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## On the Multiple Varieties, Consequences and Paradoxes of the Commodification of Nature

*Abstract:* The article aims to characterise the variety of processes and mechanisms of nature commodification from a sociological perspective. Its general theoretical framework is based on Karl Polanyi's *The Great Transformation* and the economic-sociological theory of ownership, on the basis of which the social, economic and political determinants, actual modalities, and especially the intended and unintended social and ecological consequences and paradoxes of the processes of nature commodification and decommodification are analysed. This analysis (running across unilateral typologies and approaches), tries to go beyond the narrow and one-sided characteristics of complex practices of human impact on nature, taking into account both their positive and negative consequences where the robbery policy of conquering nature is mixed with attempts of protecting it.

The general theoretical argument is illustrated by concrete examples and in particular by Poland's experiences, both from the period of real socialism and the post-socialist transformation.

*Keywords:* commodification, nature, proxy commodification, Karl Polanyi, fictitious commodity, climate services markets

### Introduction

There is no exaggeration in the contention that the sociological analysis of commodification constitutes one of the most promising ways to describe social changes and tensions today. Sociologists have so far been primarily interested in the commodification of public services—especially health and education. In this article, we want to look from a sociological perspective at the processes of commodification and decommodification of nature (environment), which are becoming increasingly important in the contemporary world. We present below a general theoretical framework, using, among other things, the economic-sociological category of ownership of natural goods; we describe the main historical and social conditions and mechanisms of nature commodification processes; we try to compare the impact that the main types of ownership: private, commons, public (state) and cosmopolitan, have on the state of the environment; we also point out to various dilemmas and paradoxes of commodification. The presentation of this general theoretical approach is

illustrated by concrete examples and in particular by Poland's experiences, both from the period of real socialism and post-socialist transformation.

### **Commodification and Decommodification. Ownership and its Varieties**

Let us start with the basic categories of this analysis. We assume that a commodity is a good, i.e. a natural object, product or service, and—even more broadly—any social relationship that has exchange value and which can be bought or sold on the market. However, being a commodity is not a permanent and immanent quality of a thing, but it is an additional feature (or attribute) given to it through conscious and unconscious human actions taken under specific social conditions (cf. [Castree 2003: 283](#); [Dant 1999: 24](#)). More important than that something is a commodity, therefore, are the various processes through which it becomes a commodity (or stops being a commodity). Instead of talking about commodities, we should instead focus on commodification and decommodification processes and their various modalities. Let us list three basic cases. Commodification is the process of becoming a commodity, being assigned a price and entering the market.<sup>1</sup> Decommodification is the withdrawing from the market or providing certain goods and services or organising the given activity according to other-than-economic criteria. Both processes have their extremes. On the one hand, and much more frequently, there exist different cases of forcing or imposing commodification mostly from above, by political power and/or economic actors. On the other hand, sometimes, deliberate blocking of commodification takes place—preventing, despite various pressures, the given good from becoming a commodity. The latter is, in most cases, the effect of grassroots social self-organization. The range of possible forms of, broadly understood, commodification and decommodification processes is of course much broader (see [Ziółkowski, Drozdowski, Baranowski 2020](#)); we will use some of these forms relevant to the issues we discuss in further analysis.

The article focuses on the commodification and decommodification processes of objects belonging to the environment, i.e. nature external to the human.<sup>2</sup> We employ a broad understanding of the concept of nature, understanding it as the natural environment, both virgin, i.e. unchanged, and modified by human activity. One of the basic elements of our analysis is the category of ownership, considered not in formal and legal terms,<sup>3</sup> but in the economic-sociological perspective, for which the most important thing is to determine who benefits and who controls particular property objects ([Ziółkowski et al. 2020](#); [Baranowski 2010–2011](#); [Pels 1998](#)). When applying this approach to the study of nature commodification, it becomes important to determine how the concept of ownership of natural objects

<sup>1</sup> According to Karen Bakker, commodification can be defined as “the creation of an economic good, through the application of mechanisms to *appropriate* and *standardize* a class of goods and services, enabling them to be sold at a price determined through market exchange” ([2007: 103](#)).

<sup>2</sup> In fact, natural objects include two basic groups: firstly, objects of the external natural environment (including animals) analysed in this text and, secondly, people understood as biological organisms in which we can increasingly intervene. This second group also includes the category of labour becoming a commodity, which is key in Marxian theory.

<sup>3</sup> According to which ownership is the right of an entity, recognized in a given community, to freely and exclusively possess, use and deplete, and decide about the thing. Property subjects are divided into natural persons (i.e. specific human individuals) and legal entities (states, municipalities, enterprises, churches, associations, etc.)

emerged and formed, what are the possible types of ownership of these objects, who has not only the formal but also the actual right and possibility to perform actions that give certain objects the status of commodities (or stripping them of this status) and, finally, who in the end actually performs these actions. This determination is especially important in relation to legal persons. It should be emphasized that taking these actions may be carried out in accordance with regulations, but is very often done in a way circumventing or even breaking the law. Additional complications are caused by the volatility of the law, of the possibilities, and, finally, of the actions actually taken (cf. Ostrom 1990), despite the fact that “[a]rticulating a principled line between what can and cannot permissibly be sold is the goal of the commodification debate” (Cohen 2003: 689).

The starting point for our analysis is an environment unexposed to human activities, e.g. virgin land, natural forests or meadows, wild animals (Lucassen 2019), and, until the beginning of the 20<sup>th</sup> century, polar regions or depths of the oceans. However, from the beginning, the human species has used various elements (gifts) of nature. Hunter-gatherer societies did it first. In some cases (collecting fruit from wild-growing trees) this did not require significant and systematic effort (work), in others the necessary workload was much larger (organized group hunting). Initially, most of these goods were so abundant that it was not necessary to regulate access to them (because they were closer to the category of ‘free goods’, such as the light of the sun). The extent of human impact on nature gradually increased, through nomadic pastoral societies to settled agricultural societies, but in many cases they also functioned drawing from the traditional but effective regulations created by small communities, which prevented overharvesting of renewable goods, such as pastures or fisheries. These were based on customary law and did not require any explicit concept of ownership. This fact was later used by European colonial powers, who defined, first the land of the Americas and then Australia, as *terra nullius* (“land belonging to no one”) and stating that wild or insufficiently used land constitutes vacant land available to the first settler (cf. Hendlin 2014: 141 pass.). This notion, while imposed mainly by force, was also ideologically justified by Roman law and especially by John Locke (1988, cf. Hendlin 2014: 146–147), who in his Second Treatise declared that people non cultivating the land according to European standards do not own it, hence they do not have property rights.<sup>4</sup> It is evident that in the course of human history the appropriation, use and abuse of land and nature had preceded by far the emergence of any clear concept of ownership; one can even say that the ways of the appropriation of nature were one of the main factors that led to the creation of this concept. On the other hand, the above mentioned historical “colonial” practices of justifying and legitimizing the appropriation of land and nature clearly indicate that processes of transforming the phenomena of nature into commodities adopted very “flexible” concepts of ownership and started long before the rise of market economy.

