difficult to systematize and reflect the principle of subsidiarity, according to which rules are left, as far as possible, to the autonomy of local communities. It is noteworthy that, as established, the self-governance rules of these communities take precedence over the codified legal framework.

As for the legal nature of the commons, it is not specified whether they constitute public property, private property, or a *tertium genus*. Based on the empirical analysis drawn from the literature, however, the answer seems to vary depending on the specific case (namely, the community statute or applicable regional regulations).

It is also interesting to note that the Japanese Civil Code provides no guidance regarding the enforcement mechanisms of these norms; in many cases, such systems are autonomously developed by the communities themselves (as in one of the case studies discussed above – Hribar et al. 2023, 12-14). Nor does the Code provide any provisions concerning sanctions, delegating this aspect as well to community local custom.

29 See Article 263 – Rights of Common with the Nature of Co-Ownership.

30 See Article 294 – Rights of Common without the Nature of Co-Ownership.

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5.2 In Italy

As previously noted, the legal frameworks governing the collective management of natural resources in Italy are diverse. Notably, Italian law does not currently provide a statutory definition of 'commons', although an adjacent concept (that of '*dominii collettivi*', collective domains) was introduced in 2017, as will be further discussed below.

Before turning to existing positive law, it is worth recalling a significant – albeit ultimately unsuccessful – attempt to define the commons through a legislative proposal drafted by the Rodotà Commission on *beni comuni* (common goods) in 2007 (Mattei 2011; Marella 2012; Di Porto 2013).[31] These were conceived as resources, including natural assets and cultural heritage, that contribute to the fulfilment of fundamental human rights and the free development of the individual (Mattei et al. 2023, 4).

The proposal carried a strong ideological dimension. The Commission, in fact, had been established right after the privatization of Italian public assets valued at over 130 billion euros which took place throughout the 1990s and the early 2000s (Mattei et al. 2023,, 4), in response to which, public and scholarly interest in the notion of the commons and in the legal mechanisms for their protection grew significantly (Marella 2012, 9).

Although this proposal did not result in the formal recognition of '*beni comuni*' within the Italian legal system, it has been widely regarded by scholars across Europe as a pioneering model (Rochfeld, Cornu, Martin 2021, 41). The Commission's approach was particularly innovative in its effort to ground the concept of commons in constitutional values, framing certain categories of goods as essential to human flourishing and proposing a conception of property as a complex legal institution capable of encompassing such objectives.

Indeed, the Commission proposed introducing the notion of commons by revising the traditional legal classification of goods and assigning those identified as commons a heightened level of protection against privatization. Core characteristics of the commons were strict inalienability, legal regimes oriented toward safeguarding the interests of future generations, and the possibility for any individual to seek injunctive relief against activities that threaten such goods.

In its accompanying report on the proposed reform, the Rodotà Commission noted that commons could include both publicly and privately owned assets, thus implying that the commons serve a function independent of legal ownership. The core idea was that governance (rather than formal title) should determine access to and

31 Critics to this framework have been raised by Caterina (2017, 293-304) e Perlingieri (2022, 137-64).

use of the commons. It is the institutional framework of governance that ensures access and protection, not the public or private status of ownership.

Some years before the introduction of the concept of *'dominii collettivi'* by Law 20-11-2017, n. 168, which is now the most suitable framework for the qualification of a number of environmental commons in Italy, the Italian Supreme Court, in decision no. 3665/2011 of the Corte di Cassazione,[32] borrowed the concept of commons as developed by the Rodotà Commission and applied it for the first time in a case concerning the legal status of the *valli da pesca* (fishing valleys) in the Venetian Lagoon. Although expressed only as *obiter dictum*, the Court emphasized the need to enhance the protection of public goods closely linked to constitutional values (Cascione 2011, 2506-14).

In the absence of a statutory definition, the idea of the commons in Italy has been historically conveyed through the long-standing legal institution of *usi civici* (civic uses) – "shared rights of access to natural resources" (Mattei et al. 2023, 15) – and, more recently, through the concept of *dominii collettivi*, which added to the previous legal foundational on collective land regimes, Law No. 1766/1927).

Together, *usi civici* and *dominii collettivi* have come to be referred to as *assetti fondiari collettivi*, i.e. 'collective land tenure systems' (Grossi 1977; 2019; Albanese 2024).

