

A Framework on Environmental Accounting for Sustainability

Sonal Ronak Shah*

Abstract

The one concern that each living being of this universe should be concerned about in 21st century is “Environment”. With the growing economy, expansion and growth happening all around the world of business, risk to human health has also increased enormously. Industries in lieu of earning more profits are increasing production day by day and in return emitting harmful chemical and other materials in the environment. Air, water, and soil pollution is happening at a scary rate and on which no boundaries are being kept. Already the world is facing extinction of so many species, few are on the verge of getting extinct, natural resources are getting depleted and flora and fauna is no more natural green. As a result of this rising concern, a new field of accounting is being introduced where the company’s impact on the natural world can be traced and worked upon. The main goal of environmental accounting is to let companies understand how its actions are making hazardous changes in the environment. So, it is time to turn over a page in the corporate strategies and use environmental accounting as a weapon to lead the world towards an era where environmental responsibility and economic success co-exist.

Keywords: Economy, environmental accounting, green accounting, sustainability, pollution, global warming, ozone layer

INTRODUCTION

Global warming, ozone layer depletion, air, water and soil pollution, de-forestation, climate change etc. is happening to our mother nature due to increased industrialisation, globalisation and development of the society. At the cost of degrading the environment, industries are fulfilling the needs of the society by producing goods and services. However, with increased awareness about the hazards caused by the chemicals, slowly but steadily people are turning the pages towards buying products which are environment safe, recycled, reused etc. For e.g., use of electric bikes, use of tetra packs, bamboo clothing, organic cottons, jute goods instead of plastic bags, eco-friendly packing materials, compostable bags, silicone straws etc. However, these are the new conceptual products launched in the market but the impact of already established industries using the same old technology and processes are still existing and continuing to damage the environment. No doubt, industries will not be shut down,

but its environmental impact can be reduced by keeping a close watch on its activities. Even though businesses in India follow rules and regulations relating to conservation of environment but still there is a need for a new field of accounting called Environmental Accounting [1]. It is nothing but a way to track the impact of company’s activities on the environment. It identifies the use of the resource, and the cost incurred to the company for hampering the environment. The costs might include cost to clean up the polluted area or the contaminated sites, paying penalties or fines for

*Author for Correspondence

Sonal Ronak Shah

E-mail: sonalmehta270993@gmail.com

Assistant Professor, Department of Commerce, Badruka College of Commerce & Arts, Hyderabad, Telangana, India

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damaging the environment, investing in pollution control technologies, waste management etc. This study discusses a framework for environmental accounting that helps businesses become more sustainable. By considering environmental factors in their financial planning, companies can balance making profits with taking care of the planet. This approach supports long-term growth while being mindful of natural resources. The study stresses the importance of this framework for businesses to be responsible, transparent, and environmentally conscious [2–6].

Example

For adopting environmental accounting principles, Company ABC Ltd. associated with manufacturing must understand the environmental costs and impacts. Company identifies the costs like penalties, fines, cost of cleaning up, regulatory costs etc. By converting these costs in monetary terms and including it in financial reports, the company can follow environmental accounting.

However, it can further assess the impact by seeing at carbon footprints and wastage of fresh water while producing the product etc. This assessment helps the company to identify various areas which need improvement.

After knowing it, the company should make informed decision like investing in sustainable technologies and starting initiatives like plantations, waste reduction etc. and communicate the remedial measures taken to the stakeholders through sustainability reports. By this, the company addresses the concerns of the environment and following sustainable practices.

PURPOSE OF THE STUDY

This research work aims to focus on:

- Importance of environmental accounting.
- Government rules relating to same.
- Role of a management accountant.
- Examples of companies applying environmental accounting.
- Stages of implementing a corporate environmental strategy.

RESEARCH METHODOLOGY

The study is descriptive and focuses on secondary data. The information and inputs are from various sources like:

- Research papers.
- Reports of various Government Departments.
- Articles published in various newspapers, business journals etc.
- Various Online publications.
- Any information available online/offline.

