

# Corporate Environmental Disclosures on the Internet: an Empirical Analysis of Indian Companies

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## Abstract

The impact of industrialization, on natural resources, human health and environment was not clear till 1960s. Rachel Carson for the first time in 1962 raised important questions about human impact on nature in her book, *Silent Spring*. With the growing awareness towards sustainable development, industries and corporations have a major role in environmental degradation and protection thereof. In the past, accounting theories emphasized primarily on financial performance. This awareness on sustainable development is visible through varied environmental management mechanisms practiced amongst companies across the world. Environmental concerns are addressed by corporate giants through identification and estimation of environmental costs, benefits, investments, assets and liabilities into main stream accounting and reporting practices, for varied managerial decisions. These focused environmental efforts have sharpened and improved the global reporting standards. In India, the incorporation of environmental costs and benefits into mainstream financial reporting is at its nascent stage at present - but it is certain to grow. Indian companies have not yet developed a holistic approach to environmental reporting, as there is lack of environmental reporting guidelines. On the other hand environmental awareness among Indian stakeholders gets strengthened with advancement in communication technology. High propensity of environmental awareness ensures a more cautious approach among Indian corporations to be environmentally responsible. With the advancement of information and communications technologies, global corporate information disclosures have been on rise through the medium of internet, as confirmed by various recent national and international surveys. This research has observed that Indian companies follow diverse reporting practices on the internet viz., stand alone environmental reporting (satellite accounts) or reporting along with the Annual/Financial Reports, or Sustainability Reporting.

**Keywords:** *Corporate environmental accounting & reporting, environmental disclosures, internet reporting, Global Reporting Initiatives (GRI), annual reports, voluntary disclosures*

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## Introduction

Accounting for environment helps in accurate assessment of costs and benefits of environmental preservation measures of companies (Schaltegger, 2000). It provides a common framework for organizations to identify and account for past, present and future environmental costs to support managerial decision-making, control and public disclosure (KPMG and UNEP, 2006). The severity of environmental problems as a global phenomenon has its adverse impact on the quality of our life. Measures are being taken both at the national and international level to reduce, prevent and mitigate its impact on social, economic and political spheres (GRI, 2002; GRI, 2006). Environmental governance strategies of many countries require mandatory corporate environmental disclosure. Such mandates facilitate the availability of environmental data in public domain through corporate environmental reports. Stakeholders of Indian subcontinent too witness a significant growth in non financial, corporate environmental performance reporting.

The emergence of corporate environmental reporting (CER) in India has been an important development, both for better environmental management and overall corporate governance (Banerjee, 2002). Global awareness of stakeholders on corporate environmental performance has already made traditional reporting redundant. Corporate houses run in to the risk of loss of faith of their stakeholders, if in future, environmental performance information is not included in their main stream reporting (Swift, 2001). Simple adherence to mandatory environmental reporting is insufficient to meet the environmental disclosure ex-

pectation of stakeholders. Mandatory reporting, how so ever stringent, is nothing but a minimum prescribed reporting requirement. Companies around the world aspire consciously for improved transparency in disclosure as their core competence (Williams, 2000). Environmental disclosure through internet would be the future of scientific reporting. A number of recent national and international surveys have identified increase in growth of companies reporting on internet (Isenmann R, 2004). Internet reporting is perceived as a powerful reporting tool by contemporary reporters. Corporate entities of today are moving towards socially responsible reporting.

Environmental reporting of Indian companies can be broadly categorized into two types - mandatory disclosure and voluntary disclosure. Preliminary investigation of this study shows that Indian companies practice more of voluntary environmental reporting in the form of satellite reporting, sustainability reporting, GRI reporting, internet reporting etc. In year 2001, a country wide survey, the first of its kind, was carried out by Business Today, a business magazine, and The Energy Research Institute (TERI, 2001) to understand the environmental practices of corporate India. Findings of the survey revealed that more than 75% of the sample had environmental policy; about 70% have environmental audit system; 60% had an environment department; four out of every ten Indian Companies had formal environment certification (ISO 14001). Main objective of this study is to understand the environmental disclosure practices followed by Indian corporate on the internet. This research has observed that Indian companies follow diverse reporting practices on the internet viz., stand

alone environmental reporting (satellite accounts) or reporting along with the Annual/Financial Reports, or Sustainability Reporting (which include the economic, environmental and social issues).

### **Legal Framework for Environmental Reporting In India**

As per Indian Constitution, Article 51A of Directive Principles "It shall be the duty of every citizen of India, to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures." The constitutional provisions are backed by a number of laws – acts, rules, and notifications like Factories Act 1948; (Prevention and Control of Pollution) Act 1974; Forest (Conservation) Act 1980; Air (Prevention and Control of Pollution) Act 1981; Water Biomedical waste (Management and Handling) Rules 1998; Municipal Solid Wastes (Management and Handling) Rules, 2000; Ozone Depleting Substances (Regulation and Control) Rules 2000; Noise Pollution (Regulation and Control) (Amendment) Rules 2002; Biological Diversity Act 2002. The Department of Environment was established in India in 1980 to ensure a healthy environment for the country. This later became the Ministry of Environment and Forests (MOEF) in 1985. The EPA (Environment Protection Act), 1986 came into force soon after the Bhopal Gas Tragedy and is considered an umbrella legislation as it fills many gaps in the existing laws. Ministry of Environment & Forest, Government of India (GOI), has brought a number of regulatory and non regulatory initiatives, in its

efforts in harmonizing environmental protection with economic development. In 1991 GOI has made its first public announcement about the need for environmental disclosure in annual reports. It is encouraging to know, the GOI has pronounced that *"Every company shall in the report of its board of directors, disclose briefly the particulars of compliance with environmental laws, steps taken or proposed to be taken towards adoption of clean technologies for prevention of pollution, waste minimization, waste recycling and utilization, pollution control measures, investment on waste reduction, water and other resources conservation"* well before the ensuing *"World Summit"* at Rio. In addition to the above notification, companies are required to prepare director's report as per director's report rules, 1988. Further the companies' bill 1993 & 1997 had proposed the amendment of section 173 to disclose through its board of directors report the measures taken for protection of environment. There is also a mandatory requirement for Indian companies to report on conservation of energy, technology absorption, etc. in accordance with the provisions of Section 217 (1) (e) of the Indian Companies Act 1956. In India financial accounting & reporting guidelines are issued and governed by the Institute of Chartered Accountants of India (ICAI). Companies Act mandates the preparation of annual accounts of companies in accordance with the accounting standards issued by ICAI (Chatterjee, 2005). Specific environmental accounting rules or environmental disclosure guidelines, for communication to different stakeholder groups, are not available for Indian companies. There is no mandatory requirement for quantitative disclosure of (financial) environmental information in

annual reports neither under the Companies Act nor as per Indian Accounting Standards (AS's) Further more there are 23 stock exchanges in India, governed by the Securities and Exchange Board of India (SEBI) Act 1992. Each of these stock exchanges has different listing requirements. However, there is no mandatory SEBI listing requirement for Indian companies, from these stock exchanges, to disclose environmental information. Therefore any environmental disclosure by Indian companies is purely voluntary.

