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ENVIRONMENTAL ACCOUNTING IN INDIA

PRATIK PRAVIN
RESEARCH SCHOLAR,DEPARTMENT OF COMMERCE,SAURASHTRA UNIVERSITY, RAJKOT.

ABSTRACT
Due to industrialization there is rapid change in world economy, it is necessary to measure to maintain balance between development and environment. Environmental resources are gift of nature and their protection is necessary to leave healthy life. Now a days there is more degree of awareness spread among nations for environment. Environmental accounting helps to detect the resource consumption and cost rendered by an industrial unit for development.
This article focus on scope, rules and regulation, current scenario, benefits and limitations. This study is based on secondary data. Researcher has used the data to collect through various Journals, Govt. Statistics, books, newspapers and websites. The main objective of this research is to understand the concept of environmental accounting, bring awareness about it and contribution of Indian in environmental accounting.

Key words: Environment, Environmental ManagementEnvironmental Degradation, Environmental Resources.

INTRODUCTION
The entire world has made rapid strides towards industrialization, it has seriously jeopardized human's ability to maintain ecological balance. Industrialization is the first step or base of development of any country, while unplanned industrialization and waste discharge by various industries is the main cause of environmental pollution. Awareness and its importance is increasing globally among countries about environmental degradation or pollution. Environmental resources are gifts of nature that are not man-made. Any developmental activity is directly or indirectly related to nature and environmental resources. Economic development without environmental considerations brings environmental damage to the quality of the present as well as to the future generation. Keeping an account of the environment and natural resources in the country has now become a more important and serious subject. Furthermore, acknowledging the importance of environmental issues and international awareness promoted the development of "environmental accounting". Environmental accounting helps to locate and focus on the resources consumed for the environment and the costs provided by the industrial unit for sustainable development.

Issues related to sustainable industrial development and environmental responsibility have given birth to environmental accounting, which meant that all stakeholders, public and financial institutions, had access to the same standard and comparable environmental information as corporate financial reporting.Accountability about the environment has become one of the most important areas of social responsibility. Environmental disasters, like the Bhopal Gas Tragedy (1984) and Chernobyl Nuclear Power Plant fiasco in Ukraine (1986), have to some extent reinforced the importance of environmental assurance in the minds of peoples. Issues such as climate change, soil erosion, global warming, glacier melting, pollution and deforestation have significantly contributed to the need to protect and conserve the environment. Business as a corporate subject, is extra cognitive about environmental change and ideal use of resources. Therefore, environmental responsibility has emerged in key aspects of corporate social responsibility. Recent years have seen a growing concern for environmental catastrophic conditions, mainly occurring in the form of various pollutants such as air, water, sound, soil erosion, deforestation etc. It affects human health, reduces economic productivity and damages facilities. Developing countries like India face the dual challenge of protecting the environment and promoting economic growth. There is a need for trade between environmental protection and development. A careful assessment of the benefits and costs of environmental damage is necessary to find a safe category of environmental damage and the required level of development.

MEANING OF ENVIRONMENTAL ACCOUNTING

Environmental accounting is the practice of incorporating principles of environmental management and conservation into reporting practices and cost/benefit analyses. Environmental accounting allows a business or organization to see the impact of ecologically sustainable practices in everything from their supply chain to facility expansion. It also allows accountants to report on the economic impact of decisions to stakeholders so to allow for proactive decision making about processes that simultaneously meet environmental regulations. It is also referred as "green accounting" or "eco-accounting". In short, environmental accounting identifies measures and communicates environmental related information for economic decision-making. It records and summarizes the value of environmental goods and services in a monetary context. This branch of accounting provides organizations with the value of their products and processes, thus leading to resource decisions and continued profitability.