LITERATURE REVIEW

1. The paper by Sen *et al.* looks at how companies in India's core sectors are currently reporting their environmental impact [7]. The literature survey reviews previous studies and practices to understand how these companies disclose information about their sustainability efforts, environmental practices, and the challenges they face. It also points out trends and gaps in how these disclosures are made.
2. Prasad *et al.* analyzed environmental disclosures in annual reports of 137 Indian companies for 2011–2012 and 2014–2015 using legitimacy theory [8]. The study found a slight, non-significant increase in disclosure extent and quality over time, with disclosures being mostly descriptive. Variations were noted across and within industries, reflecting evolving but inconsistent environmental reporting practices.
3. Hussain *et al.* studied how managing environmental resources effectively can help achieve sustainable development [9]. They focused on key practices like introducing environmental

taxes, measuring the costs of environmental damage, valuing the benefits of nature, and understanding the financial effects of pollution and carbon emissions. They also emphasized the importance of making green products financially sustainable for the long term to support a healthier planet.

4. Gupta and Gupta examined the sustainability practices of five marble companies: RK Marbles, Evershine Marble, Mumal Marbles, Chandna Marble, and Bapu Marbles, using environmental audits [10]. Their study, covering 2011–12 to 2015–16, assessed how effectively these companies followed sustainable methods in their operations.

NEED FOR ENVIRONMENTAL ACCOUNTING

Environmental accounting is basically used to track changes in the ecosystem, environment and to know about the impact industries are making on the natural world. However, we also need it for the following purposes:

1. *Financial results*: Operating activities of any business enterprise will have both positive and negative impact on the environment, and it will also have financial implications. Example: A company either bears the penalties for damaging the environment or else bears the expenses for complying with rules and regulations. These expenses should be accounted for in the books of accounts to get correct financial results of the company.
2. *Cost savings*: It will help industries to work in an environmentally friendly way. While putting the costs into account, industries might be able to find out the potential areas from where costs can be reduced. For e.g., by using solar panels, companies might be able to save energy bills or by using energy efficient devices it might reduce harmful gas emissions in the environment.
3. *Decision making*: By putting environmental information into books, companies might be able to make informed decisions and able to identify potential threat areas and get benefits by using sustainable techniques.
4. *Conservation of resources*: By seeing the environmental impact, businesses should use less water and other resources and focus on recycling. So many industries nowadays focus on reducing the use of fresh water. By adapting such concepts, industries can contribute a lot in conserving our natural resources.
5. *Innovation*: By adapting environmental accounting, companies are forced to think out of the box techniques for saving energy and they come up with innovative ideas and strategies for doing business. Innovation helps the environment to stay cleaner, lowers wastage and promote sustainability.

Components of Environmental Accounting

Before moving ahead, let us understand few keywords related to environmental accounting:

1. *Environmental costs*: Costs represent the company's expenses while accounting for environment. It includes cost of cleaning the surrounding affected area, paying fines for damages made to the nature, investing in green technologies, cost of capital equipment, costs of preparing annual environmental reports for stakeholders etc. It is like a label of price for damaging the environment.
2. *Environmental benefits*: These are the advantages or boons enjoyed by the company for being eco-friendly. It includes saving money on energy bills, avoiding fines by following rules, uplifting goodwill in the market as a clean and green company. It is the pay back an organization gets for care taking the environment.
3. *Environmental impacts*: Impacts are the changes a company makes in the environment through its activities like emission of Green House Gases (GHG), wastage of freshwater, waste mismanagement etc. It is the impression a company leaves on the natural world.
4. *Environmental policy and regulations*: The rules, regulations and guidelines that an organization must follow to protect the environment. It is the directory for taking care of the environment.
5. *Environmental management system*: With the use of various strategies, plans like reducing wastage or use of energy saving devices etc. by the companies, impact of its activities can be reduced. It is nothing but a game plan for preserving our natural world.

The components help the organization to understand the costs, benefits, impacts and lead them to make informed and better choices. It encourages companies to focus on sustainability.

STAGES OF IMPLEMENTING A CORPORATE ENVIRONMENTAL STRATEGY

Any organization can successfully implement the strategy for protecting the environment by following these three stages:

1. *Developing a policy statement:* Organization must start understanding about the implication of its activities on the environment and the expenses it must incur for rectifying it like cleanup costs, litigation expenses etc. Once they realize the threat, a system for surveillance of risks and hazards should be developed.
2. *Achieving Competitive Edge:* The whole focal point of this stage is to understand that being sustainable while handling the resources is the best way to stay alive in the world of business. The resources should be used efficiently to get a competitive advantage over the others.
3. *Integration:* Integrating growth with sustainability should be the target of organizations. Companies must realize that it is not only their legal duty to protect the environment but a moral duty too to survive and sustain for a longer period.

