

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Green Initiatives under Corporate Social Responsibility: An Empirical Study on Maharatna Companies of India

Dr. D. K. Soni

Scientist, Central Pollution Control Board, Zonal Office (North), Gomtinagar, Lucknow, UP, India

P. K. Mishra

Senior Environmental Engineer and In-Charge, Central Pollution Control Board
Zonal Office (North), Gomtinagar, Lucknow, UP, India

Dr. K. M. Agrawal

Professor-In-Charge, Department of Environment Management
Indian Institute of Social Welfare & Business Management
College Square West, Kolkata, West Bengal, India

Dr. Sarbani Mitra

Associate Professor & Coordinator, Department of Environment Management
Indian Institute of Social Welfare & Business Management
College Square West, Kolkata, West Bengal, India

Abstract:

Over the past few years, as a consequence of rising globalization and pressing green issues, the perception of the role of corporates in the broader social context within which it operates, has been altered. Corporates consider themselves as an integral part of society and accordingly act in a social responsible way that goes beyond economic performance. As a result of this shift from purely profit to profit with social responsibility, many corporates are endorsing the term 'Corporate Social Responsibility (CSR)'. The research questions examine – do the corporates incorporate green issues in their business practices i.e. do they consider environment protection activities as a social and ethical responsibility? If yes, what CSR initiatives being taken for conservation and protection of environmental parameters as well as environmental pollution prevention & control and how the corporates implement their CSR initiatives as a part of their business strategy? For the purpose, the present study has made an attempt to understand the green initiatives made by large firms of India to study their CSR practices in the context of environmental protection.

The aim of this paper is to study and understand the CSR initiatives being taken by selected Indian maharatna companies in the area of environmental pollution prevention & control; to examine the corporates' approach to work and their mode of action for implementation for CSR initiatives in the field of environment management; and to measure empirically the extent of corporate environment protection related activities under CSR and its reporting in annual reports of those companies and to assess how far different company characteristics can explain the variation, if any, in the extent of such reporting.

For measuring the green initiatives under CSR and its reporting in annual reports of the companies, we have evolved a weighted disclosure index. The analysis reveals that Environment Protection Disclosure Score obtained with respect to 11 environment protection related disclosure indicators ranges between 9.09% to 90.91% with average of 49.35% and standard deviation of 27.70. The analysis further reveals that 43% companies (3) have attained less than 40% score, on the contrary, only one company has attained more than 80% score. It concludes that though all the seven Maharatna companies, having net profit of more than Rs. 500 crores, are meeting guidelines formulated by Department of Public Enterprises regarding expenditure range for CSR activities, yet expenditure for environmental protection related activities and its disclosure are very insignificant. Further, Environment Protection Disclosure Scores are regressed on the determinants of extent of disclosure. This study provides competing arguments on the relative importance of each of the factors in the corporate environment protection disclosure level determination. Among the company specific factors, two factors, viz., 'profit after tax' and 'expenses incurred on CSR' are having significant influence on the extent of environment protection disclosure.

Finally, the paper concludes that social responsibility is regarded as an important business issue of Indian companies irrespective of size, sector, and business goal. Therefore, CSR actions have positive impacts not only on development of community but also in their business. The authors reveal some lesson on CSR practices in India which can provide guidance to corporate entities for better implementation of CSR activities in the area of environmental pollution prevention & control for improving the quality of life of local people along with inclusive growth and sustainable development.

Key words: Corporate Social Responsibility, Environmental Protection, Disclosure Score, Maharatna Companies.

1. Introduction

Over the past few years, as a consequence of rising globalization and pressing green issues, the perception of the role of corporate in the broader social context within which it operates, has been altered (Pradhan and Ranjan, 2010). Corporate consider themselves as an integral part of society and accordingly act in a social responsible way that goes beyond economic performance (KPMG and ASSOCHAM, 2008). As a result of this shift from a purely profit to profit with social responsibility, many corporations are endorsing the term 'Corporate Social Responsibility (CSR)'. It is essentially a concept whereby companies decide voluntarily to contribute to the society to make it better and environmentally cleaner and greener (European Commission, 2001).

A widely quoted definition by the World Business Council for Sustainable Development state that "Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (WBCSD, 1999). Thus, the meaning of CSR has two fold. On one hand, it exhibits the ethical behaviour that an organization exhibits towards its internal and external stakeholders. On the other hand, it denotes the responsibility of an organization towards the environment and society in which it operates. CSR involves providing innovative solutions to societal and environmental challenges. But the challenge for development professional and business community is to identify CSR priorities and the areas of interventions which are meaningful in the context of the socioeconomic development sector.

However, CSR responsibilities or initiatives are very wide, that may include helping the society by means of preserving the environment, minimizing the wastage of natural resources, helping the needful, conducting educational camps, promoting IT education running schools/ NGOs, recycling of products, counselling sessions awareness programs regarding the different diseases, etc., Which help the society/inspiring the lives of the underprivileged and lend a hand in the upliftment of the society.

Therefore, there is a need to study and understand how corporate enterprises are using CSR initiatives and what is the impact of CSR actions on the socioeconomic development of people. In India, many firms have taken the initiatives of CSR practices which have met with varying needs of the society (Sharma and Kiran, 2012). Divided into four sections, the present paper shall review literature related to CSR practices of corporate enterprises in the next section. The study has taken Maharatna companies of India for the survey, as these companies are in the process of experiencing CSR initiatives. Case studies of the major firms have been used for identification of major green initiatives under CSR taken by firms specially in the area of environmental pollution prevention & control for improving the quality of life of local people. Accordingly, Section 3 includes objectives and Section 4 highlights methodology of the study. Section 5 discusses important results. The results of the study identified the major CSR initiatives in context to environmental management issues taken up by the firm and major driving forces and proposing a framework of learning the key CSR initiatives taken and driving forces for the same. Section 6 concludes the study.