### **Environmental Reporting on Internet**

Growth in information technology has revolutionized global accessibility of required information beyond national boundaries. With the onset and unprecedented growth of internet, globally companies use internet to disseminate financial and non-financial information. Internet usage in India has increased from 1.4 million in 1998 to 42 million in 2007 which is an increase from 0.1 % of population to 3.7% of population of the country (IWS, 2007). Such an impressive growth of internet usage in a span of nine years is an important indicator for Indian companies to use internet reporting for widespread dissemination of information. Exchange of information through internet is more efficient and flexible than other channels of communication. Amongst the many modes of corporate performance reporting, internet has been heralded as a future information disclosure tool (Bolivar and Garcia, 2003).

Companies have traditionally used print medium of information disclosures on

sustainability and environment for various strategic reasons. Internet reporting is increasingly preferred by companies, as it has the advantages of easy accessibility, instant availability, cost effective and environment friendly means of disseminating information among all stakeholders (Unerman, 2004). However huge amount of environmental information on the internet does not necessarily indicate genuine environmental commitment (Hodge, 2001). Researches have shown that quantified monetary disclosures send quality information signals to users of environmental reports (Pleon Kohtes & Klewes, 2005). Internet enables companies to cut down disclosure costs in providing global corporate information, helps in distribution of information online, and with higher frequency, speed and lesser time. Development of internet-based disclosures facilitates communication between firms and stakeholders. Company web site can act as an ideal medium for swift and cost effective disclosures. Use of internet brings more transparency, removes geographical barriers and access to corporate information without any selective disclosure as the case with printed reports (Gandia, 2007). Environmental disclosure has gained significant momentum in today's business management. Impact of business on the environment is likely to be of increasing importance for managers over the coming decades (Frost, 2000). This research shows that Indian companies exceed their existing legal obligations and anticipate more future legislation on environmental issues. Good environmental performance is seen to benefit investors more by reducing risk than by increasing return. Financial managers, in particular, need to be aware of how environmental matters, affect the fundamentals of financial accounting and report-

ing (Schaltegger, 2000). An attempt is made here to understand the current trends in internet environmental reporting practices of Indian companies.

## Review of Literature

Over the past decades companies have recognized the benefits of environmental reporting. As a result, there was dramatic increase in the number of companies reporting in numerous ways. Early reporters are quick to realize that environmental disclosure is more of a governance and strategic issue than a simple reporting tool (Roome, 1992; Parker, 1997; Parker, 2000a). Regardless of the medium of reporting, companies are bound to satisfy country specific/international reporting standards and requirements. It is important to understand as to how far standard setting improves credibility in reporting through two major surveys.

Firstly a survey by International accountancy firm KPMG (2005) shows that there is not just an increase in the number of corporate responsibility (CR) information in annual (financial) reports but also on the assurance. There are standards available for assurance on non-financial information like the International Standard for Assurance Engagements (ISAE) 3000, and AccountAbility's AA1000 Assurance Standard. In 2005 survey number of companies issuing corporate responsibility reports is approximately 80% representing 21 nations in comparison to 2002 survey with only 50% companies in the reporting arena. This result supports the widespread understanding that multinational corporations publish more CR than other national companies. Prior research on

internet based environmental disclosure concludes that multinational corporations of developed nations prefer digital reporting over print medium (Craven and Otsmani, 1999, UNEP, 1999; Williams, 2000).

Secondly GRI guidelines provide principles and detailed indicators for reporting on all aspects of CR performance. Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI) developed through a multi-stakeholder process bring in dramatic increase in corporate reporting practices. There are 660 companies spread over 50 countries report on the basis of GRI guidelines. This widespread use of international guidelines by GRI assures comparability, which is one of the 11 major GRI Reporting Principles. Comparability among reports allows stakeholders to identify and differentiate between best and poor practices. It helps in benchmarking best practices among peer group. Dror & Fabrizio (2007) find that the third version of GRI guidelines in 2006 has facilitated more companies to publish CR reporting. Top 250 companies in the Fortune 500 adopt GRI guidelines for sustainability reporting. The main drivers of GRI Guidelines, as identified by Dror are: globalization, corporate governance, accountability, citizenship, national policy, international conventions, bridging the gap between sustainability and financial reporting. These include accounting regulations, financial risk management and management of intangible assets. Further their study expects GRI guidelines to reap the following benefits such as: improved relationships with stakeholders; breaking down internal organizational insularity through information sharing; reduction of volatility and uncertainty in share prices; build-

ing brand image; and creation of competitive advantage.

Numerous research studies were carried out in the past both by academicians and researchers to assess the level of corporate environmental commitment; vehicles used for communicating their performance (print medium or web based disclosure) and reasons for environmental disclosures across companies and countries. Chris & Jill (2007) have used the theoretical framework of legitimacy theory to understand the association between, companies with environmental impact and disclosure rate. This research used both the hardcopy and website disclosures to find a positive correlation between environmental responsiveness and reporting.

The use of world wide web (www) as a medium for environmental disclosure by Australian minerals industry through three major legitimacy motives (maintaining, gaining and repairing) were studied by Lodhia (2004). Results indicate that the full potential and benefits of web based reporting has not been effectively utilized for environmental disclosures. Findings suggest that the motive for WWW environmental disclosure is more to maintain their legitimacy than gaining or repairing it.

