

Environmental Costs from the Perspective of Environmental Accounting

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ABSTRACT

Short life of man strikingly contrasts with the permanence of the earth. For thousands of years, many generations were born and disappeared, but the earth he has consistently demonstrated impressive ability to support life. There is also a reverse of the medal. It is estimated that human activities cause a disturbance of the natural cycles of the earth. The article presents the need to manage environmental issues of economic entities by analyzing concepts such as environment, environmental accounting and environmental costs in terms of environmental accounting. Currently, entities are beginning to consider the environmental variable in the decision-making process by introducing measures to prevent environmental impact of their activities or to correct damage. Thus, the entities supporting the cost resulting from the interaction with the environment, which is called environmental cost. The conclusion is that the determination of the environmental cost that society incurs difficulties, namely: it is difficult to quantify, in physical units, amount of environmental resources consumed and there is no basis in the market for these goods, because the cost seeks monetary quantification resources consumed through price or cash equivalents. Environmental costs can be reduced or avoided through pollution prevention practices such as redesigning products, input materials substitution, practices and improve operational level of maintenance.

Introduction

The term environment has a broad sense, including many aspects, among which would highlight renewable or non-renewable natural resources, air, water, landscapes and ecosystems in general. Environment includes the entire exogenous firm, economic, technical, political, demographic, cultural, scientific, organizational, legal, psycho-sociological, educational and ecological marking the establishment of objectives, obtaining the necessary resources, adoption and application of making decisions them.

Although it has always been present in human activity, concern for conservation not appeared until they had important issues and environmental disasters. The presence in the environment of one or more contaminants or some combination thereof, exceeding the limits tolerated, causing damage to life or environmental impact.

It is said that there are environmental impact when an action or activity causes a change, favorable or unfavorable, on the environment or its components. It should be noted that the term "impact" does not imply negativity because it can be both positive and negative. The difference between the future environmental situations changed, as manifested in

consequence of the project and future state of the environment, as would be performed normally, without such action. I mean, what is recorded as positive or negative net change in environmental quality and quality of human life.

Value, cost and price are three different concepts applied to natural resources such as water element may present a distorted approach. In our country, as in many places, freshwater has a high value because it is a scarce resource and essential for industry, agriculture, public and environmental landscape maintenance, ie for flora, fauna and territory as a whole. On the other hand, requires that the water is suitable for consumption able to reach people through valves installed, bearing a significant cost in the construction and maintenance of tanks, treatment plants and distribution networks, without consideration of costs organic. However, its price is relatively low because it does not reflect all costs and they are covered by the state, therefore, pay the real environmental costs is transferred to future generations or simply not considered.

In the past, economic activity did not take into account the impact that their actions had on the social and physical environment surrounding them, ie, remained detached from the natural environment. Currently, however, the vision of the environment has changed; it is considered that meets transcendental functions such as:

- The fundamental source of resources necessary for production;
- Provides services related to natural beauty, clean air, clean water, etc.
- It acts as a reservoir of waste and residues generated for production and consumption.

These functions are considered economical because exchanged in every market would reach positive economic value. The depletion of resources, obtaining and using them becomes more complex and therefore increase costs.

Environmental Accounting

Macroeconomic and microeconomic arose an interesting concept for analysis, environmental accounting. If the macro perspective is a concept widely used in micro level is not sufficiently treated, being a subject and an important area of analysis and study.

Environmental Accounting can be defined as part of the accounting applied, whose goal is the accounting relationship between an entity and its environment, leading to differences between the macro and micro accounts.

Todea et al., 2011 called environmental accounting as "green accounting" and argues that "it should not be confused with mere reflection of environmental costs in traditional financial statements as it is an efficient information system regarding the degree of degradation of natural elements, determined by the activity of the entities and used in order to reduce these degradations and informing stakeholders".

Environmental Accounting is an important tool to understand the natural role in the national economy. Environmental accounts should provide data that highlights both the contribution of natural resources for economic welfare and costs for contamination or exhausted. Evaluation of natural goods and services is just one element of compilation environment.

Environmental Costs from the Perspective of Environmental Accounting

According to Letmathe and Doost (2000) Environmental cost accounting is "an extension of traditional management accounting as decision support".

In his view Rannou (Henri, 2010), the main problem of environmental management accounting is the lack of a standard definition of environmental costs.

US Environmental Protection Agency defines environmental costs as "the costs of environmental degradation that cannot be easily measured or corrected are difficult to measure and not a legal responsibility".

European Commission (Recommendation no. 453/2001) defines environmental costs as "costs that must prevent, reduce or recover environmental damage caused by the entity or one that is likely to occur as a result of activities they run. These include prevention, elimination or reduction of waste or waste water, carbon, treatment of contaminated soils, landscapes radical change, research and product innovation, cleaner production processes, quality control environment".

According to Constantin Mindricelu (2002), content consumption cost is related to the rise and factors to be pursued and highlighted expression must have a value. So, the cost is the expression value of all the factors used for producing environmental services and expenses incurred by the producer takes the form of environmental services. In other words, the base cost of manpower and consumption are materialized in terms of value, consumption that takes the form of production and distribution costs borne by the producers of specific environmental services. Not to be confused notions of cost and expense. To be more convincing we can say that the expense is synonymous with a payment, representing a cash flow, and the factor that determines that an expense is a cost element is consumption. Expenditure may be simultaneous or previous conduct further consumption. The distinction between the two indicators is that the "included only the cost of materials and labor consumption for a period (month, year), while financial expenses incurred covering the entire circuit of environmental actions.