It is not feasible here even to outline the development of the concept of ownership in general and the ownership of natural goods in particular. Let us only point out to some el-

<sup>4</sup> For example, English and Dutch referred to the notion of *terra nullius* and Roman law; while Spanish and Portuguese referred to the papal bull in the Treaty of Tordesillas of 1494. N.b. this bull, (due to a geographical error or the influence of the Portuguese who had more recent information) led to the demarcation line dividing the territories newly discovered by Columbus between Spain in the west and Portugal in the east being drawn in such a way that Portugal also received the eastern part of Brazil; which results in Portuguese being spoken in Brazil today.

ements. The concept of ownership developed gradually. Property (of the monarch, tribe, priests representing supernatural beings, various types of shared and private property) could apply to certain areas of the unprocessed environment, but to a greater extent already processed environment. These—both untransformed and transformed by humans—elements of the natural environment had use value, although initially they had little exchange value. With time, they began to be exchanged, first as part of a system based on reciprocity and late redistribution, then—as Michel Foucault pointed out—in the form of a hybrid referred to as ‘tolerated illegality’ (Foucault 1991; Baranowski 2019: 12–15), and finally as part of the early modes of proper commodity exchange.

The situation changed with the rise of the market economy, as Karl Polanyi showed brilliantly in his book *The Great Transformation*. In his conceptualisation, the category corresponding to the concept of natural environment is earth. “But labor and land are no other than the human beings themselves of which every society consists and the natural surroundings in which it exists” (1957: 75). Before the rise of capitalism, although there were market enclaves, they were additions to the economic life, they were also subject to external social regulation—by power, custom, tradition and value systems. Also, the land did not have the status of a commodity. In feudalism, its status and functions were determined by law and custom; land ownership was the source of social privileges granted by the monarch and thus the main factor determining the social structure.<sup>5</sup>

The logic of the market economy is completely different, it is an economic system based on self-regulating markets, controlled and regulated by prices. It requires markets for everything, not only for services and goods produced by people, but also for work, land and money, which are indispensable factors of economic activity and whose prices are “wages, rents and interest.” The narrow understanding of commodities is “objects produced for sale on the markets” (Polanyi 1957: 75), however, both labour and land must also be organized into markets, i.e. they must be commodified, although in reality they are not commodities. Polanyi calls them ‘fictitious commodities’ claiming that thanks to this fiction, “markets of land, labour and money,” was created, but emphasising that both land (i.e. the environment) and work defend themselves against full commodification in the dialectical process (or “double movement”) of marketization and push for social protection against that marketization.

In the following argument we adopt as a general frame of reference Karl Polanyi’s theory, which presents some visible advantages. First of all, Polanyi uses a broad category of commodification, which also includes nature (and did not focus exclusively on goods produced in the capitalist economy or on the workforce). Secondly, he also places the commodification processes in pre-capitalist forms of economy. Thirdly, he assumes that commodification does not have to be associated with private property<sup>6</sup>; this assumption seems to be particularly pertinent and heuristically prolific for the study of various modes of nature’s commodification in different contemporary societies. Moreover, the three mechanisms of

<sup>5</sup> Like the organization of work before the era of the commodity economy depended on the general organization of society, on the master-journeyman relationship, on the functioning of guilds, etc. This argument, developed by Polanyi (1957: 35–80) is followed, e.g., by Moore (2003), Orren (1991), Sweezy and Dobb (1950).

<sup>6</sup> This approach is in our view much more comprehensive and flexible than the dominant Marxist tendency to link nature’s commodification processes mainly with private property. See, e.g., the arguments of John Bellamy Foster, Brett Clark and Richard York (2010: 111) analysing “new prospects for private profits through the selective commodification of parts of nature (public wealth).”

satisfying needs distinguished in *The Great Transformation* and the notion of fictitious commodities constitute a handy instrument to characterize the risks associated with the development of manufacturing forces and to describe the role of “fictitious” markets for environmental emissions.

In accordance with Polanyi’s theory, we assume that natural objects are a special category of goods that in modern societies are subject to two opposite tendencies: on the one hand, the dominant human desire to appropriate and commodify them, and, on the other hand, social attempts to protect them and limit their commodification, which support the intrinsic “nature’s resistance” (O’Connor [1994]). In further analysis, we would like to focus on some of the conditions, mechanisms and social consequences of these two trends.

### Types of Natural Goods and Their Use

When analysing natural goods that are useful to humans, it is worth referring to two classical distinctions in economic theory, which can be formulated as the following questions (cf. Balcerowicz 2013: XIII): (1) whether a given good is excludable or nonexcludable from consumption, i.e. can unauthorized persons be excluded from use (e.g. those who have not paid for this good)?; (2) is the good subject to rival or non-rival consumption?

Most goods in the economy are excludable, but in the case of natural goods (and free ‘gifts of nature’ and goods extracted from nature by humans) there are goods that are hardly excludable or nonexcludable. It is difficult to catch a free-rider who does not spray his own orchard, but uses spraying performed by neighbours (Hankiss 1986: 45), but as IT and control techniques develop, it becomes easier and easier. Much more difficult is the opposite problem of organic farmers who cannot stay organic because all their neighbours are spraying poisonous substances around their plots of land. In this situation opting-out is virtually impossible and the lawsuits for damage are very difficult.<sup>7</sup> There are also attempts to either directly or indirectly commodify gifts of nature, charging a climate fee in spas, or organizing costly ‘sunlight’ trips to warm countries. The vast majority of goods are also rival. A pudding eaten by one person cannot be eaten by their neighbour. However, in the case of natural goods, many of them (from sunlight to birdsong) can be consumed simultaneously by many users, although the practices of limiting (and excluding) seem to have no boundaries (Foster 2000).

