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Property Rights, Entrepreneurship and Public Policy: A Review from Classical Liberalism

Derechos de Propiedad, Empresarialidad y Políticas Públicas: Una revisión desde el Liberalismo Clásico

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ABSTRACT: This research describes how Market Ecology constitutes the basis for understanding and implementing efficient and innovative actions for the Conservation of Natural Resources. Basically, through this article, it will be understood that the ideas of freedom, the market, and a public policy that promotes the entrepreneurial function, are the basis for protecting, managing, and caring for those beautiful spaces, full of life and nature, that we appreciate so much.

KEYWORDS: market ecology, property rights, entrepreneurship, public policies.

RESUMEN: Este artículo describe cómo la Ecología de Mercado constituye la base para entender e implementar acciones eficientes e innovadoras de Conservación de los Recursos

Naturales. Básicamente mediante el presente trabajo se entenderá que las ideas de la libertad, el mercado y una política pública que fomente la función empresarial, constituyen la base para proteger, gestionar y cuidar esos espacios hermosos, llenos de vida y naturaleza, que tanto apreciamos.

PALABRAS CLAVE: ecología de mercado, derechos de propiedad, empresarialidad, políticas públicas.

JEL CODE: G18, H82.

INTRODUCTION

Market Ecology is a theoretical approach that began to be conceived in the 1980s by a group of young economists (Terry Anderson, John Baden, P.J. Hill, and Richard Stroup) around the *Property and Environment Research Center (PERC)* in Bozeman, Montana, an institution founded by these professionals to investigate how markets can improve environmental quality.

According to Anderson (1993):

> At its core, Market Ecology is based on a system of well-defined property rights over natural resources. If these rights are in the hands of individuals, corporations, non-profit environmental groups, or communal groups, a discipline is imposed on resource users, because the wealth of the owners of the property rights are at risk if wrong decisions are made. Of course, the further a decision is removed from this discipline - as is the case when there is political control - the less likely it is that resources will be properly managed. Moreover, when well-defined property rights are transferable, owners must consider not only their value but also what others are willing to pay for them. (p. 32)

Market Ecology is fundamentally based on an adequate definition of property rights as the basis for guaranteeing property owners the incentives to develop initiatives to protect natural resources. Well-defined and transferable property rights generate positive incentives for people to act in an environmentally friendly manner. In this sense, this article addresses the implications of peaceful interaction between property rights, entrepreneurship, and public policies to achieve sustainable preservation of the environment.

1. PROPERTY RIGHTS AND PRODUCTIVE ENTREPRENEURSHIP

In addition, an adequate definition of property rights motivates owners to develop their Business Function, i.e., to carry out the necessary actions to enhance the value of a given area with valuable natural resources. In the case of natural resource conservation, having properly defined property rights encourages the owners of these areas to promote business initiatives such as ecotourism, biodiversity research, or other options that generate economic benefits for them.

Property rights form the basis of the theoretical approach to Market Ecology, as indicated by Anderson (1993):

> The approach to property rights over natural resources admits that such rights imply a dependence on the benefits and costs derived from their definition and application. This calculation depends in turn on variables such as the expected value of the resource in question, the technology of measurement and control of property rights, and the moral and legal usages that condition the behavior of the acting parties. At a given point in time, property rights will reflect the perceived benefits and the costs of definition and enforcement. (p. 56)

In this conceptual framework, we can find several elements that distinguish property rights. First, we see that property rights generate information on the benefits and costs to be considered by individuals, entrepreneurs, and communities wishing to protect the natural resources of their respective territories.

In simple terms, environmental entrepreneurs will feel more confident in promoting ecotourism, research, or recreation project within their respective properties if they have information on the benefits they will achieve through certain costs. Likewise, they will be able to evaluate the generation of partnerships with other actors that complement the business initiative they wish to undertake. For example, a community that has information on the benefits and costs involved in protecting a given resource will evaluate the convenience of partnering with a tourism entrepreneur to preserve an area with beautiful natural scenery. In conclusion, a definition of property rights allows owners to have "Information".

Without defined property rights, environmental entrepreneurs will never have the necessary "information" to make decisions or undertake a business initiative that protects natural resources. But the issue of property rights in the environmental field is not only about the production of information on benefits and costs, but a clear definition of property rights in addition to the generation of "Information" also allows for cooperation between individuals. In other words, defined property rights prevent the emergence of conflicts between two individuals who wish to use the same natural resource for different purposes.

As Cordato (2004) points out:

> Irresolvable inefficiencies, i.e., inefficiencies that cannot find a solution in the business operation of the market process, arise due to institutional defects associated with a lack of clearly defined or well-enforced property rights. In a situation where rights are clearly defined and strictly enforced, plans may conflict, but the resolution of that conflict is implicit in the exchange process. In other words, the conflict may appear in the planning stages, but it is resolved before the actors proceed to implement those plans. (p. 8)

As we can see, an adequate definition of property rights resolves conflicts that may arise between two actors. For example, if a community has an area with flora and fauna resources but does not have clearly defined property rights over the area in question, another invader or extractor of natural resources will enter and deforest the forests in that territory without caring about the damage caused to the community, creating a conflict scenario that will pit the community against the illegal logger who wishes to deforest the forest.

