

GREEN ACCOUNTING: A STUDY TO MEASURE REFLECTION OF CSR TOWARDS ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

The present era of globalization and resources are utilized as best possible manner with a view to gain competitive edge over competitors for accomplishing organizational effectiveness in present economy of world. With the climate change and degradation of environment the sustainability is main priority for an organization because firms are directly or indirectly involved with environmental activities. Many of the concerns do not pay any attention to these activities and focus more in earning huge profits and they are playing a major role in exploiting the natural resources. Hence the Responsibility towards environment has become one of the most crucial areas of social responsibility. To understand the relationship between natural environments and economic development, the green accounting system is an essential element. Green accounting plays an important role in measuring the practices impended by the corporate sector for environmental sustainability. The main aim of this research paper is to discuss the concept of green accounting and to explore the reflection of CSR as environmental cost towards environmental sustainability. Hence out of total development sectors under the CSR the four sectors relating to environmental sustainability have been discussed in the term of the portion of companies engaged in contributing amount as CSR for environmental sustainability has been calculated in the form of percentage and analysed through descriptive statistics by which is cleared that companies are focusing towards Environment, Animal Welfare, Conservation of Resources, Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation, Clean Ganga Fund and Swachh Bharat Kosh in the form of CSR contribution.

Keywords: Green Accounting, Sustainable Development, CSR.

Introduction

Today's world of globalization in which economy is open for all and every organization has more focus on earning huge profits and they are playing a major role in exploiting the natural resources. Hence it is moral responsibility for all business houses to maintain sustainability of world. During this globalization, environmental sustainability has become the target as well as responsibility for each and every organization.

Among the sustainable development goals the Pollution of air and water is a great challenge for whole world which is intimately connected with the health of population and ecosystem. Inland water bodies and coastal areas have so far been treated as dumping grounds for wastes thus affecting aquatic and marine life. Environmental degradation refers to the diminishing of a local ecosystem or the biosphere as a whole, due to human activity. The long-term result of environmental degradation may cause non-sustainability of human population.

With the climate change and degradation of environment, the sustainability is main priority for an organization and automotive industry has more responsibility by adopting green initiatives in order to reduce the pressures and for better image by keeping their business in a sustainable manner.

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Sustainable development may be described as different things to different people and it highly concerned with the meeting the needs of people without compromising the future generation ability to meet their own needs. Further, it also may be said that Sustainable development includes the social, environmental, and economic outcomes in broad view and concerned with the interests and rights of future generations as well as of people today along with the approach to action recognizing the need for all people involving the decisions that affect their lives. Sustainable development has variously been interpreted as a paradigm, a discourse, and in many other ways. The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice.

To measure the long-term sustainability of economic performance disclosing information on objects, transactions, events or impacts of corporate economic, social and environmental activities on society and the environment green accounting is required.

Green accounting may be described as a branch of Accounting, that attempts to take into attention the ecological expenses. Through the green accounting the important information for analyzing policy issues, are increased especially when those vital pieces of information are often overlooked.

The major purpose of green accounting is to help businesses for understanding and managing the relationship between traditional economics goals and environmental goals and maintaining a favorable relationship with the community, and pursuing effective and efficient environmental practices with the aim of achieving sustainable development. Mainly the green accounting consists two structural elements, first is environmental conservation cost and second is the benefits derived from costs incurred on environmental conservation.

The Environmental Conservation Cost is considered as an investments and expense related to the prevention, reduction, and/or avoidance of negative environmental impact from which the environmental benefit are obtained. Hence the contribution made by corporate sector through CSR activity is considered as environmental cost for the related sustainable goals.

In this research study, the contribution made by corporate sector through CSR activity as environmental cost has been discussed. For this purpose CSR contribution of O4 development sector as Environment, Animal Welfare, Conservation of Resources, Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation, Clean Ganga Fund and Swachh Bharat Kosh of last five years have been analyzed to measure the reflection of csr towards environmental sustainability.