Examples of Some Companies Who Have Adopted Green Practices

1. *L&T:* L&T is an Indian Private Company dealing with Technology, Engineering, Construction, Mining, Finance etc. It has undertaken several projects like Hydel Power Project, rapid movement systems which reduced number of cars on road, extension of wastewater distribution network etc.
2. *Essar Oil & Gas:* It is one of the largest exploration and production companies having a global portfolio on oil and gas blocks. It has undertaken various activities like re-use of water in drilling, dust suppression, conversion of diesel generator sets into gas-based generator sets, Three Color Bin waste management system, plantation campaigns etc. for protecting the environment.
3. *TCS:* It is one of the largest multinational IT and consultation company in India. They have Zero Solid Waste disposals to landfills, focusing on carbon footprint reduction. TCS uses HVAC systems in refrigerators which is an ozone depleting substance. They focus on 100% sewage and rainwater harvesting at the workplace.
4. *Tech Mahindra:* It is also one of the largest multinational IT and consultation company in India. They focus on carbon neutrality, water resource management, use of ozone friendly gases, reduction of Green House Gas emission, installation of water sensors to reduce water consumption etc.
5. *ONGC:* ONGC is the Oil and Gas Company of India. It maintains environmental management systems to reduce impact of its activities like exploration, drilling, production, etc. They also work on conservation of biodiversity, management of solid waste etc.
6. *RIL:* Reliance Industries focuses on de-carbonizing and generating Green Hydrogen from renewable resources. They are committed to achieving Zero Carbon Status by 2035.

Apart from this, many Government Departments and companies also follow environmental accounting like Walmart, IKEA etc. In spite of the continuous efforts many companies are putting, India is still just beginning to understand how to respond to the environmental concerns. For that, each company should have a Management Accountant whose duties should include:

1. Recognition of cost areas that are directly related to waste treatment, resource recovery etc.
2. Identifying the Life Cycle assessment of the product.
3. The liabilities incurred from past business practices.
4. Calculate the financial costs related to pollution.
5. Understand the importance of new management systems.
6. Make environmental costs more visible.
7. Training the line personnel in the concepts of environmental accounting etc.

Various Laws Related to Environmental Protection

- The Forest (Conservation) Act, 1980.
- The Water (Prevention and Control of Pollution) Act, 1974.
- The Water (Prevention and Control of Pollution) Cess Act, 1977.
- The factories Act, 1948.
- The Wildlife (Protection) Act, 1972.
- The Environment (Protection) Act, 1986.
- The Air (Prevention and Control of Pollution) Act, 1981.
- The Indian Fisheries Act, 1987.
- Indian Port Act.
- Indian Penal Code.
- The National Environment Tribunal act, 1995.
- The Water Biomedical waste (Management & Handling) Rules, 1998.
- Ozone Depleting Substances (Regulation and Control) Rules, 2000.
- The National Green Tribunal Act, 2010.
- The Biological Diversity Act, 2002.
- The Hazardous Wastes (Management and Handling) Amendment Rules, 2003 etc.
- The Companies Act, 2013.

This Acts and Rules provide the guidelines to the companies, and they should adopt it as part of their business activities. Also, all new projects require permission from the Union Ministry of Environment & Forests and corresponding State Government Departments of Environment.

Special mention with regards to The Companies Act, 2013 is that the previous act never had any provision related to Corporate Social Responsibility. But the new act has made it mandatory for the companies whose net worth is more than Rs. 5 crores or turnover is more than Rs. 1 crore or Net Profit is more than Rs. 5 crores to contribute 2% of average net profit made during three preceding financial years towards Corporate Social responsibility and submit a detailed report to The Registrar of Companies failing which they will be charged penalty (which is twice the amount supposed to be spent through CSR or Rs. 1 crore whichever is less and officer in charge of such default to pay 1/10th of unspent CSR amount or Rs. 2 lakhs whichever is less).

CONCLUSION

The new India is literally working towards sustainability; however, this whole concept of environmental accounting is still at its infant stage. The number of companies following such concept is increasing day by day and because of the answerability towards stakeholders more companies are trying to come in line with such practices. However, companies must have a separate department which can handle such matters seriously, clear cut disclosures on annual reports are required by the companies. Through proper research work, full disclosure towards stakeholders, conducting of time-to-time internal audits, development of policies, ethics and code towards following of accounting process it can be said that industries will be able to strive sustainably in the long term. Overall, it can be said that to make this world a better place to live for us and future generations, environmental accounting must be made mandatory to thrive sustainably.

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