

## **The Importance of Environmental Accounting for Sustainable Development**

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**Abstract:** It is not possible to say that, while meeting its endless demands and needs, humankind has made use of the ecological environment economically which is one of the sources of the community. The signs that have seen over the last ten years shows that, due to this consumption desire, humankind will lead the world up to calamity faster than it is estimated. This course of events has to be stopped urgently for the sake future generations. At this point, the concept of sustainable development plan becomes important. For sustainable development all sections of society has great roles. Enterprises are one of these sections. The design of accounting information system concerning about environmental costs emerged during the production period of the enterprises is a necessity of this exquisite approach.

### **Introduction**

It is known that environmental problems have shown an increasing tendency by means of technological developments and application of them. The fact of globalization being developed rapidly since 1990s not only has led for environmental awareness to become widespread but also has been enabled for nations to act together for matter of environmental protection. Accounting having universal general rules and double entry bookkeeping used together by all nations and ensuring today universality of the accounting have constantly been interested in environmental issues within its own logic. (Güvemli & Gökdeniz, 1996, p.23)

Fundamentally uniform chart of accounts and financial statements are always discussed in finance and own interest of the corporation, interest of partners, third party interest because of liabilities and state interest as natural stakeholder have been put forward. Actual “natural stakeholder” environmental issues within these interest groups have not taken the place as necessary yet. Despite all, the concept of “environmental accounting” has been widespread gradually due to effect of being emergent much more in very developed countries. (Güvemli & Gökdeniz, 1996, p.23)

To ensure sustainable development, it is seen that environmental accounting is a promising approach in terms of providing information to assist in ensuring the equilibrium between economy and environment. (Mutlu, 2007, p.169)

### **1. The Concept of Environmental Accounting**

In consideration of rapid deterioration in environmental conditions and concern of closing to limits of the world, it is required that business managers shall change their point of view to ecological environment as soon as possible and shall evaluate the ecological environment as an crucial factor in the taking of decision related to operating activities. (Nemli, 2009)

Nowadays environmental managers and business managers in the industry encounter ever increasing demands of shareholders, consumers and law maker related to environmental performance. Moreover, environmental performance of product and corporation during competition at the market is frequently stated. (Anex & Englehardt, 2001, p.99)

It is possible to describe the concept of “environmental accounting” having increasing importance with such commercial reasons. (Güvemli & Gökdeniz, 1996, p.23-24)

“Environmental accounting: description of the environment by measuring its negative effects and prediction of them in the accounting system applications.”

Corporation managers also have to pay attention to such demands into strategic decisions and develop more sensitive management approach to environment in order to catch up aforesaid change. Environmental management is an understanding adapting by enterprises that take into consideration ecological environment as

an important matter in the decision procedures, aim to minimize or abolish entirely the damage to the environment because of its activities, and change design and packaging of its products as well as its manufacturing process in this perspective, make a endeavor for replacing of the philosophy of protection of ecological environment into culture of the enterprise and fulfill its duties for society within the scope of social responsibility. (Nemli, 2009)

In the Table 1, it is listed about comparison between traditional management and environmental management.

**Table 1. Traditional Management-environmental Management Comparison**

	<b>Traditional Management</b>	<b>Environmental Management</b>
<b>In objectives</b>	Economic growth and profit Return for partners	Sustainability and standard of living Welfare of partners
<b>In products</b>	Products designed for function, style and price Packaging causing unnecessary waste	Environment friendly products designed for environment
<b>In organization</b>	Hierarchical structure Decision-making from top to bottom Centralization in decision-making	Non- hierarchical structure Participatory decision-making Decentralization in decision-making
<b>In environment</b>	Having a good command of environment Managing of the environment as a source Evaluation of pollution and wastes as externalities	Being harmony with nature Becoming aware of natural resources not being unlimited. Managing and minimizing pollution and wastes.
<b>In functions of business</b>	The marketing aims to increase the consumption. Financing asks for maximizing the profit in the short term. The accounting concentrates on traditional costs Management of human resources targets to increase efficiency of labor	The marketing is for consumer training. Financing aims the long term sustainable growth The accounting concentrates on environmental costs. Management of human resources ensure health and security at work.