Review of Literature

According to Bansal (2005) CSR is just one dimension of a sustainable business model and there is a difference between the implementation of sustainable business model and sustainable corporate social responsible activities.

According to Alok Kumar Pramanik (2002) environmental costs can be divided into six broad categories such as capital investment, operating cost, research and development cost, environment administration and planning costs, expenses for remediation measures and recovery expenses.

Cho, C. H., & Patten, D. M. (2013) attempted to illustrate about the problems regarding voluntary environmental disclosure and incentives for companies to improve environmental performance. Further their concerns with the future of environmental accounting were concluded by identifying given the recent 'rediscovery' of the topic by mainstream accounting researchers.

Tu, J. C., & Huang, H. S. (2015) adopted the KJ (KawakitaJiro) method and the meta-research method to analyze the influence factors and it was presented through the result that expanding corporate social responsibility is requirement of green accounting and production cannot be exempted from environmental protection further it was also discussed that The organization formulates strong practices along with effective strategies to accomplish goals utilizing human resource to the optimum extent. green design includes internalization of external production cost, redesign to improve the product production process and packaging, reduction of resource waste, implementation of the 3R policy (Reduce, Recycle, Reuse), lifecycle assessment for all assessments and development of environmentally-friendly products.

Dhar, B. K., Sarkar, S. M., & Ayithey, F. K. (2022) discovered that the sustainable development capabilities of heavily polluting companies have been significantly improved after the effective implementation of green accounting and a significant positive correlation was found between the quality of social responsibility information disclosure and the sustainable development capabilities of heavily polluting companies.

A descriptive qualitative study was conducted by Khoirina, M. M. (2016) using case studies method on Semen Gresik Hospital. The object of this study was to determine the implementation of environmental management and the application of the concept of green accounting. The results was revealed through this research that the concept of green accounting has not been implemented by Semen Gresik Hospital and it was reflected in the identification of costs, there was no aspect of measurement and clear classification about the categorization of environmental costs. Further the results also showed that the environmental financial report had not been made by the Semen Gresik Hospital.

Lusiana, M., Haat, M. H. C., Saputra, J., Yusliza, M. Y., Muhammad, Z., & Bon, A. T. (2021) conducted a study with the to comprehend the relationship between green accounting, Corporate Social Responsibility, Return on Asset, Return on Equity, and firm value. They reviewed and analysed the total of 30 peer-reviewed articles and result was found that green accounting and CSR significantly affects the financial performance and impacted the value of firm increasing the profit.

This descriptive quantitative research was carried out by the Purnamawati, I. G. A. (2018) in which the managers of BUMDes were considered as sample respondent regarding profit, people (community) and the planet (environmental sustainability) oriented application of environmental accounting. it was concluded that that Bumdes managers had been able to apply environmental accounting properly till 90% of the level of achievement.

Kiranmai, J., & Swetha, C. (2018) presented an overview starting with the introduction of the term Green Accounting (GA) by the economist Peterwood in the 1980s. In this study Environmental accounting was stated as GA showing the purpose of GA as measuring, recording and disclosing the impact of corporate environmental activities on its financial status through a set of accounting rules. Further GA was also discussed as a quantitative assessment of the cost and effectiveness of an enterprise in environmental protection activities. This paper discussed the concept of GA, its evolution, disclosure and reporting practices, etc. through which it was suggested that Corporates are required to have systematic records and reports and are expected to maintain a positive relationship with ecological environment to implement effective and efficient environmental activities.

Alok Kumar Pramanic, (2002) stated that the identification, measurement and allocation of environmental costs, integration of these costs into business, identifying environmental liabilities, and communicating the results to the stakeholders of the company as part of financial statements is included in green accounting.