Web based environmental communication has not yet been recognized as a strategic consideration while designing and developing company websites. Adams and Frost (2004) carried out a comparative study of digital environmental communication in Australia, United Kingdom (UK) and Germany. They too concluded that there was limited use of websites for environmental communication by companies.

Similar work was done by Manuel Pedro Rodriguez Bolivar (2004) who carried out a study on web based environmental disclosures of publicly listed Spanish Companies. This research analysed the use of internet by environmentally sensitive industries and their transparency in corporate environmental reporting. Results showed that the sample firms widely use internet as a channel of communication to manage corporate legitimacy and stakeholder pressure, yet there remain differences in reporting.

Isenmann et al (2007) studied the online reporting for sustainability issues through three conceptual elements namely stakeholder information requirements, XML-based document engineering and reporting system. It concludes that more companies use internet for improving their reporting methodologies. The study expects internet reporting to benefit small and medium companies more, due to its fast, easy, instantaneous cost effective disclosure as it could reach a wide spectrum of stakeholders.

Sahay (2004) surveyed the environmental reporting by Indian companies. The study revealed that environmental reporting in India is unsystematic, piecemeal and inadequate due to poor environmental awareness of stakeholders. Further he finds that comparison of reports between companies and across sectors are increasingly becoming impossible due to unregulated and public relations type of reporting. He concludes that the prevailing environmental regulation needs rigorous enforcement and implementation.

Probal Dutta & Sudipta Bose (2008) investigated the web based environ-

mental reporting of listed companies in Bangladesh through a sample of 17 companies. They conclude that Bangladesh is yet to develop and improve web-based environmental reporting practices. Corporate websites are not well structured to handle the information technology based disclosure. Further it shows that companies follow more of qualitative disclosure by providing only positive details of their environmental performance.

These worldwide studies show a steady increase in the use of internet based environmental performance disclosure. It is important to note that all these prior research affirmatively suggests that, firms have not been forthcoming with financial disclosure of environmental information. India as a developing nation is no different from this global disclosure pattern. Monitoring and reporting on environmental issues is found to be limited.

## **Methodology**

Green efforts of Indian companies are multifold and their environmental performances are reported in annual reports, standalone environmental/sustainability reports, reporting in official websites, reporting as per GRI guidelines etc. This research investigates the current state of environmental reporting of Indian companies on the internet. Due to limited research conducted in this field, it is imperative to study the internet reporting practices of Indian companies. This research used secondary sources of data that were available in public domain. Environmental disclosure information were collected from varied databases namely Capitaline (Capitaline, 2007), Centre for Monitoring Indian Economy

(CMIE, 2007), websites of respective Indian companies, related articles published in journals & newspapers.

The scope of this research is exploratory in nature. The researchers used a suitable combination of content & discourse analysis, in examining the environmental disclosures of official documents (digital) and websites. The population consists of companies listed on Bombay Stock Exchange (BSE) and the sample comprises of top 24 companies (Table – 1), as per Economic Times ranking of Indian companies (ET ranking of top 500 Indian companies), January 2007 survey (Economic Times, 2007) based on market capitalisation. Studies were carried out in the past using market capitalization, as a measure of firm size for environmental disclosure (Debreceeny, Gray and Rahman, 2002; Craven and Marston, 1999). From the sample a subset of companies that produce environmental report was utilized as it is more likely to be disclosing sophisticated environmental information in the Annual/Financial report than non-disclosure companies. Sample companies are representative of major sectors like automobiles, pharmaceuticals, chemicals, oil & energy, IT & communications, construction and banking having their place of incorporation & operation in India or outside India (Table-4). It is a preemptive assumption that bigger firms would disclose their environmental performance more than smaller firms (Cormier and Magnan, 2003, Simon et al, 2005). Based on this, sample companies are classified into two major groups namely manufacturing and non manufacturing (Table-2). Most recently available Annual/Financial and Environmental Reports were used to gather data on publication or non publication of environ-

mental information for the financial year ending 2007-08. The researchers examined annual reports between 1<sup>st</sup> of April 2007 to 31<sup>st</sup> March 2008 along with their disclosure in their official website accessed between, November 2008 – February 2009. Every report was scrutinized individually from cover to cover for environmental information. Environmental performance disclosure in Annual/Financial Report is categorized under mandatory reporting. Initially a random selection of ten companies was done to identify the common sections and subsections within the annual/financial reports and environmental topics that are discussed under them. These sections and subsections were entered into the database of environmental disclosure parameters (Table-3), for systematic analysis of remaining reports. This study attempts to capture the diverse nature of environmental disclosures of Indian companies on the internet.

### **Limitations of the study**

Empirical research on corporate environmental disclosure is available largely for developed nations and very few is available for Asian countries. This research is probably one of the very few initial research works with respect to internet environmental reporting by Indian corporate. Hence the extent of prior research literature available on internet reporting by Indian companies is limited. The sample size considered for this research is too small to generalize and conclude for diverse sectors of Indian companies. There is scope for doing further theoretical and action research in this field.

### **Analysis of Information & Findings**

Environmental reporting on the internet is at its nascent stage in India. One of the main issues which early Indian reporters face is lack of environmental accounting & reporting guidelines. Absence of reporting standards severely affect the comparability among reports. Reporters are also not clear about their intended audience. Results of this survey shows, that Indian companies extensively use environmental reporting on the internet as a powerful advertising vehicle. None of the companies in the sample disclose any adverse environmental impact of their commercial operations. Hence these reporters freely choose and decide “what and how” to report, leaving the stakeholders wonder on what issues are not disclosed and why? (Beattie, 2003). Formulation of standard reporting framework holds the key to improve credibility and comparability among reports (Ball, 2000). Globally companies are using environmental reports to help secure investor confidence (Bhate, 2002). Indian companies should undertake environmental reporting with more extensive coverage and better quality information as it can demonstrate a company’s accountability to its stakeholders. It is suggested that Indian companies should work closely with various NGOs and government organizations to mutually benefit each other for better environmental governance.

The specific findings of this study under various disclosure parameters are discussed in detail below.