Both of the above criteria can be used to distinguish between private goods and public goods (cf. Labaree 1997; Trosow 2014/2015: 17–29). Some of the economists use either one criterion or the other; both at the same time are used, for example, by Joseph Stiglitz (cf. Stiglitz and Brown 1988), for whom private goods are excludable and rival in consumption, and public goods—nonexcludable and non-rival. The combination resulting from the intersection of these two criteria is as follows (table 1).

The first and basic condition for commodification of natural goods is the social acceptance of the fact that a given natural object is (or can be) someone’s property and a determination of the subject of ownership of that object. Commodification of these goods is

<sup>7</sup> We would like to thank the anonymous Reviewer for evoking this situation.

Table 1

**The Classification of Goods in Agriculture Based on Rivalry and Excludability**

	Rival	Non-rival
Excludable	Private goods <ul style="list-style-type: none"> <li>• agricultural commodities</li> <li>• material inputs</li> <li>• land,</li> <li>• labour,</li> <li>• pesticides</li> </ul>	Toll goods <ul style="list-style-type: none"> <li>• marketing and input procurement services — intelligence, information, promotion, logistics</li> <li>• management — agronomic and financial</li> <li>• intellectual property (IP)</li> <li>• regulatory compliance and reporting</li> </ul> Networks and specialized non-rival assets
Non-excludable	Common-pool goods <ul style="list-style-type: none"> <li>• environmental protection</li> <li>• generic commodity quality</li> <li>• crop insurance</li> </ul>	Public goods <ul style="list-style-type: none"> <li>• sunlight, rainfall</li> <li>• unprotected knowledge and know-how</li> <li>• public information statistics etc.</li> <li>• public infrastructure</li> </ul>

Source: Gray, Fulton, Furtan 2007: 19.

the simplest in the case of private goods that are both easily excludable and rival in consumption, and at the same time easily divisible; they are the easiest to include in market transactions and to be denied to free riders. Goods subject to various types of collective ownership are also subject to commodification. However, in this case—according to the economic-sociological concept of ownership—it is necessary to determine precisely who benefits from and who controls the objects of property, in particular who has the right to grant them the status of commodities. The basic form of collective ownership in today's world, i.e. public (state) property, can be considered to be joint ownership of all the citizens of the state (the formal and legal component), taking into account, however, the fact that individual citizens have (sometimes drastically) unequal participation in decision-making with regard to the objects of this property, and especially in the benefits obtained from these objects (the economic and social component).

This unequal share also applies to natural resources. Different countries have very different natural resources on their territories: energy resources and minerals, forests and arable land. Saudi Arabia, Canada or Norway are privileged by the gifts of nature. The rights to exploit underwater deposits and fishing zones, have been the subject of international arrangements, recently the dispute over the rights to exploit the Arctic has intensified. The exploitation of resources can be carried out by state and private enterprises from a given country, and the state authorities can also grant international corporations the rights (as a form of commodity) to exploit some of these resources. Who makes these decisions, and especially who profits from the commodification of natural resources, differs greatly from country to country, from the oil monarchies of the Middle East, through oligarchic structures in Russia, to Norway, which turns most of the profit into the social fund for the future. Water has recently become one of the most important natural resources (cf. Bakker 2007). Increasingly, access to fresh water has been the cause of international conflicts, based on the question whether one country can, e.g. by building dams and reservoirs, at the expense of its neighbours, increase the amount of water it takes from some of the regionally most important and vital rivers (such as the Nile or Jordan), and also if others can claim financial compensation for it. Within nation-states, there is a tendency to change the system

of making water available to citizens. Water, which is a commodity supplied by the state or county and a partially subsidized public good, becomes a commodity sold by private suppliers, which usually involves a raise in price (Bakker 2000, 2001). The drive to commodify natural goods resulting from market orthodoxy took an extreme form in the World Bank's decision, which made the loan granted to Bolivia conditional on the privatization of water supply, which resulted in the so-called water war (Olivera and Lewis 2004). However, as noted by Ladislau Dowbor (2009: 137), "water is a free good that becomes an economic good when it begins to run short and which, as a basic good for both direct human consumption and production processes, requires cooperative forms of use regulation." Natural goods were first treated as nobody's goods, then as essentially worthless, although already someone's (public or private) property, and, finally, an increasingly valuable commodity. Today, besides water, these commodities also include rocks and boulders (e.g. on private estates in Scotland), and to a large degree sand (some types of which are necessary for the production of concrete, and are becoming increasingly scarce). It is worth emphasizing once again that although most of the above cases are privatized first, and then commodified, public goods are also very often subject to commodification. Privatization is a phenomenon separate from commodification and it is by no means a necessary condition.

Various natural objects remain largely outside the domain of trade relations and cannot be sold, belonging to the category the Romans called *res extra commercium*—non-commercial items. This applies mainly to publicly-owned things: national territory,<sup>8</sup> natural monuments or national parks. Commodification of such public natural goods still happens, however, although often not directly (by offering them for sale), but indirectly. Indeed, maintenance and protection of natural parks or reserves requires investment, but admission costs often have to be paid. Even if some objects (mountain peaks, waterfalls, canyons, certain trees, local fauna, e.g. bison in the Białowieża Forest) are formally free, reaching them often generates significant costs—travel, accommodation, meals, additional manmade tourist attractions, which constitute the 'casing' of freely available nature. These additional paid services are very often privatized. It can be added that some of these natural objects are not only tourist attractions, but also have significant symbolic value, which further attracts visitors (Ziółkowski 2015: 212–214).<sup>9</sup> With the ongoing development of mass tourism, this generates significant profits on the one hand, but on the other hand causes increasing destruction of the environment (cf. Duffy 2014; Holden 2016).

Above the level of public ownership of individual countries can be located universal human property (or—as Alfred Marshall called it—cosmopolitan property). Today, in the era of climate crisis, this category is becoming more and more important, it pertains to issues of how to treat the Amazon or African jungles: as a commodity, owned by individual countries, subject to logging and selling, or as non-commodities of universal good ("lungs of the world"), for which all countries of the world could, for example, solidarily and proportionally pay Brazil or Congo. To tackle cross-border issues like climate change, international "rules and norms"

<sup>8</sup> It was often completely different in history. The Polish Piast prince Bolesław Rogatka in the years 1248–49 first pledged and then sold the Lubusz Land to Germany, and in 1867 the Russian Tsar Alexander II sold Alaska to the United States.