OBJECTIVES OF THE STUDY

- To make brief review of accounting rules and regulations related to environmental accounting.
- To know about environmental awareness in India
- To analyze the corporate strategies related to environmental safety and protection.
- To analyze costs and benefits of it

FORMS OF ENVIRONMENTAL ACCOUNTING

1.Environmental Management Accounting (EMA): The Management Accounting focuses on material and energy flow related information and environmental cost information. This type of accounting classified as below.

a. Segment Environmental Accounting: it is an internal environment accounting tool that select an investment activity or project related to environmental effects for a certain period.

b. Eco-Balance Environmental Accounting: it is an internal Environmental Accounting tool to support sustainable environmental management activities.

c. Corporate Environmental Accounting: it is a tool to inform the public of relevant information compiled accordance with the Environmental Accounting. It's called Corporate Environmental Reporting.

2. Environmental Financial Accounting (EFA):

The mainly focus of **Environmental Financial Accounting is** on disclosure of environmental liabilities and financially material environmental costs in the form of quarterly, half yearly and annual reports, and the users of this are shareholders and other stake holders such as government, customers, tax authorities, etc.

3. Environmental National Accounting (ENA):

National Level Accounting with a particular focus environment andon natural resource's stocks, flows, environmental costs and externality costs etc. Environmental Accounting at Corporate Level helps to know whether corporation has been meeting to its responsibilities regarding environment or not.

it is a new branch of accounting with no complicated rules, no standards or no legal compulsions on company's part to account and report for the environmental issues. Because of this, certain socially alert corporate houses are reporting about the impact of their activities on the environment separately orin the director's report. Mostly, the companies are disclosing following information in their annual reports:

- Accumulation of current environmental costs for current as well as past activities and products.
- Physical data related to the reduction of toxicity and waste.
- Present and future capital expenditures for pollution prevention and control.
- Estimation of future environmental costs and benefits.
- Present and future costs for products as well as processes re-design.

ENVIRONMENTAL AWARENESS IN INDIA

When laws for the protection of the environment were passed in '70ssince that Public awareness towards the environment has grown tremendously. The PM, Smt. Indira Gandhifelt the need of healthy environment at the United Nation's Conference on the human environment in Stockholm, 1972 she expressed her strong opinion in favor of the environment.After thatvarious lawspassed from time to time. Environment related first public announcement from business on a periodic basis was made by the Central Government in 1991.By keeping view the global environment, a standard accounting policy for determining the Gross National Product (GNP) with environmental data, like industrially developed and experienced countries, formulated by the Government of India. Also the Government has launched different programs to maintain an ecological balance and healthy environment at central and state levels through the help of research and education, but still it requires special treatment for determination of GNP, a tool for development of economics of the country. Cost benefit analysis can also to be done carefully.Alternative resource allocation methods can also be followed to monitor the fate of environmental resources. Developing countries like India should develop environmental accounting without loss of natural resources. Also environmental accounting and reporting is a voluntary practice in India, but organizations haveto choose disclose environmental issues in their statements that enjoy a variety of benefits, such as a good product or company image.

SCOPE OF ENVIRONMENT ACCOUNTING

The scope of Environmental Accounting is wide because it includes corporate level, national and international level. The following aspects are included in Environment Accounting:

1. From Internal point of view, investment has been made by the corporate sector for minimization of losses to environment by establish or purchasing the environment saving equipment/tools. This type of accounting is easy because money measurement is possible.
2. From external point of view, all types of losses indirectly due to business activities that includes:

i) Destruction like loss of biodiversity, soil erosion, air pollution, water pollution, noise pollution, problem of solid waste, coastal and marine pollution.

ii) Loss of non-renewable natural resources such asloss due to over exploitation of nonrenewable natural resources like minerals, gas, water, etc.

iii) Land harvesting and Deforestation

This type of accounting is tough because of losses to environment cannot be measured exactly in monetary value and it is very difficult to decide that how much losses occurred to the environment due to a particular industry. For this approximate idea can be given or other factor measurement of losses like,how much square meter area deforested,quantity of non-renewable natural resources used, total area used for business purpose, how much wasteful air leave behind through chimney in air, degree of noise pollution made by the factory how much solid waste are produced by the factory,what types of elements are included in, etc. can be used.