According to Bonilla Priego (2000), currently entities begin to consider the environmental variable in the decision-making process by introducing measures to prevent environmental impact of their activities or to correct damage. Thus, the entities supporting the cost resulting from the interaction with the environment, which is called environmental cost.

Fronti Garcia et. al. (1998) believe that the activities undertaken voluntarily and those set by contract or environmental laws and regulations, relating both renewable and non-renewable resource conservation, aiming to prevent, reduce or remedy environmental damage.

To determine the cost of production of a good or service should be considered a set of inputs in the process. Some are valued at a price, while others, such as environmental goods and services, not such a mechanism, their value is less recognized. Many environmental resources are not private property, free access to these goods or services are grounds of abuse in their use because they have a zero cost.

This involves developing an environmental policy that combines market instruments and preventive and restorative, and also requires accounting tools that determines its design and evaluation measures concerning the ecological balance.

Therefore, determining the environmental cost that society supports the following difficulties: it is difficult to quantify, in physical units, amount of environmental resources consumed and there is no basis in the market for these goods, because the cost of resources consumed seeks monetary quantification through price or cash equivalents.

Alternatively, the average cost of the economic entity is determined by the amount of resources consumed over the environmental impact that exercised, having preventive or corrective.

In his view Giani Gradinaru (2003), environmental costs and performance management are under consideration at least the following reasons:

- many environmental costs can be significantly reduced or eliminated by changes at the operational level by investing in clean technologies, by redesigning processes and products;
- environmental costs (and thus potential cost savings) may seem insignificant at a superficial;
- using waste recovery schemes in many enterprises have been brought to light environmental costs and benefits;
- better management of environmental costs can lead to improved environmental performance and significant benefits to human health and the business success;

- correct understanding of the locality environmental costs and benefits associated manufacturing processes and products lead to costs and fixed prices more accurate and can help design company in the future, processes, products and services so that they are more environmentally friendly;
- competitive advantages may result from the demonstration of the environmental guidelines of processes, products and services.

Assessment methods for environmental costs of economic entities used in assessing environmental costs are life cycle assessment, environmental balance, full cost accounting (the three dimensions of sustainable development), total cost accounting and ABC.

Rannou, Henri, 2010, analyzing these methods observed significant differences in terms that not all methods of assessing costs take into account all costs. For example, environmental balance method considers only the consumption of natural resources, ignoring other costs. Another difference is that all these methods cannot assign a numerical value of environmental costs such as life cycle assessment methods, environmental and cost balance completely. For example, life cycle assessment method does not take into account intangible costs, including those resulting from the relationship with stakeholders, but no contingent costs, which cannot be associated with specific phases of a product lifecycle. However, environmental balance method does not provide a numeric equivalent of resource consumption; it can be estimated if required. And the full cost method raises the question of the complexity of determining a monetary value on the cost of externalities.

However, the difficulty of implementing an environmental accounting system does not consist in choosing the method of costing, but to identify all costs derived from environmental compliance. Such costs can be generated by changing requirement of raw materials used with less polluting change will be reflected, most likely in an increase in raw material costs and not the environmental costs (Turturea and Turcu, 2013).

Conclusions

Economic entities should include environmental activities in the accounting system, and especially in the cost, thus facilitating the management entity.

Environmental Accounting is an important tool to understand the natural role in the national economy. Environmental accounts should provide data showing both the contribution of natural resources for economic welfare and costs for contamination or exhausted. Evaluation of natural goods and services is just one element of compilation environment.

The application of management policies for environmental costs lead to a reduction in long-term costs and an increase in the benefit claimed.

In order to achieve correct identification of the costs, the business entity should be an environmental system based on the size and type of production. This work will allow better use of inputs and processes, such as recycling. A cost reduction by incorporating the inputs and processes that enable them to make better use of the surplus that can be recycled will also allow avoiding penalties for infringement.

Environmental costs can be reduced or avoided through pollution prevention practices such as redesigning products, input materials substitution, practices and improve operational level of maintenance.

Romania requires professional accountants who specialize in the technical, environmental conservation and reconstruction, is very important.

It should not concern ourselves only promulgation of national rules on the environment, entities involved in productive activities must comply, this will avoid penalties since there is less chance of non-compliance.

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References

- [1] Bonilla Priego, M., *Algunos problemas en la determinación del coste medioambiental en la empresa*, Revista Técnica Contable. Año LII, Num. 615, marzo, 2000;
- [2] Fronti de García, L., Wainstein, M., García Fronti, I. y Casal, A., *Contabilidad y auditoría ambiental*, Ediciones Macchi, Buenos Aires, 2000;
- [3] Gradinaru Giani, *Discriminarea costurilor de mediu*, Revista Informatică Economică, nr. 1(25)/2003;
- [4] Letmathe, P, Doost, R.K., *Environmental cost accounting and auditing*, Managerial Auditing Journal, 15, 2000;
- [5] Mândricelu Constantin, *Analiza statistico-economica a protectiei mediului*, Teza de doctorat, Bucuresti, 2001;
- [6] Rannou, C., Henri, J.F., *The better way to measure environmental costs*, CMA Management, 2010;
- [7] Recomandarea nr. 453/2001 a Comisiei Europene;
- [8] Todea, N., Stanciu, I.C., Udrea, A.M., *Accounting policies on environmental costs and their calculation method in the entity*, Annals & Proceedings of DAAAM International, 22(1), 2011;
- [9] Turturea M, Turcu D.R., *Designul sistemelor de costuri pentru sustenabilitate*, Economie teoretică și aplicată, Volumul XX (2013), No. 10(587).