

CSR Activities Relating to ‘Environment’ in Indian Manufacturing Industries

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ABSTRACT

*Purpose-*The aim of this paper is to explore the CSR initiatives of environment in Indian manufacturing sectors.

Design/Methodology- The sample for the present study considered data obtained from survey of manufacturing industries relates to automobile, cement, chemical, pharmaceutical and textile sectors. The data thus generated was analyzed with factor analysis and etc.

Findings- The study highlighted that a major phase of the study units undertake most of the environment CSR activities in a highly effective manner.

Keywords- CSR, environment, Tree plantation.

I. INTRODUCTION

CSR is a company's commitment to operating in an economically, socially and environmentally sustainable manner whilst balancing the interests of diverse stakeholders. It is a concept whereby companies integrate social and environmental concerns in their business operations and in their interactions with their stakeholders on a voluntary basis (EU Commission, 2001). "A stakeholder is any group or individual who can affect, or is affected by the activities and achievements of an organization". A growing number of scholars take the view that firms can no longer be seen purely as private institutions but as social institutions instead. The benefits from firms need to be shared collectively (Frederick et al., 1992; Freeman, 1984; Lodge, 1977; Wheeler and Sillanpaa, 1997). So it seems that there is a natural fit between the idea of CSR and an organization's stakeholders (Carroll, 1991). The social responsiveness has increased in the recent years and the emerging perspective on CSR focuses on responsibility towards stakeholders (Balasubramanian et al., 2005). An increasing number of companies are adopting a variety of „voluntary initiatives“ associated with improvements in environmental management systems and reporting on social and environmental performance (Baxi, 2005). Economic factors drive most environmental behavior including behavior beyond economic and regulatory demand.

II. ENVIRONMENT CSR AND ITS BENEFITS

Environmental good practice is also about business efficiency, that is, best use of valuable raw materials. Earlier, corporate dumped their wastes with impunity in the environment. With the growing awareness and concern about environmental degradation, depletion of natural resources like water and fossil fuels and the phenomenon of global warming, there is moral and legal pressure on corporate to realize that the earth needs to be preserved and looked after so that future generations are not adversely affected. Environment management involves being energy conscious, environment friendly and a sustainable business organization, which strives to

achieve symbiosis with nature, and has been proceeding with efforts toward environmental protection in all aspects of its business activities. In a study conducted in 1992, it was estimated that at all levels in India, the environmental damage cost India Rs 34,000 crores every year, which is 4.5% of the national GDP. Eleven years later, in 2003, the damage increased manifold. This is reflected in many ways like rising health costs due to growing air and water pollution, depletion of natural resources like deforestation, loss of revenue due to reduced international tourism, etc. Many Indian companies have included environmental issues into their CSR practice (UNDP et al., 2002). The environmental policy of most companies primarily focuses on compliance with legislation. Only some large companies go a step beyond and try to minimize their impact or contribute in a positive way to the environment. Environmental pressures include investing in pollution abatement equipment, etc. CSR practices cover environmentally responsible practices relating to the management of the natural resources used in production (White, 2001). The environmental benefits due to practice of environment CSR arise out of recycling of pollutants or waste or effluent, effective disposal of waste, proper treatment of smoke or ash, installation of equipment to protect environment, regular environmental audit, tree plantation, natural resource management, integrated watershed development, rain water harvesting, reclaiming of waste land and environmental awareness programs in schools or colleges (Scope Award for CSR, TERI Award, Golden Peacock Award). The following research questions are central to this study:

1. What is the environment CSR profile of the sample manufacturing units in India?
2. What is the relationship between environment CSR and its factors?
3. How does the environment CSR differ in the sample manufacturing units across six
Classifications, namely, manufacturing sector, type of organization, region, experience,
Turnover and workforce?

III. HYPOTHESES

The followings are the various hypotheses of the study The CSR of the study units with regard to environment has been measured with eleven factors, namely, recycling of pollutants or waste or effluent, disposal of waste, allowing smoke or ash, installation of equipment to protect environment, environmental audit, tree plantation, natural resource management, integrated watershed development, rain water harvesting, reclaiming of waste land and environmental awareness program in schools and colleges. To see which factors are best predictors of them all, it has been hypothesized:

H1: Environment CSR is equally influenced by all the environment CSR activities. It is necessary to find out if there is any difference between the environment CSR and the profile of the sample units. So, the hypothesis is:

H2: There is a significant difference in the environment CSR activities among the manufacturing units based on manufacturing sector, type of organization, regions, experience, turnover and workforce The regions selected for the study are: Region 1 which comprises Chennai and Hyderabad (South India); Mumbai and Pune have been categorized as region 2 (West India); and Delhi, Indore and Kolkata have been grouped as region 3 (North East India). The association between effectiveness of environment CSR undertaken by the study units and the regions was examined.

