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CORPORATE BEHAVIOR IN THE FACE OF ECOSYSTEM PROTECTION: THE RISKS OF NOT ACTING SUSTAINABLY

Frontado - Brito, Yazenia

Universidad Metropolitana, Venezuela

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INTRODUCTION

Companies, at a global level, are currently recognized for all their contributions to society in terms of products, wealth, jobs and prosperity, which have been significant and have contributed to improving the quality of life of citizens. However, many of the benefits they have provided have contributed to the deterioration of ecosystems, due to the lack of interest or ignorance of the negative impacts that both activities and products have caused to the environment.

The behavior described above highlights the fragility of ecosystems, which have been recognized as those systems whose functions provide ecosystem goods and services that contribute to the development of the human species and the conservation of the planet. In fact, one of their many functions is the capacity to regulate and/or buffer natural phenomena that cause social disasters, which have been increased, in part, by the dissociation that exists between economic growth and environmental deterioration, this being an indispensable requirement to achieve sustainability.

Industrial and/or business activity has not only resulted in the pollution and depletion of resources, but also in the deterioration of ecosystems and their services, giving rise to the depletion of raw materials, pollution, socio-natural disasters such as floods, mass movements, and intense droughts, caused by an imbalance of nature and its resources. All these affectations have an impact on the populations, of which these same companies, industries and organizations are also part, so that in terms of sustainability, the inadequate use of resources translates into socio-environmental damages and economic losses.

In view of ecosystemic deterioration and its consequences, companies have understood that they cannot live on the margins of society, so they have slowly but

progressively added socio-environmental variables to their strategic and financial planning, as well as instruments for managing their environmental impacts. However, they continue to see this incorporation as a cost associated with their finances, making their products and services more expensive. Therefore, this research sought to generate a business vision framed in the environment as a factor of competitiveness, due to the multiple benefits that can be obtained and that are visible by applying methods of economic valuation of ecosystem goods and services, in order to include in their planning and finances, measures for the conservation of ecosystems to reduce the socio-natural risks that can affect not only the company but also the environment.

THEORETICAL FOUNDATIONS

ECOSYSTEM FUNCTIONS AND SERVICES

According to De Groot (1992), ecosystem functions are those capacities of natural processes and their components to provide goods and services to satisfy human needs directly or indirectly. On the other hand, services, as defined by the Biodiversity Management Law (G.O.Nº. 39.070 of December 1, 2008) are the benefits derived from biological diversity.

The difference between the two is often complex, however, Hassan Scholes and Ash (2005) argue that if environmental functions generate benefits for society, we are in the presence of environmental or ecosystem services. In other words, services are the ecosystem functions used by humans.

ECOSYSTEM SERVICES AS PUBLIC DOMAIN GOODS

Ecosystem services are considered public domain goods, i.e., they are non-excludable (no one can be exempted despite not paying for them), non-divisible (difficult to assign cost/prices) and non-rival (one person consumes them without affecting the consumption of others), which has resulted in their deterioration or depletion, since they are available to all.

The fact that ecosystem services are public domain goods gives rise to a definition, which is still valid today, and is known as the “*Tragedy of the Commons*” by Hardin (1968) and refers to a situation in which several people, driven only by personal interest and acting independently but rationally, end up degrading a shared resource that is limited, although none of them (individually or jointly) would want such degradation to occur.

The Tragedy of the Commons from the Companies’ Perspective

The company, is a key actor in the tragedy of the commons, due to the fact that they have to start reducing the negative externalities of their operations on resources, replacing the paradigm of maximizing profits for another that favors the balance between profit and responsible use of the commons (Licandro, 2017).

ECOSYSTEM REGULATORY FUNCTIONS AND SOCIO-NATURAL RISKS

Among the ecosystem functions are those of regulation, and they are responsible, for example, for the moderation of extreme phenomena. That is, as buffers against natural phenomena capable of causing disasters, reducing damage from floods, storms, tsunamis, landslides, avalanches and droughts (FAO, 2022). However, this regulating function

is often invisible and therefore taken for granted. Thus, when this ecosystemic function is degraded or its equilibrium is altered, it does not fulfill its function and, therefore, the resulting losses can be significant and difficult to recover, both socially, environmentally and economically.

