Exploring the Vietnamese Environment Accounting
With an Introduction About the Green Accounting Information System

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Environment is one of the significant factors to the people and our life, because it is fundamentally joined to everything we require for human beings to subsist. Many fields in the society are influenced by the environment. For these reasons, the Vietnamese government issued the Law on Environmental Protection Tax in 2010 to prove this essential matter. Therefore, the organizations have utilized their tools to record the related transactions into the journals for taking an interest in the nature conditions for substantial development. Based on the accounting aspects, Vietnam has no theories about the environment accounting. Hence, this article will provide some basic information and a general picture of the green accounting information system in the environmental condition. Moreover, this paper will analyze the relationship between the environment and company’s output by applying the environmental management system (EMS) in the accounting system. However, this paper only provides the overall contents about the environment accounting in Vietnam and this limitation will present this problem for further articles.

Keywords: green accounting, environment accounting, environmental management system (EMS), environmental information

Introduction

Environment is a concept that has been discovered for a long time, but its importance has not been realized properly by human beings. Indeed, the environment is the living space for humans and animals (Jasch, 2001). In the process of survival and development, humans need to have the minimum requirements for air, moisture, water, housing, as well as other recreational activities. All these needs are provided by the environment. However, the ability to meet these human needs is limited and depends on the level of development of each country and in each period. Since then, the pressure for using the environment has increased. However, the awareness about the environment is the limitation. The two above reasons have created a need for studies on the interaction between the economic fields and environment. In any nation, the system of national accounts is reflected by many types of total income evaluation in a country. They are Gross Domestic Product (GDP), Gross National Product (GNP), or Net National Product (NNP). They are used for measuring the income amount which countries gained in one fiscal year. They are mainly concentrated on the evaluation of performance and growth of the economy (European Commission [EC], 2000).

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To be able to have a more comprehensive assessment of the sustainability and development, financial accounting field should be expanded to be able to calculate the expenditure when using the natural resources as well as losses incurred in the production process (Bebbington & Thomson, 2007). Although the environment and its impact on the life and works are considered to be of vital importance and seem to be a way to sustain our lives, there are still not many researches on the impact of environment on the business, and especially, the accounting problems in this area are quite new for many countries, including Vietnam. Despite such importance in this area, only few studies have explored the influence of environment on the society, performance management, and its accounting at the company’s reports. Thus, with the above basic objectives, this article is intended to measure the natural assets and calculate the benefits together with environmental costs shown in the financial statements (Jonäll, 2008). This article also examines the interaction between environment and economic performance of enterprises by applying the environmental management systems (EMSs) and green accounting information systems. Furthermore, this paper also analyzed the possible influences between environment and organizations’ economic productivities for presenting some viewpoints on how to record the environment income and expenses in Vietnamese accounting reports.

**Determination of the Revenues and Expenses of Environment**

An important function of environmental accounting is to bring environmental costs to the attention of corporate stakeholders who may be motivated to identify ways of reducing or avoiding those costs while at the same time improving environmental quality (EPA Victoria, 2011). According to Vietnamese Central Institute on Economic Research and Management, the “green accounting” is an accounting system that deducted the depletion of natural resources and the cost of environmental degradation, which is used to assess actually the quality of economic growth. The systems of national income accounts, with their current roles, are unable to assess accurately the impact of economic activities on the environment. For example, while the national accounts typically include depreciation of physical capital over time, on the other hand, the depletion of natural capital is viewed as an income. Like the expenses from other actions, the costs from polluting activities and cleaning jobs are also contributed and calculated to the comprehensive amount of national income (Giannetti, 2013).

As we know, in many articles on International Accounting Standards (IAS), the financial accounting theories have identified and recorded the tangible fixed assets and intangible assets with the principle of lower of historical cost and market value or current value. However, the above theories have not evaluated the usage of natural resources and environment as well as losses in the income of the organizations, which arise due to the decline in natural capital. In addition, up to now, many environmental resources, such as water and air, are continued to be regarded as the free natural products, so they do not appear in the corporations’ financial statements.

In the activities related with financial accounting, the production and distribution of products or services would present many different requirements that arise in the process of production and business activities, such as direct materials, direct labor, factory overhead expenses, selling expenses, general administrative expenses, as well as enterprise research and development expenses. In other words, environmental costs are expenditures in a part of production costs and administration but are not recorded in specific accounts. They are viewed as general management costs in the company (Yusoff, Othman, & Yatim, 2013). This is shown by Figure 1.
From that, the theory of environmental accounting seeks to change, adjust, and reflect the above parts onto the T-account by adding some items to revenue and environmental costs on profit and loss statements of the business’s reports. In doing this process, accountants should focus firstly on the income from waste disposal and income from the recycling of manufactured goods. After that, accountants have to mention and calculate the costs of remedying environmental damages from waste gas or oil spill caused by infection of plant emissions. The relationship between green natural environment and financial accounting can be done by adopting the environmental management information system (EMIS), which is considered necessary to link the environment with effective economic performance of enterprises.

