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5. Conclusion:

It is necessary to stop thinking about the environment and the use of natural resources as a free good. This way of thinking is based on the neo-classical economic framework which assumes that nature is a free good. Environmental accounting can respond to the destruction of our planet and this relates to the idea of sustainability. We have to change our accounting education system to create awareness among our accounting students that they have a mission to achieve and it is not mission impossible. We have to show commitment and then translate this commitment into real actions to preserve our planet. One of these actions is to develop environmental accounting measures and standard and this is the concern of our next article.

provision of relevant financial information on the means to achieve these end states.

Mathews (2001) argued that there is a very little consideration in conventional financial accounting of alternative accounting formats including sustainability. Accounting practices allows for the application of Generally Accepted Accounting Principles approved disclosure formats and the concern is only with financial measurements. Non-financial quantitative and qualitative is currently excluded from the conceptual framework even in western countries. Accounting is not only technical but it has social implications and consequences. What is needed in social and environmental accounting course is (p.339):

Developing moral thought processes about social and environmental issues; examining the role of accounting in society; examining alternative reporting formats; expanding the definition of stakeholders groups, and addressing the need of standardization and audit is social and environmental reporting.

Kelly et al (1999) argued that accounting education needs to change if it is to respond to changes in society. Accounting students should be encouraged to develop their talents. They should become able and capable of challenging dominant structures and statues quo. Universities should respond to the needs of their students and societies. Students should be encouraged to be independent learners. We should move from learning facts to learning to learn. They state (p.326):

Learning to learn involves the student acquiring skills and strategies that allow them to learn effectively throughout their lives. This implies a shift from knowledge-based educational approaches to approaches that are process-based, fostering independent inquiry and intellectual independence. There appears to be substantial consensus on the need to move ... where learners are active participants in the learning process.

before and after they undertook their course. The results show that it is possible to create changes among those students who are nearly going to enter the workforce.

The problem with teaching environmental accounting is that in universities where courses are offered, they are not obligatory and the level of students who enter these courses is low. Teaching is based on individual initiatives rather than the development of a systematic and well organized course (Bebbington, 1997).

Accounting in its conventional view is seen and taught as a process of reporting financial information to a limited group of stakeholders for decision making and control. It is viewed as a technical activity whose concern is only to show whether companies were making profits or losses. Accountants may be reluctant to accept social and environmental accounting issues unless the educational process change to incorporate those issues. Traditionally accounting is treated as a means of rational calculation and as a tool in resource allocation decisions. The problem is that "much of the traditional approach to accounting education has a mechanistic perspective which suggests that students can be trained to know 'facts' and 'techniques' which will allow them to determine the correct answer to any management problem" (Kelly et al, 1999, p.326). The only phenomena that are considered significant are economic phenomena. Accounting phenomena is treated as a problem to be solved and the aim is to achieve an efficiency happy end (Puxty, 1993). Accounting researchers in mainstream accounting studies don't pay attention to the evaluation dimension. The goals of various interested groups other than stockholders are not taken into consideration. The current framework in which accounting system operates is taken for granted without question. Chua (1986, p.610) states:

Mainstream accounting research does not have as one of its expressed purposes an attempt to evaluate and possibly change an institutional structure. Societies may be capitalist, socialist, or mixed, and markets may be monopolistic or firms exploitative. The accountant, however, is said to take a neutral value position by not evaluating these end states. His/her task is simply the

working in those countries. They cited environmental protection as one type of social information needed for economic planning. They state that other information include (p.159):

... purchase of inputs locally; profit and capital repatriation; extent of planned or actual local equity participation; local participation in top management; level of employment provided; obligation to train local personnel; environmental protection; construction of social overheads such as roads and housing; and use of locally owned transportation.

Although it is important to recognize the need to increase the rate of economic development in developing countries and at the same time preserve our environment, it is necessary to change our behavior and our way of thinking about the environment. Perhaps a good starting point is to change our education system to incorporate informations about our natural resources. Accordingly, the next section deals more with this point.

4. Environmental Accounting Education:

Despite the large volume of materials published on the area of environmental accounting in western countries, relatively little has been written on the area of environmental accounting education, in spite of the large number of academics interested in the area (Mathews, 2001). For example, Gray et al. (1994) argued for a social and environmental accounting education program to overcome the tiny learning process associated with undergraduate accounting syllabus. In order to change our accounting practices, it is necessary to create awareness among those who are involved. Gibson (1997, p.584) states using Mathews (1986):

Research will be fruitless in obtaining change in accounting practice unless the future practitioners produced by educational courses have a basic knowledge and awareness of the issues involved in social and environmental accounting.