2. Literature Review

The Corporate social Responsibility was perhaps used for the first time in 1953 when Bowen (1953) raised the basic question "What responsibility to society can business people reasonably be expected to assure." The term CSR came into common use in the late 1960s and early 1970s after many Multinational corporations (MNCs) formed the term stakeholder, meaning those on whom an organization's activities have an impact.

According to Wood (1991), CSR implies some sort of commitment, through corporate policies and action. This operational view of CSR is reflected in a firm's social performance, which can be assessed by how a firm manages its societal relationships, its social impact and the outcomes of its CSR policies and actions.

Centre for Social Markets (2003) conducted a study in which it was found that social responsibility is seen to be an important business issue within the sample firms, irrespective of firm size, age, sector, location, primary purpose or legal status. Chapple and Moon (2005) in a survey of CSR reporting in Asia found that nearly three quarters of large companies in India present themselves as having CSR policies and practices.

Today corporate social responsibility is emerging as a core focus area for an increasing number of organizations, which are looking at new and innovative ways to contribute to the communities they operate (Chopra, 2006). Especially for the FMCG companies, where the major challenge is reduction of packaging materials, these companies are doing work in the field of Environment care, Health care, Education, Community welfare, Women's empowerment and Girl Child care (Saeed, 2010). Companies like Hindustan Unilever started work on CO₂ reduction also. Banerjee *et al.* (2003), suggests that environmental orientation is the recognition by managers about the importance of green issues faced by their firms. Conway (2003), in a study on iron ore mining industry in Goa, shows that many large mining companies have their own initiatives towards environmental and social development. However, a structured CSR policy and planning is missing especially among the small and medium players in the industry.

The above findings of different scholars at different points of time entail that they have rightly observed and underscored the CSR practices and performance of companies in India. But little attention have been paid on this aspect that do the corporates incorporate green issues in their business practices i.e. do they consider environment protection activities as a social and ethical responsibility? If yes, what CSR initiatives being taken for conservation and protection of environmental parameters as well as environmental pollution prevention & control and how the corporates implement their CSR initiatives as a part of their business strategy?

3. Objectives of the Study

In an effort to understand the answers to the above questions, the present study was undertaken in selected Indian Central Public Sector Enterprises.

The prime objectives of the study were:

- To study and understand the CSR initiatives being taken by selected Indian Central Public Sector Enterprises in the area of green issues i.e. environmental pollution prevention & control;
- To examine the corporates' approach to work and their mode of action for implementation for CSR initiatives in the field of environment management;
- To measure empirically the extent of corporate environment protection related activities under CSR and its reporting in annual reports of those companies and to assess how far different company characteristics can explain the variation, if any, in the extent of such reporting.

4. Data, Sample and Methodology

This section describes the research design of the study including sample description and data collection.

4.1. Sample

The population of this study was all seven Maharatna CPSEs (as on December, 2013) of India, comprising 7.53% of total 93 Central Public Sector Enterprises (CPSEs) [i.e. Maharatna (7), Navratna (14), Miniratna Category I (54) and Miniratna Category-II (18) CPSEs]. The data were obtained from the annual reports of the 2012-13 financial year (i.e. year ending 31 March 2013), being the latest period for which annual reports were available when the study was undertaken. Accordingly, the methodology of the present study relied on the web-based research, official websites, review of print literature, review of information disclosed by the 7 numbers of Maharatna CPSEs on their annual reports/separate CSR reports/sustainability reports (if any), in-person interviews and through structured questionnaire to understand CSR practice in the context of environmental protection. The CSR initiatives in context to environmental protection to be rated by the interviewee were identified from the literature.

The sample companies have been selected keeping in view that being Maharatna companies these firms are experiencing CSR practices in the area of environmental pollution prevention & control. The selected sample companies were from different industrial sectors. Product wise list of sample companies are presented in Table 1.

Sl. No.	Name of Selected CPSEs	Product
1	Bharat Heavy Electricals Limited (BHEL)	Gas and Steam Turbines, Boilers, Generators, Heat Exchangers, Pumps, Programmable logic controllers, Sensors, Variable frequency drives, Uninterruptible power supplies, Circuit breakers, Switchgear, Switchboards, Motor controllers.
2	Coal India Limited (CIL)	Coal, Bituminous.
3	GAIL (India) Limited	Natural Gas, Petrochemical, Liquid Hydrocarbons, Liquefied Petroleum Gas Transmission, City Gas Distribution, E&P, Telecommunication, Electricity Generation.
4	Indian Oil Corporation Limited (IOCL)	Fuels, Lubricants, Petrochemicals.
5	NTPC Limited	Electrical Power, Natural gas
6	Oil & Natural Gas Corporation Limited (ONGC)	Oil Gas.
7	Steel Authority of India Limited (SAIL)	Steel, Flat steel products, Long steel products, Wire products, Plates.

Table 1: List of Selected CPSEs

4.2. Data and Methodology for the Study

In this research, environmental protection, pollution prevention and control measures, waste management related disclosure items mentioned in corporate CSR activities were hand picked from the annual reports of the sample units after a thorough examination of the contents of annual reports/ separate CSR reports/sustainability reports. Only voluntary disclosure items are considered. Literature survey was used for the selection of prime environmental protection related reporting indicators or disclosure items under corporate CSR activities. For measuring the extent of disclosure of prime environmental protection related items under corporate CSR activities in annual reports of the companies, we have constructed a weighted disclosure index based on the previous empirical studies with some modifications. Further, based on its relative importance on total disclosure practice, it was decided to attribute some weightage to each of the indicators or disclosure items. Although attributing weightage is fraught with subjectivity to some extent (Das *et al.*, 2008), it was considered unavoidable given the lack of uniformity in CSR disclosure. Later, based on previous studies on reporting of environmental protection related items under corporate CSR activities and our sample survey, normally accepted norms, also the theoretical considerations and availability of data, a number of factors had been selected as potential explanatory variables for explaining the variation in the Environmental Protection Disclosure Score among the selected units. Finally, a regression model is utilized to analyze the results of this study and this is in tandem with the previous studies. The firm level data relating to explanatory variables corporate characteristics (net worth, turnover, profit after tax, profit before tax, etc.) are taken from CMIE Prowess database.