The application of the green accounting system will help the companies make decisions to solve the environmental problems, such as allocation of environmental costs, taxes for using the natural resources, or how to record the environmental expenses into the enterprise journals. So, users within the enterprises are persons who receive the information from green accounting system (such as individuals who are responsible for managing and administering the company’s funds). Besides that, the internal users and the recipients may also be people who are outside the company (such as investors, creditors, customers, tax authorities, citizens). Both the above users are persons who are interested directly or indirectly in the environmental information. All these people need reliable information to:

1. Determine the effects from environment as well as additional expenses which company applied into the manufacturing processes with environmental factors;
2. Estimate the environmental costs in the overall production costs that businesses spend;
3. Determine the chances about the environments for creation of the net income to the company;
4. Implement and maintain an EMIS with a combination between the environment and other aspects in management activities;
5. Recognize the costs and future productivity when the EMIS model is applied;
6. Establish, build up the cost accounting methods, and evaluate the environmental products;
7. Design a process of manufacturing environmental goods and services in the business.
Nature and characteristics of the most of environmental costs mentioned in this article are expenses which occurred within the enterprises. However, there are some specific costs, which are considered as “external” costs or costs with “social” feature. First of all, it can be described by ordinary expenses (called as conventional costs), which are not compatible and visible, causing an economic impact on the company. Subsequently, costs revealed are the environmental costs that businesses are not responsible for and these costs have no relationship directly with a company’s daily economic and financial situation. These costs can be illustrated by Figure 2.

![Figure 2. Structure of internal and external costs of enterprises.](image)

After considering the income and expenses from the environment in general, managers must identify and be aware that environmental costs are usually included in various parts of the accounting system and this is a difficulty to collect all the “green information” needed for decision-making. Since then, the companies must find the approaches to achieve the environmental goals, such as reducing green costs, increasing income, and improving the output environment. Last, businesses need to identify back, measurement, and presentation of the environmental costs generated by the activities of environmental characteristics.

In fact, the flow between the external and internal costs is often very subtle, especially as the rapid changes of regulations and the market requirements have been expanded much more in order to protect the environment (Gray, Bebbington, & Walters, 1993). Therefore, it is important that companies need to recognize and understand the factors that create the external environmental costs. In the world, in traditional terms, most companies have supposed the environmental costs that will be accumulated in general and administrative expense account and it is considered the unusual items. This is a matter creating difficulties in the identification and measurement in the accounting or bookkeeping.

Hence, under the current trends, companies will tend to separate various costs based on types of products, processes, or activities. Therefore, the expected activities affected by environmental accounting will be conducted to classify costs as “internal” or “external”. With the methods mentioned above, the accountants of green accounting will help to understand environmental effects and manage, analyze, and record the environmental costs onto the company’s accounting books. In addition, the system of green accounting also supports companies for making many solutions of investment in the projects related with environment in an effective approach. From these contents, the function of the environmental accounting system can be illustrated by Figure 3.
AN INTRODUCTION ABOUT THE GREEN ACCOUNTING INFORMATION SYSTEM

According to Figure 3, the information that environment accounting provided will target at two basic functions. They are internal and external functions or inside and outside approaches (Riege-Wcislo & Steurer, 1997). The application of environmental accounting that is suitable for each enterprise is basically developed through much testing and improvement of each enterprise. Most countries, including Vietnam, are unable to have a perfect application of environmental accounting systems and fully carried out this system in companies. Every business should conduct the surveys or tests for finding out the limitations when that firm uses a new system. The processes and matters proposed for the installation of the environmental system are to recognize and assess the environmental impacts on the operations as well as assessment of the environmental results. The next part will show companies how to use the system related with environment.

**Green Accounting and EMS**

All companies need a system software or a program for setting down the environmental transactions into their books. EMS means all processes and policies for determining how businesses certainly manage the possible impacts on the natural environment, citizens’ health, and prosperity in an area. This program creates a system for quantitative assessment, registration, and demonstration about environmental impacts in all business aspects. Overall, the businesses that apply an EMS can change the relationship between economic activities and environmental productions (Aronsson, 1998). The EMS application of companies can help to restructure the organization for reducing its negative impacts on the environment. Furthermore, with the adoption of a high-quality EMS, companies can also detect the decreased cases by use of natural resources and monetary-based sources in a country.

Based on the EMS, researchers have discovered the Total Environmental Accounting and Management System (TEAMS). It is an application used by a number of countries in recent years and is quite effective to them. This program is an application for database related to recording, processing, and quality certification and reporting of environmental factors (see Figure 4). The aim of this program is to establish the balance of nature in the business factors. These factors will be registered in the general database, from which the basis for presentations and reports of the company at any time is given. This amount is used to describe the amount of waste discharged. When a company input the entries with the amounts onto the system, the program will calculate the total costs and remove the inappropriately entries for this company.
Based on the information given by the company, TEAMS program will be developed by an international model of environmental management issued on certificate of International Standardization Organization (ISO) 14001 in the United States. With this program, the leaders of enterprises have a complete control for recording the usage of environmental factors. They have also assured the quality of information and the access to all production levels and presentations in the environmental reports.