<sup>9</sup> Sometimes, certain places become a tourist attraction even when they are not particularly interesting in and of themselves. The place where the Mississippi sources are located, became first the destination of tourist expeditions, and then even underwent "national sacralization," only after it was located by researchers (cf. Nijakowski 2004).

must be created and enforced to grapple with globalized environmental degradation. It means also that nations must cede some of their sovereignty (Barry and Sims 1994: 97).

It is evident that in the present era of land scarcity and ecological degradation the understanding of ‘wild’ land as *terra nullius* which emerged during historical colonialism and entered international law is no longer tenable. It collides in particular with two contemporary tendencies: conservation and the fight for indigenous rights (Hendlin 2014: 141). Conservation in many ways tests the limits of inherited *terra nullius* assumptions, as it values—highly—precisely those lands that are fallow, unused and wild. It can lead however to some paradoxes. In Chile in the 1990s an American entrepreneur turned ecologist purchased a vast area of Patagonian rainforest and turned it over to the Chilean state for perpetual ecological protection to create a natural reserve park. Strangely enough, it was contested by government officials anxious that it handicapped Chile’s economic development (Hendlin 2014: 152). On the other hand, a critique of conservation is that “as long as undeveloped lands remain enclosed as graveyards for nature, this fosters a tacit acceptance of (1) the status quo of relationship of capital as the measure of worth of land and specific ecosystems, (2) the existence and division of separate realms of human civilization and wild nature, and (3) continuing unmitigated business-as-usual extractive land use on all tracts of land not explicitly reserved for conservation” (Hendlin 2014: 162). It could be also added that the nascent science of ecological economics played a role in converting ecosystems into a type of reductionist value recognizable by markets. (e.g., new markets of carbon credits).

In the analysis of the use and commodification of natural goods, besides the public and the private property (i.e. the state and private enterprise), there is a third category, already included in Table 1, that should be discussed, i.e. the use of resources that are jointly owned. In the extensive literature devoted to it, two historically justified terms are used. These are (1) commons, i.e. land usually used by small local communities on the basis of tradition or customary law, and (2) enclosure, i.e. a process involving the separation and takeover of such areas by private owners either by force or by legal regulations imposed by the authorities. The process of enclosure, which has been going on since the Middle Ages is considered to be one of the basic factors in the development of capitalist market economy in England, strengthening private property, allowing for increased efficiency and rationality of management, strengthening the trend to fully commodify manufactured products (consumed to a lesser extent for own needs, and mostly sold on the market). As a consequence, enclosure has a decisive advantage over customary common use.

This position also influenced economic and sociological theory, including the public choice theory. This is particularly evident in Garret Hardin’s classic 1968 text, *The Tragedy of the Commons*. By constructing an artificial model, the author shows how farmers who are not communicating and not cooperating with each other, striving only for individual profit, let additional cows into the pasture, eventually destroying the pasture. Hardin’s text aimed to show that it is impossible to reconcile individual pursuit of profit and free use of common property (especially when there is no cooperation, exchange of information or some top-down regulation) and was treated as one of the best illustrations of the emergence of social traps (cf. Hankiss 1986).

This and similar texts were often treated as evidence that the commons were economically irrational and very difficult to maintain. Gradually, however, it began to show that

the picture drawn by Hardin is inconsistent with reality. He refers not to real commons, but describes “the tragedy of unmanaged, laissez faire pool resources with easy access for noncommunicating, self-interested individuals” (Lewis Hyde, quoted by [Bollier 2014](#)). Meanwhile, in many places, the commons function quite differently they have boundaries, rules, social norms and sanctions against free riders. Such commons were analysed by Elinor Ostrom in her classic book *Governing the Commons* (1990). Here she uses the term Common-Pool Resource (CPR) referring to “a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use” ([Ostrom 1990: 30](#)).<sup>10</sup> Initially, the ‘traditional’ concept of CPR was used only for natural goods, mainly for pastures, fisheries, arable land or irrigation systems. Such CPRs function in small communities (according to Ostrom, between 15,000 and 50,000 users), using renewable resources so as not to deplete and destroy them (as happened with Hardin’s pasture).<sup>11</sup>

Comparisons of economic efficiency on the one hand, and the environmental (and socio-cultural) effects of CPR versus state-owned enterprises or private companies, is the object of fierce debate, also resulting from the adoption of different ideological options. Proponents of CPR show how harmful the cooperation of private property and the State (i.e. the Leviathan) can be to the environment. Private corporations, often with government support, rip out valuable resources from their natural context, ascribing to them the status of commodities and allowing their prices to be determined by the market. David Bollier (2014) argues that this is not just about privatization and that, in this case, contrasting private and state property does not capture the essence of the problem. Governments (i.e., some officials) are only too eager to conspire with private industries to seize control of common resources and draw profits from their exploitation. Government regulations are “too often a charade that does more to legalize than eradicate market abuses”; a charade also beneficial to the officials (either in accordance with formally adopted regulations, i.e. ‘legally’ or through their informal circumvention or corruption).

Just like the English fences used to do, now in many African and Latin American countries land seizures use the fact that their current users acted only on the basis of customary law. In Latin America a forest that provides income of several thousand local families can quickly become the weed-choked pasture of a cattleman with political connection and a government subsidy ([Nations 1992: 154–5](#)). According to Bollier (2014: 57), such strategies are being used on a large scale, because “An estimated 90 percent of the people in sub-Saharan Africa, or some five hundred million people, do not have statutory title to their lands and are at risk of eviction. Citizens of the Democratic Republic of the Congo, Northern Sudan, Ethiopia and

<sup>10</sup> In the preface to Ostrom’s book, Leszek Balcerowicz recognizes that CPR is, in fact, non-capitalist private property (like cooperative or small-scale ownership, in which the co-owners are also the co-users.)

<sup>11</sup> Let us add here that, gradually, the concept of CPR also began to apply to cultural goods, such as traditional indigenous knowledge, or intellectual property and software. However, both cases differ quite significantly. While the natural resources described by Ostrom are exhaustible, and the difficulty is in using them so that they can be renewed, in the case of most cultural goods (musical works, films) they are easily copyable (their consumption is non-rival, because many people can watch the same movie). The thing is that the production of the prototype of these copyable goods requires funding for their creators, otherwise creativity and innovation may be significantly weakened (see [Balcerowicz 2013: XIV–XV](#)). The very heated debate on the rules of access to copyable cultural goods also uses the concept of enclosure, showing how legal regulations are used to impose (sometimes justified but sometimes definitely excessive) fees for using them.

