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Environmental Accounting: An Instrument of Environmental Management for Industrial Sector Companies

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Abstract : This article conceptualizes on environmental accounting and its development at international level and in Colombia by EEAS (Environmental and Economic Accounting System) implemented by the National Administrative Statistics Department (NASD), benefit from the guidelines given by the ONU. On the other hand, it shows the need of society and organizations of an accounting system that serves as a tool for environmental management allowing reducing the environmental imbalances generated by production cycles and consumption activity. For this purpose are addressed issues such as control, management and environmental accounting, the Integrated Environmental and Economic Accounting System (IEEAS), tax benefits and a proposal for financial statements in which environmental items are implemented in order to show that accounting can capture environmental variables and help in making decision in environmental management.
Keywords : Environmental Management, Environmental Accounting, EEAS, IEEAS, Tax Benefits, Integrated Report.

Introduction:

The man for its social and economic development requires the nature. It is unthinkable a productive cycle without the raw materials that this provides, therefore, to put into practice tools and to develop sciences that visualize the effects that generate the activities of production and consumption, will allow diminishing the transgression that occurs in the eagerness to satisfy the necessities without importing the future of the new generations. Accounting seeks to provide relevant information for making decision on operating, financing and investment activities; and the 21st century requires transcendental changes to comply with such guidelines, since the traditional financial statements are not reflecting the environmental impact generated by organizations, and environmental accounting serves to change the paradigm that the factor of production - land - is unlimited and no requires control. Consequently, in this article, accounting is presented as an information tool for internal and external users of an organization, which consolidates the economic facts that allow the financial result of a company to be reflected at the end of a period, making it possible to control as well as projecting revenues and costs from future periods, linking the productive activities of the industry with environmental impact, thus

visualizing environmental accounting as an instrument of control over environmental programs, policies and activities, which facilitates corporate and government making-decision for sustainable development.

Development

Environmental accounting allows classifying, measure, record and analyzingon account of monetary figures the economic facts of an entity and in turn reflects environmental items allowing the collection of environmental and financial decisions. According to Villegas (2004) environmental accounting "should not be limited to being a simple mechanism of information and measurement, but must be built as a tool of control in changing the productive and distributive practices of organizational units." Villegas, M. (2004) P.115. For this reason, the environmental management system will use this as an information system for the implementation of plans, programs and projects related to the reduction and prevention of corporate pollution. However, "the present economic structure suffers from an accounting system that is appropriate and reflects the real situation of the entities" (Mejia, 2016, page 87), as well as there aren`t pronouncements by the Technical Counsel Department of the Public Accounting related to the way in which environmental variables that occur in an organization should be captured and disclosed.

Therefore, this branch of accounting has lagged behind and reduced to a simple concept, even though efforts by the government have spoken with the implementation of the Environmental and Economic Accounts System through the National Administrative Statistics Department; this system has been limited to state non permeating private companies. The Environmental and Economic Accounts System was created in 1995 as the adoption of the UN proposal in 1992 in Agenda 21, one of the final documents of the United Nations Conference on Environment and Development (United Nations, 1993), through which it recommended that countries implement environmental and economic accounts as soon as possible, since no economic process can occur outside the services provided by ecosystems. And this is how the international level recognized the need to incorporate environmental accounting, seeking a development that allows quantifying, measuring, valuing, recording and ordering the value of the natural capital that each country has; which aims to integrate social, economic and environmental factors into the making-decision and government policies of member states. The UN proposal proposed to implement integrated ecological and economic accounting systems in all countries, through the creation, adaptation and improvement of national accounts systems (NAS) and incorporation of environmental accounts, not only in systems, also in makingdecision; the proposal was an invitation to the government of each country to encourage economic entities to present environmental accounts and a more accurate reality within the financial statements.

The integrated environmental and economic accounting system, IEEAS, appears in 1993 in the United Nations Statistics Division as a system that seeks to evaluate the efficiency, effectiveness and functioning of the environmental economy. This model had to be adapted to the needs, use and degradation of each country (ecologically speaking), was a pilot test made by this organization taking into account that the purpose of environmental accounting is to take account of the use of resources of the environment in a systematic way, in particular resource depletion and environmental degradation in a given period. Different countries welcomed the proposal and began to develop environmental accounting at the macroeconomic level. The following is a comparative table on the implementation of environmental accounting following the pronunciation of the UN:

Table 1. Comparative Table of Environmental Accounting Implementation.