On one side, *usi civici* can be described rights held collectively by a community of people (*cives*) tied to a specific territory, entitling them to derive certain benefits from land or natural resources owned by others for the purpose of satisfying basic needs. These are known as *diritti di uso civico in senso proprio* ('rights of civic use in the proper sense') or *ius in re aliena* and constitute real rights over the property of another. Some scholars have compared them to predial servitudes. Of medieval and Germanic origin, and widely practiced during feudalism, indeed these *use rights* are typically linked to agriculture, fishing, hunting, gathering, and pastoralism (Cenini 2018, 1838-43). Framed as such, they could be compared to 'commons' as described in the previous paragraphs of this paper. However, they have a more limited scope in nature, only including activities and concept such as '*ghiandare*', '*spigare*', '*servitù di pascolo*', '*legnatico*' (pannage, gleaning, pasture servitude or right of pasturage, estovers or firewood gathering rights).

On the other hand, the term *dominii collettivi*, as employed in recent legislation, refers to the 'primary legal order of original communities'. By also encompassing *usi civici* in the strict sense, the notion of *dominii collettivi* consolidates a range of historically

32 Cass. civ., Sez. un., 14 febbraio 2011, n. 3665, and related rulings.

and regionally diverse terms (such as *terre civiche*, *terre collettive*, *demanio universale*, *demanio comunale*, *demanio civico*, *demani collettivi*, and *demani feudali*) into a single legal category (Germanò 2018, 1).

According to Article 3, § 1 of the new law, *beni collettivi* (the assets subject to *dominii collettivi*) include not only those affected by *iura in re propria* (i.e., collective ownership in strict sense), but also – under letter (d) – "lands owned by public or private entities over which the residents of the municipality or local hamlet exercise *usi civici* that have not yet been extinguished".

The reference to *dominii collettivi* as the 'primary legal order of original communities' (subject to the Constitution and endowed with the capacity for self-regulation in the management of resources defined as intergenerational co-ownership) is particularly significant. This formulation highlights two core dimensions.

First, *dominii collettivi* are explicitly linked to fundamental rights. The new legislation affirms indeed that *dominii collettivi* are linked not only to Articles 9 (protection of the landscape), 42 (social function of private property), and 43 (public or community management of enterprises of general interest), but also of Article 2 of the Italian Constitution, which safeguards the 'social formations' in which individuals fully realize their personality (Germanò 2018, 3).

Second, this legal recognition affirms the existence of a normative order alternative to state law. It acknowledges that "these peculiar forms of property arise beyond the State and are justified beyond the State, as they are the expression of different or even opposing cultures, and they bear the imprint of those cultures" (Germanò 2018, 3).

This vision is grounded in the principle of horizontal subsidiarity, according to which the State, Regions, Metropolitan Cities, Provinces, and Municipalities must promote the autonomous initiative of citizens – both individually and in associations – in pursuing activities of general interest. In other words, the law supports self-regulation and self-governance by civil society in the management of common goods, as expressions of general interest (Germanò 2018, 3).

The new law the law has served as catalyst for new constitutional case law. In the judgement of the Corte Costituzionale, 2 December 2021, No. 228, and 28 November 2022, No. 236, the Court recognized that *dominii collettivi* constitute "a subjective property right (*diritto soggettivo dominicale*), which, as a form of collective ownership, stands alongside public and private property under Article 42, paragraph 1, of the Constitution". Most recently, the Corte Costituzionale addressed this issue again in its judgment of 15 June 2023, No. 119, to which specific comments will be devoted a few lines below.

Moreover, has the remarkable merit of having resolved a longstanding controversy concerning the legal nature of ownership over lands collectively held by local communities, and specifically,

whether such lands should be considered public or private property. The older Italian legal doctrine – as said, mainly advanced by public law scholars – tended to classify them as a form of public ownership. The new legislation clarifies this ambiguity by affirming that the legal regime of *dominii collettivi* is private with respect to the legal subjects, and public with respect to the legal regime of the assets. In particular, it establishes that the representative entities of collective communities possess legal personality under private law,[33] while the assets themselves are subject to the regime of public domain goods: inalienability, indivisibility, non-usucapability, and permanent designation for agro-silvo-pastoral use.[34]

On this point, however, the just mentioned Corte Costituzionale, 15 June 2023, No. 119, made two important contributions (Albanese 2024). First, it clarified the coordination between the two principal national legislative sources in the field (Law No. 168/2017 and Law No. 1766/1927) whose coexistence had previously raised systemic challenges. Second, it emphasized some inconsistencies within this legal framework, particularly in relation to the social function of property and the governance of *dominii collettivi*.