Madagascar are especially vulnerable. Worldwide, some two billion people have only customary usage rights to their lands—some 8.54 billion hectares (or 21.1 billion acres). Once their lands are seized, commoners can no longer grow and harvest their own food, draw water or hunt wild game. Enclosures are shattering their communities and cultures.”

### Nature Commodification and the Ecological Crisis

Human life and the satisfaction of human needs are not possible without using natural goods (both unprocessed and processed by humans), which in human history has increasingly led to commodification of nature. Today, in the age of ecological crisis that is a consequence of, among other things, the economic system based on the exploitation of natural and energy resources, we are increasingly becoming aware that the misuse of nature can lead to its destruction.

The awareness of the negative consequences of human handling of the environment already appeared two and a half thousand years ago (when the population was incomparably smaller than today and the commodity economy did not yet exist). Let the example be the famous fragment from Plato's *Critias* (1998), about how Athens was during the war with the Atlanteans:

“Many great deluges have taken place during the nine thousand years (...) and during all this time and through so many changes, there has never been any considerable accumulation of the soil coming down from the mountains, as in other places, but the earth has fallen away all round and sunk out of sight. The consequence is, that in comparison of what then was, there are remaining only the bones of the wasted body, as they may be called, as in the case of small islands, all the richer and softer parts of the soil having fallen away, and the mere skeleton of the land being left. But in the primitive state of the country, its mountains were high hills covered with soil, and the plains (...) were full of rich earth, and there was abundance of wood in the mountains. Of this last the traces still remain, for although some of the mountains now only afford sustenance to bees, not so very long ago there were still to be seen roofs of timber cut from trees growing there, which were of a size sufficient to cover the largest houses; and there were many other high trees, cultivated by man and bearing abundance of food for cattle. Moreover, the land reaped the benefit of the annual rainfall, not as now losing the water which flows off the bare earth into the sea, but, having an abundant supply in all places, and receiving it into herself and treasuring it up in the close clay soil, it let off into the hollows the streams which it absorbed from the heights, providing everywhere abundant fountains and rivers, of which there may still be observed sacred memorials in places where fountains once existed (...).”

The damage described by Plato was local, the ecological crisis gained momentum as a result of the creation of a world-wide market economy. Without going deeper into this issue,<sup>12</sup> let us focus on a few aspects only. First of all, it is a progressing commodification of natural goods against which for the environment it is increasingly difficult to defend. This was already stated in the 1940s by Polanyi, who said that “the idea of a self-adjusting market implied a stark utopia. Such an institution could not exist for any length of time without annihilating the human and natural substance of society; it would have physically destroyed man and transformed his surroundings into a wilderness” (Polanyi 1957: 3). Secondly, this is globalization in its standard (non-normative) meaning, as “the compression

<sup>12</sup> The problem of the relationship between economic and social development and the use of the natural environment is currently being analysed in a flood of publications from various fields of natural and social sciences as well as philosophy and ethics; it has penetrated the everyday consciousness, is the subject of ideological controversy, and, above all, is becoming the basis for political and practical and economic choices affecting the future fate of human civilizations.

of the world and the intensification of consciousness of the world as a whole” (Robertson 1992: 8), or in its evaluative meaning as “not only machinery that generates inequalities, but also a giant black hole that swallows natural and energy resources, causing huge ecological losses” (Artus and Virard 2008). Ulrich Beck (2000: 9–11) differentiates three separate, though overlapping, phenomena within this process. One of them<sup>13</sup> is—which corresponds to our line of argumentation—*globalism, i.e.*, “the view that the world market eliminates or supplants political action—that is, the ideology of rule by the world market, the ideology of neoliberalism. It proceeds monocausally and economistically, reducing the multidimensionality of globalization to a single, economic dimension that is itself conceived in a linear fashion. If it mentions at all the other dimensions of globalization—ecology, culture, politics, civil society—it does so only by placing them under the sway of the world-market system” (Beck 2000: 9). Beck thus combines the multidimensional globalization with the dominance of the world market economy and, by the same token, with the commodification of nature taking place in all parts of the world. Thirdly, this is the transition described by Beck (1992), from an industrial society (in which the modernization process is taking place) to a risk society. In the first, the main problem is the uneven distribution of wealth, in the second, how risk can be prevented or at least reduced. Ecological risk is the most dangerous. On the one hand, risk strengthens divisions: richer countries and wealthier social groups can buy security (Toussaint 2019), in the poorest groups and countries the risk is multiplied, as the work is carried out in the worst environmental conditions, and that is where ‘dirty’ technologies are sent. On the other hand, however, the risk is widespread “poverty is hierarchic, smog is democratic” (Beck 1992: 36). A sense of community of threats is created, and people are beginning to realize the relationship between nature (environment) and society, and research in natural sciences is gaining political importance.<sup>14</sup> Fourthly, environmental threats do not only affect today’s societies, but make us think about the future in terms of nature and society, i.e., the future of both the earthly environment as a whole and the interests of subsequent human generations. Of course, both of these ideas are contained in the concept of sustainable development; but both should increasingly set the time horizon of specific economic, political, social and environmental decisions taken by state authorities, entrepreneurs and international organizations.

Conjoining these four elements: the stage of the commodification of nature, globalization, risk and the need to take the future into account is demonstrated by Ignacy Sachs, who defines development as a pluridimensional concept, where “the social is in control, the ecological is an accepted constrain and the economic is reduced to its instrumental role” (1995: 1688). According to him, these goals are not contradictory, the ideal would be the triple-win (or win-win-win) situations that enable progress on all three fronts together.

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<sup>13</sup> Two other more conventionally defined dimensions are: *globality* which means that “we have been living for a long time in a world society, in the sense that the notion of closed spaces has become illusory. No country or group can shut itself off from others,” and *globalization* which “denotes the *processes* through which sovereign national states are criss-crossed and undermined by transnational actors with varying prospects of power, orientations, identities and networks” (Beck 2000: 10–11).

<sup>14</sup> In March 2020 AD, as the coronavirus pandemic spreads, it must be said that these comments are confirmed; in relation to the nature of the virus (which is “democratic”), the way information about it spreads, the reaction of societies, and to preventive measures introduced by governments.