IV. RELATED LITERATURE

There are few studies on the subject CSR done in India. There has also been a significant amount of literature in the West about CSR. A few important related studies have been carried out in India where „environment“ is among the main focus areas. The first study in India on CSR reporting titled “Corporate Social Reporting in India” which developed a 33 item disclosure index including „environmental“ control measures (Singh and Ahuja, 1983). A comparative study on the managerial attitudes to social responsibility in India and Britain showed that most of these Indian executives agreed that CSR is relevant to business and that business has responsibilities not only to its shareholders but also to other stakeholders, including the ‘environment’ (Khan and Atkinson, 1987). “A survey on CSR 2002 – India” was commissioned jointly by the UNDP, CII, and the British Council and executed by Price Waterhouse Coopers during 2002. 76% of respondents have „defined“ environmental requirements. Approximately 3/4 of the respondents had reported that they integrated environmental, health and safety issues into their CSR practice as a method of "pro-actively" dealing with regulatory requirements (UNDP et al., 2002). Baughn et al. (2006) had examined two aspects of CSR practices – social and „environmental“ in 15 Asian countries. Drawing from over 8,700 surveys of firms in 104 countries in the form of Executive Opinion Survey using structured questions conducted through the World Economic Forum, this study demonstrated substantial country and regional differences in CSR. Strong relationships were found between CSR and the countries’ economic, political and social contexts. Mitchell and Hill (2009) investigated the development and use of corporate social and „environmental“ reporting by businesses within a large municipality in South Africa. There seemed to be a strong call for improved CSR, and a greater degree of accountability and transparency by businesses. The survey was conducted through the use of interviews following a structured questionnaire with the Global Reporting Initiative used as an appropriate framework. It was suggested that implementation of a comprehensive and externally controlled and certified standard, such as ISO 14001 would not only reduce environmental impacts, but facilitate increased CSR. Brunklaus et al. (2009) reviewed the existing literature on ‘environmental’ indicators mentioned in the annual reports of the organizations. With the help of an operational approach, from organization theory, and a lifecycle approach, indicators were analyzed. The analysis revealed that formulating indicators for internal management was not an easy task; available guidelines were of little help. It was concluded that the environment can be managed internally by relating indicators. Business for Social Responsibility and Globe Scan (2009) has conducted a survey on “BSR/Globe Scan State of Sustainable Business Poll, 2009” during October 2009. This was done among a sample of 274 corporate responsibility professionals from fifteen countries who attended the BSR Conference, 2009. The findings revealed that „Climate change“ and „human rights“ were the most significant priorities for business sustainability efforts in the year ahead. Creating innovative products and business models designed for sustainability and measuring and demonstrating positive social and environmental impacts were two important actions which companies should take to improve public trust. Karmayog CSR Ratings report that „environment“ is one among the three main CSR areas (Karmayog, 2007, 2008, 2009 and 2010). Times Foundation (Times Foundation, 2010) undertook a national survey on “Corporate Social Responsibility Practices in India” to understand the underlying dynamics of CSR and the current situation in India, amongst leading business organizations from various sectors. The findings of the survey place „environment“ among the most popular areas of intervention for companies as phase of their CSR initiatives .

Also, manufacturing industries are important for an economy as they employ a huge share of the labor force and produce materials required by the society. Therefore, this research paper focuses on the extent of environment CSR initiatives present in the manufacturing units in India. Also, a few initiatives based on the survey results have been suggested for the companies to adopt.