However, if in the above case there were a clear definition of property rights backed by an institutional level, the conflict would not arise. On the contrary, new forms of cooperation would develop between the community and the illegal logger since it is very likely that an exchange or cooperation could emerge between both actors through some business alternative. In the end, the illegal logger could become a timber buyer and the community would undertake the cultivation of timber trees for commercial purposes. But alternatives such as these will only emerge if there are clear institutional rules that guarantee defined property rights.

In this sense, a clear definition of property rights that generates conditions to protect and efficiently manage natural resources implies the development of clear Institutions or institutional rules. In other words, as Anderson (2014) indicates:

> By Institutions, we mean the rules that govern the way people interact with each other. More specifically, property rights are those that determine who should use resources (including natural resources, capital, and labor), how other resources could be used, and whether these could be exchanged. (n. p.)

These institutional rules must have two fundamental characteristics. First, they must be accepted by the stakeholders who wish to conserve natural resources and, second, they must be supported by legislation or public policy. Otherwise, if the public policy goes against the institutional rules that emerged from the free agreement of the stakeholders interested in conserving natural resources, the environmental undertaking to conserve these resources will not be fulfilled and cooperation will be replaced by conflict and the destruction of biodiversity-rich territories.

As Anderson (2014) points out:

> When property rights are dictated by central authorities with a minor stake in the outcome, time and effort are usually wasted in the process of creating property rights, so productive investment suffers. Just as technological change is generally incremental rather than discontinuous, effective institutional change evolves slowly, taking into account specific conditions of time and place. (n. p.)

As we can see, property rights have an evolutionary nature, especially regarding the conservation of natural resources. Since property rights are institutional rules governing the exchange between two actors, the emergence of property rights will depend on the work of institutional entrepreneurs to create new ways of establishing clearly defined property rights. The solutions proposed and implemented by these entrepreneurs will be based on information about time and place.

In this sense, the evolving nature of property rights develops according to the new challenges that institutional entrepreneurs must face to guarantee the use of a given natural resource. These entrepreneurs promote new institutional rules that make it possible to use and enhance the value of a given territory rich in biodiversity.

In this context, the work of institutional entrepreneurs is fundamental, since they, in an environment of freedom and cooperation, create rules to be able to exchange, trade, and protect certain natural resources. For example, if a farming community wishes to establish agreements with environmental entrepreneurs, it will need to establish clear rules of exchange based on clearly defined property rights, such as contracts, delimitation of areas, traditional systems of area protection, technology to establish property boundaries, among other innovative initiatives that will only come from the actors directly involved.

As Anderson (2014) points out:

> It is easier to understand the importance of institutional entrepreneurs in a context that tests their ability to prevent the *tragedy of the commons*. The tragedy of the commons occurs when there are no limits to accessing a

> resource, resulting in overexploitation of the resource. The most typical example is the overgrazing of village commons. If customs and traditions do not limit access to pastures, individuals will exploit them irremediably, and the entire pasture will be devoured by livestock. The entrepreneur who can develop rules to restrict grazing will gain part of the increased value of the pasture. Thus, their value will not dissipate, something that does happen through the tragedy of the commons. (n. p.)

As we can see, the work of institutional entrepreneurs is fundamental to addressing the tragedy of the commons, as institutional entrepreneurs can develop innovative initiatives to create institutional rules to define property rights to conserve natural resources. The work of the owners of biodiversity-rich areas, be they individuals, NGOs, entrepreneurs, or communities, in defining property rights is fundamental to undertaking innovative initiatives to conserve nature.

However, the success of institutional entrepreneurs will depend on public policies not affecting the free development of their initiatives. That is, given that public policies are generated by officials who do not have information on time and place, the application of these policies may generate a risk that blocks the initiatives of these environmental entrepreneurs. As Anderson (2014) points out:

> Although formal property rights, norms, and laws may be important in determining economic prosperity, their effectiveness in promoting harmony depends largely on how formal rules interact with informal institutions. Custom and traditions can be decisive factors in the

process of growth. (n. p.)

For these reasons, the Market Ecology approach highlights the importance of the work of institutional entrepreneurs and the application of their knowledge (customs and traditions) when defining property rights and the danger of a public policy that goes against the free development of these private initiatives that seek to conserve natural resources.

In this regard, it is key that public policies only focus on guaranteeing property rights or developing institutional rules that allow landowners to undertake natural resource conservation initiatives. As Cordato (2004) mentions "if legal institutions, instead of making it more expensive to establish private property rights, stimulate them, markets can develop recreational spaces and pleasant environments in the same way that they provide traditional products" (p. 235).