4.3. Selection of Indicators

To show the trends in disclosure of green issues i.e. environmental protection related activities under corporate CSR and to analyze the extent and type of disclosure in a systematic manner, selection of some indicators was considered necessary. The study concentrated on 11 primary indicators based on the previous studies (Chapple and Moon, 2005; Saeed, 2010; Banerjee *et al.*, 2003; Conway, 2003). Content analysis was used to place information within 11 dimensions/indicators:

- Air pollution prevention & control measure
- Noise pollution prevention & control measure
- Water pollution prevention & control measure
- Sanitation
- Waste management
- Afforestation
- Certification of ISO 14001 and OHSAS 18001
- Clean development mechanism
- Environment pollution monitoring
- Legal environmental compliance
- Environmental awareness programmes

4.4. Assignment of Score

It was decided to attribute some score/weightage to all environment protection related indicators mentioned above considering their perceived importance towards total corporate social responsibility reporting activity of any unit following the Battelle Environmental Evaluation System (BEES) (Dee *et al.*, 1972; Dee *et al.*, 1973). The details of maximum achievable score for each indicator are given in Table 2.

Sl. No.	Primary Indicator	Score/Importance
1	Air pollution prevention & control measure	110
2	Noise pollution prevention & control measure	110
3	Water pollution prevention & control measure	110
4	Sanitation	55
5	Waste management	110
6	Afforestation	28
7	Certification of ISO 14001 and OHSAS 18001	110
8	Clean development mechanism	55
9	Environment pollution monitoring	220
10	Legal environmental compliance	165
11	Environmental awareness programmes	27
	Total	1100

Table 2: Environment Protection Related Indicators Identified under Corporate CSR Activities

Finally, we evaluated the combined disclosure score related to environment protection activities under CSR in case of each sample unit with respect to 11 indicators. We used following formulae to obtain Environment Protection Disclosure Score (EPDS):

$$EPDS = \frac{\text{ScoreObtained}}{\text{MaximumAchievableScore}} \times 100$$

5. Results & Discussion

According to the Department of Public Enterprises guidelines dated 9th April 2010, the CSR budget will be mandatorily created through a Board Resolution as a percentage of net profit as presented in Table 3. This fund does not lapse. It will be transferred to a CSR fund which will accumulate.

Type of CPSE (Net Profit Previous Year)	Expenditure Range for CSR in a financial year (% of Profit)
Less than Rs. 100 crores	3% - 5%
Rs. 100 crores to Rs. 500 crores	2% - 3% (subject to a minimum of Rs. 3 crores)
Rs. 500 crores and above	0.5% - 2%

Table 3: Distribution of Expenditure in CSR

Source: Guidelines of Department of Public Enterprises, dated 9th April 2010

The present study is based on inputs from all Maharatna CPSEs, which are into the process of experiencing CSR initiatives. Here the detailed study of CSR Initiatives in the area of green issues i.e. environmental pollution prevention & control by selected companies has been taken. Thus this gives a comprehensive perspective of extent of environmental conservation initiatives by different industry groups.

5.1. Brief Corporate Financial Profile

The financial profile of 7 sample Maharatna companies shows that average current asset (CA) is Rs. 62,251.04 crores with minimum value of Rs. 12,279.92 crores and maximum of Rs. 1,27,054.77 Crores (Table 4). Whereas current liability (CL) ranges between Rs. 12,091.87 crores and Rs. 84,545.76 crores with average of Rs. 35,765.05 crores. Average net worth is Rs. 54,596.82 crores, whereas average total assets is Rs. 77,993.04 crores. Figure 1 reflects that in case of BHEL, CIL, GAIL and ONGC, there is not so much visible change in amount of net worth and total assets. Whereas in case of IOCL and NTPC, total asset is much higher than net worth i.e. about two times. Similarly, GAIL's current asset is at par with current liability, whereas ONGC shows more than two times amount of CA than CL.

CPSEs	Net Worth	Total CA	Total CL	Total Assets
BHEL	30444.10	64069.20	38269.15	31859.30
CIL	20516.16	24792.53	12606.57	21430.55
GAIL	24227.80	12279.92	12091.87	32592.32
IOCL	61124.31	126418.20	84545.76	139449.51
NTPC	80387.51	50310.84	27475.29	133641.17
ONGC	124453.22	127054.77	53673.44	124453.22
SAIL	41024.64	30831.85	21693.25	62525.21

Table 4: Comparative Assessment of Financial Status of Maharatna Companies on India (Rs. in Crore)