LEGAL FRAMEWORK FOR ENVIRONMENTAL ACCOUNTING IN INDIA

While industrial licensing has been abolished for all practical purposes, environmental clearances from various government authorities have now taken center stage. With the growing global fear over the protection of the environment, India has established the Union Ministry of Environment with the objective of coordination between various states, various ministries and environmental protection and anti-pollution measures and necessary legislation has also been passed.According to the "Directive Principles of State Policy" of the Indian Constitution, it is clearly specified that it is the responsibility of the state to protect and enhance the environment and to protect the forests and wildlife of the nation.In Article 51A of the constitution states that it is the responsibility of every citizen of India to protect and promote the natural environment including lakes, forests, waterways and wildlife.

Directly related to Environment Protection:

- Water (Prevention and Control of Pollution) Act, 1974.
- Water (Prevention and Control of Pollution) Cass Act,1977.
- The Forest (Conservation) Act, 1980.
- The Air (Prevention and Control of Pollution) Act, 1981.
- The Environment (Protection) Act, 1986.

Indirectly related to Environment Protection:

- Constitutional provision (Article 51A).
- The Factories Act, 1948.
- Merchant of shipping Act, 1958.
- Hazardous Waste (Management and Handling)
- Indian Fisheries Act, 1987.
- Rules,1989.
- Public Liability Insurance Act, 1991.
- Motor Vehicle Act, 1991.
- Indian Port Act.
- Indian Penal Code.
- The National Environment Tribunal Act, 1995.

It is necessary to all new projects to get environment clearance. This clearance concerns both the Union Ministry of Environment and Forests and the State Government department of environment. Necessary Guidelines have been issue and all projects are expected to get environmental and anti-pollution clearance before they are actually implemented. A Central Pollution Control Board has also been set up. Wherever any cases of violating of standards of air or water pollution have been come into the knowledge, show cause notices have been issue to the industrial units and all units are being kept under constant examination. According to the Annual Report of the Ministry 1997-98, out of1551 large and medium industries acknowledged in the 17 categories of extremely polluting industries, from that 1261 have installed the requisite pollution control facilities and 165 units are in the process of installing such facilities where 125 industrial units was close down.

THE ENVIRONMENTAL MANAGEMENT ACCOUNTING SYSTEM

The Environmental Management Accounting system, being developed for effective internal management of environmental and economic performances be existing in organizations but may not be formally documented and or reported, also it is not mandatory or felt necessary by organizations**.** Environmental accounting is in preliminary stage in India, Indian Corporate is now introducing a separate firm environmental policy as taking steps for pollution control, obey the related rules and regulations, mentionnecessary details of environmental aspects in the annual reports.

A. Stages of Environmental Accounting:

This model specifies six aspects to be covered in environmental accounting in order to measure the basic environmental performance of the organization. The purpose of this model is to present a new view of various activities by organizations to facilitate environmental accounting and reporting.

1. **Identification:**Identification of parameters relating to Environmental Reporting is the first stage this process where in organizations identify their relevant environmental reporting parameters such as environmental policy, health safety and energy conservation, corporate sustainability environmental initiatives,environmental disclosure practices, sustainability reporting, water management, waste management wind renewable energy sources, environmental information system, environmental targets, environmental cost and benefits, environmental reporting indicators, environmental liabilities and environmental assets.
2. **Describe:**Describe the Environmental Reporting Parameters, in this stage process requires to the organization for clearly spell out the operational meaning of each parameter they identified and on the basis of which they wanted to measure the environmental performance in the long run.
3. **Specification:** Specify the Environmental aims or targets to be achieved next here the organization tries to frame the environmental targets to be achieved short run and long run, as well as short term environmental policy of the organization and the long term environmental policy.
4. **Development:**Development of Environmental Performance Indicators is very important step in the Environmental accounting. Organizations need to think about their environmental performance indicators such as environmental policy framework, energy conservation practices must be followed, health and safety standards must be followed, waste management programs must be done, water management policies etc.
5. **Measurement:**At this stage, organizations tries to measure the actual environmental performance in terms of the predetermined standard performance indicators. Measurement may be eitherquantitative orqualitative in nature. For instance, indicators such as waste management programs are to be measure quantitatively while; environmental policy framework need to be qualitatively.