Gordon (1998) measured the reactions to social and environmental accounting issues among final year undergraduate students enrolled in an accounting theory compulsory course. He measured their reactions

Although the area of social reporting and environmental accounting is a neglected area of research in developing countries, there are some signs that this situation is beginning to be changed in recent years. Environmental accounting by providing information about pollution in different areas as well as the inefficient use of scarce resources can help decision-makers in preventing waste and enhance economic growth. The environment is an input in economic activities and economic decisions have a great impact on the natural environment. They both have a strong relation and it is difficult to think of them as isolated areas but it is better to consider them as dependent on each other. It is not either the environment or the economy but it is both the environment and the economy.

According to the corporatist view in the first-world, organizations are capable to learn from their mistakes and their learning can result in actions to correct different situations. Many problems, can be faced by devoting resources and a well management of the environment, such as biodiversity, ozone destruction, and global warming are an issue of concern in those countries. The problems in developing countries are many but the most prominent is the lack of resources and the efficient expertise to tackle and deal with different situation (Everett and Neu, 2000). Principle twelve in Stockholm Declaration on the Human Environment states that (cited in Bell and Lehman, 1999, p.176, emphasis added):

Resources should be made available to preserve and improve the environment, *taking into account the circumstances and particular requirements of developing countries* and any costs which may emanate from their incorporating environmental safeguards into the development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

Gray et al. (1996) argued for the need of social reporting not only to industrial countries but also to less developed countries given the consideration that a large number of multinationals corporations are

pollution. Turner et al. (1994) stress the benefits from introducing environmental policies that preserve our planet by stating that (p.241):

While industry is rightly concerned about the costs the environmental policies might impose on them; there is little evidence that, in the aggregate, environmental policy constrains economic growth. Part for the reason for this is that the expenditures are not that large, but the other reason is that expenditures are income to other sectors of industry, e.g. the pollution abatement sector. If that sector is very strong it may ... actually stimulate growth and employment through the creation of export markets.

The concern about the environment is not limited only to first world countries. The problem may be severe in developing countries that have more than enough problems to deal with. The issue of the environment in developing countries can not be simply ignored or researchers pretend it is not serious. The next section deals with issue of developing countries and the environment.

3. Less Developed Countries and Natural Resources:

Developing countries are not a homogenous group and mostly found in Africa, Asia, Latin America and the Middle East. Each country is different in terms of Gross National Production (GNP), population, culture, geographical size, access to natural resources and economic and political systems. Some of these countries have a higher GNP and is still considered a developing country such as Kuwait and Saudi Arabia. They share some common features such as unbalanced distribution of income and wealth, their exports consists of agriculture or mineral products, their industries are suffering from various weaknesses and their import level is higher than their exports. Although there are some studies in the last three decades about accounting in those countries (Wallace, 1990), the research in this area is still a "nascent field of study" (Wallace, 1990, p.4).

important in constructing reports which trace how natural resources are used" (Ibid, p.178).

Sustainability relates to the planet and the biosphere ability to renew itself. Gray (1992) used Daly and Cobb (1990) argument that sustainability is like Hicksian income and the conventional notion of capital maintenance. Business organizations use raw materials such as limestone, oil and metals and this action leaves planet earth worse off. Three different types of capital need to be maintained critical natural capital such as ozone layer, sustainable natural capital such as agricultural products and man made capital such as machinery. He proposes the need for an accounting system that takes into consideration the problem of sustainability. This accounting system needs to provide calculations of what additional costs must be incurred if the organizations activities not to leave the planet worse off in other words what would cost at the end of the accounting period to return the planet and the biosphere to the same level at the beginning of the same accounting period. It is with no doubt how much this cost would be and this will make decision makers to think more than once about their decisions before harming the environment. He states (p.419, original emphasis):

To be effective, this shadow accounting system would, preferably, produce numbers which can be deducted from calculated accounting profit and be expanded in the restoration of the biosphere. This will, thus, lead to recognition that organizational income has been grossly overstated for some considerable time and that current generations have been benefiting at the cost of some future generation. *The probability is that no western company has made a 'sustainable' profit for a very long time, if ever.*

Improving the environment and sustainability means spending resources and thus incurring costs but the issue is whether or not we are spending the main point is whether or not we are making benefits from this spending. In the United States, in 1981 the benefits that accrued from legislation to control water and air pollution were about \$37 billion. The costs of the legislation in that year were about \$14 billion and this shows that there are net benefits from controlling

try to show how environmental accounting can support economic development.

2. Environmental Accounting and Economic Growth:

Human population has risen dramatically in the past century and it is expected to double in this century. The material demands of the average individual have been increasing rapidly. The problem of poverty is seen as a common problem round the globe. It is believed the reason that "third world poverty exists is because the first world has been expropriating natural resources from these countries first under colonial rule then under neocolonial rule" (Bell and Lehman, 1999, p.178).