Source: <http://economictimes.indiatimes.com>

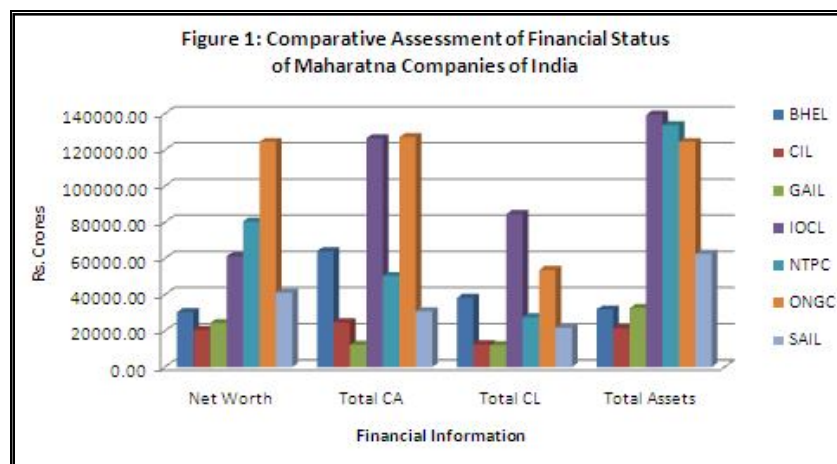


Figure 1

Source: <http://economictimes.indiatimes.com>

Table 5 shows that average turnover of seven Maharatna companies is Rs. 49,430.23 crores with minimum value of Rs. 12,162.59 crores and maximum of Rs. 83,308.96 Crores. Whereas profit after tax (PAT) ranges between Rs. 1655.54 crores and Rs. 12,619.39 crores with average of Rs. 5127.38 crores. Total expenses incurred on CSR activities varies from 0.55 to 2.50% of net profit with average of Rs. 59.57 crores i.e. 1.27% of net profit. Therefore it concludes that all the seven Maharatna companies, having net profit of more than Rs. 500 crores, are meeting guidelines regarding expenditure for CSR activities formulated by the Department of Public Enterprises.

Financial Status	Minimum Rs. in Crore	Maximum Rs. in Crore	Average Rs. in Crore	Standard Deviation
Turnover (Rs. in Crore)	12162.59	83308.96	49430.23	24789.66
Profit Before Tax (PBT) (Rs. in Crore)	1897.18	14894.52	5966.69	5148.91
Profit After Tax (PAT) (Rs. in Crore)	1655.54	12619.39	5127.38	4290.82
Total expenses incurred on CSR (Rs. in Crore)	41.39	69.24	59.57	12.40
Total expenses incurred on CSR (%)	0.55	2.50	1.27	0.85

Table 5: Statistical Distribution of Financial Status of Maharatna Companies on India

Source: <http://economictimes.indiatimes.com>

5.2. CSR Policies and Initiatives

The study shows that all surveyed companies are having CSR policies and practices. All surveyed companies reflect their CSR philosophy or social, environmental and ethical objectives in mission statements. Following section presents brief CSR initiatives taken by all seven Maharatna companies. Table 6 shows distribution of thrust area in CSR activities of Maharatna Companies.

- **BHEL:** BHEL is a committed Corporate Citizen fully alive to the need of building synergy between business and CSR as an integral part of its business strategy. BHEL has continued to play a prominent part in the United Nation's Global Compact Programme on CSR by promoting the core values on human rights, labour standards, environment and anti-corruption and intends to advance these principles forming part of its strategy & culture within its sphere of influence. It has been BHEL's endeavour always to act as a responsible corporate citizen committed to working for welfare of the society through inclusive growth aimed at capability building, empowerment of communities, environment protection, development of backward regions and upliftment of the marginalized and under-privileged sections of the society. In line with this commitment, the company supports various social initiatives across the country by undertaking projects in diversified areas like Education, Community Development, Health, Environment Enrichment, Vocational Training, Skill Development, Disaster/Calamity Management and Infrastructure Development.
- **CIL:** CIL has a well-defined CSR Policy which was introduced in June 2010. CIL adopted CSR as a strategic tool for sustainable growth. In the present context, apart from investing funds for social activities, CSR at CIL also includes integrating business process with social ways. CIL incurred 0.5% of PAT of 11-12 expenditure on CSR. Sustainable Development Committee was constituted by the CIL Board of Directors in its 282nd meeting held on 16th April, 2012. This committee was renamed as Corporate Social Responsibility and Sustainable Development and reconstituted by the Board in its 294th CIL Board meeting held on 13th Feb, 13.
- **GAIL:** In alignment with vision of GAIL, CSR initiatives strive to enhance value creation in the society and in the community in which it operates, through its services, conduct & initiatives, so as to promote sustained growth for the society and community. CSR initiatives are executed under seven identified major thrust areas, viz-Education/ Literacy Enhancement, Community Development, Infrastructure, Skill Development/ Empowerment, Drinking Water/Sanitation, Healthcare/ Medical Facility and Environment Protection/ Horticulture. Total investment in CSR in 2012-13 is Rs. 92 crores, out of which 0.6 crores for Environment protection/Horticulture.
- **IOL:** The three thrust areas of the Corporation's CSR initiatives are 'Clean Drinking Water', 'Health & Medical Care' and 'Expansion of Education'. A Committee of the Indian Oil Board specially constituted for CSR, guides the Corporation in undertaking CSR activities in a focused and structured manner and reviews the CSR policy from time to time. The Committee also advises the Corporation on new flagship CSR projects to be undertaken on a pan-India basis in consonance with its Vision and CSR policy. During the year, the CSR expenditure of the Corporation was Rs. 78.97 crore.
- **NTPC:** NTPC has always discharged its social responsibility as a part of its corporate governance philosophy. It follows the global practice of addressing CSR issues in an integrated multi stakeholder approach covering the environmental and social aspects. With a view to address the domains of socio-economic issues at national level, it has revised its Corporate Social Responsibility – Community Development Policy in line with the Guidelines issued by Department of Public Enterprises, Government of India. NTPC received FICCI Appreciation Plaque for 2011-12, Golden Peacock Award for CSR, 2012 and Greentech Award for CSR, 2012.