Likewise, Larraín (1995) indicates that an:

> In-depth examination of the solution to environmental problems leads us to suggest that the adequate response is not indiscriminate regulation, which is usually advocated. On the contrary, a more efficient solution, in terms of resource allocation and even environmental objectives, can be achieved through the definition of property rights where they do not exist. These, together with a competitive market, allow for greater care of the environment in a process of economic growth. (p. 17)

In this sense, a definition of property rights allows owners of biodiversity-rich land to obtain economic benefits from initiatives that conserve nature. This means that an adequate definition of property rights reduces the transaction

costs involved in protecting a natural resource, as Anderson (2014) points out:

> Institutions that elucidate existing property rights, or create them when needed, also reduce transaction costs through the oversight and protection they provide. For example, rules for branding cattle with iron caused their market to be more efficient, and land inspections and records made property transfers cost less. (n. p.)

Property rights provide landowners with tangible benefits expressed in lower transaction costs and income generation. These benefits become the incentive for landowners, whether they are individuals, communities, NGOs, or entrepreneurs, to undertake conservation initiatives such as ecotourism, recreation, and nature research, among others. However, this incentive or stimulus will be blocked when public policies that go against the property rights of these actors are implemented. In this situation, the owners will not feel confident about obtaining benefits and therefore economic progress will dissipate.

On this point, Anderson (2014) tells us that "rules that restrict exchange discourage profitable business and encourage conflict. And laws that prevent private property can cause rents to disappear, as happens with overgrazing, uncontrolled fishing, or overexploitation of resources. All these types of rules create artificial transaction costs" (n. p.). For that reason, public policies should only focus on guaranteeing the exchange and ownership of natural resources held by owners of biodiversity-rich land. Only in this way will transaction costs decrease, and benefits increase.

Anderson (2014) summarizes this point with the following sentence:

> By focusing on transaction costs and how they relate to different institutions, we can better understand the origin of cooperation and prosperity. When property rights are well defined and adequately protected, markets promote gains from trade and encourage more efficient use of resources. However, when property rights are not well specified not protected, valuable resources vanish, as people will then compete to obtain the rents from unique resources. (p. 542)

On the definition of the Entrepreneurial Function, Professor Huerta de Soto (2015) tells us the following:

> In a general or broad sense, the entrepreneurial function coincides with *human action* itself. Moreover, it could be stated that the entrepreneurial function is exercised by any person who *acts* to modify the present and achieve its objectives in the future. Although at first sight, this definition may seem too broad and not in line with current linguistic usage, it must be borne in mind that it responds to a conception of entrepreneurship that is increasingly elaborated and studied by the economic sciences and that, in addition, it is fully in line with the original etymological meaning of the term company. Both the Spanish expression "empresa" and the French and English expressions *entrepreneur come* etymologically from the Latin verb *in prehendo-endi-ensum*, which means to discover, to see, to perceive, to realize, to catch, and the Latin expression *in prehensa* carries the idea of action, it means to take, to grasp, to do. In short, the enterprise is synonymous with action.

> Now, the meaning of enterprise as action is necessarily and inexorably linked to an entrepreneurial attitude, which consists of continually trying to seek, discover, create, or realize new ends and means. (p. 41)

Therefore, adequate development of the entrepreneurial function depends to a great extent on an adequate definition of property rights, i.e., if the rights over territory or area cannot be definable, defensible, and transferable, its owner will not have the motivation to invest money, time and work that will allow him to achieve a personal purpose or benefit. In this respect, the entrepreneurial attitude will only awaken when the individual has the security that the resources he invests will be protected by a contract, document, or legislation. In simple terms, this condition means having property rights.

For this reason, the conservation of natural resources, or specifically the conservation of an area that has valuable flora and fauna resources, will depend on well-defined property rights over this area, and this implies that the owner, be it an individual, businessman, NGO, or community, has the security to choose what actions to take over the natural resources under his ownership. For example, renting, selling, or transferring this property to another interested actor. If these conditions exist, the owner will be motivated to undertake or create business initiatives to obtain economic benefits in line with the conservation of natural resources.

In this respect, Professor Huerta de Soto (1994) indicates that:

> What is important is to put into operation the entrepreneurial processes aimed at solving the problems. This means that concrete and specific

> technical recipes cannot be given, since they will have to be discovered, considering the circumstances of time and place of each environmental problem by the force of the entrepreneurial function, in a context of free enterprise and correct definition and defense of property rights. (p. 225)

As Professor Huerta de Soto (1994) points out, the development of the entrepreneurial function allows the use of time and place information, that is, information that is only available to individuals who are in the area, either because they live in the area or because they have direct contact with the area. For example, if a community owns an area rich in natural resources and there is also a group of professionals in the area who wish to join the community to conserve those natural resources, then both actors have the knowledge to undertake more creative and efficient actions on how to conserve those natural resources (ecotourism, research, or recreation). This knowledge of time and place cannot be replaced by the knowledge of some state authority or technician who is not in the place and even less so who does not have the property rights to the area in question.