V. METHODOLOGY

The population of the study comprises the companies in the selected industries, the information obtained from the website of a business directory of industries and its companies in India namely, www.fundoodata.com. An empirical study was conducted on the manufacturing companies in Companies were ranked according to annual turnover which was greater than ten crore rupees per annum. The top 20 companies were included in the survey and questionnaire was sent to them. Only those companies which responded to the questionnaire have been included in the study. Only 50 companies responded after repeated reminders and follow-ups. This works out to approximately 2% of the population. The sample size of the study is therefore 50. The study was done based on primary and secondary data. Primary data were collected through survey technique. A structured questionnaire was designed to collect the data from the sample units in the study area. The questionnaire with direct, closed-ended and multiple-choice questions was prepared. The questionnaire was based on the following – company's profile and CSR initiatives related to environment. The environment CSR initiatives have been identified from Golden Peacock Award, SCOPE Award for CSR, TERI Award. Factor analysis was used to analyze the factors affecting the environment CSR. The extraction method used was principal component analysis, along with varimax rotation. All the variables were retained for the factor analysis. The result of the sample adequacy test (KMO and Bartlett's test) is 241.33, which means that environment CSR is significant at 1% level. The reliability analysis shows that Cronbach alpha value is 0.721 for environment CSR variables. The questionnaire was then appended to the chosen companies. The 5-point Likert scale format used to measure CSR was 'Always, Frequently, Sometimes, Occasionally and Never' and 'Highly Effective, Effective, Moderately Effective, Less Effective and Very Less Effective' with a scoring of 5, 4, 3, 2 and 1 respectively if the question is positive and reversed if the question is negative. The respondents were asked to rate their company with an unconditional assurance of complete confidentiality. Responses to several Likert questions have been summed up and the scores have been used to analyze and interpret the data. The collected data were analyzed by using SPSS. Secondary data were generated from the newspapers, journals and magazines, books on CSR, company annual reports, reports on CSR, information downloaded from sites on the World Wide Web, industrial sources, past researches, commercial sources, online databases such as Proquest, EBSCO and Science Direct and other miscellaneous sources.

VI. LIMITATIONS

Corporate social responsibility is a qualitative phenomenon which cannot be accurately quantified or measured. Sample selection was very difficult because the sample units were spread throughout India and the response rate was very low. Information collection turned out to be tedious since companies responded only after regular follow-ups and frequent reminders. Since it was not possible to administer to all manufacturing sectors in India,

the survey was limited to certain sectors. Time and money factors have been constraints and the research exercise was conducted within a limited time.

VII. DISCUSSION

Table 1. Environment CSR in sample units.

Environment CSR	Highly effective	Effective	Moderately effective	Less effective	Very less effective
Recycling of pollutants or waste	40 (80)	6 (12)	3 (6)	1 (2)	0
Disposal of waste	39 (78)	9 (18)	2 (4)	0	0
Treatment of smoke or ash	42 (84)	4 (8)	3 (6)	0	1 (2)
Installation of equipment to protect environment	40 (80)	8 (16)	2 (4)	0	0
Environmental audit	40 (80)	6 (12)	3 (6)	1 (2)	0
Tree plantation	42 (84)	6 (12)	1 (2)	1 (2)	0
Natural resource management	40 (80)	8 (16)	1 (2)	1 (2)	0
Integrated watershed development	19 (38)	27 (54)	3 (6)	1 (2)	0
Rain water harvesting	23 (46)	22 (44)	4 (8)	1 (2)	0
Reclaiming of waste land	17 (34)	29 (58)	3 (6)	1 (2)	0
Environmental awareness program	41 (82)	7 (14)	2 (4)	0	0

(Figures in parenthesis indicate percentages) (N = 50). Source: Primary data.

This section is divided into two phases as follows.

Phase I highlights the Environment CSR where variables such as recycling of pollutants or waste or effluent, disposal of waste, treatment of smoke or ash, installation of equipment to protect environment, environmental audit, tree plantation, natural resource management, integrated watershed development, rain water harvesting, reclaiming of wasteland and environmental awareness program in schools and colleges have been used (Table 1).

Recycling of pollutants or waste or effluent: Recycling is the key to providing a livable environment for the future. The recycling of pollutants or waste or effluent is ‘highly effective’ in a high majority (80 per cent) of the study units. This shows that these study units take steps to ensure that they do not pass on to the environment, any liquid effluent or solid waste or pollutant.

Disposal of Waste: Waste management is the collection, transport, processing, recycling or disposal and monitoring of waste materials. It is undertaken to reduce their effect on health and the environment. More than three-fourths (78 per cent) of the study units have ‘highly effective waste disposal system. None of the study units have ‘less effective’ and ‘very less effective systems of disposal of waste. Treatment of smoke or ash: Smoke or ash is emitted by the manufacturing units. If such emission is not properly treated, it may lead to air pollution. A high majority (84 per cent) of the study units are involved in a ‘highly effective’ treatment of smoke or ash arising out of their manufacturing process.

