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Environmental Accounting in India-A Conceptual Study

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Abstract
Environmental accounting is very important issue. As economic development as well as environmental protection is equally important but contradictory issue therefore a careful assessment of the benefits and costs of environmental damages is necessary to find the tolerance limit of environmental degradation and the required level of development. For that there is need for proper framework which can provide guidelines on the issue of environmental cost, environmental liability, environmental assets, capitalization of such cost and liability and reporting framework. The present paper is an attempt to delineate the theoretical aspects and the developments in the environmental accounting.

Keywords: Environment cost, Contingent costs, Reporting

Introduction
The environment is an opportunity for the accounting profession to demonstrate that it is on 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 that they too can turn around in the future and say "we have made a difference to the world we live in".

Industries are becoming progressively more aware of the environmental and social liabilities pertaining to their operations and products, with associated financial effects. Uncertainties in measuring these financial effects can be addressed by using environmental and social liabilities as environmental costs.

Many companies now include in their corporate reports and accounts additional information that describes the impact that their activities have on the environment. This information frequently takes the form of details about the firm's emissions into air, or waste to water, or details of fuel and materials used.

2. Identifying Environmental Costs
Environmental Accounting terminology uses such words as full, total, true and life cycle to emphasize that traditional approaches were incomplete in scope because they overlooked important environmental costs (and potential cost savings and revenues). The following are the examples of environmental costs as well as framework that have been used to identify and classify environmental costs. The Accounting systems typically classify costs as:

1. Direct materials and labor,
2. Manufacturing or factory overhead (i.e., operating costs other than the direct materials and labor),
3. Sales,
4. General and Administrative (G&A) Overhead,
5. Research and Development (R&D)

Table: Examples of Environmental Costs Incurred By Firms

<table>
<tr><th colspan="3">Potentially Hidden Costs</th></tr>
<tr><td>Regulatory</td><td>Upfront</td><td>Voluntary (Beyond Compliance)</td></tr>
<tr><td>Notification</td><td>Site Studies</td><td>Community relations/ outreach</td></tr>
<tr><td>Reporting</td><td>Site preparation</td><td>Monitoring/testing</td></tr>
<tr><td>Monitoring/testing</td><td>Permitting</td><td>Training</td></tr>
<tr><td>Studies/ modeling</td><td>R&D</td><td>Audits</td></tr>
<tr><td>Remediation</td><td>Engineering and Procurement</td><td>Qualifying suppliers</td></tr>
<tr><td>Record Keeping</td><td>Installation</td><td>Reports(e.g. annual environmental reports)</td></tr>
<tr><td>Plans</td><td rowspan="8">Conventional Costs
Capital equipment
Materials
Labor
Supplies
Utilities
Structures
Salvage Value</td><td>Insurance</td></tr>
<tr><td>Training</td><td>Planning</td></tr>
<tr><td>Inspections</td><td>Feasibility Studies</td></tr>
<tr><td>Manifesting</td><td>Remediation</td></tr>
<tr><td>Labeling</td><td>Recycling</td></tr>
<tr><td>Preparedness</td><td>Environmental Studies</td></tr>
<tr><td>Protective equipment</td><td>R & D</td></tr>
<tr><td>Medical Surveillance</td><td>Habitat and Wetland Protection</td></tr>
<tr><td>Environmental</td><td>Back-End</td><td>Landscaping</td></tr>
</table>

Insurance	Closure/ decommissioning	Other Environmental Projects
Financial assurance	Disposal of Inventory	Financial Support to environmental groups and/or researchers
Pollution Control	Post-Closure care	
Spill response	Site Survey	
Storm water management		
Waste Management		
Taxes/Fees		
Contingent Costs		
Future Compliance costs	Remediation	Legal expenses
Penalties/Fines	Property damage	Natural resource
Response to future releases	Personal injury damage	Economic loss damages
Image and Relationship Costs		
Corporate image	Relationship with professional staff	Relationship with lenders
Relationship with customers	Relationship with workers	Relationship with host communities
Relationship with insurers	Relationship with suppliers	Relationship with regulators

Source: EPA An Introduction to Environmental Accounting As A Business Management Tool: Key Concepts And Terms

3. Environmental Accounting Defined

Environmental accounting can be defined as "The generation, analysis and use of financial and non-financial information in order to optimize corporate, environmental and economic performance, achieving a sustainable business" (Bennett and James 1988 a p.33).

According to United Nations Division for Sustainable Development Environmental Accounting is "simply doing better, more comprehensive management accounting, while wearing an environmental hat, that opens the eyes for hidden costs" (UN CSD 2001 p.6).

An important aspect of environmental accounting refers to the recognition of the environmental costs. Obviously this requires defining environmental costs. Such a definition is found in international and European accounting rules. According to the IASB and the FASB, environmental costs are determined environmental costs, which resulted in a benefit that has expired and which is detailed along with income in the income statement.

4. History of Environmental Accounting

4.1 Environmental Accounting During 1970's and 1980's

The period 1971-1980 heralded the beginning of environmental accounting in the guise of 'social responsibility accounting'. Social responsibility accounting sought to establish the degree of responsibility that companies should have towards stakeholders other than the firm's shareholders.

Part of this responsibility concerned the interaction between the firm and ecological environment. This reflected a preoccupation with the environment evident among academics at that time. For example, in 1972 The Club of Rome Report offered a doomsday scenario where unrestrained economic growth had placed natural resources under severe pressure (Meadows et al, 1972). In particular oil, the lifeblood of Western Capitalism, was predicted to run out by the end of the century.