- **ONGC:** ONGC's vision of sustainable growth drives both business decisions as well as Corporate Social Responsibility (CSR) initiatives. The CSR activities are essentially guided by project based approach in line with the guidelines issued by the Department of Public Enterprises (DPE) and Ministry of Corporate Affairs (MCA) of the Government of India. Seeking to herald an inclusive business paradigm, ONGC has CSR interventions that are based on social, environmental, and economic considerations and are well-integrated into the decision-making structures and processes of the organization. Some of the continued CSR initiatives are Harit Moksha (green cremation systems to reduce wood consumption during traditional cremations) and ONGC-Eastern Swamp Deer Conservation Project in Kaziranga National Park.
- **SAIL:** SAIL's CSR initiatives are carried out in and around steel township, mines and far flung location across the country in the area of village development including development of Model Steel Villages (MSVs), Providing Medical and Health Care, Immunization, Ante and post natal care, Education, Access to water facilities, Construction of Roads, Road Side Drains & Street Lights, Environment, Women Empowerment, Assistance to people with disabilities, Sustainable Income Generation through Self Help Groups, Promotion of Sports, Art, Culture & Recreational Activities etc. SAIL has provided access to water infrastructure to people living in far-flung areas by installing over 6052 water sources, thereby providing drinking water access to around over 41 lakh people. SAIL has identified 79 villages in eight states (Chhattisgarh, West Bengal, Odisha, Jharkhand, Karnataka, Tamil Nadu, Madhya Pradesh and Bihar) for development of all these villages as Model Steel Villages. The development activities includes Medical & Health Services, Education, Sanitation, Roads, Access to water facilities, Employment generation, use of steel for storage/construction/bullock carts, etc. Around 6052 water infrastructure facilities like bore well, hand pump, overhead tanks, ponds, etc. were created which benefited around 40.10 lakhs people across country.

Maharatna Companies	Thrust Area
Bharat Heavy Electricals Limited	<ul style="list-style-type: none"> • Education • Community Development • Health Management • Disaster Management • Environment Protection • Vocational Training
Coal India Limited	<ul style="list-style-type: none"> • Education • Water Supply including drinking water • Health care • Social empowerment • Sports & culture • Infrastructure support • Generation of employment • Relief of victim against natural calamities • Adoption of village • Financial assistance to NGOs • Financial support for under privileged and slum dwellers • Environment Protection
GAIL (India) Limited	<ul style="list-style-type: none"> • Educational/Literacy enhancement • Infrastructure development • Skill Development/Empowering • Community development • Healthcare/Medical Facilities • Drinking water/ Sanitation • Environment protection/Horticulture • Natural Calamity and other CSR Heads
Indian Oil Corporation Limited	<ul style="list-style-type: none"> • Clean Drinking Water • Health & Medical Care • Expansion of Education
NTPC Limited	<ul style="list-style-type: none"> • Education and awareness creation • Vocation training and skill upgradation • Health and Sanitation • Conducting medical camps • Activities for physically challenged • Women empowerment • Roads and infrastructure development • Drinking water

	<ul style="list-style-type: none"> • Animal health • Sports and culture
Oil & Natural Gas Corporation Limited	<ul style="list-style-type: none"> • Providing support in primary & secondary education including vocational courses in backward & rural areas: School buildings; funding; scholarships • Infrastructure support like roads, community centre, medical assistances near our operational area • Promotion of arts, culture and sports by sponsoring artisans, musicians, artists, sports and sportsperson • Providing Health Care in remote and rural areas • Community development • Fostering entrepreneurship
Steel Authority of India Limited	<ul style="list-style-type: none"> • Village development including development of Model Steel Villages (MSVs) • Providing Medical and Health Care, Immunization, Ante and post natal care • Education • Access to water facilities • Construction of Roads • Road Side Drains & Street Lights • Environment • Women Empowerment • Assistance to people with disabilities • Sustainable Income Generation through Self Help Groups • Promotion of Sports, Art, Culture & Recreational Activities

Table 6: Distribution of Thrust Area in CSR Activities of Maharatna Companies
Source: Annual Reports (2012-13) of Select Companies. Results computed

5.3. Extent of Corporate Environment Protection Related Reporting under CSR

The impacts of CSR programs reflected by a sample of companies were classified in context of environmental pollution prevention & control. For sustainable management and development of natural resources, many companies have been working for tree plantation, watershed management, waste management, wind farm etc. Following section presents brief environment protection related disclosure under CSR initiatives undertaken by all seven Maharatna companies. Table 7 shows distribution of thrust area related to environment protection under CSR activities of Maharatna Companies.

- **BHEL:** Fully alive towards its responsibility for protection of the environment, BHEL had undertaken a project that entailed afforestation of a barren land at Ramadurga in Koppal district of Karnataka. The project involves planting of fruit-bearing trees in a patch of completely barren land and preserving these trees for birds and animals, thereby also promoting protection of species.
- **CIL:** The impact on the environment due to extraction of coal is being monitored constantly by CIL subsidiaries and adequate measures for control of air, water and noise pollution, land degradation, deforestation, etc. are being undertaken in accordance with the provisions of all statutory norms, acts and rules on a regular basis by way of various environment protection activities.
- **GAIL:** GAIL has provided bore-wells, tubewells, hand-pumps as well as storage facilities across various villages in different parts of the country where the Company has its presence to meet the water requirements of the community. GAIL has taken up a long term project for the holistic development of selected villages of Guna and Auraiya in collaboration with Sulabh Sanitation Mission Foundation, which includes construction of public toilets and sewerage drains. GAIL's commitment towards the environment forms an implicit part of its Vision statement; it has promoted this cause through specific environment-friendly CSR programmes. GAIL has undertaken wildlife protection initiatives and environment conservation initiatives by improving the drinking water facilities for the endangered species and wildlife of Vedaranyam Range in Kodiakarai Wildlife Sanctuary, Tamil Nadu. In order to conserve the cultivated land of Khadar area on Sonali River, Haridwar, Uttarakhand flood protection activities were undertaken by GAIL.
- **IOL:** IOL's CSR activities include providing clean drinking water.
- **NTPC:** NTPC is pursuing the objective of environment protection as one of its prime responsibilities focuses its effort to mitigate the impact of its operation on surrounding environment. Around 12-15% of the project cost is spent on various environment protection equipments. To meet the environment challenges and beyond, the company has adopted a sound environment management practices and advanced environment protection system to minimize impact of power generation on environment.
- **ONGC:** The world today has only two options, either to stop generating GHGs (Green House Gases) and stop development as a corollary or synergise development with environment. ONGC, similar to the leading energy majors of the world, is striving to position itself as a leading organisation in sustainable management and is aiming to achieve

sustainable development through a holistic approach to carbon management. Carbon Management Group synergises ONGC's all business activities in terms of sustainable development.