Table 2

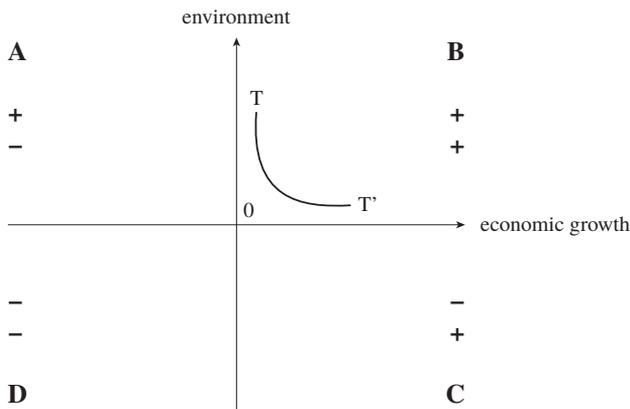
**Three Dimensions of Growth and Development**

	The Economic	The Social	The Ecological
1 Savage growth	+	—	—
2 Socially benign growth	+	+	—
3 Environmentally sustainable growth	+	—	+
4 Development	+	+	+

Source: Sachs 1995: 1684.

There is no doubt that “[e]cology and economics are increasingly interrelated at local, regional, national and global level in a solid network of causes and effects” (CNUMAD 1988: 8). It seems that this network of connections is largely determined by the shape, conditions and consequences of various processes of commodification of nature. As emphasised by Sachs (1995: 1688), in the relationship between the economic and the ecological one can find many cases of win-win situations, e.g., various types of recycling, the regenerative agriculture, and the energy strategies that considerably reduce the consumption of fossil energy and at the same save financial resources. Unfortunately, this relationship often takes on a different character.

Figure 1



In the above figure, the zero point is a neutral point, quarter D symbolizes what Sachs calls ‘hell’, quarters A and C correspond to zero-sum game, in quarter A the improvement of environment entails economic costs and reduction of economic growth, in quarter C economic growth is paid for with environmental destruction. Quarter B presents a win-win game, the T-T’ curve shows various cases of economic and environmental gains. The most important challenge would be to shift this curve to the right and up. The problem is that the situation from quarter B occurs relatively rarely, and the most common today seems to be the situation from quarter C.

To complicate this picture, one may add that the choice of new solutions in quarter A (i.e., accepting “environmental rationality”) may lead not only to economic costs, but also to

political costs, by risking discontent and unrest of those social groups which were interested in the continuation of the previous mechanisms. On the other hand, to start new ecologically harmful investments in quarter C may be done according to the logic of simplified, one-sided “economic rationality” (economic growth at any price), but also following the logic of the short-term “political rationality” (to satisfy national pride and build the sense of success).

Environmental degradation occurs within various ownership relations, both in the case of natural goods privatized and exploited by companies and corporations (also international), as well as those that are public property managed by the state. As Chris Harman (2010: 329) notes, the difference is in the ‘definition’ of those who exploit nature, but nonetheless “we live in a system which is unstable, which breeds economic crises and wars, and which is eating up the very environmental basis it stands on.” Common awareness of the need to protect the environment is a relatively new phenomenon; this problem was not noticed neither by representatives of “state capitalism” (cf. Harman 2010: 153–155); nor Christianity, which has only recently begun a deeper reflection on the meaning of the famous Biblical verse (Genesis 1: 28) granting man the right “to subdue” the earth and “have dominion” over it.<sup>15</sup>

It must be stressed that the problem of environmental protection was not noticed by Marx and early Marxists, who treated nature mostly as an inexhaustible resource. This ideology was one of the factors which strongly influenced the way the environment was treated by the countries of real socialism in the 20<sup>th</sup> century. Their attitude to the environment was, however, shaped also by additional circumstances. Trying to make up for their backwardness in relation to Western countries, they adopted (or were forced to adopt) an extensive development model, increasing coal and metal ore mining, expanding heavy, energy-intensive industry, implementing huge hydrological projects, and at the same time treating the amounts of extracted coal and produced steel or cement as a measure of economic success and a source of pride. It should be stressed, however, that they made investments and introduced production processes that were often very similar to those carried out by developed Western countries a few decades earlier, when no one paid attention to the environment. Very slowly, first environmental awareness was born—also in the West—but it was only much later that environmental factors began to be taken into account when making specific investment and production decisions.<sup>16</sup> Meanwhile, real socialist countries began to have, on the one hand, more and more production capacities and, at the same time, environmental impact, on the other, they were ‘ideologically’ ecologically insensitive. The combination of the domination of state ownership and the adopted model of extensive growth led to the fact that in many countries of state socialism (including Poland), the condition of the natural environment deteriorated drastically, and ecological disasters occurred in several

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<sup>15</sup> This new approach is developed in length especially in Pope Francis’ Encyclical “Laudato Si’ On care for our Common Home” (2015) which states clearly that man’s “dominion” over the earth must be read as a human responsibility to till and keep the Earth, where “... ‘tilling’ refers to cultivating, ploughing or working, while ‘keeping’ means caring, protecting, overseeing and preserving” (66–67). The Pope stresses as well that “Intergenerational solidarity is not optional, but rather a basic question of justice, since the world we have received also belongs to those who will follow us” (p. 159).

<sup>16</sup> This is connected to a broader problem of formulating or even imposing increasing environmental requirements on developing countries (both post-socialist and Third World countries, which the latter raise e.g. in the debate on “postcolonialism”). It seems, for example, that if such requirements had been taken into account, it would have been almost impossible to build the famous Italian motorway *Autostrada del Sole*.

places. One of the most tragic cases is the drying out of the vast majority of the Aral Sea, caused by reversing the rivers that fed it and directing them to water cotton fields.<sup>17</sup>

Let us now try, as an illustration, to present briefly the main phases of general environmental policy in Poland since World War 2 using the appropriate quarters in the above **Figure 1**. In the times of real socialism, the (mostly extensive) economic growth was accompanied by a continuous huge destruction of the natural environment, which corresponds to quarter C. This situation improved to a small degree after the beginning of transition to the capitalist economy in 1989. This improvement was, however, mostly a side effect of the collapse of the heavy, energy-intensive industry, and only partially a result of deliberate policy of the state or private investors. Only gradually new environmental protection measures were (very timidly) introduced, but it was only first the accession requirements and then the accession to the European Union in 2004 that brought about a more tangible change in this matter. Poland slowly moved to quarter B, however, its economic growth was much more substantial than the reduction of collateral environmental costs.