2. FREE-MARKET ENVIRONMENTALISM IS BASED ON PRODUCTIVE ENTREPRENEURSHIP AND ENTREPRENEURSHIP

As Anderson (2015) points out:

> Free-market environmentalism relies on entrepreneurship as a driving force that is to reduce the costs of defining, enforcing and negotiating property rights so that resources can be used more efficiently. This way of thinking follows the work of Nobel Laureate

> Friedrich Hayek whose ideas are compared to those of Charles Darwin. Hayek saw markets as processes in which demanders and suppliers continuously responded to changing price signals in the same way that Darwin saw species taking advantage of empty niches. Thus, both markets and ecosystems are bottom-up systems that cannot be managed from the top down. Matt Ridley captured the similarities between Hayek and Darwin, saying that both markets and nature are spontaneously self-ordering through the actions of individuals, rather than ordered by a monarch or parliament. (p. 13)

For these reasons, Market Ecology is not only based on an adequate definition of property rights and the development of the entrepreneurial function, but also on the influence that public policy can have on both points. For example, if the public policy does not guarantee landowners their property rights and instead violates them, these landowners will not be able to develop their entrepreneurial function or undertake creative initiatives to conserve natural resources. Infringement of property rights by the State means that the State is promoting policies that do not allow owners, be they individuals, entrepreneurs, NGOs, or communities, to define, defend or transfer their property.

This negative influence of the State is reflected in concrete actions such as the political distribution of property rights, i.e., when the State grants rights to various agents over the same territory, regardless of whether these rights conflict. For example, in the Peruvian Amazon, the State has granted property rights over the same territory to communities, mining concessions, settlers, and forestry concessions, among others,

causing what is called “overlapping property rights”.

In places where this overlapping of property rights is evident, the incentives for landowners to develop nature conservation initiatives are lower, and this is evident because property rights in these areas are not adequately defined, creating a situation of conflict, and blocking the development of the landowners’ entrepreneurial function.

Another action by the State that blocks the development of the business function is expressed in the public ownership of territories rich in biodiversity. In this regard, it should be noted that in many parts of the world, areas characterized by particularly valuable flora and fauna resources are protected by the State under the model of national parks or simply as public property. In the case of the Peruvian Amazon, more than 60% of this territory is owned by the State, a situation that has not allowed the development of private initiatives in this territory, except for a few experiences such as the Conservation Concessions and Ecotourism Concessions that we will explain below.

It is evident that one of the obstacles to achieving an adequate allocation of property rights has been the State itself, which, in its eagerness to protect natural resources through the formula of public goods, has given rise to two visible consequences: a) the monopolization of land and b) the origin of negative externalities due to the excessive eagerness to create protected natural areas that in the end it cannot control and monitor.

The influence of the State in the definition of property rights plays an important role in the development of private initiatives for the conservation of natural resources. For

example, if a landowner does not have legal security from the State that provides guarantees to protect his property rights, he will never consider the conservation of natural resources as an end, since he will not have the necessary incentives to devise or undertake market solutions for the conservation of biodiversity.

Likewise, if the State monopolizes lands of great value in flora and fauna (Amazon) under the modality of public property, businessmen, NGOs, communities, or other actors will not be able to enter these areas to create efficient nature conservation proposals, since they will not have recognized property rights.

For this reason, the Market Ecology approach seeks to study the relationship between property rights, entrepreneurial function, and public policy influence. The entrepreneurial function is another component of Market Ecology, and its development depends closely on a clear definition of property rights. In other words, if property rights are clearly defined, environmental entrepreneurs will have the incentives to promote initiatives that conserve natural resources.

As we indicated in the previous point, a clear definition of property rights provides landowners with the security to establish medium and long-term plans that seek to conserve natural resources. This security allows landowners to find strategic partners such as entrepreneurs or institutions interested in ecotourism, conservation, and biodiversity research.

But the key point that motivates landowners to implement their business function is the "information" produced by the defined property rights and this "Information"

is expressed in the *costs and benefits* that the landowner comes to know to be able to define his plans, actions, and decisions in the face of future risks involved in undertaking a biodiversity conservation initiative.

In this regard, Huggins (2013) indicates that:

> Property rights provide the basis for a market economy. Without private property rights there would be no exchange, without exchange there would be no prices, and without prices, there are no clear signals to transmit information to consumers and producers. The three *Ps* of *Property, Prices, and Profit*/losses, provide the three I's of a dynamic economy of *Incentives, Information, and Innovation*. (p. 9)

In a broader context these elements: ownership, pricing, profit/loss, incentives, information, and innovation relate to three basic aspects that characterize the individual or environmental entrepreneur. These three aspects are *Human Nature, Knowledge, and Processes and Solutions.*

Regarding ***Human Nature***, which is the first aspect that characterizes the environmental entrepreneur who exercises the entrepreneurial function, Anderson (1993) indicates that "free market ecology considers that man is interested in himself", in that sense, "the good management of resources depends on how social institutions manage to set in motion their interests through individual initiatives" (p. 33). This means that to foster the development of the entrepreneurial function it is important to understand that individuals respond to their ends and seek the means to achieve those ends, in that sense, if the rules or institutions foster a context for landowners rich in biodiversity to achieve their ends, they will

seek the most creative and innovative means to achieve their end or personal interest.