Implementation Environmental Accounting						
Countries / Characteristics	**European Union**	**Canada**	**Mexico**	**Guatemala**	**Colombia**	**Argentina, Bolivia And Brazil**
Environmental Indicators	YES	NO	YES	NO	YES	-
Physical Measurement of Natural Resources	NO	YES	YES	NO	YES	-
Monetary Measurement of Natural Resources	NO	YES	YES	NO	YES	-

Environmental Accounts System	YES	YES	YES	YES	YES	They did implementation projects, but did not specify them.
Name of the Environmental System	EPEA	SEEA	SCEEM	IEEAS	EEAS	N / A
Environmental Issues	YES	YES	YES	YES	YES	NO
Year of Implementation	2012	2012	2013	2006	1995	N / A
Financial Statements Scheme	NO	YES	YES	NO	NO	NO
Environmental Classification Items						
EnvironmentalAssets	-	YES	YES	YES	YES	-
Environmental Passives	-	-	-	-	YES	-
Environmental Heritage	-	-	-	-	-	-
Environmental Revenue	-	-	-	-	-	-
Environmental Expenditures	YES	YES	YES	YES	YES	-

Source: Prepared based on (DANE, 2013), (ONU&PNUMA, 2002) and (Rafael Landivar University, 2007)

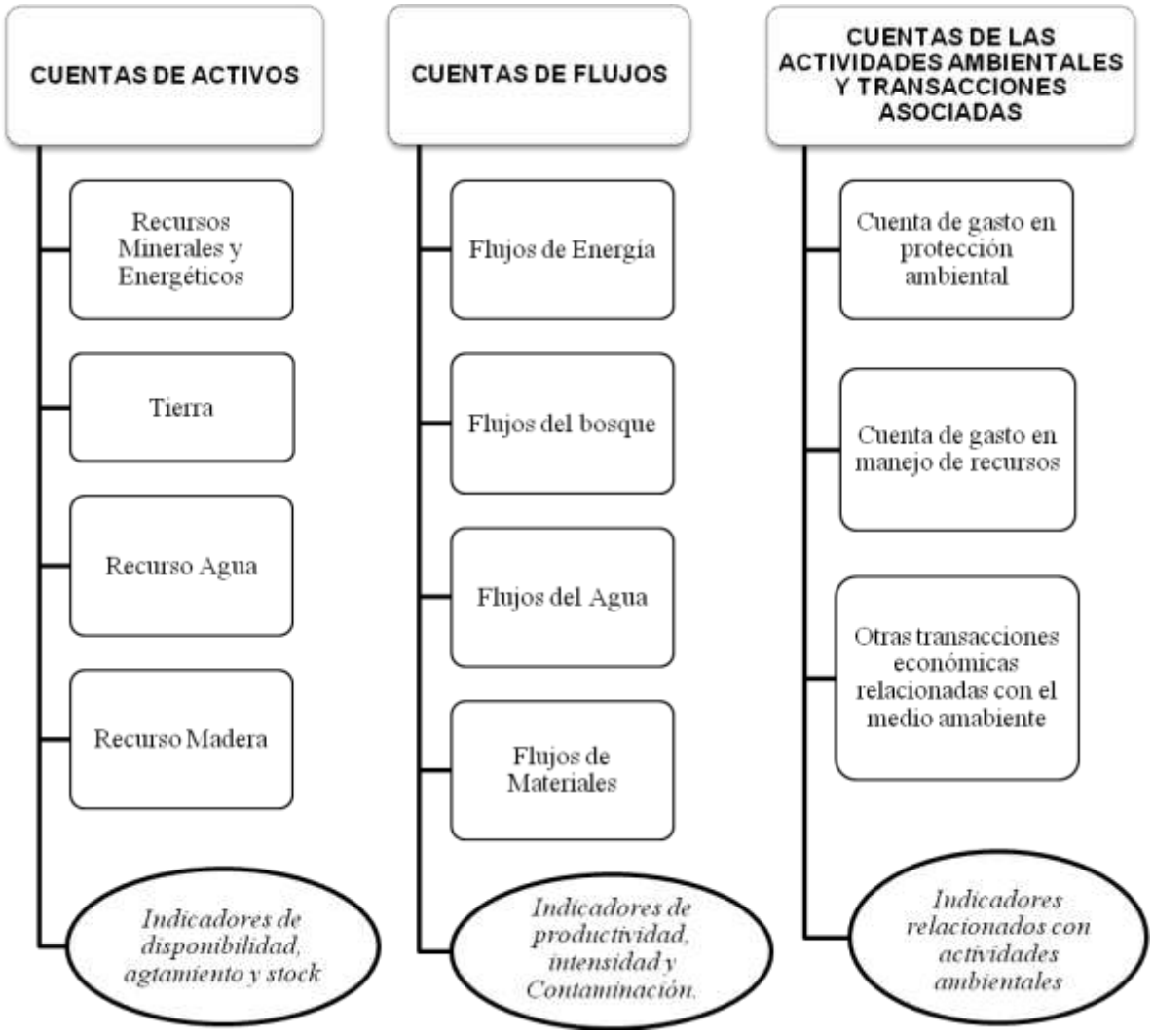

Figure 1. Environmental Accounts
Source: Authors.