Poland's current situation is characterized by a visible tension between the more and more ambitious EU's climate neutrality goals and the dependence of the domestic economy on coal. The official Polish policy is based on the concept of "just transition," trying, on the one hand, to acknowledge the EU's present ecological concerns, to argue that—for some years to come—coal is not replaceable, but to outline more long-term plans of gradual development of environment-friendly economy and removable energy, and on the other hand, not to harm the current interests of some professional categories and especially Polish miners (a group with a huge "protest potential") and the standard of living of the whole coal basin region of Silesia. The overall message is therefore: we cannot afford quarter A (ecology prevails), we would like in the future to move to quarter B (win-win), but for the time being we have to slowly improve our position in quarter C (economy prevails over ecology). The present domination of C is, however, justified not only by "economic rationality," but also by "political rationality"; the current government of Law and Justice, in the face of incoming elections, has announced two gigantic and presumably "national-ego-boosting" investments: a cut-through of the Vistula Sandbar (Mierzeja Wiślana) and the construction of the Centralny Port Komunikacyjny (Solidarity Transport Hub Poland). It turns out, by the way, that the environment unfriendly commodification of nature can be decided by both public and private actors.

The analysis of the relationship between the economic and the ecological also requires consideration of certain specific mechanisms, which on the one hand enable or facilitate the commodification of natural objects, and on the other have specific consequences for both economic growth and—above all—for the state of the environment. Noel Castree (2003: 279–282) presents a list of such mechanisms. These include in particular: (1) Alienability, i.e., the capacity of a given commodity, and specific classes of commodities, to be morally separated (or detached) from their sellers. The good illustration of it is the change in over-harvesting

<sup>17</sup> This case may serve as both an illustration and an argument for the well-known August Wittfogel's (1957) thesis that so called Asiatic mode of production defined by either a despotic state's monopoly of land ownership or its control over irrigation system (mentioned by Marx in his *Preface to A Contribution to the Critique of Political Economy* but dropped in his later work) characterised not only ancient Egypt or Summer, but also 20<sup>th</sup> century Soviet Union or China.

of north Pacific fur seals; treated first as a *res nullius* resource they rapidly became disposable property, which entailed not only the physical dissociation of seals skins from seal bodies (which were left to rot on the spot) but also the alienation of these skins by local sealers to furriers in London. (2) Individuation, i.e., the representational and physical act of separating a specific object from its supporting context; only the specific hardwood trees from Amazonian forest are cut down while being separated from their immediate ecological context of other plants. (3) Abstraction, a process whereby an individual object is subsumed under the homogenous broader set of objects, which can be mutually replaced or traded-off. (4) Valuation, when an object acquires a value expressed mainly in money, and by the same token becomes commensurable with other categories of commodities. (5) Displacement, when a commodity is appearing as something other than itself; the final buyer of gold sees only the glitter of the precious metal which conceals the painful process of its extraction from nature, and its negative consequences for the environment (cf. also [Hartwick 1998](#)).<sup>18</sup>

We would also like to point to a few specific variants of commodification of nature and its environmental effects. One of these cases is the commodification of nature that is not the external environment of the human activity, but was entirely artificially produced by humans in order to enter the market as a commodity. These are, for example, chickens raised on special farms or genetically modified grain. As Jack Kloppenburg (1988) showed, cereal seeds once available to American farmers for free from the state were replaced by grains of new hybrid varieties sold to them. In turn, these varieties, which are more efficient, gave them greater profit when selling the harvest. As a result, there was a significant increase in commodification in both phases of the production process: seed acquisition and sale of crops on the market. The most famous case is the so-called green revolution of the 1960s in Southeast Asia which entailed “the introduction of new grain types dependent on big inputs of fertiliser and increased irrigation” ([Harman 2010: 321](#)). On the one hand, it has significantly increased crop efficiency and prevented chronic food shortages, but on the other, by introducing uniformity and commodification of crops, it has supplanted traditional commons for land use and traditional, very diverse and sometimes valuable local crops. One should also take into account the so-called biopiracy, the practices of appropriation of the genetic heritage of nature by large corporations, patenting individual genes and genetically modified organisms, and even entire species of wild organisms, e.g. medicinal plants, the knowledge of which is acquired from the original inhabitants of tropical countries, who as a result officially lose the rights to use their people’s traditional knowledge, developed over generations, for the benefit of large pharmaceutical companies.<sup>19</sup>

Another case concerns the situation in which the process of mining or producing certain commodified natural objects and the disposal of waste from this process causes damage

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<sup>18</sup> These mechanisms of the commodification of nature correspond amazingly to the fragment of Nobel Lecture by the Polish writer Olga Tokarczuk, the Nobel Prize winner in 2019. “As some point in our lives we start to see the world in pieces, everything separately, in little bits that are galaxies apart from one another, and the reality in which we live keeps affirming it: doctors treat us by specialty, taxes have no connection with snow-plowing the road we drive to work along, our lunch has nothing to do with an enormous stock farm, or my new top with a shabby factory somewhere in Asia. Everything is separate from everything else, everything lives apart, without any connection.”

<sup>19</sup> A commonly referenced example of biopiracy is the attempt to patent the Basmati rice variety by RiceTec from Texas ([Jamil 1998](#)).

and degradation of their environment, whose condition is not taken into account. It is not assigned any value or treated as a commodity (cf. James O'Connor 1998). Some elements of the environment suffer and are damaged precisely because they are not commodified, while other elements have become commodified. Therefore, damage to the Amazon rainforest resulting from wood harvesting by felling trees or collateral damage during the gold mining process does not count, so far the environmental costs of pollution by cars are also not included (although such attempts are beginning to appear).