4.2 Environmental Accounting During 1980's and 1990's

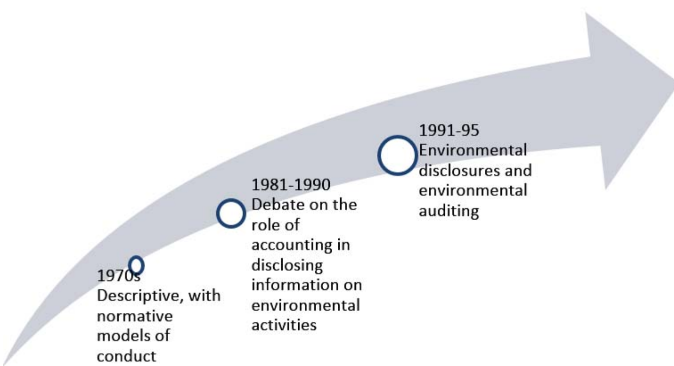
During the period 1981-1990 the emphasis in the accounting literature shifted from 'social responsible accounting' to 'environmental accounting' reflecting the strong interest in the latter. Research became more analytical in approach and the philosophical debate began to focus more on what kind of environmental information it was appropriate for companies to disclose.

4.3 Environmental Accounting During 1990's and 2000's

From 1990 to date the emphasis on environmental accounting continues unabated and engages the interest of both academic and practicing accountants. The latter have found their interest stimulated by government legislation. For example, some countries like Denmark and the Netherlands require companies to produce a 'green account' or 'environmental report'.

4.4 Environmental Accounting During 2000's And Later

There is a widening of this area of research in numerous developing countries including Romania. At the international level are issued guidelines on reporting environmental information and regulations appearing in the accounting environment. The number and quality of articles on environmental accounting continues to grow. The UK Government made it mandatory for FTSE companies to comply with ISO 14000 in 2005.



Source: Compiled From John Wiley & Sons, Ltd and Erp Environment

Fig 1: Timeline of Environmental Accounting

5. International Status

Many countries have experimented with environmental accounting over the past two and half decade. A few European countries have established physical accounting systems which are routinely complied and applied to economic and environmental policy-making. Many other countries have undertaken more limited or one-time experiments and case studies with monetary environmental accounts, focused on issues such as forestry, soil erosion, and mineral depletion.

6. Practice of Environmental Accounting in India

1. Very few corporations give adequate information regarding environmental issue. If as per requirement of applicable law they have to prepare and submit any information relevant to environment they do so. The Environment Ministry has issued instruction in this regard to prepare environment statement. It can be observed through their accounts that mainly the following types of information are given:

i. What type of devices installed for pollution control.
ii. Steps taken for energy conservation.
iii. Steps taken for raw material conservation.
iv. Step taken for waste water and production process waste.
v. Step taken for improvement of quality of product and services, process of production, etc.

2. A study was conducted among 80 executives of different industries by Dr. B.B. Padhan and Dr. R.K. Bal which revealed that corporate world is fully aware of the requirements of environmental reporting. They are also aware of the environmental issue. The corporate executives have also expressed their views in favour of environment reporting by the industries. Despite their awareness and consent over environmental reporting by industries is it very poor. It is so inadequate that very little information is found in the annual report.

3. In the words of Jong Seo Choi, research studies have examined the extent to which companies produce social information, of which environmental information would be part. A number of general themes that emerge from this include the following:

i. The proportion of companies disclosing and extent of that disclosure are small and the quantity is low.
ii. There is some variety in disclosure over time, between countries and between industries. Social disclosure in general and environmental disclosure in particulars reflects the changing business climate and social, economic and political environment in which they occur. However, the total amount of voluntary disclosure stays fairly constant over time and what changes is the subject addresses in the disclosure.
iii. There is a very definite size effects in those larger companies are more likely to disclose than smaller companies.
iv. Very little disclosure would qualify as information under any normal criteria and very little of it indeed will contain numbers, financial or otherwise.

4. Environmental reports as contained in the Directors Report of three Indian Companies are as under:

i. Asian Paints (India) Ltd, (1993-94): “Ecology and Safety: Samples of treated effluents are periodically checked for Compliance with standards”
ii. Goodlass Nerolac Paints Limited (1993-94): “ Pollution: The company regularly monitors measures in force in accordance with the Pollution Control Act for the protection of environment and for ensuring industrial safety. The company carries out improvements regularly to ensure full compliance with the statutory requirements.”
iii. Maruti Udyog Limited (1993-94): “Environment: Modification of the existing effluent treatment plant was undertaken to take care of additional effluents generated due to capacity expansion. Data on non–methane hydrocarbons in Paint Shop and Engine Testing shop, ambient air quality, stack emissions and effluents are being regularly monitored and the parameters are maintained well within prescribed limits. Development of green belt around gas turbine and R&D areas was further augmented by plantation of 3000 additional saplings.`

5. It was also revealed that most of the companies disclose the environment information in descriptive manner rather than to financial type i.e. no account is made for the degradation of natural capital when calculating corporate profits.

7. Conclusion

The conventional accounting system which predominantly is the source of information regarding the organization’s operations must be adjusted to include environment cost assessment. Incorporating environmental accounting into managerial system could be the better step in this regard. If the environmental liabilities are to be considered, they are characterized by uncertainties. There is immense challenge posed to the organizations to deal with the critical issue.

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