In this decision, the Court focused primarily on constitutional concerns raised under Articles 3 (principle of equality) and 42(2) of the Italian Constitution (social function of private property), in connection with Article 3, § 3 of Law No. 168/2017, insofar as it fails to exclude the inalienability of privately owned lands burdened by *usi civici* that have not yet been extinguished. The Court concluded that such inalienability regulates an aspect of private property burdened by *usi civici* in a way that is "entirely unrelated to the protection of the general interest". According to the Court, making such lands inalienable does not serve the social function of property but rather amounts to a constitutionally unjustified limitation on the transferability of private ownership. In practical terms, it deprives creditors of effective remedies by preventing the execution of rights against such property.

Another significant merit of the law, further elaborated – with a peculiar angle – by the just mentioned ruling of the Constitutional Court, is the explicit connection it establishes between the legal framework of *dominii collettivi* and the imperative of environmental protection. Article 2, § 1 of the law provides that *beni di collettivo godimento* (assets subject to collective enjoyment) are protected insofar as they are essential to safeguarding, among other things, "the life and development of local communities", the "conservation and enhancement of the national natural heritage", as well as "stable

33 See Art. 1, § 2, Law No. 168/2017.

34 See Art. 3, § 3, Law No. 168/2017.

components of the environmental system" and "renewable resources to be developed and used for the benefit of the local communities and entitled persons".

Taken as a whole, this formulation suggests a shift in emphasis: whereas in the past such lands were primarily protected as a means of subsistence for the local community, their current justification leans more heavily toward the 'national natural heritage' (Germanò 2018, 3).

Consequently, according to some doctrinal interpretations, the object of regulation is not (or not only) the community's enjoyment rights as such, but rather the protection of the environment and landscape themselves, understood as constitutionally protected public goods (Cenini 2018, 1841).

This represents an unusual change in perspective, a change that continuously (and perhaps perpetually) reopens the debate surrounding social function of property, competing interests, and ownership structures. In this regard, it is worth recalling a particularly telling passage from the aforementioned Constitutional Court ruling, which explicitly states that environmental and landscape protection directives are "subsumed within the social function" of property. The Court further clarified that, in the case at hand, "this imperative is in no way undermined by the circulation of private property encumbered by *usi civici* that have not yet been extinguished".

The emerging legal framework – formed at the intersection of the pre-existing legislation, the 2017 reform, and evolving constitutional jurisprudence that underscores the triad *dominii collettivi*-property-social function – constitutes a critical bridge toward addressing the underlying tension between traditional classifications in property law and the broader horizon of a more robust pluralism of ownership forms (Albanese 2024).

6 Multi-Level Management System and the French *échelle de communalité*

Despite concerns about a potential crisis in the commons under the current socio-economic structure, due to the profound social and economic transformations outlined above (particularly in relation to Japanese commons), one of the key factors ensuring their survival in modern industrialized societies has been their capacity for successful adaptation. This has been made possible through the autonomy of local communities and the adoption of a model of multi-level governance that respects the principle of subsidiarity.[35]

This layered governance structure for natural resources is clearly observable in the case studies of Japanese commons, such as the *satoyama grasslands*.

As noted, in one of them, the multi-level governance arrangement of these commons has helped bridge the gap between the costs borne by local communities and the benefits enjoyed by broader society, accommodating a range of stakeholders from local communities and prefectural authorities to national and even global actors (Shimada 2015, 507; Hribar et al. 2023, 11). However, in Italy as well, in more dogmatic terms, a similar notion of the multi-level nature of property can be found, at least implicitly, in the new legislation on *dominii collettivi*, and has also been theorized by legal scholars in other areas of law.[36]

The idea of a multi-level governance model, by responding to layered and overlapping interests, exemplifies how different claims – private, communal, and public (as represented by the State) – can be simultaneously expressed and protected through diverse institutional and legal arrangements. When framed within the concept of the commons and interpreted through the paradigm of property, these arrangements gain coherence and normative strength.