- **SAIL:** SAIL restored 200 acres of degraded land through afforestation at Purnapani flux mines of SAIL in Orissa by planting saplings which includes horticulture species, forest species and a variety of grasses. Pisciculture has been done in the abandoned quarries at Purnapani and 300,000 fish lings have been released in the quarry waters. Further 30,000 saplings of 50 different species have been planted in this season and another 5 lakh fish lings have been released in the quarry water. Plantation of 10,000 saplings in 10 acres of degraded land has been planned. Out of that, plantation of 4,000 saplings has been completed at Barsua Iron Ore Mines. Medicinal plantation of amla was undertaken in Chhattisgarh region recently. SAIL undertakes a number of environment protection and environment pollution prevention & control related activities in the area of air pollution control, water pollution control, noise pollution and control, plantation, etc. under CSR

Maharatna Companies	Environment Protection Issues under CSR
Bharat Heavy Electricals Limited	<ul style="list-style-type: none"> • Afforestation • Conservation of water resources • Sewage treatment plant • Biogas plant
Coal India Limited	<ul style="list-style-type: none"> • Air pollution control measure • Water pollution control measure • Land reclamation/restoration and general cleanness • Noise pollution control measure • Environment management plan monitoring • Executing statutory requirements of SPCBs
GAIL (India) Limited	<ul style="list-style-type: none"> • Drinking Water • Sanitation • Environment Protection
Indian Oil Corporation Limited	<ul style="list-style-type: none"> • Clean Drinking Water
NTPC Limited	<ul style="list-style-type: none"> • Control of air emission • Control of water pollution • Promotion of water conservation • Ash management • Automation of environment measurement system • Environmental studies • Tree plantation • ISO 14001 and OHSAS 18001 certification • Clean development mechanism • Ash utilization
Oil & Natural Gas Corporation Limited	<ul style="list-style-type: none"> • Water Management (Sustainable water management, Rainwater Harvesting Programme) • Global Methane Initiative (GMI) • Carbon Dioxide mitigation and low carbon initiatives • Clean Development Mechanism (CDM)
Steel Authority of India Limited	<ul style="list-style-type: none"> • Reduction in Particulate Matter (PM) Emission • Reduction in Specific Water Consumption • Reduction in Specific Effluent Discharge • Solid Waste Utilization • Environmental Plantation • Implementation of Environment Management System (EMS) Linked to ISO 14001 • Clean Development Mechanism • Environmental Awareness Programmes

Table 7: Distribution of Thrust Area Related to Environment Protection under CSR Activities of Maharatna Companies
Source: Annual Reports (2012-13) of Select Companies. Results computed

Table 8 reports our findings related to types of environment protection related disclosure under CSR activities by sample Indian Maharatna Companies. It is observed that most popular theme was 'water pollution prevention & control measure' related disclosure, as all 7 (100%) companies made such disclosure. Some other things that attracted better disclosures include 'waste

management’ (71.43%) followed by ‘air pollution prevention & control measure’, ‘afforestation’, ‘clean development mechanism’ (42.86% each).

Theme of Disclosure	Companies Reporting	% of Total
Air pollution prevention & control measure	3	42.86
Noise pollution prevention & control measure	1	14.29
Water pollution prevention & control measure	7	100.00
Sanitation	1	14.29
Waste management	5	71.43
Afforestation	3	42.86
Certification of ISO 14001 and OHSAS 18001	2	28.57
Clean development mechanism	3	42.86
Environment pollution monitoring	2	28.57
Legal environmental compliance	1	14.29
Environmental awareness programmes	2	28.57

Table 8: Types of Environment Protection Related Disclosure under CSR Activity

Note: Some companies reported more than one theme.

Source: Annual Reports (2012-13) of Select Companies. Results computed.

The analysis further reveals that Environment Protection Disclosure Score (EPDS) obtained with respect to above-mentioned 11 environment protection related disclosure indicators ranges between 9.09% to 90.91% with average of 49.35% and standard deviation of 27.70. Figure 2 shows the distribution of the Environment Protection Disclosure Score among sample companies. The analysis reveals that 43% companies (3) have attained less than 40% score, on the contrary, only one company has attained more than 80% score.

It concludes that though all the seven Maharatna companies, having net profit of more than Rs. 500 crores, are meeting guidelines formulated by Department of Public Enterprises regarding expenditure range for CSR activities, yet expenditure for environmental protection related activities and related disclosure are very insignificant.

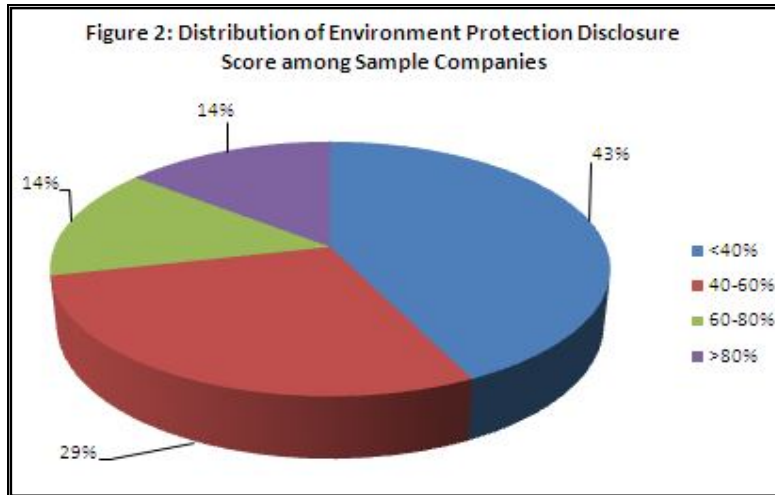


Figure 2

5.4. Impact of Company Characteristics on the Extent of CSR Disclosure

We measure Environment Protection Disclosure Score (EPDS) through analysis of content of annual reports of sample units and by applying weightage on different disclosure. We seek to determine whether relationship exists between EPDS and a set of firm specific factors. Taking cue from previous studies on CSR disclosure and based on our sample survey, normally accepted norms, also the theoretical considerations and availability of data, some firm specific factors had been selected as potential explanatory variables for explaining the variation in the disclosure score due to the corporate environment protection related activities under CSR among the selected units.