6. **Report Generation:** To generate a report of the Environmental Performance Results is the final stage in the Environmental accounting, organizations incorporate their environmental performance with financial performance, so as to give the environmental impaction to the financial performance.

B. Legal Framework for Environmental Accounting

Industrial licensing in India has ended for all practical purposes, environmental clearances from various government authorities now taking the center stage. With the growing global concern over the protection of the environment, India has also established the Union Ministry of Environment with the object of coordination between states and various ministries about environmental protection and anti-pollution mechanisms.

C. The various laws Relevant to Environmental Protection

1) Directly related to Environment Protection

2) Indirectly related to Environment Protection

It is important to note that all new projects require approval of environmental clearance. This approval concerns both the Union Ministry of Environment and Forests and the state government concerned. Department of Environment guidelines have been issued and are expected to achieve environmental and antipollution clearance for all such projects before they are actually established. A Central Pollution ControlBoard (CPCB) has also been established. Wherever cases of violation of standards of water or air pollution have been spotted, show cause notices have been issued to industrial units and all such units are being kept under strict inspection.

D. Environmental Accounting Practices in India

Environmental accounting is at the stage of establishment in India. The first public announcement was made by the Government of India in 1991, soon after the adoption of financial reforms liberalizing the country's economic policies, in terms of the need for environmental disclosures from business units from time to time.The Ministry of Environment and Forests has proposed that "every company in its Board of Director's report will briefly disclose the steps or details to be taken to adopt clean technologies for pollution prevention, waste reduction, waste prevention, pollution control measures, investment on environmental protection and waste reduction, conservation of water and other resources."

In 2011, the Securities and Exchange Board of India asked listed companies to report on environmental, social and governance (ESG) initiatives, which are in accordance with the 'National Voluntary Guidelines of Social, Environmental and Economic Responsibilities'. The Companies Act 2013 emphasizes corporate social responsibility which makes it compulsory for some class of profitable enterprises to spend money on social welfare activities. It is mandatory for companies with a net worth of more than Rs 500 crore or companies with a turnover of Rs 1,000 crore to adopt a CSR policy.It also provides that companies need to make more disclosures in addition to the company's general condition and financial performance in relation to energy conservation and environmental protection. The Union Ministry of Environment and Forests has issued various instructions to prepare an environmental statement, it is mandatory to obtain environmental clearance for all new projects that concern both the Union Ministry of Environment and Forests and the concerned State Government Departments of Environment in the country.There are various guidelines in this regard and it is expected to achieve environmental and antipollution clearance for all such projects, as they are actually established. It can be seen through their accounts that mainly the following set of information has been disclosed.

a) The type of machine or tools installed to control pollution.

b) Steps taken for optimum utilization of resource.

c) The steps taken for energy conservation.

d) Steps taken for decompose thewater, waste and production process waste.
e) Steps taken for improving the quality of production process,product and services,
f) Steps taken to popularize the benefits of environmental accounting and reporting among the corporate sector.

E. Challenges in Environmental Accounting and Reporting

Environmental accounting is a very important issue, as environmental protection is equally important along with economic development but a contradictory issue because careful assessment of the benefits and costs of environmental damage is necessary to find the tolerance limit of environmental degradation and the required level of development.

Studies of corporate reporting practices suggest that there is a growing trend among corporate managers to disclose certain information in their annual reports to inform shareholders and their efforts to the public. It is also clear that most of such environmental information reported by companies has been found to be non-financial. Such information is only a description of the efforts made by the company. Information on the amount of money spent for such an initiative and its physical impact on financial results is completely missing in such information. Again a wide variation in the style of reporting and the companies chosen to report has been observed. This may add other dimensions to the problem of comparability and lack of veracity.