**A PICTURE OF T.E.A.M.S. PROGRAM**

![Figure 4. A sample picture of TEAMS program.](image)

It also provides adequate documents about the environmental effects from the business’s operations. In addition, it also documents the business results to the environment and accurately calculates the value of this effect (Freimann, 2000). Moreover, it contributes to the full awareness of the location of the business environment and creates an administrative tool that aims to achieve the desires about the environment.

**Some Suggestions for Vietnamese Approach in Accounting**

The government and users, consisting of other stakeholders and related parties, will likely increasingly exercise pressure on the corporations to enhance their environmental performance and to disclose those activities in a transparent way (Jonäll, 2008). In addition, the development strategies in Vietnam, in the period from now to 2020, are the rapid economic development, sustainability, environmental protection, and harmonious resolution of economic issues, environment, and society. Thus, the government has issued more and more regulations to limit the exploitation of natural resources for economic development of society as well as to limit the maximum level of violations, environmental destruction, and pollution of the environment (Ngo, 2011). With the purpose of improving our space, the Vietnamese companies must enter the environmental items to financial statements. It is important that the corporations know what they must record into the journals or reports (Trong, 2008). This article gives some items of expenses and revenues as general suggestions for the state’s consideration and application.
AN INTRODUCTION ABOUT THE GREEN ACCOUNTING INFORMATION SYSTEM

Some Items Related to Expenses

Cost of waste disposal. This cost is the first item related to the environment, including the waste disposal costs from the related contract, insurance of the reserves for cleanup costs. The contents of the account details are depreciation of related equipments, materials in the operation contract and maintenance services, costs related with personnel, fees and taxes, penalties, insurance for environmental liability, provisions for the cleaning, and compensation and repairing costs.

Costs of prevention and environmental management. The focus of these costs is annual expenses for the prevention of waste and emissions. These costs include labor costs in the company and the outsourcing services for waste prevention activities, research and development expenses of environmental projects, and costs incurred for the use of cleaning techniques and friendly materials to the environment.

Value of waste collection. All wastes are not considered as products by balancing the flow of materials and waste materials are defined at the acquisition price. The contents of the account details are raw materials, package, auxiliary materials, active materials, energy, and water.

Waste processing costs. Waste processing costs are estimated and recorded. These costs include labor hours, depreciation, and operation materials which are consumed in the raw materials used in production but do not create finished products and thus become waste.

Some Items Related to Revenues

These revenues include amounts that are actually collected from the recycled materials, grants, and cash awards for environmental activities. Specially, they are allowances, bonuses, and other incomes, e.g., grants, money from the tax exemption, bonuses, other income received due to the achievement of the standards of environmental performance, income from the sale of recycled products, and the surplus in the treatment of waste.

To sum up, these above items are the revenues and expenses arising under the operation of a business in the social economy. Further studies will explore the details and give clear entries into the books of the company.

Conclusions

It can be said that the environment has natural factors and artificial material elements. It is closely related to each other, surrounding people and affecting the life, production, survival, and development of human and nature. Socio-economic development is the process of improving the living conditions of physical and human spirit through the production of material wealth, improved social relations, and cultural quality. Development is the general tendency of individuals and mankind in the process of living. Between environment and development, there is a very close relationship: The environment is a location and the object for development and development is the reason that creates environmental changes.

In the socio-economic system, goods are moved from production, circulation, distribution, and consumption, along with flows of raw materials, energy, products, and wastes. Those ingredients are always in a state that interacts with components of natural and social environment of the system existing in that area. When companies have a lot of activities impacted by the environment and record fully the expenses, they will have the fundamental for generating the fund to improve and reform the natural conditions in the society. However, this can cause environmental pollutions, natural or artificial. On the other hand, the natural
Environment also has an impact on the socio-economic development, because the company’s activities have decreased the capacity of resources. From that, it makes the damages to nature and natural disasters to the areas where people live and work. With the significant content above, the environment is always considered as an important factor to which any country has to pay attention for improvement and protection of sustainable development.

Environment accounting is a very new field and is still growing, but it has drawn much attention in recent times. The environmental managers and other professionals know that environment accounting is the accounting range which has supporting functions for the management of the environment. The obvious evidence is the Vietnamese government’s “Law on Environmental Tax” issued in 2010 for proving the importance of environment to society and people. Since then, the recognition of losses to the environment is considered as an essential demand. In this paper, we have tried to offer a complete view of the situation of environment accounting in Vietnam, together with giving a broad and general picture of the green accounting information system for recording the basic elements related to the environment. Through this, this article provides the basic contents about the revenues and expenses related closely with the environment. These factors will be new topics for further researches in the field of environment in Vietnam for the coming years.

References