ECONOMIC VALUATION OF ECOSYSTEM RESOURCES

Economic valuation is an instrument at the service of environmental policy, through which the aim is to impute economic values to ecosystem goods and services, with a view to achieving efficiency and sustainable growth (Herruzo, 2002). According to Huber and Martínez (2009) and Barzev (2002), this allows, among other things, to know the value of intangible goods and services for their appropriate management in monetary terms, as well as to incorporate environmental externalities in accounting in the system of national or company accounts. It also makes it possible to design and plan development projects in harmony with the sustainable use of ecosystems, which undoubtedly reduces the threats posed by the occurrence of natural phenomena.

METHOD

The research was part of a qualitative study, which had the opportunity to analyze the performance of companies in relation to decision-making for the implementation of projects that directly or indirectly cause negative externalities to the environment and have an impact on the performance of the organization. For this purpose, a descriptive approach was made on how the companies contemplate the socio-environmental variable within their general planning and financial structure; and also an exploratory approach was made on the disposition to address the problems on the part of the businessmen that

may have repercussions on the operation of their businesses, bringing about considerable losses.

The study was non-experimental and focused on conducting unstructured interviews with managers of small and medium-sized companies to learn their opinion or response to the issues and questions raised. The sample was made in a non-probabilistic way by convenience, thus allowing the selection of those accessible cases that gave their consent to be included. As a result, 85 company managers were interviewed, located in several states of Venezuela (a country located in South America and considered to be developing and with a challenging political-social environment) and from different economic sectors (agriculture, telecommunications, farming, pharmaceuticals, paper, water supply, supermarkets, among others) that also met the research criteria, which were extraction of raw materials, transformation of resources and production of goods and services. In addition, the criterion of location in areas of social and environmental vulnerability was considered.

RESULTS

BUSINESSES AND THEIR RECOGNITION OF ECOSYSTEM FUNCTIONS

When talking about ecosystem functions and services, many of them are taken for granted because they are part of people's daily lives and have been internalized, in a certain way, as inexhaustible. An example of this is the air we breathe, which has become an indispensable service for life, but despite this, it has been polluted to the point of having to rely on strict regulatory frameworks and palliative measures to be able to breathe the air at certain times, which entails costs, mostly in terms of remediation.

The case of air is just one example; today, companies have recognized that nature is often invisible in the economic decisions that are made and as a consequence have been reducing natural capital, without understanding that the real costs of substituting or replacing the services provided by nature, through alternative solutions implemented by people, are sometimes more costly than their conservation and responsible use.

In fact, the reduction of natural capital was a key point in the discussion on the part of companies, because through a utilitarian vision, they began to realize that natural raw materials are the lifeblood of the economy, and that scarcity was becoming a problem that affected their growth and development. Therefore, personalities such as Rifkin (2014), former president of *The Foundation on Economic Trends*, declare that "...an economic system that does not take sustainability into consideration is no longer understandable" (Rifkin, 2014).

When talking about the interventions that companies have made on ecosystems and the fact of associating the occurrence of natural phenomena with them, a training process was required for them to become aware of the effects. Many businessmen blame acid rains for the loss of crops, but do not accept the fact that their emissions of polluting gases are related to the phenomenon.

ECONOMIC VALUATION AS A BUSINESS STRATEGY FOR DECISION MAKING

The lack of knowledge of the environment by companies, as well as of the resources that make it up and that they take as part of their raw material, is one of the main needs for improvement that they must address as part of their management, if they want to continue betting on sustainable growth.

According to Sukhdev, Wittmer, and Miller (2014), recognizing value is a capacity of society that can easily influence social norms and regulations without having to resort to monetization or economics. This can be supported by the economic sciences, because companies agree that, in today's world, demonstrating value in economic terms is essential to understand and internalize the consequences of changes in land use and management.

The exercise of economic valuation of these ecosystem services that are considered intangible then becomes a tool that, according to Frontado (2011), allows us to know what resources we have and in what situation they are in, in order to generate information to nurture the process of developing policies, programs and decision making at all levels, aimed at conservation. However, the companies interviewed recognize that when making decisions about the projects to be implemented, they mostly apply the cost/benefit method, but leave aside the externalities or negative environmental impacts.