Source: Nemli, 2009, www.sbf.istanbul.edu.tr

Everyone is responsible for protecting and developing the environment being subject to different evaluations from different perspective and becoming one of today crucial problems. Because the common interest in the protection of environment is available, everyone is affected from environmental problems, environmental assets belong to all society, the precautions to be taken concern the common interest and the effective implementation of these precautions depends on participation of everyone, the accounting also has duties in this matter. (Erençin, 2001, p.69)

## 2. Environmental Accounting in the Context of Sustainable Development

The concept of sustainable development was stated at first in the report of Our Common Future prepared by Commission on Environment And Development of United Nations in the year of 1987 and has become prevalent. In this report, the sustainable development is described as satisfaction of today needs without making concessions from satisfaction of needs of future generations. (Haftacı & Soyly, 2007, p.111)

In this report, it is stated that environmental problems has threatened the earth and all people of both developed and developing countries, crisis over the world are interrelating and environmental problems could not be differentiated from other problems and it is also declared that development in the current evaluation level of the humanity would be ended after a while and this would be prevented by understanding of “sustainable development” and development of countries would be ensured via common quest of people. (Haftacı & Soyly, 2007, p.112)

From the perspective of these developments, enterprises have taken important steps in the subject of environment since beginning of 1990s. However, progresses related to this matter in the field of accounting and finance was reluctant and superficial at the beginning. It is known that unless a realistic movement and change in the economic structure is supported by accounting and finance practices, it would not be successful. For this reason, contributions and achievements of corporations in this subject have been late. (Akün, 1999, p.152)

However, by the understanding of “better lose the saddle than horse”, enterprises designing their accounting system organizations without taking environmental costs into consideration should fulfill this requirement as soon as possible.

## 2. Categories of Environmental Costs

As a result of interaction between management strategies and environment responsibility of enterprises in recent years, environmental accounting information system is required in order to evaluate the environmental

impacts and obtain information being necessary in the various decisions of the enterprise. Considering environmental convenience, business managers need the data of environmental costs while deciding some matters like product diversity and pricing in the management strategies to be determined, choosing of production input, evaluations of options of waste management and projects of pollution prevention. Environmental costs are emerged in conjunction with many different activities and complex fields and within a large time interval. (Akün, 1999, p.152-153)

It is possible for environmental costs to classify as direct costs, administrative costs, product design costs, research-development costs, costs for supporting social projects out of enterprise and other costs. Certain examples related to these costs are available in the Table 2. This table includes most of important environmental cost categories. (Li, 2001, p.59)

**Table 2. Environmental Cost Classification**

Cost classes	Example
<b>Direct Costs</b>	*costs of reduction of damages to environment and air because of production process. Including Costs for air, water and soil pollution prevention,/ costs of prevention of noise, vibration, smell and land subsidence. *Costs of prevention of climate change, global environment protection activities resulted from protection of energy and water sources as well as protection of ozone layer and costs of protection of sources. *Costs of reduction, recycling, incineration and recovery of industrial hazardous wastes and solid non-hazardous wastes
<b>Administrative costs</b>	*Costs of environmental training of employees. *costs of establishment and implementation of environmental management process for instance costs of external certification related to management system *Costs of monitoring and measuring of environmental burdens and recovery works *Additional costs for purchasing of products not damaging the environment *additional costs for purchasing fuel and other raw materials, such as activities for making harmful fuels and raw materials as environment friendly. *Costs of labor for integration above five points.
<b>Product design costs</b>	*costs of recycling/re-composition and collection of the product. * Costs of recycling/re-composition and collection of the package and cases. *Additional costs for more environment friendly product design changes * Additional costs for production of more environment friendly package and packets * Association of above four points with other costs, and payments to trade cooperation. *Labor costs for integration of above five points
<b>Research and developments costs</b>	*costs of research and development for design of more environment friendly products. *costs of research/development/, design/planning during process changes for development of environmental performance * costs of research and development for making distribution and sale system of corporation as environment friendly * Labor costs for above mentioned activities
<b>Costs for supporting social projects out of enterprise</b>	*costs of forestation, beautification, landscape and other development works inside and outside of enterprise assets. *supporting of local committee and environmental activities. Such as financial support, seminar and informing. *Participating and supporting environmental groups *costs of preparation of reports to be represented to public *costs for advertisements related to environment * Labor costs for integration of above five points
<b>Other costs</b>	*costs for soil improvement works and environmental compensations *costs for value and compensation related to settlement *costs for environmental lawsuits *Charity or new burden/taxes related to environment *other environmental costs not mentioned above.