In recent years, the arguably most important (and at the same time extremely interesting) problem has become the problem of commodification no longer of products extracted from nature, but of the damage caused in nature. These are, for example, soil sterilization in agriculture, mining damage, slag heaps, waste tanks. One can attempt to estimate this damage and treat it as a kind of commodity, and public authorities may demand compensation, for example from private mining companies, or car companies that falsify the software showing the level of emissions in their vehicles. This damage commodification can take two different forms. Commodification of actual damage occurs when the perpetrators of damage pay to the authorized owners of the area (e.g. the state or municipality) certain ascribed amounts, or remove some of the damage at their own cost (e.g. utilizing waste). However, there is also *proxy commodification* of damage (Castree 2003: 285), when an artificial market is created for incidental damage, establishing rights to cause harm (e.g. greenhouse gas emission rights or 'green certificates'), and these damages—both already made and anticipated—are subject to valuation and can be traded. It is a mechanism used especially in all international climate agreements, beginning with the Kyoto Protocol. The public discourse usually emphasizes that this mode of pollution control is in the common interest (both the environment and the humanity). In economic-sociological approach, however, it should be taken into account that this creates a market-based environmental policy instrument that is pragmatically used by various stakeholders in various ways. Lohmann writes (2014: 175), "if there is to be market in CO<sub>2</sub> emissions reductions, someone must 'produce' them, and someone must buy them. To put it another way, if there is to be a market in greenhouse gas pollution dumps, someone must make them scarce, someone must 'own' them, and someone must 'rent' them." Thanks to the emergence of the market for rights to damages, there emerges a group willing to buy them (if it is cheaper for them than, e.g. environmental investments or production reduction) and a group interested in selling them (e.g. because they are such small-scale producers they will not reach the limit). On the one hand, thanks to the damage rights market, certain pro-environmental activities can be delayed. On the other hand, it can also be seen that the marketization of future damages can also be an effective mechanism to mobilize more pro-environmental calculations of business strategies.

It is undoubtedly a paradox that the declared protection of nature takes place by means of its commodification, which requires the creation of a market based on some system of valuation of individual damages. This system will always be more or less arbitrary and take into account the unintuitive technical premises pertaining to the molecular structure of anthropogenic pollution, specific economic costs, and the more difficult to calculate local and supralocal environmental damage, and the even more difficult to estimate the impact of such damage on the general well-being of people. It also creates a gateway for potential abuse, use of political strength and arguments, and emergence of international free riders. The

most visible effect of proxy commodification are, for now, the complicated and politicized so-called climate services markets, which in themselves are an emanation of the purest form of market commodification. As a result, nature, or rather its current and future pollution, becomes a commodity in which valuation and circulation involves thousands of people.<sup>20</sup>

Proxy commodification can sometimes be seen as the preliminary step to the real commodification of damage. Of course, not all negative environmental consequences, even if they are becoming more and more clearly understood today, can be even roughly estimated, not to mention the creation of a market for proxy commodification of damage. This applies, for example, to biodiversity destroyed by mono-crops (cf. [Costanza et al. 1997](#)), as well as the protection of endangered animal species (although in this case the growing penalties for poachers constitute a certain substitute for ‘negative commodification’).

It becomes apparent, therefore, how difficult in practice it is to meet the abovementioned ideal of connecting the three dimensions of development: the social, the economic, and the ecological (cf. [Paton and Bryant 2012: 87–88](#)).<sup>21</sup>

### Conclusions

The analysis of the processes and mechanisms of commodification (and decommodification) of nature requires a multidisciplinary approach. On the one hand, it must take into account elements of natural sciences (describing the state of the environment and individual natural resources that are used, depleted and destroyed by humans), and, on the other hand, elements of several social sciences, in particular economics, political science, sociology, and even cultural studies.

The outline presented in this article focuses on social factors, emphasizing in particular the role of the structure of ownership of natural goods (from cosmopolitan and state property, through commons, to private property), control mechanisms and decision-making pertaining to the commodification or decommodification of natural goods and actual their use, and, finally, the social and political determinants of contemporary efforts to reduce environmental degradation and related problems (e.g. regarding valuation and liability for damage caused now and in the future). It seems that this approach allows us to properly identify social determinants, actual modalities, and especially the intended and unintended, and sometimes paradoxical consequences of the commodification and decommodification of nature. In particular, applying the combination of Karl Polanyi’s approach and the economic-sociological theory of ownership to the analysis of commodification and decommodification and its modalities, allows us to see deep tensions in the normative and practical strategies of treating nature by different institutional actors. Simple juxtaposition

<sup>20</sup> “Tens of thousands of experts, traders, bankers, lawyers, accountants, consultants, and bureaucrats working in a US\$100 billion-plus global market setting fuel emission proxy factors, commenting on carbon project design documents, formulating schedules and criteria for payments for forest conservation certificates, making submissions to UN carbon market regulators, hedging investments, buying land, tallying molecules, balancing accounts, establishing ownership, and discovering prices continually produce and reproduce deresponsibilization in each of the offices and arenas they work in” ([Lohmann 2014: 177](#)).

<sup>21</sup> It is very difficult to properly value for example “carbon credits which are abstracted from many of the ecological processes of the natural climate system as well as its interrelations with human collectivities” ([Paton and Bryant 2012: 100](#)).

of private versus public is clearly insufficient to explain neither their ideological positions nor their actual practices.

Let us evoke once again some of the complications and paradoxes. Traditional Christian conservative and early Marxist ideologies represent a similar attitude towards nature. Numerous mechanisms perceived as formally pro-ecological (e.g. market in CO<sub>2</sub> emissions reductions, etc.) contribute in fact not only to the utilitarian treatment of nature, but also even to its more extensive exploitation. On the other hand, sometimes commodification of nature serves in fact as its protection. Polanyi's theory of nature as a fictitious commodity acquires an additional new sense in the analysis of the proxy commodification of damage and creation of emission trading markets.

Last but not least, not only private corporations (as some contemporary Marxist theorists would advocate) but also states (capitalist, socialist, post-socialist and post-colonial) can be blamed for environmental degradation. Also, both, some corporations and some states, together with some NGO's, implement from time to time some good pro-ecological solutions. In particular, this contention makes it possible to argue that in the context of human treating of nature there is no fundamental difference between real socialism and the capitalist market economy as distinctive wholes but—as the case of Poland clearly indicates—similarities and differences are much more complicated cutting across the main divide. Since in both socio-economic systems “development means more roads, more industry, more waste, more commodification of everything; in short: more profits” (Williams 2010: 8), the main problems and challenges are similar irrespective of the general ownership structure. In the case of every decision concerning environment, one of the key issues is to assess the weight of four types of rationality: ecological, economic, social and political.

We are aware that our analysis does not address many important problems that deserve separate deliberation, in particular the way the deep tensions in the ‘human / nature relations’ manifest themselves in public discourse (Macnaghten, Urry 1998: 8), not only in the short term, but especially in the long term. According to William Thomas' (1967: 42) famous theorem, the ways of perceiving, justifying and legitimizing commodification or decommodification processes are sometimes as important as these processes themselves.

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