Increasing the rate of economic growth has generally been seen as the solution to the problem. In order to increase the rate of economic growth it is necessary to use more scarce economic resources which are limited to produce goods. However production and consumption give rise to waste products and thus the problem of pollution arises. Some environmentalists believe that we reach the peak of what the environment can tolerate and any more economic growth will inevitably damage the environment and destroy our planet (Perman et al, 2003).

Economic activities systematically produce environmental harm and destroy our planet this requires the management of the world's global resources in a more rational way. This raises the need for sustaining the natural resources. The term sustainability has come to the pivotal point in the economic, social and political agenda since 1987 with the Our Common Report issued by the World Commission on Environment and Development which is an institution established by the United Nations and it is known also as Brundtland Report after the name of the Commission chair Gro Harlem Brundtland who was the Prime Minister of Norway. The United Nations was concerned about the increasing world population. According to the report it is impossible to separate the need to increase the rate of economic development without taking into consideration environmental issues (Bell and Lehman, 1999). The "role of accounting becomes more

financial account to the owners of capital, in particular shareholders.

While it is commonly known that the main aim of business organizations is to generate profits and to achieve adequate rate of return from their shareholders point of view, there is now an emergent trend that corporations mainly in Western and European countries have to satisfy other needs to a broader group of stakeholders. Those needs include informations about social and environmental impact of the decisions taken by organizations on society. This raises the idea about the social contract between business organizations and members of different societies. The idea of social contract states that while the main aim of business organizations is to achieve profits, they have social responsibilities towards their societies (O'Donovan, 2002). The increasing global concern for the environment has manifested in increasing the social green and political movements. Recent writings in the area focus upon possible ways to account for the impacts of organizations on the natural environment. There are many reasons to provide voluntary informations about the environment. For example, to respond to stock-markets consideration, it may be made in an attempt to make the governments and public confident on the companies' policies and to reduce any potential political costs (Roberts, 1991). The way the companies can deal with the problem of the environment is through the help of the accounting profession who has to play a leading role in this issue. Medley (1997, p.600) states:

The environment is an opportunity for the accounting profession to demonstrate that it is on the top of contemporary issues and that the profession can grasp new opportunities and run with modern issues. The environment will be a challenge, but it is a challenge that accountants are well able to deal with, well able to run with, and well able to demonstrate that it is an issue that they can truly grasp.

In this section, we try to show how environmental accounting emerged, the definition of social and environmental accounting and also the waiting role of the accounting profession. In the next section, we will

One of the concerns for researchers was the dissatisfaction with conventional accounting practices to support social and environmental issues. Social and environmental accounting research in Western and European countries emerged and concerned with exploring and developing new forms of accounting which are more socially and environmentally pertinent (Bebbington, 1997). Traditional financial accounting systems are not constructed to take into consideration environmental issues. Financial accounting statements such as profits and losses statements and balance sheets reflect the use of resources that an organization acquired through market transactions. If there are no market transactions and market prices then traditional accounting systems will have difficulties in assigning values. The environment is not controlled by any particular entity and it is outside market forces. Perman et al (2003) argued that the conventional system of national accounts in most countries is based upon the System of National Accounts designed by the United Nations Statistical Division and it is not adequate to measure the impact of environment on income. They state (p.627):

Criticism of current accounting conventions centers on three main issues: the absence of any allowance for the depletion of natural resources, the absence of any adjustment for degradation of environmental amenity, and the fact that activity to offset environmental damage is counted as part of income.

In the past the consumption of some natural resources can be seen as a consumption of free goods. However, recently researchers and business communities began to recognize that environment is not costless and we have to prepare accounts for it (Bell and Lehman, 1999). Gray et al. (1987, p.ix) explain the meaning of social reporting and accordingly environmental accounting as:

... the process of communicating the social and environmental effects of organizations economic actions to particular interest groups within society and to society at large. As such it involves extending the accountability of organizations (particularly companies), beyond the traditional role of providing a

Introduction:

The concern about natural environment has not occupied an important role in accounting studies till the beginnings of 1970s. However, the disclosure of environmental information in corporate financial reports has been a topic of interest within accounting literature in the post 1970s accounting literature in Western and European countries. Environmental accounting research is an embryonic area of research in our Arab and African countries. Environmental accounting by providing information about pollution in different areas as well as the inefficient use of scarce resources can help decision-makers in preventing waste and enhance economic growth. Accounting plays a crucial role in economic development. Most developing countries suffer from low growth rates and in order to achieve progress it is important to provide the decision-makers with the suitable informations.