Source : Li, 2001, p.60

### 3. Application Terms and Process of Environmental Accounting

The most general condition for application of environmental accounting into an enterprise is to harmonize enterprise and environment.

Minimum conditions that an enterprise must have for application of environmental accounting are mentioned below; (Uğur, 2006, p.58)

- Ensuring of support of upper level management

- Placing of environmental culture
  - Acceptance of the fact that corporation activities damage the environment,
  - Making evaluation of environmental impact at all projects,
  - Providing environmental training to all personnel,
  - Ensuring of integration in the meaning of description about what is measured and why it is required to be measured for.
  - Technology for being able to measure and keep necessary information,
  - Reporting system to explain the performance measurement information required to interest groups.,
  - Supervising system to ensure reliability of reported information.,
  - In the cases of impossibility of all cost-sharing, demand of acceptance of estimations.,
  - Comprehensive description of concepts like environmental assets, debt, contingent liability etc ,
  - Other (demand, information and opportunity)
- After fulfillment of application conditions of environmental accounting, application process is realized. Application process consists of nine stages. These are; (Uğur, 2006, p.60)
- Development of modeling of input-output analysis for usage of material and energy,
  - Description and understanding of environmental costs,
  - Monitoring and reporting of non-financial data belonging to primary material and energy flow at the enterprise.,
  - Monitoring and reporting of environmental costs,
  - Adoption of decision making models and approaches being predicated on environmental costs and sensitivity,
  - Usage of advanced technologies for distribution of environmental costs to organization units, process and product costs,
  - Extending of scope of environmental accounting and analysis via lifelong valuation and value chain analysis,
  - Reaching to environmental perfection via external reporting and reporting the evaluation in the given undertaking to interest groups,
  - Undertaking for reaching the target of sustainable development.

Understanding of “sustainability” should be together “environmental perfection” mentioned in 8<sup>th</sup> stage. Because environmental perfection are focusing on reduction of wastes and pollution in addition to effective usage of sources, while sustainable development predict on fair distribution of environmental costs and benefits among people and especially surveillance of rights of both today and future generations in addition to this understanding.

As a consequence, because nine steps predicted for environmental accounting are not certain, they would be increased or decreased according to situation of the enterprise. However, steps mentioned here are highly necessary and helpful for almost every enterprise. On the other hand, enterprise must accept following understanding for taking said steps: it should also participate to operation decisions like natural environment, strategic planning, product development, budgeting of capital, in other words this should not be allocated to only single and separate department and should be taken into consideration in all department of enterprise. (Uğur, 2006, p.75)

#### 4. Conclusion

Tangible applications and politics are required for going beyond saying of dependency to sustainable development principles and significance of natural environment as empty words.

These politics should be determined as soon as possible and legal proceedings shall be realized for fulfillment of accepted politics. In this context, using of tangible application tools is for implementation of sustainable development. Environmental accounting is a tangible tool in the application of sustainable development. Remember that applications of environmental accounting should be carried out in the base of volunteering by demonstrating the emergency of environmental problems as justification and in the scope of situation and interest special to individuals-societies-nations instead of methods based on discipline.

Environmental accounting to be called as “green accounting” is also requirement of social responsibility of the enterprises. Considering in long term, it is anticipated that enterprises having the sense of social responsibility would be accepted by society being more conscious rather than the past and this would increase its market value.

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