A reconceptualization and systematic reorganization of property law – moving away from the exclusively individualistic approach and toward a multi-level model aligned with the principle of solidarity – is

35 The principle of subsidiarity holds that problems should be addressed at the smallest, most local level capable of resolving them – institutions should operate at the scale of the problem itself (Shimada 2014, 232-3).

36 This reasoning is also echoed in the legal framework of the *supercondominio* (multi-building condominium structures), as discussed by Bernes (2024). According to Bernes, a new 'image' of real property is emerging: one in which the division of utilities derived from the same asset among multiple subjects – each bearing distinct interests and rights – is assessed based on various factors that affect the exclusivity of ownership (*dominium*), thereby making shared access and management possible.

not foreign to contemporary legal scholarship. On the contrary, it has increasingly become a focus of scholarly reflection and debate.

Not too long ago, for example, French legal scholarship has proposed a reinterpretation of the right to property as a norm that can be reorganized according to a scale of protections built around the pursuit of the interest, more or less pervasive in the specific case, of a reference community. This is referred to as the *échelle de communalité* (which recalls, but also goes beyond, the idea of a bundle of rights) (Rochfeld, Cornu, Martin 2021).

According to this theory, the legal regime of certain categories of goods is structured along a spectrum of appropriability, which varies depending on the significance of the general interest associated with those goods. Specifically, "les biens reconnus porteurs d'un intérêt commun seraient appropriables selon certaines gradations" (Rochfeld, Cornu, Martin 2021, 34) – that is, goods that carry a recognized communal interest would be subject to varying degrees of exclusivity or inclusiveness. At one end of the spectrum lies maximum exclusivity, applying to goods for which no relevant general interest is present; at the other end, maximum inclusiveness applies where the general interest is overwhelmingly predominant.

A paradigmatic example is the legal regime governing intangible goods. Their regulation is far removed from the classical, 'egoistic' notion of ownership as a binary relationship between an owner and a thing. Instead, the legal framework focuses on organizing the circulation and exploitation of intangible assets in a way that balances the interests of multiple stakeholders. In this context, '*les prérogatives des titulaires*' (the rights of stakeholders) can, along the spectrum toward maximum *communalité*, take several forms: (i) a right of control, such as actions to cease certain uses (e.g., as seen in health law), where oversight of the owner's activity is not entirely entrusted to public authorities; (ii) a right to benefit from certain utilities of the good deemed 'common', requiring coordination among the owner and holders of the shared interests; (iii) at the far end, a right to the full benefit of the good's utilities, entirely dedicated to the satisfaction of collective interests – such as in the cases addressed by the Italian Corte di Cassazione in 2011 cited above (Angiolini 2021, 507).

7 Concluding Remarks: An Inclusive Proprietary Paradigm Beyond Environmental Issues

Altogether, the reflections above underscore the essential role of environmental commons in the era of climate change, particularly as a means of counteracting the negative externalities of industrialization and the underuse or misuse of natural resources. Given the conceptual and legal plurality surrounding the notion of the commons, empirical analysis was deemed necessary.

Case studies have shown that the collective governance of such resources does not necessarily lead to the 'tragedy of the commons' or 'anticommons' scenarios anticipated by Hardin and Heller.

In Japan, such practices have been extensively studied, with the literature often emphasizing not only the outcomes of collective management but also the operational regimes underpinning them – for example, by highlighting sanctioning mechanisms embedded within local governance structures. These enforcement tools have been thoroughly documented and analyzed by a substantial body of scholarship, offering valuable insights into the institutional conditions that sustain long-term collective resource management.

By contrast, in Italy, while a number of studies examine the functioning and positive value of certain forms of commons – albeit not in a systematic manner – legal scholars tend to focus primarily on the virtuous aspects of collective governance, but there remains a significant gap concerning the operational dimensions of these commons.

From a legal standpoint, a notable strength of the Japanese system lies in its explicit recognition of actual rights over commons within the Civil Code – regardless of whether those commons fall under a co-ownership regime. By incorporating such provisions into the Civil Code itself, Japan establishes a general legal framework that is not relegated to secondary or special legislation. Moreover, the wording of these provisions is formulated broadly enough to extend beyond environmental resources.