The table highlights that a majority (above 80%) of the study units undertake most of the environment CSR activities in a highly effective manner except Rainwater harvesting (46%), integrated watershed development (38%) and reclaiming of waste land (34%).

Phase II: Multiple regression has been employed to show the relationship between several independent variables affecting environment CSR and the best predictor out of them (Table 2).

$$Y^{\wedge} = 0.774 - 0.096x_1 + 0.155x_2 + 0.048x_3 - 0.090x_4 + 0.210x_5$$

$$+ 0.235x_6 + 0.039x_7 - 0.174x_8 + 0.489x_9 - 0.244x_{10} + 0.109x_{11}$$

Where Y^{\wedge} is the estimated effectiveness of environment CSR. The above equation describes that the environment CSR increases by 0.489 for every one unit increase in ‘rain water harvesting’, 0.235 unit for every one unit increase in ‘tree plantation’, 0.210 unit for every one unit increase in ‘environmental audit’, 0.155 unit for every one unit increase in ‘disposal of waste’, 0.109 unit for every one unit increase in ‘environmental awareness programming schools or colleges’, 0.048 unit for every one unit increase in ‘letting of smoke or ash or molasis’ and 0.039 unit for every one unit increase in ‘natural resource Management’.

Table 2. Relationship between environment CSR and its factors.

Independent variables	Unstandardized coefficients	Standardized coefficients	t	Sig.
	BStd. error	Beta		
Constant	0.7740.353	000	2.193	0.035
Recycling of pollutants (X ₁)	-0.0960.192	-0.108	-0.499	0.621
Disposal of waste (X ₂)	0.1550.212	0.136	0.732	0.469
Letting of smoke (X ₃)	0.0480.157	0.060	0.305	0.762
Installation of equipment (X ₄)	-0.0900.234	-0.078	-0.386	0.702
Environmental audit (X ₅)	0.2100.173	0.236	1.215	0.023
Tree plantation (X ₆)	0.2350.233	0.227	1.008	0.320
Natural resource management (X ₇)	0.0390.228	0.039	0.173	0.863
Integrated watershed development (X ₈)	-0.1740.200	-0.194	-0.873	0.388
Rain water harvesting (X ₉)	0.4890.267	0.583	1.833	0.015
Reclaiming of waste land (X ₁₀)	-0.2440.230	-0.266	-1.064	0.294
Environmental awareness program (X ₁₁)	0.1090.193	0.092	0.563	0.577

Dependent variable: environment CSR; multiple R = 0.534; R = 0.285²; F value = 1.378; d.f. (11, 38); P > 0.05.

Other variables namely, recycling of pollutants (0.096), installation of equipment (0.090), integrated watershed development (0.174) and reclaiming of waste land (0.244) have not made contribution towards the effectiveness of environment CSR. The multiple R found to be 0.534 revealed that there exists a relationship of 53.4 % between environment CSR and the environmental activities carried out by the sample units. The R² of 0.285 confirmed that the explanatory variable explained only 28.5 % variations in the effectiveness of environment CSR. Finally, the result of F test revealed that the calculated significance of the regression coefficient of the independent variables ‘Environmental audit’ and ‘Rain water harvesting’ was significant at 5% level.

VIII. CONCLUSION

The study has highlighted that a majority (above 80%) of the study units undertake most of the environment CSR activities in a highly effective manner except ‘Rain water harvesting’ (46%), ‘integrated watershed development’ (38%) and ‘Reclaiming of waste land’ (34%). The automobile units have obtained the highest scores for environment CSR (82.73%). So, automobile units give more importance to the environment and take measures to safeguard the same. However, companies can improve their environmental CSR by increasing their tree plantation activities inside and outside their premises and also undertaking integrated watershed development. The companies may continue undertaking reclaiming of wasteland and integrated watershed development. This would contribute towards attaining an enhanced environment CSR and also protecting land

which is a scarce commodity in India.

XI. SCOPE FOR FURTHER RESEARCH

The following are the areas of further research in CSR in relation to stakeholders.

1. The researcher has done the analysis only for Indian manufacturing industries; so the study can be extended by including other industry sectors like service industry, banking industry, SME industry, etc. Further research may be to compare CSR between the manufacturing and service industries.
2. The research is restricted only to CSR of five stakeholders, but other stakeholders such as suppliers, government agencies, etc. can be included in further research.
3. Further researchers can do in-depth studies on comparisons between the CSR of private and public companies.
4. Cross country study can be done on CSR within Asia or across the globe.

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