On this point, we must consider that, in the field of natural resource conservation, there are owners (individuals, entrepreneurs, or communities) who are interested in conservation. There are also investors, researchers, scientists, and international organizations that are also interested in achieving this objective. Consequently, all these actors have a common goal, which is to "protect natural resources". Now, if government institutions and regulations foster the conditions for these actors to achieve this goal, cooperation will immediately develop, and each of these actors, either individually or in association, will seek the most creative and innovative alternatives to achieve this goal.

These creative and innovative ways will depend exclusively on the information of time and place available to each of these actors, therefore, only they will be able to undertake innovative initiatives to conserve natural resources. These environmental actors or entrepreneurs will be able to fulfill their interests by generating new forms of conservation of natural resources. This new knowledge will serve as an example or inspiration for new entrepreneurs who will improve the processes towards better management of nature.

In this sense, *Knowledge becomes the seco*nd aspect that characterizes the environmental entrepreneur, in this respect, Anderson (1993) tells us the following:

> The free-market ecology considers that the gap between the knowledge of an expert and the average individual is much smaller. From this point of view, individual private owners are in a better position and

> have greater incentives to obtain time- and place-specific information about their resources and to manage them than centralized bureaucracies. (p. 34)

This means that the *information or knowledge* that the owners of biodiversity-rich territories have is more useful than the information available to a public official who wishes to promote an environmental policy. This is because landowners are much closer (in time and place) to the natural resources. In this regard, Huerta de Soto (2015) tells us that this information and knowledge that forms the basis of the business function is characterized by six key aspects:

Subjective knowledge of a practical, non-scientific type: "It is all that which cannot be represented, in a formal way, but which the subject acquires or learns through practice, that is, through human action itself in its corresponding contexts" (n. p.). In the case of natural resource conservation, the landowners have local knowledge about the traditional use of natural resources, for example, many of the landowners know very well the traditional use of plants, places for bird watching, trails to walk through the area, and other local knowledge about the natural resources found in their territories.

Privative and dispersed knowledge: "Each man who acts and exercises the entrepreneurial function, does it in a strictly personal and unrepeatable way since he starts from reaching certain ends or objectives according to a vision and knowledge of the world that only he possesses in all its richness and variety of nuances, and that is unrepeatable in an identical way in any other human being" (n. p.). In the case of nature conservation, each of the owners, whether they are individuals, community members, or entrepreneurs, has a unique knowledge of their goals and the means to achieve these goals. For example, if the

landowners' goal is to conserve the natural resources of their land, they will implement the most creative and innovative means to achieve these goals (ecotourism projects, research, and other innovative initiatives).

Tacit and inarticulable knowledge: "The actor knows how to do or perform certain actions but does not know what the elements or parts of what he is doing are, or whether they are true or false. For example, the set of habits, traditions, institutions, and norms that constitute a law, which the individual obeys without theorizing on their content" (n. p.). In the case of nature conservation, communities have institutions, traditions, and norms that form the basis of their organization and become the strength when managing a natural resource conservation initiative.

The knowledge that is created ex nihilo, out of nothing, through the exercise of the entrepreneurial function: "The creative character of the entrepreneurial function is embodied in the fact that it gives rise to entrepreneurial profits, which, in a certain sense, arise out of nothing. It is enough for individuals to become aware of misalignments or miscoordinations among other individuals and immediately find the opportunity to obtain an entrepreneurial profit" (n. p.). In the case of natural resource conservation, the owners of land rich in biodiversity identify the conservation option as an alternative to obtain economic income, for this reason, they seek alternatives to obtain these benefits by promoting business projects such as ecotourism or biodiversity research.

Transmissible knowledge: "The creation of information simultaneously implies its transmission in the market. To transmit something to someone is to make that someone generate or create in his mind part of the information that

we created or discovered previously. Prices are a powerful means of transmitting information and respond to a subjective valuation set by the actors" (n. p.). In the case of natural resource conservation, the defined property rights of land rich in biodiversity generate incentives for landowners to coordinate with other professionals or investors interested in nature conservation. This coordination takes place through the prices assigned by the landowners to the services that their area can offer, such as lodging, viewpoints, lodges, landscapes, and biodiversity, among other services.

The knowledge that generates learning and coordination: "The actors that communicated through the entrepreneurial function learn to act in a coordinated way, that is, in the function of the other human being. Consequently, without the exercise of the entrepreneurial function, the economic calculation that is based on the information that is necessary for each actor to adequately calculate or estimate the value of each alternative course of action is not generated" (n. p.). In the case of private conservation areas, coordination among the stakeholders involved, whether they are owners, investors, or users, is one of the strengths of undertaking a natural resource conservation initiative. For example, the joint work between a community and a tourism entrepreneur has made it possible to combine traditional knowledge with professionals and thus develop sustainable initiatives on private natural resource management.

As we can see, "knowledge" is one of the key elements of the entrepreneurial function, especially the knowledge of the owners or stakeholders directly involved with biodiversity-rich areas. Although the knowledge of *time and place* that these actors have is the basis for undertaking innovative initiatives

on natural resource management, this condition alone does not guarantee the development of successful environmental ventures.