This study explores environmental accounting as a new area in accounting research. It is then proceeds to describe how environmental accounting can play a leading role in improving economic growth in developing countries. It is then gives recommendations on the need to incorporate environmental awareness in our culture and to improve our accounting education systems to include informations about our environment.

1. Environmental Accounting as a New Trend in Accounting Research:

Environmental accounting research has emerged in the last thirty years as a part of academic research within the area of social accounting. Numerous articles have appeared in academic accounting journals such as Accounting, Organizations and Society; Accounting Education; Accounting, Auditing and Accountability Journal; and Accounting Forum with special issues devoted to the topic. In the opinion of some "the topics of social responsibility and environmental accounting have exploded over the last two decades" (Everett and Neu, 2000, p.12).

Abstract:

The concern about natural environment has not occupied an important role in accounting studies till the beginnings of 1970s. However, the disclosure of environmental information in corporate financial reports has been a topic of interest within accounting literature in the post 1970s accounting literature in Western and European countries. Environmental accounting research is an embryonic area of research in our Arab and African countries. Through environmental accounting by providing information about pollution in different areas as well as the inefficient use of scarce resources can help decision-makers in preventing waste and enhance economic growth. Accounting plays a crucial role in economic development. Most developing countries suffer from low growth rates and in order to achieve progress it is important to provide the decision-makers with the suitable information's.

This study explores environmental accounting as a new area in accounting research. It is then proceeds to describe how environmental accounting can play a leading role in improving economic growth in developing countries. It is then gives recommendations on the necessity to stop thinking about the environment and the use of natural resource as a free good. Environmental accounting can respond to the destruction of our planet and this relates to the idea of sustainability. We have to change our accounting education system to create awareness among our accounting students. We have to show commitment and then translate this commitment into real actions to preserve our planet. One of these actions is to develop environmental accounting measures and standard and this is the concern of our next article.

ملخص:

تلعب المحاسبة دورا هاما في التنمية الاقتصادية وخاصة في الدول النامية تعاني التي من انخفاض معدلات التنمية الاقتصادية حيث تهدف المحاسبة الي زيادة معدلات التنمية الاقتصادية من خلال امداد متخذي القرار بالبيانات و المعلومات الملائمة و التي تساعدهم في اتخاذ القرار . وقد اهتمت المحاسبة منذ بداية السبعينيات - اذاه لدفع عجلة التنمية - بالبيئة الطبيعية حيث زاد اهتمام الدول الغربية و الأوروبية بالمعلومات البيئية اثرها علي القوائم المالية واصبح الزاما علي الشركات الإفصاح عن تلك المعلومات في التقارير المحاسبية الخاصة بها. وعلي النقيض نجد ان اهتمام الدول العربية و الأفريقية بالمحاسبة البيئية اهتمام محدود للغاية حيث إن الدراسات في المحاسبة البيئية في تلك الدول تعتبر حديثة نسبيا لذا أولى الباحثين الاهتمام بالمحاسبة البيئية في الدول العربية والأفريقية.

وتأتي أهمية المحاسبة البيئية في كونها أداة لتزويد متخذي القرارات بالبيانات و المعلومات عن التلوث في المناطق المختلفة و كذلك بيانات عن عدم الاستغلال الأمثل للموارد الأولية المتاحة الأمر الذي يمكن متخذي القرار في منع إهدار هذه الموارد و في نفس الوقت تحسين معدلات النمو الاقتصادي.

وفي هذه الدراسة يشير الباحثان الي المحاسبة البيئية كفرع جديد للمحاسبة و كيف يمكن استخدام المحاسبة البيئية في رفع معدلات التنمية الاقتصادية و خاصة في الدول النامية. ويوصي الباحثان بعدم النظر إلي البيئية و الموارد الطبيعية كموارد مجانية و انه يجب النظر إليها علي إنها موارد لها مقابل معين (المحافظة علي البيئة) و من ثم يجب الاستغلال الأمثل لتلك الموارد.

كما يوصي الباحثان بضرورة تعديل نظم التعليم المحاسبي للطلبة الدارسين للعلوم المحاسبية بحيث تتضمن فكر جديد للمحاسبة البيئية و كيفية المحاسبة عن البيئة و المحافظة عليها. وأخيرا يوصي الباحثان لأبحاث المستقبل بضرورة إظهار الالتزامات نحو البيئة و ترجمتها لأحداث و أنشطة تهدف إلي المحافظة علي البيئة و من أهم تلك الأحداث وضع معايير و مقاييس لمحاسبة عن البيئة.

**The Need for Environmental Accounting to
Sustain Economic Development in Developing
Countries**

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