The current state and future issues of environmental accounting and reporting was explored by Fleischman, R. K., & Schuele, K. (2006) as a collateral reading assignment for a principles or intermediate accounting course. According to author accounting faculty can use the student portion of the primer to incorporate environmental accounting and reporting into their courses without the need for extensive advance preparation.

A study by Hernádi, B. H. (2012) show the meeting the criteria of sustainability by accounting, as the language of business and the source of information. This article starts with the different approaches to corporate sustainability and analysing them and proposing the reinterpretation of the most important accounting principle, the 'going concern' principle in which section the characteristics of accounting from the point of view of sustainability were outlined and finally, it was proposed the ways of transforming green accounting, both in name and content, into sustainability accounting.

Novovic Buric, M., Jaksic Stojanovic, A., Lalevic Filipovic, A., & Kascelan, L. (2022) conducted a research study by applying the classification Decision tree model (DT) on the data obtained by surveying employees and owners of Montenegrin tourism companies. Through the DT method it was shown that socio-demographic factors have a significant impact on understanding the importance of green accounting in the tourism sector of Montenegro and that most tourism companies include corporate social responsibility in their business strategy and policy.

A research by Riyadh, H. A. (2020) aimed to analyze the impact of green accounting on financial performance (FP). Under this research study the response by 100 multinationals corporations were analyzed through multiple regression analysis considering CSR reports, sustainability reports, and financial statements. In this study the green accounting was used as a proxy of the environmental cost (EC), while financial performance employed was considered as a proxy of Return on Capital Employed (ROCE). The finding of this study shown that autonomous Green Accounting costs on financial performance has a negative relationship.

Lindawati, A. S. L., Ramadhani, V., Oktavianie, H., & Kathera, V. (2022) presented the effect of green accounting application and csr disclosure toward profitability of LQ45 companies in Indonesia for which green accounting and CSR disclosure as environmental cost were considered as independent variable while profitability by ROA and ROE was considered as the dependent variable. Total 15 sample companies listed in Indonesia Stock Exchange within 2016—2020 were analysed through descriptive statistics, classic assumption test, multiple regression analysis and hypothesis test. The result was found that environmental cost and CSR disclosure did not significant effect on profitability.

The research study by Anggraeni, A. A., & Dewi, H. P. (2022) aimed to examine the effect of implementing green accounting and disclosure of corporate social responsibility on the company's financial performance. Secondary data, namely data from mining companies listed on the Indonesia Stock Exchange in 2014-2018 were analyzed using simple and multiple regression analysis. The results were found that the application of green accounting individually had no effect on the company's financial performance, assuming that corporate social responsibility had an effect on the company's financial performance.

The various forms of environmental accounting, its scope, limitations and legal framework in the Indian context were explained by Mukesh Chauhan (2005), He came out with a suggested framework for implementing green accounting practices in India and concluded that it is must to design, a well-defined environmental policy, as well as proper, follow up and proper accounting procedure, for sustainable development of the country.

Research Methodology

Research methodology refers the scientific and systematic search for required information on a specific topic. In research methodology, we study the various steps that are generally adopted by a researcher in his research problem along with the logic behind them.

Under this research paper following aspects related to research methodology are adopted:

Objective of the Study

The main objectives of this research paper are:

- To discuss the concept of green accounting and sustainable development.
- To explore the environmental cost as CSR contribution by corporate sector in India.
- To present an analysis measuring the reflection of CSR towards environmental sustainability.

Collection of Data and Sample Size

The Source of data is most important consideration for any research. This research study is based on secondary data that have been compiled from annual report as well as other relevant source of CSR data.

Research Technique

For the purpose of analysis of CSR contribution towards environmental sustainability first the participation of companies having Csr contribution towards environmental sustainability among the total CSR has been determined in the form of percentage in context of numbers of companies and amount of CSR for particular environmental sector then descriptive statistics has been applied to analyse the finding.

Data Analysis and Discussion

As the main objective of this study is to analyse the CSR contribution to environmental sector the total amount contributed as CSR by corporate sector during the last 05 years is being presented in the next table.