As a result of the exclusion of the private sector and the non-existence of standardized criteria for the recognition of environmental items (assets, liabilities, assets, income and expenses related to the environment), a disconnection of the economy and environment is observed, generating imbalances in the ecosystem mainly the depletion of resources and pollution. It is therefore necessary to establish criteria for the recognition of environmental items and their visibility in detail and clear in the financial statements, allowing making-decision type of "technical and pragmatic - that allows avoid, minimize or ultimately repair the environmental damage", which we know as an environmental management system. (Policies and environmental management, 2009).

For the development of an environmental management system, policies, plans, programs and projects that meet the needs of environmental investment, operation and repair must be generated, allowing timely, clear and reliable decision making in both the private and government sectors. The objective of reducing environmental impact to its minimum expression. Due to the above, the need for an accounting information system that incorporates environmental variables is manifested, so that when reporting for a specific period, the investment and operating expenses that allow the development can be clearly revealed of corporate environmental management, constituting accounting as an instrument of environmental management.

Results and Discussions

In Colombia, companies that have been interested to publicize the actions taken for the benefit of environmental sustainability have adopted integrated submitting reports, but what is an integrated report?It is a report published by an organization on the economic, environmental and social impacts caused by its activities, presenting the governance model of the organization and the link between its strategy and its commitment to a sustainable global economy. There are various elements of interest that incorporate in a report of this nature: context and organizational environment, structure and form of government, business model, risks and opportunities, strategies and resource allocation, performance and results. Likewise, "develops and describes six concepts of capital in the company, two related to financial capital: the liquid capital and physical capital, and four other related with the intellectual, human, social and relationship capital" (Vasquez, 2014).

Developing an Integrated Report helps organizations to set goals, measure performance, and manage change to make their operations more sustainable. Sustainability reports contain information on the impact of organizations, whether positive or negative, on the environment, society and the economy. (Global Reporting Initiative, 2015). However, in reviewing the integrated reports of companies such as: Ecopetrol, GasNatural, Argos Group, Alpina and NutresaGrup, the presentation of the figures that report in the environmental dimension of a clear form in their financial statements is not evident, also some of them only reported in the environmental dimension the measurement in physical units of the reduction of pollutants, but did not include information in monetary terms, which is unheard of, since activities such as pollution measurements, investment in clean technologies, acquisition of environmental licenses, tree planting, reduction of water and energy consumption, support for the conservation of natural parks, reduction of carbon footprint, and other actions for the environment imply a cash inflow or outflow, or simply greater efficiency in productive processes which translates into a greater utility. So it is imperative that states finance should detail the environmental items in order to provide greater understanding and reliability in what is manifested in the environmental dimension of the integrated reports, since such information must have the same relevance that is given to the purely financial.

Conclusions

The economic activity of industrial companies generates impacts on the environment, mainly associated with pollution, which is why they must carry out corporate policies, plans and environmental programs that allow their reduction and prevention. In this way, environmental, or other items, assets, liabilities, patrimony, income and expenses associated with the control of pollution arise in 3 areas: Water, Air and Land. For which there is no an accounting structure that makes it possible to inform the user of the information, the environmental impact control (pollution) that is carried out, and internally the department or area in charge of an environmental management organization, does not have consolidated, clear and complete financial-environment information for making timely decisions. On the other hand, an understanding of environmental management within reports environmental accounting is required, which are of equal importance that reports of financial accounting, despite the voluntary nature which enjoys the accounting environmental information at present; and it is thanks to its voluntary nature and the lack of knowledge of the existence of environmental

accounting, which was evidenced through the questionnaire applied to selected industrial companies that none apply environmental accounting despite having implemented an environmental management system or perform some activity to the benefit of the mitigation and prevention of pollution, therefore deprive of the advantages that would bring it to apply such as: timely environmental decisions, access to tax benefits, environmental management adjusted to the financial reality and the current regulations and long-standing term, greater profitability.

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