In addition to "knowledge", it is necessary to develop a third element that sustains the entrepreneurial function, this third element is constituted by ***the Processes and Solutions*** that institutional entrepreneurs put into practice when creating rules, norms, and contracts that allow defining property rights over biodiversity-rich territories.

The planning of new institutional solutions constitutes the most tangible expression of the processes developed by entrepreneurs to establish rules that allow defining property rights. In the development of these processes, the innovative solutions they plan to address the tragedy of the commons and promote productivity. In this context, institutional entrepreneurs reorganize existing property rights or define new rights needed to obtain benefits from the conservation of natural resources.

However, if institutional entrepreneurs, instead of reorganizing or defining property rights, opt for the option of redistributing property rights, productivity will be reduced, and conflict will arise. For example, in the Peruvian Amazon, the State has redistributed property rights under a political criterion. This situation has caused an overlapping of property rights and a continuous conflict, since on the same territory there are several types of properties such as mining concessions, protected natural areas, forest concessions, and communal lands, among others. In such a context, it is normal that conflicts to arise and innovative solutions to conserve natural resources are blocked.

For this reason, the work of institutional entrepreneurs in defining rules and contracts that reorganize and define property rights is key to the emergence of the entrepreneurial function. As Anderson (2014) indicates:

> Institutional entrepreneurs are motivated by achieving high returns. Such perceptions require the entrepreneur to establish control over productive resources: labor, capital, and land. The entrepreneur is first and foremost a *contractual innovator* who must find ways to capture the value generated through the creation and reorganization of property rights. (n. p.)

The task of institutional entrepreneurs is to find a balance between increasing business benefits and the costs of defining and monitoring property rights to biodiversity-rich areas. Consequently, when entrepreneurial action finds the most innovative ways to establish property rights, it results in increased rents and decreased costs associated with monitoring conservation areas.

In most cases of private conservation of natural resources, the solutions to the problems of defining property rights were initiated by the private sector and not by the state sector. For example, in the Peruvian case, legislation on private conservation arose after the initiatives of institutional entrepreneurs, which shows that the knowledge of the owners (individuals, communities, entrepreneurs, NGOs) of lands with valuable natural resources, are the ones who can undertake the most innovative solutions to manage and conserve these territories.

In this regard, Anderson (1993) tells us that:

> Entrepreneurial imagination is of fundamental importance to Free Market Ecology because it is in areas where property rights are evolving that resource allocation problems arise. When entrepreneurs working with ecological resources can discover ways to market these values, market incentives can have dramatic results. It is important to recognize that any instance of external benefits or costs is fertile ground for an owner capable of defining and enforcing property rights. (p. 56)

In summary, the entrepreneurial function in the field of natural resource conservation allows for the discovery of options to enhance the value of the flora and fauna resources of a given area. This achieved by the development of the entrepreneurial function is based on the work of institutional entrepreneurs to establish creative ways to define property rights over these resources. Establishing these property rights implies the development of private and state actions.

Private actions are those undertaken by landowners, entrepreneurs, NGOs, and communities to establish rules or implement technology to guarantee property rights over their areas or territories. On the other hand, public actions are policies or legislation issued by public officials.

Unfortunately, if public actions do not promote entrepreneurship and the entrepreneurial function that are private actions, the development of innovative initiatives for the conservation of biodiversity-rich areas will fail, since public policies will block the emergence of the incentives or benefits that entrepreneurs need to know to feel motivated to establish

actions or take risks to define property rights, invest financial resources and undertake entrepreneurial actions to enhance the value of the natural resources of their territories.

For this reason, public policy should allow institutional entrepreneurs to implement innovative initiatives for the management and conservation of natural resources, since only in this way will it be possible to develop the entrepreneurial function that will provide innovative solutions to the conservation and management of biodiversity-rich territories. For example, solutions could include business initiatives such as ecotourism, research, and recreation, among others.

In this regard, Huggins (2013) tells us:

> Entrepreneurs are addressing environmental challenges by learning to reap benefits from what would otherwise have been a "tragedy of the commons," a term coined by Garret Hardin (1968) in Science to describe a common cow pasture that is ruined by too many people overgrazing their cattle. His fable is a useful illustration of a genuine public policy problem: how to manage a resource that belongs to no one? Some solutions: ***One***, close the commons and turn the environment into a private asset. This requires the entrepreneur to create or define property rights, which he will do when the benefits of having a well-defined system outweigh the costs of creating the system (Boettke and Coyne 2003). ***Two***, given rigorous institutional arrangements, the commons can remain open, but must be commonly managed (Ostrom 1990). (n. p.)