5.5. Explanatory Variables & Hypotheses Formulation

- Net Worth:
Hypothesis 1: There is a significant relationship between company's net worth and corporate environment protection disclosure score.
- Total Current Asset:
Hypothesis 2: There is a significant relationship between company's current asset and corporate environment protection disclosure score.
- Total Current Liability:
Hypothesis 3: There is a significant relationship between company's current liability and corporate environment protection disclosure score.
- Total Assets:
Hypothesis 4: There is a significant relationship between company's total assets and corporate environment protection disclosure score.
- Turnover:
Hypothesis 5: There is a significant relationship between company turnover and corporate environment protection disclosure score.
- Profit Before Tax:
Hypothesis 6: There is a significant relationship between profit before tax and corporate environment protection disclosure score.
- Profit After Tax:
Hypothesis 7: There is a significant relationship between profit after tax and corporate environment protection disclosure score.
- Total Expenses Incurred on CSR:
Hypothesis 8: There is a significant relationship between total expenses incurred on CSR and corporate environment protection disclosure score.

5.6. Formulation of Model

The model (Model 1) that had been specified for determination of relative role of each independent variable is given below:

$$EPDS_i = \alpha + \beta_1 NW + \beta_2 CA + \beta_3 CL + \beta_4 TA + \beta_5 TURNOV + \beta_6 PBT + \beta_7 PAT + \beta_8 EXP_CSR + e_i$$

where,

i = Index of unit (1, 2,, 7)

EPDS = Environment Protection Disclosure Score

NW = Networth

CA = Current Asset

CL = Current Liability

TA = Total Assets

TURNOV = Turnover

PBT = Profit Before Tax

PAT = Profit After Tax

EXP_CSR = Total expenses incurred on CSR

α = Constant

β = Parameters

e = Error term

5.7. Regression Results

Multiple regression models (Linear Enter model) are used to ascertain which of the variables have a significant influence on the corporate environment protection activities under CSR and which of them do not. To perform multiple regressions, the values of all the independent variables and dependent variable are computed taking the data of all sample units. In Model 1 we analyzed corporate environment protection disclosure score (EPDS) and its relationship with eight independent variables such as Networth (NW), Current Asset (CA), Current Liability (CL), Total Assets (TA), Turnover (TURNOV), Profit Before Tax (PBT), Profit After Tax (PAT) and Total expenses incurred on CSR (EXP_CSR).

Correlation coefficients (Pearson Correlation) have been calculated between all the variable pairs. It indicates that there was strong correlation between total assets & turnover, current asset & current liability, profit before tax & profit after tax, networth & turnover. Because of a high degree of association between each of these two explanatory variables, there may be the problem of multicollinearity and it seems justified not to incorporate both of these two pair together in the same model. The methodology followed for dropping the variables was as suggested by Kaushik (2007). Hence, a number of regression models, omitting one variable of each pair each time, were estimated and significances of F statistics were checked. The results of the regression analysis for each of the Models are obtained by using SPSS (version 10.0) statistical package. Comparing the overall explanatory power as indicated by adjusted R^2 amongst Models, Model 8 shows the most improved value, which was 0.995 (R^2 is 0.998). The observed F statistics for Model 8 is also significant at 5% level. Model 8 incorporates total two explanatory variables viz., Profit

after tax (PAT) and Total expenses incurred on CSR (EXP_CSR). The summarized results of the final regression for Model 8 are reported in Table 9.

Model 8:					
Sources	Sum of Squares	df	Mean Square	F	Sig.
Regression	2042.121	5	1021.061	290.455	.041
Residual	3.515	1	3.515		
Total	2045.636	6			

- Number of observations: 7
- $F(5, 1) = 290.455$
- $R^2 = 0.998$
- Adjusted $R^2 = 0.995$
- Durbin-Watson statistics = 0.824
- Standard error of the estimate = 1.8749

	Regression Coefficients	Std. Error	t	P > t
(Constant)		4.482	-6.844	.092
PAT	5.639E-03	.000	24.102	**_.026
EXP_CSR	.532	.037	14.582	**_.044

** At 5% level of significance

Table 9: Estimates from the OLS Regression Analysis of Corporate Environment Protection Disclosure Score on Factors

The following observations may be made on the basis of regression results obtained for Model 8:

The multiple regression model with EPDS as dependent variable has a coefficient of determination of 0.998 with a standard error of the estimate of 1.8749 (Model 8). Observed F statistics of the model is 0.041 and it is significant at 5% level. This indicates that all the independent variables together have a significant influence on the corporate environment protection disclosure, the EPDS at 5% level. Among the explanatory variables, coefficient of both variables i.e. Profit after Tax (PAT) and Expenses incurred on CSR (EXP_CSR) are significant at 5% level. Hence, both hypotheses may be accepted. This is:

- Hypothesis 7: There is a significant relationship between profit after tax and corporate environment protection disclosure score.
- Hypothesis 8: There is a significant relationship between total expenses incurred on CSR and corporate environment protection disclosure score.

It is observed that coefficients of PAT and EXP_CSR are positive. Thus, companies with more profitability and incurring more expenses on CSR are also incurring expenses for environment protection related activities extensively in CSR front.