This stands in contrast to the Italian approach. Although the Italian system has the merit of formally recognizing *dominii collettivi* as a legal category and linking it to constitutional values concerning the protection of both individuals, communities and society, the legal framework remains narrowly focused. Specifically, the *dominii collettivi* legislation applies only to land-based resources, recognized as functional to environmental protection. As a result, the scope of the legal recognition is limited in at least two important respects: (i) there is no protection, in the mentioned new legal framework, for non-land-based resources that may equally serve environmental purposes; (ii) there is no systematic recognition or protection, within the legal system broadly understood, for commons that are unrelated

to environmental objectives, but nonetheless essential to other fundamental interests – such as the protection of knowledge (and traditional knowledge), access to information and cultural heritage.

In any case, a major strength of this Italian piece of legislation and the subsequent case law lies in having highlighted that the constitutional principle of the social function of property, as set forth in Article 42 of the Italian Constitution, no longer operates solely through the regulation of the modes of acquisition, enjoyment, and limitations of private property rights. Rather, it also encompasses the full legal protection of collective, non-proprietary interests that nevertheless carry a real character (Albanese 2024, 4).

This recognition is significant because it opens the door to a broader theoretical generalization: that under both legislative and jurisprudential authority (at least in the Italian context) the collective utility of a resource no longer needs to be framed exclusively through public ownership (Cenini 2018, 1839-43). Instead, it can – and indeed should, according to the Italian Constitution – be also recognized through alternative configurations of interests, prerogatives, and rights. The *dominii collettivi* exemplify this shift, but they represent only one among many possible forms through which collective utility can find juridical expression outside the traditional public/private property dichotomy.

For this reason – and considering that such reflections often overlook the proprietary dimension, focusing instead, if at all, on theories of goods – a systematization of the subject matter, beginning with the paradigm of property rather than bypassing it, is deemed necessary.[37] This is particularly important in light of the role that property plays as a structuring criterion for the allocation of responsibilities and obligations (Cenini 2018, 1840).

A systematization of the phenomenon could serve three main objectives: (i) from a dogmatic perspective, it would acknowledge that the monolithic conception of property law (largely dominant and asserted within Western legal traditions) often functions more as a declaratory principle than as a reflection of legal reality, at least in certain fields and areas of law; (ii) recognizing this would promote greater legal clarity, which is essential for the circulation

37 Provided that, however, the debate on the constitutional notion of private property doesn't turn into "a matter of belief, with a substantial erosion of the margins for rational discourse", which, "in its radical uncertainty, contradicts the very idea of the normativity of constitutional law" (Gambaro 1995, 44, drawing on Rodotà 1981, 464).

and recognition of legal positions across different legal systems;[38] (iii) by shedding light on the actual, pluralistic (and more inclusive) configurations of rights and interests, such a systematization would provide the conceptual tools needed to also engage with complex and evolving phenomena related to globalization and digitalization of every human interaction – particularly in relation to knowledge as a common good (Rodotà 1981) and a critical asset for individuals, communities, and society as a whole.

Within this framework, and in light of the social function of private property, the question of whether commons fall within the domain of private property (and private law) or public property (and public law) takes on a different meaning. It ultimately depends on the role attributed to the right of exclusivity – whether it is seen as constitutive of ownership or not – and on the extent to which one adheres to the proprietarian (Piketty 2020) trend that has *de facto* taken hold in recent years.

These considerations highlight the circular relationship between the notions of commons and private property, which should not be understood as inherently opposed. Commons – thanks to their flexibility and hybrid nature – do not stand against private property *per se*, but rather against a specific, absolutist, and exclusionary conception of it, one that undermines a more equitable redistribution of resources (Mattei et al. 2023, 24). At the same time, they underscore the need to recognize, through the systematizing role of the social function paradigm (Gambaro 1995, 55), the limitations on private property as an integral component of a coherent legal framework aimed at accommodating a plurality of interests (Mattei et al. 2023, 27).

By systematically embracing the idea of property, for example, as a bundle of rights, or as an *échelle* structured around the degree of *communalité*, as theorized in French legal doctrine, can commons fully carry out the role they are called to play: that of being a vital element in "rebuilding social bonds that have been weakened or broken, and creating new ones" (Marella 2012, 11), while also advancing Rodotà's vision of the 'responsibility of wealth' in light of the interest of future generations.

38 This need is particularly urgent in contexts where public authority cannot be effectively exercised, due to the transnational nature of the challenges at stake. In such cases, private legal arrangements are called upon to play a substantive role. However, divergences between legal systems can hinder the effectiveness of the tools available to private law.

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