Solution ***One*** implies that the benefits outweigh the costs that the environmental entrepreneur will assume to secure

the property rights to his land, i.e., profit is the main driver for a landowner (individual, entrepreneur, NGO, or community) to implement natural resource conservation solutions or alternatives. As Anderson (1993) points out:

> If the connection between private interests and good resource management breaks down because the good steward cannot reap the benefits, or cannot bear the cost of his decisions, or receives distorted information because of political interventions, the effectiveness of free market ecology will be damaged, just as centralized planning would damage the efficiency of an ecosystem. (p. 36)

In the case of solution ***two,*** for territories belonging to communities, it is not only important to obtain benefits, but also to develop rigorous institutional agreements that allow community members to guarantee adequate management of natural resources for common use. In this context, it is important to highlight the seven principles that characterize sound common pool resource institutions as outlined by economist Elinor Ostrom. According to Ostrom (2000), the design principles characteristic of long-lasting Common Use Resource institutions is the following:

a) Clearly defined boundaries: "The individuals or families with rights to extract resource units from the RUC must be clearly defined, as must the boundaries of the resource" (n. p.). This principle is a clear indication that communities also need institutions to guarantee the property rights of their territories. These institutions will determine what actions community members should take to protect the boundaries of their

territories and efficiently manage natural resources. For example, in the private conservation experiences that have been developed in Peru, the peasant or indigenous communities that have been most successful in managing a private conservation area have been those that have very clear institutional guidelines to guarantee their property rights.

b) Coherence between the rules of appropriation and provision with local conditions: "The rules of appropriation that restrict time, place, technology and the resource units are related to local conditions and to the rules of provision that require labor, material, and money or both" (n. p.), Each experience of natural resource management is different and characterized by its peculiarities, for that reason, it is not possible to apply centralized management plans or from the government. To work with communities, it is important to consider local conditions and the rules of natural resource appropriation that develop in the area.

c) Collective choice arrangements: "The majority of individuals affected by the operational rules can participate in their modification" (n. p.), communities that have institutionalized coordination spaces where their members can discuss decisions or agreements involving the private management of natural resources in their territories, have greater strength to manage biodiversity conservation initiatives. This strength is not only evident within the communities, but also when the community coordinates with a company or other actor interested in partnering with it to undertake a business project on the private management of natural resources.

d) Oversight: "Overseers who actively monitor the conditions of the RUC and the behavior of appropriators are either accountable to them or are appropriators" (n. p.). Oversight of property rights, as well as compliance with rules or agreements, is the basis of the communities that have the greatest strength to manage a conservation area. When managing a Common Use Resource, it is not enough to have coordination spaces, but also clear rules for supervision of property rights and the obligations of each member of the community.

e) Graduated sanctions: "Appropriators who violate operating rules receive graduated sanctions (depending on the severity and context of the infraction) from other appropriators, appropriate officials, or both" (n. p.). Establishing graduated sanctions for those community members who have not complied with their obligations or established agreements constitutes a key piece that reinforces oversight actions. In the case of natural resource conservation and management, graduated sanctions constitute an institutional rule to prevent actions that go against biodiversity conservation, such as illegal logging, deforestation for agricultural activities, or hunting of wild animals.

f) Mechanisms for conflict resolution: "Appropriators and their authorities have quick access to local instances to resolve conflicts between appropriators, or between appropriators and officials at low cost" (n. p.). During the fulfillment of the commitments established by the community to manage a biodiversity conservation area, disagreements or conflicts may arise that alter the efficiency of the area's management. For this reason,

the community must have spaces or mechanisms for conflict resolution. Communities that have these mechanisms in place have been better able to resolve disputes that have arisen during the management of a private conservation area.

g) Minimum recognition of organizational rights: The rights of the appropriators to build their institutions are not questioned by external governmental authorities. Communities usually maintain institutional rules that have prevailed from generation to generation, since they have been the main strength of their organization and decision-making. Most of these rules have prevailed over time because of the community's work, but also because of minimal recognition by government authorities. In the case of private conservation and management of natural resources, it is key to respect and rescue those institutional rules of the community that can provide efficiency in the management of a private conservation area. In some cases, the decisions made by the communities on natural resource management are likely more efficient than a businessman or nature-loving professional. For this reason, the State, when applying its public policies, must be very careful not to override these local institutions, which are undoubtedly the basis for the entrepreneurial function of communities interested in biodiversity conservation.

Communities that put these seven principles into practice have proven to have greater strengths in managing a natural resource conservation area and in dealing with the

uncertainties involved in undertaking a business project in the field of biodiversity conservation.

3. THE ROLE OF PUBLIC POLICIES

In this context, the role of public policies should be limited only to establishing legal certainty that guarantees individuals, communities, or other actors property rights over the territories they own. As Anderson (2015) points out:

> Undoubtedly, governments play a critical role in clearly specifying and recording property claims, establishing rules of accountability, and adjudicating disputed property rights. That said, well-defined and enforced property rights impose discipline on resource owners, holding them accountable for the harm they do to others and rewarding them for improving resource use. Property rights incentivize owners to protect the value of their environmental assets. (p. 4)

Undoubtedly, the role of the State should be limited only to the generation of legal guarantees that allow owners to have clearly defined property rights. In the case of natural resource conservation, this would imply that the property of individuals, NGOs, entrepreneurs, and communities interested in conserving the flora and fauna resources of their territories be protected by the State through an official registry of their land ownership and the issuance of clearly defined property titles. As Coase (2009) points out:

> If I am correct that trying to get the government to undertake new activities will only make it perform worse than before in the activities it is already responsible for, the continued expansion of government responsibility

> will lead to the situation where most of its activities end up doing more harm than good. I guess that we have already reached that point. (p. 77)

As Anderson (1993) points out:

> The free-market ecology emphasizes the importance of the role of government in enforcing property rights. With clearly specified titles - obtained through a land registration system, with strict accountability rules, and with allocations through court judgments of disputed property rights - the market process can stimulate better resource management. If property rights are unclear or poorly enforced, over-farming occurs. (p. 32)

For these reasons, the State should only focus on guaranteeing property rights and not waste efforts formulating public policies that violate property rights and block the development of entrepreneurial initiatives. In other words, the State should avoid the political management of natural resources or the development of proposals that involve centralist or state management of conservation areas or nature protection areas, since this entity does not know of time and place that the actors involved with natural resources (communities, landowners, businessmen, and researchers) have.

Market Ecology recognizes that politicians and their experts do not have all the information necessary to make the right decisions to protect the environment, and for this reason, it considers that the only actors that can propose solutions to environmental problems are those directly involved in the problem. In this regard, Anderson (1993) states the following:

> Market ecology recognizes that information about the environment is so diffuse that a small group of experts cannot manage the planet as if it were a single ecosystem. Specific people must be counted on to process time- and place-specific information and to discover niches, just as other species do in their ecosystems. (p. 261)

Market Ecology offers an approach to environmental problems that is compatible with the principles of Ecology This means that there is a closer relationship between economics and ecology than we think, in this regard, Professor Walter Block (1989) tells us the following:

> It is not that there is a simple analogy between the market and ecosystems, but that the laws of evolution and interaction in both processes are very similar, so it could be said that ecology is but a part of the economic sciences, or if you prefer, that the economy itself would be a discipline encompassed in a broader one: ecology, hence the term "Market Ecology". (n. p.)

For this reason, Market Ecology considers that environmental policies or regulations should be carefully analyzed and evaluated to identify whether, instead of providing a benefit to the conservation of natural resources, they block the development of business initiatives or environmental enterprises that can provide market solutions to the issue of nature conservation.

CONCLUSIONS

Finally, we must not lose sight of the fact that although environmental policies may have the purpose of benefiting society and protecting the environment, there will always be

a risk that these actions may lead to bureaucratic inefficiency, over-regulation, and excessive public spending, which will directly affect owners and investors who wish to invest or undertake projects that seek to manage natural resources to conserve them and obtain financial benefits.

Nor should we forget that part of the nature of the State is its tendency to grow without control, for this reason, we must always be alerted to ensure that this natural growth of the State does not invade spaces that could very well be managed by the private sector. Currently, the State already has responsibilities in the areas of security, health, and education, among others, and to add to these issues the protection and management of natural resources are put at risk an area that could very well be managed by private actors such as communities, landowners, NGOs, or companies.

REFERENCES

Anderson, T. and Hill, P. (2014). *The Not So Wild West, Property Rights on the Frontier*. INNISFREE Edition.

Anderson, T. and Leal, D. (1993). *Ecología de Mercado*. Madrid: Unión Editorial.

Anderson, T. and Leal, D. (2015). *Free Market Environmentalism for the Next Generation*, 1st ed. United States: Palgrave Macmillan.

Anderson, T. and Libecap, G. (2014). *Environmental Markets. A Property Rights Approach*. Cambridge Studies in Economics, Choice, and Society.

Benegas, L. (2015). Freedom is reciprocal respect. *Ecology Debate*, pp. 105 - 108.

Block, W. (1989), *Economics and environment: A Reconciliation*. Vancouver: The Fraser Institute.

Coase, R. (2009). *Essays on economics and economists*. Madrid: Marcial Pons.

Cordato, R. (2004). Toward an Austrian Theory of Environmental Economics. *The Quarterly Journal of Austrian Economics*, (1), pp. 3-16.

Huerta de Soto, J. (1994). Estudios de Economía Política. *Chapter XXI Property Rights and Private Management of Nature's Resources,* 2nd ed., (pp. 229 - 249). Madrid: Unión Editorial.

Huerta de Soto, J. (2015). *Socialismo, Cálculo Económico y Función Empresarial*, 5th ed. Madrid: Unión Editorial.

Huggins, L. (2013). *Environmental Entrepreneurship, Markets Meet the Environment in Unexpected Places*. Massachusetts, USA: Edward Elgar Publishing Limited Inc.

Larraín, L., Hurtado, J. and Ramírez, P. (1995). *Ecología de Mercado*. Fundación Libertad y Desarrollo de Chile.

Ostrom, E. (2000). *El Gobierno de los Bienes Comunes, la evolución de las instituciones de acción colectiva*. México: Universidad Nacional Autónoma de México, Centro Regional de Investigaciones Multidisciplinarias. Fondo de Cultura Económica.

Smith, F. (1996). *Introduction to Market Ecology*. Market Ecology Institute - FAES.

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