### **Environmental Policy**

Environmental policy messages underline the company's commitment in environmental protection activities, though not necessarily connected to their productive activity. It is a powerful advertising vehicle, which allows a company to quickly give its readers a positive image of their environmental and social commitment. 46% of companies in the sample make such disclosure (Figure – 1). Manufacturing (33%) companies show highest preference of disclosure for this type of 'ecological advertising' in comparison to non-manufacturing sectors (13%) (Figure – 2, 3 & Table-2). A more pertinent question here is 'Why do Indian companies resort to voluntary environmental disclosure in the absence of mandatory requirement?' One plausible explanation could be due to dynamic international economic changes. Globalisation has facilitated increased connectivity of India with the world economy. Indian companies face global competition in terms of economic efficiency and performance that have cross border implications (Agrawal, 1997). They no longer work in an isolated and protected environment. Primarily there is huge responsibility on them to be environmentally sound and viable attractive destinations – for Foreign Direct Investments (FDI's) and exploration of international markets through joint ventures etc. Secondly environmental policy statements help in instilling a sense of commitment to improve the economic efficiency of the firm, through efficient pollution prevention measures. Sound pollution prevention makes strong economic sense as it helps companies to minimise emissions, effluents and waste discharges, which ultimately leads to increased profitability.

### **Health Safety and Environment (HSE)**

HSE policy reflects the health and safety concern of an organization towards its employees and general public. The policy statement is an understanding of common acceptable level of risk from each potential environmental contaminant to set a threshold limit. HSE is still in a preliminary stage, for Indian companies, if disclosure is taken as an indicator. Only 33% of Indian companies from the sample make a formal disclosure, which is a meager percentage on the total sample size (Figure – 1 & Table-2). HSE audits are still relatively uncommon in India. HSE policy disclosure on the internet contributes in giving stakeholders a greater sense of security that companies do take care of environmental problems in a best possible way. Qualitative information by itself is not sufficient for stakeholders, though it gives an ample description of company's commitment to its HSE issues. Qualitative disclosure must be accompanied by financial information on the consequences of environmental problems (ACCA, 2004). Results of this survey disclose that 21% of manufacturing and 13% of non manufacturing sector (Figure – 2&3, Table-2) extensively follow qualitative HSE disclosures. It could possibly be due to lack of environmental awareness among Indian stakeholders in handling quantified HSE disclosures.

### **Energy Conservation and Wind Energy**

Energy forms a significant operational cost, especially in sectors like heavy and basic industries (ACCA, 1997). Whereas banking, information technology and communication utilize comparatively

less energy than heavy industries. 46% of companies of this survey, report on their energy consumption and conservation endeavours, mainly addressed to stakeholders including environmental NGO's and pressure groups. Of this manufacturing sector has the highest disclosure (33%) as compared to non manufacturing sector (13%) (Figure - 2&3, Table-2).

This research attributes following reasons for disclosure of energy conservation and consumption on the internet by Indian firms. Firstly Indian companies (manufacturing) are governed by mandatory requirements to disclose energy details in the Annual Reports. Secondly India is an energy stressed economy, where hydro energy generation and supply are inadequate to meet the steep energy requirements of a growing economy. Alternate source of thermal energy attributes to pollution and associated problems like fly ash management, waste disposal and pollution control measures. Energy being a critical component in determining the cost of production motivates more Indian companies to take energy conservation measures for improved cost reduction. For e.g. Bharat Heavy Electricals (BHEL) reports \$ 1.47 million in savings during the year 2006-07 due to implementation of projects in energy conservation (BHEL, 2007). Finally firms that fail to exercise efficient energy management, miserably fail in their corporate social responsibility as well. It would affect Indian corporate in the long run, in addition to adversely affecting the quality of life of communities in its vicinity. As per Global Reporting Initiative (GRI) guidelines, reporting should include information related to both direct and indirect energy consumption by primary en-

ergy source. Information on energy savings, conservation of energy, renewable energy and energy efficient products and services, are not extensively disclosed by these companies.

### **Corporate Sustainability/Environmental Initiatives**

Companies are experiencing growing demands from a variety of fronts to disclose their environmental performance (Banerjee, 2002). Increasingly, such information is being published in a user-friendly format on the Internet. There is tremendous variety of disclosure spanning through a simple statement of intent or mission, to full statements of policy and objectives, and moving towards reports on performance with statistical back up (Gray, 1993). Indian companies do not include quantitative disclosure on their environmental initiatives. Many companies limit themselves to descriptive information without disclosing the amount of operating expenses and environmental investments made in a financial year. 33% of companies in the sample, (Figure – 1) report on their environmental initiatives in purely descriptive terms. Companies merely state that it undertook investment projects related to environmental protection activities or that it invested in eco compatible projects. Some briefly describe even the type of process undertaken and the foreseen results in terms of emissions reduction and/or energy consumption. However, this study reveals that sustainable reporting in India has overcome initial disclosure challenges. Most recent amendments in the existing environmental protection rules (solid waste management handling, ozone depleting substance regulation, noise pollution prevention) passed by the GOI along

with corporate voluntary initiatives strongly suggest that continued and improved sustainable reporting is not only desirable but highly achievable (OECD, 2005).

### **Waste Management**

Indian firms are able to recognize the true benefits of generating wealth from waste. Results of this survey show that Indian companies (29%) do report on the internet on their waste management practices. Manufacturing sector has the highest disclosure rate (17%) as compared to non-manufacturing sectors (13%) like Information Technology and Banking, which also generate considerable e-waste and paper waste (Figure 1,2,3 & Table-2). Yet both these sectors are equally responsible for generating waste which calls for a greater responsibility and commitment. Indian companies are motivated to cost reduction techniques through avoidance and reduction of waste. They now consciously move towards better waste management practices like recycling, land filling, incineration etc that are most cost-effective and have the least environmental impact. Such waste management decisions are based on the magnitude at which environmental importance is attached to it. This depends on the environmental regulatory regime to which Indian companies are subject to. With growing population and increased industrialization, waste management issue gains serious importance among Indian firms. Waste disposal by industries are brought under scrutiny by Environment Protection Act of 1986 which provides for Hazardous Waste (Management and Handling) Rules making it mandatory for companies to use specialized equipment and services for storage, handling,

treatment, transportation and disposal of hazardous waste. Public participation along with NGO's and environmental activists help in strict enforcement of pollution control rules. However, in order to make sound waste management decisions - energy and water use, waste generation in terms of volume and type of air emissions or wastewater treatment and recycling is of particular importance. Yet many Indian companies do not analyze waste from a predominantly environmental view point as they are subject to strict environmental regulations. Indian companies are geared more towards regulatory compliance and reporting but appears not to use the information for improved waste management purposes.