THE ECOSYSTEMIC FUNCTION OF BUFFERING NATURAL PHENOMENA TO REDUCE RISKS FROM A BUSINESS/INDUSTRIAL PERSPECTIVE

According to FAO (2022) and Frontado (2011), examples of the impact of the business/industry sector on ecosystems, which jeopardizes the ecosystemic buffer function, due to the fact that they have been implemented without carrying out an environmental impact study or a prior environmental economic valuation:

- Emission of polluting gases that cause the greenhouse effect, resulting in climate variability, which in turn generates severe and frequent episodes of drought, affecting crop yields and causing food shortages.

- Drought phenomena, due to bad use or deterioration of soils, affect livestock, making breeds have to adapt to extreme heat and tropical diseases.

- By altering or destroying healthy mangrove ecosystems and coral reef systems, coastal populations are put at risk from extreme weather events, as these are important elements for protection.

- Affecting forests influences extreme phenomena, because vegetation cover reduces the incidence and extent of flooding and mass movements.

Given the effects caused by business/ industrial projects and processes, of which some examples have been presented, it is important that companies begin to adopt disaster risk-oriented measures or guidelines within their management systems, these being understood, as mentioned in the law on Integral Management of Socio-natural and Technological Risks (G. O. No. 39.095 of January 9, 2009) of the country, as those “processes oriented to formulate laws and execute actions in a conscious, concerted and planned manner, to prevent, mitigate or reduce risk, in order to prevent, mitigate or reduce the risk of disasters.O. No. 39.095 of January 9, 2009) of the country, as those “processes oriented to formulate laws and execute actions in a conscious, concerted and planned manner, to prevent, mitigate or reduce the risk in a locality or region, taking into account its ecological, geographical, population, social, cultural and economic realities”.

DISCUSSION

Once all the relationships between companies and ecosystems have been evaluated, analyzing each of the effects that can become a constraint for the future economic development of companies and society, in addition to the impacts of ecosystems, it is important to think of a proposal under the heading “win-win: environment - company”. To this end, the discussion began by considering which tools are already used by companies and/or organizations or industries and can be adapted to the needs of ecosystem conservation. Thus, the “Benefit-Cost Analysis” has become the tool most used by companies for the selection and execution of projects, and it was there where the review of their processes was focused, including the environmental variable.

Initially, costs were addressed. In this regard, the companies agreed that the environment is usually considered an added cost, because they must implement management plans or environmental strategies related to investments and implementation costs that end up making the products and services offered by them more expensive.

In terms of benefits, those companies that have seen the environment as an opportunity reported that it has become a management variable that has resulted in quality improvements and efficiencies in their production processes. In other words, they have begun to see the environment as a competitive factor, which translates into savings in raw materials and energy (less intervention of ecosystems) and a reduction in compensation costs (avoided costs) due to ecosystemic impacts that increase socio-natural risks.

In this scenario, the need arises for the application of the Economic Valuation tool; this is because, given the vision of the environment as a competitiveness factor for

companies, the opportunity to promote the application of economic valuation methods in order to generate the best available estimates of a value for each context or purpose and to seek ways to internalize that value in decision making was addressed. In this way, the affectations shown as examples in this research can be transformed into:

- Investment in equipment and crop model adjustments to reduce losses and mitigate the effects of droughts.
- More sustainable vegetation control measures.
- Integrate mangroves with aquaculture ponds, as well as make sustainable use of mangroves and coral systems, reducing harmful practices to reduce risks and increase the costs of post-disaster action.

CONCLUSIONS

Evaluating the performance of companies, taking as an example the ecosystemic function of buffering environmental phenomena that enhance risks, and viewed from the perspective of economic valuation as a management tool, led to the conclusion that valuation considers that the most ethical response to risk and uncertainty is not to wait until adequate or perfect information is available to act. This means that companies lack training and information to adopt tools that make their management processes more sustainable. Especially because the globalized world demands a more responsible action towards ecosystems that over the years have lost their capacity to renew themselves, because they are not being given the time required to do so.

Without natural resources there is no economy because there are no raw materials, and that is the message that companies are learning the hard way today where resources are becoming increasingly scarce.

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