Table 1: CSR and No. of Companies

| Year | CSR in Total | |
|---------|------------------|------------------|
| | No. of Companies | Amount (INR Cr.) |
| 2016-17 | 19553 | 14344.87 |
| 2017-18 | 21520 | 17098.18 |
| 2018-19 | 25103 | 20172.07 |
| 2019-20 | 22718 | 24891.63 |
| 2020-21 | 17007 | 24865.46 |

Source: www.csr.gov.in

According to above table it is cleared that 25,103 companies made the CSR contribution for the 2018-19 that is highest number during the last five years whereas in the term of amount INR 24891.63 crore were contributed as CSR in 2019-20.

There are many development sector under the CSR but in this study only four development sector has been analysed that are (i) Environment, Animal Welfare, Conservation of Resources (ii) Clean Ganga Fund,(iii) Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation, and (iv) Swachh Bharat Kosh to quantify the environmental sustainability. Hence the data regarding related sector are being presented in next table 2.

Table 2: CSR towards development sector relating to Environmental Sustainability

| Year | Environment, Animal Welfare, Conservation of Resources | | Clean Ganga Fund | | Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation | | Swachh Bharat Kosh | |
|---------|--|------------------|------------------|------------------|---|------------------|--------------------|------------------|
| | No. of Companies | Amount (INR Cr.) | No. of Companies | Amount (INR Cr.) | No. of Companies | Amount (INR Cr.) | No. of Companies | Amount (INR Cr.) |
| 2016-17 | 1836 | 1317.70 | 31 | 24.37 | 5678 | 3669.55 | 245 | 184.06 |
| 2017-18 | 1965 | 1660.41 | 41 | 33.96 | 6093 | 4269.68 | 237 | 272.07 |
| 2018-19 | 2148 | 1700.79 | 40 | 8.11 | 6111 | 5534.00 | 209 | 95.50 |
| 2019-20 | 2649 | 1800.90 | 36 | 6.63 | 7950 | 6816.03 | 215 | 53.37 |
| 2020-21 | 2572 | 1273.38 | 66 | 13.36 | 9296 | 8706.00 | 191 | 159.68 |

Source: www.csr.gov.in

The above table presents the sector wise amount spent through CSR and it is reflected that Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation sector has most priority for which amount contributed as CSR is continuously increasing followed by Environment, Animal Welfare, Conservation of Resources then Swachh Bharat Kosh and last Clean Ganga Fund.

To analyse the CSR contribution as environmental cost, the portion of amount contributed for each sector to total amount of CSR has been calculated in the form of percentage along with the portion of companies engaged in contributing amount as CSR for each sector to total number of companies for the related years.

The percentage of amount spent and numbers of companies is being presented in the next table 3.

Table 3: CSR towards Sector Relating to Environmental Sustainability (in % to Total)

| Year | Environment, Animal Welfare, Conservation of Resources | | Clean Ganga Fund | | Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation | | Swachh Bharat Kosh | |
|---------|--|-------------------------|--------------------------|-------------------------|---|-------------------------|--------------------------|-------------------------|
| | Portion of Company (in%) | Portion of Amount (in%) | Portion of Company (in%) | Portion of Amount (in%) | Portion of Company (in%) | Portion of Amount (in%) | Portion of Company (in%) | Portion of Amount (in%) |
| 2016-17 | 9.39 | 9.19 | 0.16 | 0.17 | 29.04 | 25.58 | 1.25 | 1.28 |
| 2017-18 | 9.13 | 9.71 | 0.19 | 0.20 | 28.31 | 24.97 | 1.10 | 1.59 |
| 2018-19 | 8.56 | 8.43 | 0.16 | 0.04 | 24.34 | 27.43 | 0.83 | 0.47 |
| 2019-20 | 11.66 | 7.23 | 0.16 | 0.03 | 34.99 | 27.38 | 0.95 | 0.21 |
| 2020-21 | 15.12 | 5.12 | 0.39 | 0.05 | 54.66 | 35.01 | 1.12 | 0.64 |

According to table 3 we find that the 54.66% companies contributed for (Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation sector) during the year 2020-21. This sector has also highest contribution with the 35.01% in the terms of the portion of amount spent to total CSR amount whereas for the year 2019-20 only 0.16% companies made contribution as CSR towards clean ganga fund with 0.03% portion of amount spent to total CSR amount.