### **Water Management**

Water is a precious depleting natural resource. It is an indispensable raw material for many manufacturing organizations. Water scarcity is the biggest challenge for Indian economy and companies must assume social responsibility towards water conservation. GRI sustainability reporting guidelines call for detailed disclosure of - water use, percentage and total volume of water recycled and reused, water sources significantly affected by withdrawal of water etc (GRI, 2006). India's faster economic development clubbed with responsible reporting practices has elevated the governance reporting of Indian companies to set voluntary bench mark standards. This is evident from the disclosure of water management practices of companies (33%) (Figure-1 & Table- 2). Water management initiatives of both manufacturing and non-manufacturing sectors (17%) spin around water conservation, recycling, rain water harvesting, water

reuse, recovery and renewal etc as reported by manufacturing companies (Figure 2 & 3). Few of them make voluntary initiatives towards watershed development of local communities as well. In India purchase of land gives owner the right to ground water resources on that land. Indian constitution guarantees free use of water and air for all – i.e. both for domestic and Industrial consumption. Among these two, corporate houses consume and pollute more leading to wide scale abuse of water in India. In general economic parlance “common property is nobody’s property”, thus water is the most widely misused commodity. There is an urgent need for corporate accountability towards water conservation in India. It is suggested that water consumption for industrial & commercial purpose should be priced to curb wastage and excessive use of water.

### **Environmental Reporting - The Road Ahead**

There is widespread environmental awareness among all sections of society in India (Jain, 2008). The objective of this survey is to understand the corporate environmental reporting on the internet of top 24 Economic Times survey, January 2007. This survey attempts to understand the reasons for environmental disclosure in the light of changing global business scenario and change in stakeholder expectations of Indian corporate houses.

Firstly world over companies now realize that natural resources (both renewable and non-renewable) are scarce. Renewable resources cannot keep pace with the growing demand as the rate of depletion is faster than the rate of re-

plenishment. This realization among today’s business world, how so ever late, drives them to make an honest attempt on judicious use of resources, recycling of water, waste reduction etc at their end (Hund et.al, 2004).

Secondly with globalization, Multinational Companies (MNC) of European Union, United States of America (USA) and Japan are strengthening their global presence in India. These international companies bring in their responsible good practices thereby helping Indian companies to set higher international disclosure standards (Chatterjee, 2005). MNC’s do understand their responsibility to prove them to be socially and environmentally conscious in India which has a colonial legacy. For example HLL in our sample seems to be conscious of their public image as reflected in their diverse corporate social activities.

Thirdly economic theories have changed in the last few years. Earlier theories concentrate on Gross National Product (GNP) as a measure of economic well being of a country. Traditionally development was defined as a rise in GNP, or increase in personal incomes, or advancement in industrialization and technological improvement (Mobley, 1970; Bedford, 1965). Prior to 1970’s, development was seen as an economic phenomenon measured in terms of GNP growth. This would either trickle down to generate job and economic opportunities or create necessary conditions for wider distribution of, economic and social benefits of growth (Estes, 1972). Gradually there evolved a debate regarding the measurement of economic development in context of high growth rate of GNP. This gave rise to a consensus towards economic development being best

defined in terms of reduction of poverty, inequality and unemployment for a growing economy (Friedman, 1972). Lack of safe drinking water, highly polluted atmosphere, rivers, toxic emissions, chemical spills, massive deforestation and climate change cannot be the signs of well being of a nation (Marlin, 1973; Gambling, 1971). Industrialization unabated resulted in heavily polluted environment that has adversely affected our quality of life. There is international consensus that sustainable development is of prime importance than unhindered industrialization for overall economic development (Chakrabarti, 2005). This message percolates down to the corporate houses and their stakeholders which make it impossible for corporations to dismiss and relegate their social responsibilities to background (KPMG, 2000). Fourthly regulatory efforts are geared internationally towards reduction of the quantum of pollution by making it commercially viable and an attractive unexplored profitable business opportunity (GRI, 2002). Carbon trading is one such positive initiative towards abating pollution internationally. Thus corporate must realize that political responsibility of working for clean technologies would benefit in the long run.

Last but not the least environmental awareness among Indian stakeholders gets strengthened with advancement in communication technology. Their awareness and desire to leave an environmentally safe world for future generations, exerts a positive pressure on Indian corporate giants, to come out with, responsible environmental disclosure initiatives (Banerjee, 2002). Stakeholders are sensitive about the harmful impacts of industrial activities on environment. For e.g. the launch of TATA's

small car NANO has initiated a debate on the increase in pollution and associated traffic congestions it can cause in future. Thus stakeholders of today are well informed and their high propensity of awareness on environmental matters ensures a more cautious approach among Indian corporations to be more environmentally responsible (Agrawal, 1997).

## Conclusion

Corporate reporting is expanding beyond financial and environmental performance (Kolk A, 2004). There exists significant interest among Indian corporate towards sustainable development which is evident from diverse disclosure practices. A major challenge to reporting community at large in India is to improve comparability among environmental reports (Skillius, 1998). Most of the reports reviewed did not explain how Indian companies decide on what issues to be addressed or left out in its environmental report. It is left to the discretion of readers to draw their own conclusions. Reporters must give careful consideration as to how they identify issues for reporting. This research finds that the sample Indian companies report only positive environmental information with virtually no disclosure on their adverse or negative environmental performance. More qualitative disclosure in the form of Environmental policy statement, HSE, Water & Waste management, Sustainability and Environmental initiatives, Energy management practices etc, are found to be common among the manufacturing sector. Environmental disclosure is more prevalent among manufacturing sector as against non manufacturing companies in India. This survey ob-

serves that incorporation of environmental costs, benefits and concerns into mainstream financial reporting, in India is embryonic at present - but it is certain to grow (Banerjee, 2001). Involvement and commitment of corporate accountants in environmental management appears to be limited due to lack of regional reporting guidelines (KPMG, 2006). Government agencies in India could play a more active role in formulation of comprehensive reporting guideline for its rapidly changing business environment. Early reporters of Indian subcontinent need encouragement to report fully and regularly, only if country specific environmental reporting guidelines are made possible. Inviting inputs from stakeholders, while formulating guidelines, will be a valuable means of engaging stakeholders and enhancing mutual interests and priorities (SustainAbility Ltd and UNEP, 1999). Such a bold participative approach would ensure benefits of enduring value both to the company and its stakeholders (Isenmann, 2005). To conclude, it is recommended that revision of existing corporate environmental reporting guidelines in India at par with international reporting standards can be considered as a means of encouraging the development of environmental reporting amongst Indian firms (CSM, 2001).