Therefore it is felt that such information should be integrated with financial accounting information for reliability. It is necessary for monetary measurement of environmental costs and benefits. But, not all costs and benefits for the environment can be suitably measured in monetary unit, at least at the micro level.Like the investment made by the corporate sector to reduce internal costs, damage to the environment by product development, process development may be possible for monetary measurement butloss of biodiversity, soil erosion, air pollution, water pollution such as externalization and destruction costs,solid waste problem,Noise pollution, lack of non-renewable natural resources such as gas, minerals, water, deforestation, and environmental property created by business, such as loss due to over exploitation of afforestation happened,water conservation, Biodiversity conservation, etc. cannot be properly measured in monetary terms.

Furthermore, it is very difficult to determine how much damage has been done to the environment by the establishment of a specific business unit. This creates barriers to the total integration of environmental accounting within the framework of existing GAAP. However, it is possible to disclose the intrinsic costs and benefits of environmental measures taken by a business entity by disclosing the method of accreditation.

ADVANTAGES OF ENVIRONMENTAL ACCOUNTING

1. The accounting system helps in detecting any leakage, spill or any such problem that occurs at an early stage with operation and process, thus reducing the risk of future problems.
2. It helps in measuring the impact of air, water, soil, health and safety of workers and environmental problem of each process and operation on a large scale.
3. It helps in measuring the environmental performance of the organization.
4. Its indicates the effectiveness of environmental management and suggests how it can be improved.
5. It provides a database for corrective action and future space. It identifies the area where steps are to be taken to reduce waste, raw materials and energy consumption.
6. The result of the environmental accounting system helps management to develop its environmental strategy to move towards greener corporate culture.

7. Proper environmental accounting system smooth the progress of proper reporting of the results of environmental practices followed by the company. This facilitates environmental performance towards the stakeholder which goes a long way in enhancing the corporate image of the organization.
8. Environmental accounting leads substance to verify compliance to local, national and international standards or best available techniques as well as company's own standard as stated in company's environmental policy.

LIMITATIONS OF ENVIRONMENTAL ACCOUNTING

1. There is not standard accounting method.
2. Comparison between firms of two countries is not possible when the method of accounting differs.
3. Environmental accounting is not available as input cost and benefits relevant to the environment are not easily measurable.
4. Many business and government organization even large and well managed ones don't adequately track the use of energy and material or the cost of inefficient material use, waste management and related issue. Therefore,many organizations significantly underestimate the cost of poor environment performance to their organization.
5. Many businesses and government organizations even large and well-managed organization do not adequately track energy and material use or unqualified material use, waste management and related issue costs. Therefore, many organizations significantly take too lightly the cost of poor environmental performance for their organization.
6. It mainly considers the cost of the company as internal and excludes the cost to the society.
7. Environmental accounting is a long term process so it is not easy to draw conclusions with its help.
8. Environmental accounting cannot operate independently. It should be integrated with financial accounting which is not easy.
9. Environmental accounting must be analyzed along with other aspects of accounting because costs and benefits to the environment depend upon the results of financial accounting, management accounting, cost accounting, tax accounting, etc.
10. The user of the information contained in environmental accounting should have adequate knowledge of the process of environmental accounting as well as the rules and regulations prevailing in the country which are directly or indirectly related to the environmental aspects.

CONCLUSION

Environmental accounting in India is at beginning stage and whichever accounts exist in this regard are at lessconformity of significant rules and regulation in the Act. The development of accounting in this regard is complex until the common people of India are made aware of environmental protection.Business houses have to be prepared to formulate a concrete environmental policy, take steps for pollution control, follow relevant rules and regulations and disclose adequate details of environmental aspects in annual reports. For sustainable development, there should be a crystal-clear environmental policy and proper execution and proper accounting procedures.

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