The above data have been analysed through descriptive statistics in context of sector wise portion of companies to total companies (in%) and sector wise portion of amount spent to total CSR amount (in%) that is being presented in next table-04 & table-05.

Table 4: Descriptive Statistics for selected Period in Context of Sector wise Portion of Companies to Total Companies (in%)

| S. No. | Sector Relating to Environmental Sustainability | Mean | Standard Deviation | Coefficient of Variance |
|--------|---|-------|--------------------|-------------------------|
| 1 | Environment, Animal Welfare, Conservation of Resources | 10.77 | 2.70 | 25.07 % |
| 2 | Clean Ganga Fund | 0.21 | 0.10 | 47.62 % |
| 3 | Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation | 34.27 | 12.02 | 35.07 % |
| 4 | Swachh Bharat Kosh | 1.05 | 0.16 | 15.24 % |

Result

According to descriptive statistics it is cleared that the portion of companies engaged in green practice as contribution of CSR towards Swachh Bharat Kosh are more consistent with the C.V. of 15.24% followed by companies contributed for (Environment, Animal Welfare, Conservation of Resources) then (Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation) whereas the clean ganga fund has some extent of variation with C.V. of 47.62% in context of the portion of companies engaged in green practice to total companies.

Table 5: Descriptive Statistics in Context of Sector wise Portion of Amount Spent to total CSR Amount (in%)

| S. No. | Sector relating to Environmental Sustainability | Mean | Standard Deviation | Coefficient of Variance |
|--------|---|-------|--------------------|-------------------------|
| 1 | Environment, Animal Welfare, Conservation of Resources | 7.94 | 1.83 | 23.05 |
| 2 | Clean Ganga Fund | 0.10 | 0.08 | 80.00 |
| 3 | Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation | 28.08 | 4.03 | 14.35 |
| 4 | Swachh Bharat Kosh | 00.84 | 0.58 | 69.05 |

Result

According to descriptive statistics in context of sector wise percentage portion of amount spent to total CSR it is found that the (Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation) sector has more consistency with the C.V. of 14.35 % followed by (Environment, Animal Welfare, Conservation of Resources) then (Swachh Bharat Kosh) whereas the clean ganga fund has the variation with C.V. of 80.00% in context of the portion of amount spent to total amount of CSR.

Conclusion & Finding

In India, green accounting is in initial stage. As the major purpose of green accounting is to help businesses understand and manage between traditional economics goals and environmental goals. Green accounting establish the relationship between the effective and efficient environmental practices and the achievement of sustainable development goals as the benefit obtained by community. To understand the role played by natural environments to economic development, the environmental accounting system is an essential element. The corporate sector is more responsible for adopting environmental practices. In this research study, the contribution made by corporate sector through CSR activity has been discussed as environmental cost for the related sector of environmental sustainability and data were analysed through descriptive statistics.

On the basis of data analysis and discussion it is cleared that average 34.27 % companies are focusing on Health, Eradicating Hunger, Poverty and Malnutrition, Safe Drinking water, Sanitation in the form of CSR contribution that is 28.08% as average for the last five years. There the average of companies engaged for CSR contribution towards (Environment, Animal Welfare, Conservation of Resources) is 10.77% with the average of 7.94% contribution in the term of amount spent as csr. Finally it can be concluded that corporate sector has been practicing for the environmental sustainability.

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