## References

- ACCA (1997) *Guide to Environment and Energy Reporting and Accounting 1997*, ACCA, London.
- Adams, C. A. & Frost, G. R. (2004) *The Development of the Corporate Website and Implications for Ethical, Social and Environmental Reporting through these Media*. The Institute of Chartered Accountants of Scotland, Edinburgh.
- Agrawal, R. (1997) "Social Reporting Practices in India", *Journal of Accounting & Finance*, Vol. 11, No. 2, pp. 64-103.
- Association of Chartered Certified Accountants (ACCA) (2004) *Towards Transparency: Progress on Global Sustainability Reporting 2004*. London: Certified Accountants Educational Trust.
- Ball A, Owen D.L. & Gray R.H. (2000) "External Transparency or Internal Capture. The Role of Third Party Statements in Adding Value to Corporate Environmental Reports", *Business Strategy and the Environment*. Vol. 9 No. 1, pp. 1-23.
- Banerjee, S. (2001) "Corporate Financial Reporting Practices in India", *Indian Journal of Accounting*, Vol. 33, No. 1, pp. 1-17.
- \_\_\_\_\_ (2002) "Corporate Environmentalism, The Construct And Its Measurement", *Journal of Business Research*, Vol. 55, pp. 177-191.
- \_\_\_\_\_ (2002) *Regulation of Corporate Accounting and Reporting in India*. Calcutta: The World Press Calcutta Private Limited.
- Beattie, V. & Pratt, K. (2003) "Issues Concerning Web-based Business Reporting: An Analysis of the Views of Interested Parties", *The British Accounting Review*, Vol. 35, No. 2, pp.155-187.
- Bedford, N.M. (1965) *Income Determination Theory: An accounting Framework*. Massachusetts: Addison-Wesley.
- Bhate, S. (2002) "One world, One Environment, One Vision: Are We Close to Achieving This? An ex-

- ploratory Study of Consumer Environmental Behaviour Across Three Countries”, *Journal of Consumer Behaviour*, Vol. 2, No. 2, pp. 169-184.
- BHEL. (2007) *Conservation of Energy. Directors Report in the Annual Report 2006-07*. Bharat Heavy Electricals Limited. Annexure 4.
- Bolivar, M. P. R. (2004) “Evaluating Corporate Environmental Reporting on the Internet: Utility and Resource Industries in Spain”, *Business & Society*, Vol. 0: pp. 0007650307305370vl.
- \_\_\_\_\_ & Garcia, B. S. (2003) “The Corporate Environmental Disclosures on the Internet: The Case of BEX 35 Spanish Companies”, *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 10, No. 51, pp. 4.
- Capitaline, (2008) Capitaline Database, <http://www.capitaline.com>. Accessed between November – February 2008.
- Centre for Social Markets (CSM) (2001) “Corporate Social Responsibility: Perceptions of Indian Business”. London/Calcutta. .
- Chakrabarti, S. & Mitra, N. (2005) “Economic and Environmental Impacts of Pollution Control Regulation on Small Industries: A Case Study”, *Ecological Economics*, Vol. 54, No. 1, pp. 53-66.
- Chatterjee, B. (2005) “Global Convergence of Financial Reporting Standards: Implications for India”, *Indian Accounting Review*, Vol. 9, No.1, pp. 29-54.
- Chris, J. V. S. & Jill, H. (2007) “A Comprehensive Comparison Of Corporate Environmental Reporting and Responsiveness”, *The British Accounting Review*, Vol. 39, No. 3, pp 197-210.
- CMIE, (2008) Centre for Monitoring Indian Economy Database, <http://www.cmie.com>. Accessed between November 2007– February 2008.
- Cormie, D. & Magnan , M. (2003) “ Environmental Reporting Management: A Continental European Perspective”, *Journal of Accounting & Public Policy*, Vol. 22, No. 1, pp. 43-62.
- Craven, B.M. & Marston, C.L. (1999) “Financial Reporting on the Internet by Leading UK Companies”, *The European Accounting Review*, Vol. 8, No. 2, pp. 321-333.
- \_\_\_\_\_ & Otsmani, B. (1999) “Social and Environmental Reporting on the Internet by leading UK companies”, *Paper presented at the European Accounting Association (EAA) Annual Conference*, Birmingham.
- Debreceeny, R., Gray, G.L., & Rahman, A. (2002) “The Determinants of Internet Financial Reporting”, *Journal of Accounting and Public Policy*, Vol. 21, pp.371-394.
- Dror Etzion & Fabrizio Ferraro (2007) “Institutional Entrepreneurship through Voluntary Standard Setting: The Case of Global Reporting Initiative”, consortium [info.org http://www.consortiuminfo.org/metalibrary/detail.php?EID=1810&PID=6&ID=26](http://www.consortiuminfo.org/metalibrary/detail.php?EID=1810&PID=6&ID=26)
- Dutta P. & Bose S. (2008) “Corporate Environmental Reporting on the Internet in Bangladesh: An Exploratory Study”, *International Review of Business Research Papers*, Vol. 4, No. 3, pp.138-150.
- Economic Times (ET). (2007) “The