6. Conclusion and Recommendations

The conclusion of this study is that social responsibility is regarded as an important business issue of Indian companies irrespective of size, sector, business goal, location of the company. Because Indian companies are realizing that without socio-economic development of the local communities, there can be no stability and sustainability for doing business so as to compete with the global market. All surveyed companies in this study present themselves as having CSR policy and practices. A wide range of CSR initiatives ranging from income generation activities for livelihood, health check-up camps, mobile health services, education, adult literacy, agricultural development, provision of drinking water, management and development of natural resources, infrastructure facilities being carried out by these companies. But, on an overall basis, corporate environmental protection activities and its reporting practices of Indian Maharatna companies are not encouraging.

Further, this paper has tried to trace the history of the determinants of the corporate environmental protection disclosure and the competing arguments on the relative importance of each of the factors in the corporate environment protection disclosure score determination. Furthermore, among the company specific factors, two factors, viz., profit after tax and expenses incurred for CSR activities are having significant influence on corporate environmental protection disclosure.

As with all empirical work in this area, our results are subject to certain limitations. First, our sample period is only one year and the results we document may not adequately capture the historical trend of social reporting. Second, we have assigned weights to different theme to arrive at corporate disclosure score. To the extent, subjectivity involved in such scoring process, our inferences may be used with caution. However, subjectivity is unavoidable in measuring qualitative disclosure. Third, we do not take other forms of corporate reporting like reporting through internet or advertisement into consideration. Despite these potential shortcomings, we believe that our findings contribute evidence on the recent trend of corporate social reporting in India and its determinants.

There is need for continuing more exploratory and empirical research on different aspects of corporate social responsibility. Apart from the explanatory variables considered in the present study, future research may analyze brand value, investor pressure, litigation, regulation/legislation, innovation and quality control, productivity and cost savings, research and development, expenditure on social overheads, industrial safety, quality assurance and consumer protection, employees participation in management, corporate governance parameters etc. on environmental protection reporting practice. Even, future research may be conducted to identify the extent and direction of corporate environment protection activities and its reporting under CSR in the Indian context in a more detailed way. A comparative study may also be undertaken on CSR reporting practice in developing countries. It is generally assumed that better corporate social reporting would promote socially responsible behaviour. A study on relationship between corporate environment protection disclosure score and social performance may help to answer the question of whether increased social reporting is simply rhetoric or whether they represent moral stance, with social reporting truly reflecting ethical behaviour.

7. References

1. Banerjee, S.B., Lyer, E. S. and Kashyap, R.K. (2003), 'Corporate Environmentalism: Antecedents and Influence of Industry Type', *Journal of Marketing*, 67, pp. 106-122.
2. Bowen, H. R. (1953), *Social Responsibilities of the Businessman*, New York: Harper & Row.
3. Centre for Social Markets (2003), In Loura, Dr. Jitender (2014), *Corporate Social Responsibility: A Case Study of Select PSU's Role in Rural Development*, *International Journal of Management and Social Sciences Research (IJMSSR)*, Vol. 3, No. 2, February, p. 54 [ISSN: 2319-4421].
4. Chapple, M. and Moon, J. (2005), *Corporate Social Responsibility (CSR) in Asia A Seven-Country Study of CSR Web Site Reporting*, *BUSINESS & Society*, 44(4), pp. 415-441.
5. Chopra, S. L. (2006), *The Strategy Behind Corporate Virtue*, *Journal of Indian Management*, pp. 92-98.
6. Conway, C. (2003), *Tracking Health and Well Being in Goa's Mining Belt, Case Study 5, Ecosystem Approach to Human Health*, *International Development Research Centre*, Canada.
7. Das, D., Dhar, S. and Gandhi, S. K. (2008), *Mandatory Disclosure in Annual Reports of Companies Listed in Indian Stock Exchanges: Extent and Determinants*, *Indian Accounting Review*, 12 (1), pp. 18-37.
8. Dee, N., Baker, J., Drobný, N., Duke, K. and Fahringer, D. (1972), *Environmental Evaluation System for Water Resource Planning (to Bureau of Reclamation. U.S. Department of Interior)*, *Battelle Columbus Laboratory*, Columbus, Ohio, January, p. 188.
9. Dee, N., Baker, J., Drobný, N., Duke, K., Whitman, I. and Fahringer, D. (1973), *An Environmental Evaluation System for Water Resource Planning*, *Water Resources Research*, 9(3), June, pp. 523-535.
10. Kaushik, K. P. (2007), *Determinants of Retained Earnings in Highly Profitable Companies in India: A Comparative Study of Domestic and Multinational Companies*, *The ICAI Journal of Applied Finance*, The ICAI University Press, Hyderabad, 13 (6), pp. 19 - 42.
11. KPMG and ASSOCHAM (2008), *Corporate Social Responsibility-Towards a Sustainable Future*, A White Paper [www.in.kpmg.com/pdf/csr.whitepaper.pdf, retrieved on 30th March 2009].
12. Pradhan, Sanjay and Ranjan, Akhilesh (2010), *Corporate Social Responsibility in Rural Development Sector: Evidences From India*, *School of Doctoral Studies (European Union) Journal*, pp. 139-147.
13. Saeed (2010), *Corporate Social Performance of Indian FMCG Companies*, *Issues in Social and Environmental Accounting*, 3, p. 2.
14. Sharma, Anupam and Kiran, Ravi (2012), *Corporate Social Responsibility Initiatives of Major Companies of India with Focus on Health, Education and Environment*, *African Journal of Basic & Applied Sciences*, 4 (3), pp. 95-105 [ISSN 2079-2034].
15. World Business Council for Sustainable Development (1999), *Corporate Social Responsibility: Meeting Changing Expectation*, WBCSD Publication, p. 3, Green Switzerland [www.wbcsd.ch/DoCROOt/hbdf197&hmkdxBQDWW/CSRmeeting.pdf, retrieved on 7th April 2009].
16. Wood, D. J. (1991), *Towards Improving Corporate Social Performance*, *Business Horizons*, Vol. 34, No. 4, In World Business Council for Sustainable Development (1991), pp. 66-73