- Changing Face of India Inc.” ET 500 Ranking: p.30
- Estes, R.W. (1972) “Socio-Economic Accounting and External Diseconomies”, *Accounting Review*, Vol. 47, No. 2, pp. 284-290.
- Friedman, M. (1972) *Economics and Freedom*. New York: Nelson.
- Frost G. R., & Wilmshurst, T. D. (2000) “The Adoption of Environment-Related Management Accounting: An Analysis of Corporate Environment Sensitivity”, *Accounting Forum*, Vol. 24, No. 4, pp. 344-365.
- Global Reporting Initiative (GRI). (2002) *Sustainability Guidelines on Economic, Environmental and Social Performance*. GRI: Boston, MA.
- Gambling, T.E. (1971) “Towards a General Theory of Accounting”, *International Journal of Accounting Education and Research*, Vol. 17, No. 1, pp. 1-13.
- Global Reporting Initiative (GRI). (2006) *Sustainability Reporting Guidelines*. Draft Version for Public Comment, GRI, Amsterdam 2 January 2006–31 March 2006.
- Gray, R. (1993) *Accounting for the Environment*. London: Paul Chapman Publishing Ltd
- Hodge, F.D. (2001) “Hyperlinking Un-audited Information to Audited Financial Statements: Effects on Investor Judgments”, *The Accounting Review*, Vol. 76, No. 4, pp. 675-691.
- Hund, G., Engel-Cox, J. & Fowler, K. (2004) *A Communications Guide for Sustainable Development. How Interested Parties Become Partners*. Battelle: Columbus, OH.
- Isenmann, R. & Kim, K.C. (2005) “Progression in Sustainability Reporting: Moving Towards A More Interactive, Tailored, and Dialogue Oriented Stage”, In *Sustainability Reporting – Concepts and Experiences*, Reddy S (eds) pp. 68–91. Hyderabad: ICAI University Press.
- Isenmann, R. (2004) “Internet-based Sustainability Reporting”, *International Journal of Environment and Sustainable Development* Vol. 3, No.2, pp. 145–167.
- \_\_\_\_\_, Bey, C. & Welter, M. (2007) “Online Reporting for Sustainability Issues”, *Business Strategy and the Environment*, Vol.16, No. 7, pp. 487-501.
- IWS, (2007). “Internet Usage Stats and Telecommunications Market Report on INDIA”. Internet World Stats. Usage and Population Statistics. <http://www.internetworldstats.com/asia/in.htm>
- Jain, L. (2008) Fusion of Corporate Governance and CSR Practices. *Chartered Secretary*, pp. 483-488.
- KPMG. (2000), *Beyond the Numbers: How Leading Organisations Are Linking Values with Value to Gain Competitive Advantage*. KPMG’s Assurance and Advisory Services Center (AASC): KPMG.
- Kolk, A. (2004) “A Decade of Sustainability Reporting: Developments and Significance”, *International Journal of Environment and Sustainable Development*, Vol. 3, No.1, pp. 51–64.
- KPMG (2005) KPMG International Survey of Corporate Responsibility Reporting 2005, pp.7, 11 & 30.
- KPMG, United Nations Environment Programme (UNEP) (2006) *Car-*

- rots and Sticks for Starters. Current Trends and Approaches in Voluntary and Mandatory Standards for Sustainability Reporting.* Parktown: KPMG.
- Lodhia, S.K., (2004) "Legitimacy Motives for World Wide Web (Www) Environmental Reporting: An Exploratory Study into Present Practices in the Australian Minerals Industry", *Journal of Accounting and Finance*, Vol. 4, No. 1, pp. 11-12.
- Marlin, J.T. (1973) "Accounting for Pollution", *The Journal of Accountancy*, Vol. 145, No. 2, pp. 41-46.
- Mobley, S.C. (1970) "The Challenges of Socio-Economic Accounting", *Accounting Review*, Vol. 45, No. 4, pp. 762-768.
- Parker L. (1997) "Accounting for Environmental Strategy: Cost Management, Control and Performance Evaluation", *Asia-Pacific Journal of Accounting*, Vol. 4, No. 2, pp. 145-173.
- \_\_\_\_\_ (2000a) "Greener strategy costing: Early days", *Australian Accounting Review*, March, pp 46-55.
- Pleon K. and Klewes. (2005) *Accounting for Good: the Global Stakeholder Report 2005*. Amsterdam: Pleon.
- Roome, N. (1992) "Developing Environmental Management Strategies", *Business Strategy and the Environment*, Vol. 1, No. 1, pp. 11-24.
- Sahay, A. (2004) "Environmental Reporting By Indian Corporations", *Corporate Social Responsibility and Environmental Management*, Vol. 11, No.1, pp. 12-22.
- Schaltegger, S. & Burritt, R. (2000) *Contemporary Environmental Accounting*, Sheffield, UK: Greenleaf Publishing
- Simon, S. G., Jason, S. H. & Xiao, Z. (2005) "Determinants of Corporate Social and Environmental Reporting In Hong Kong: A Research Note", *Accounting Forum*, Vol.29, No.2, pp.233-242.
- Skillius Å, Wennberg U. (1998). *Continuity, Credibility and Comparability. Key Challenges for Corporate Environmental Performance Measurement and Communication*. The International Institute for Industrial Environmental Economics at Lund University.
- Staden C. J. V. and Hooks J. (2007) "A Comprehensive Comparison of Corporate Environmental Reporting and Responsiveness", *The British Accounting Review*, Vol.39, No.3, pp. 197-210.
- SustainAbility Ltd, United Nations Environment Programme (UNEP). (1999) *Engaging Stakeholders 1999. The Internet Reporting Report*. Beacon: London.
- Swift.T.A. (2001). Trust, Reputation and Corporate Accountability to Stakeholders. *Business Ethics: A European Review*, 10 (1), 16-26.
- TERI (2001). *India's Greenest Companies: A BT-TERI Project*, BT-TERI 2001 Survey of Indian Industries, May 6, 2001.
- Unerman, J and Bennett M. (2004) "Increased Stakeholder Dialogue and the Internet: Towards Greater Corporate Accountability or Reinforcing Capitalist Hegemony?", *Accounting, Organizations and Society*, Vol 29 No. 7, pp. 685-707.
- Williams, S. M. and Pei, C.H.W. (2000) "Corporate Social Disclosure by Listed Companies on their Websites: an International Compari-

- son”, *International Journal of Accounting*, Vol. 34 No. 3, pp. 389-419.
- OECD. (2005) “Corporate Responsibility Practices of Emerging Market Companies – A Fact Finding Study”, Working papers on International Investment, Number 2005/3.

**Annexure**  
**Table 1**  
**Sample Companies**  
**(Data accessed between, November 2008 –February 2009)**

| Name of Company   | URL   |
|---|---|
| <b>Asea Brown Boveri Limited</b>                                | <a href="http://www.abb.co.in/">http://www.abb.co.in/</a>                           |
| <b>Bajaj Auto Limited</b>                                       | <a href="http://www.bajajauto.com/">http://www.bajajauto.com/</a>                   |
| <b>Bharat heavy Electrical Limited</b>                          | <a href="http://www.bhel.com/">http://www.bhel.com/</a>                             |
| <b>Bharati Airtel</b>   | <a href="http://www.bhartiairtel.in">http://www.bhartiairtel.in</a>                 |
| <b>Cipla</b>  | <a href="http://www.cipla.com/">http://www.cipla.com/</a>                           |
| <b>Hindustan Lever Limited (Now Hindustan Unilever Limited)</b> | <a href="http://www.hll.com/">http://www.hll.com/</a>                               |
| <b>Hindustan Zinc Limited</b>                                   | <a href="http://www.hzlindia.com/">http://www.hzlindia.com/</a>                     |
| <b>Housing Development Finance Corporation Limited</b>          | <a href="http://www.hdfc.com/">http://www.hdfc.com/</a>                             |
| <b>Indian Tobacco Company Limited</b>                           | <a href="http://www.itcportal.com">http://www.itcportal.com</a>                     |
| <b>Infosys Technologies</b>                                     | <a href="http://www.infosys.com/">http://www.infosys.com/</a>                       |
| <b>Industrial Credit Investment Corporation of India</b>        | <a href="http://www.icicibank.com/">http://www.icicibank.com/</a>                   |
| <b>Larsen &amp; Toubro Limited</b>                              | <a href="http://www.larsentoubro.com">http://www.larsentoubro.com</a>               |
| <b>Mahindra &amp; Mahindra</b>                                  | <a href="http://www.mahindra.com/">http://www.mahindra.com/</a>                     |
| <b>Oil and Natural Gas Corporation Limited</b>                  | <a href="http://www ONGCIndia.com/">http://www ONGCIndia.com/</a>                   |
| <b>Reliance Industries Limited</b>                              | <a href="http://www.ril.com">http://www.ril.com</a>                                 |
| <b>Satyam Computers Service Limited</b>                         | <a href="http://www.satyam.com/">http://www.satyam.com/</a>                         |
| <b>Siemens Limited</b>  | <a href="http://www.siemens.com/">http://www.siemens.com/</a>                       |
| <b>Sterlite Industries Limited</b>                              | <a href="http://www.sterlite-indutries.com/">http://www.sterlite-indutries.com/</a> |
| <b>Sun Pharmaceuticals Industries Limited</b>                   | <a href="http://www.sunpharma.com/">http://www.sunpharma.com/</a>                   |
| <b>Suzlon Energy Limited</b>                                    | <a href="http://www.suzlon.com/">http://www.suzlon.com/</a>                         |
| <b>Tata Consultancy Services</b>                                | <a href="http://www.tcs.com/">http://www.tcs.com/</a>                               |
| <b>Tata Motors</b>  | <a href="http://www.tatamotors.com/">http://www.tatamotors.com/</a>                 |
| <b>Unitech</b>  | <a href="http://www.unitechgroup.com/">http://www.unitechgroup.com/</a>             |
| <b>Wipro Technologies</b>                                       | <a href="http://www.wipro.com/">http://www.wipro.com/</a>                           |

**Table 2**  
**Environmental Reporting Parameters of Companies Surveyed – (Number of Companies)**

|     | Particulars   | Non-manufacturing (8) |    | Manufacturing (16) |    | Total (24) |    |
|-----|---|-----------------------|----|--------------------|----|------------|----|
|     |   | Yes                   | No | Yes                | No | Yes        | No |
| 1.  | Environmental Policy                                | 3                     | 5  | 8                  | 8  | 11         | 13 |
| 2.  | HSE   | 3                     | 5  | 5                  | 11 | 8          | 16 |
| 3.  | Energy  | 3                     | 5  | 8                  | 8  | 11         | 13 |
| 4.  | Corporate Sustainability /Environmental Initiatives | 2                     | 6  | 6                  | 10 | 8          | 16 |
| 5.  | Sustainability Reporting                            | 2                     | 6  | 3                  | 13 | 5          | 19 |
| 6.  | Waste Management                                    | 3                     | 5  | 4                  | 12 | 7          | 17 |
| 7.  | Water Management                                    | 4                     | 4  | 4                  | 12 | 8          | 16 |
| 8.  | Wind Energy   | 0                     | 8  | 2                  | 14 | 2          | 22 |
| 9.  | Mandatory Requirements                              |                       |    |                    |    |            |    |
| 9.1 | Director's Report                                   | 5                     | 3  | 11                 | 5  | 16         | 8  |
| 9.2 | Chairman's Report                                   | 1                     | 7  | 5                  | 11 | 6          | 18 |
| 9.3 | Management Discussion and Analysis                  | 3                     | 5  | 4                  | 12 | 7          | 17 |

**Table 3**  
**Environmental Disclosure Index for companies surveyed**

|   |  |
|---|--|
| A | Environmental standards & compliance efforts   |
| B | Health, Safety and Environmental Policy  |
| C | Environmental Policy, Environmental Management System (EMS), Environmental Impact Assessment (EIA), Environmental Auditing |
| D | Energy Conservation and Renewable Energy   |
| E | Water conservation   |
| F | Hazardous Waste Management   |
| G | Commitment towards Pollution control and Global Warming  |
| H | Research and Development related on Environmental protection   |
| I | Training and Development towards building environmental consciousness  |
| J | Environmental Reporting Initiatives  |
| K | Signatories to various International Environmental Charters  |

**Table-4**  
**Environmental Disclosure of Sample Companies as per Industry Type**

| Industry                          | Disclosure          | Non-Disclosure | Total |
|-----------------------------------|---------------------|----------------|-------|
|                                   | Number of companies |                |       |
| <b>Manufacturing</b>              |                     |                |       |
| Automobiles                       | 1                   | 2              | 3     |
| Construction                      | 0                   | 2              | 2     |
| FMCG                              | 1                   | 0              | 1     |
| Iron & Steel                      | 2                   | 1              | 3     |
| Pharmaceutical, Chemical & Energy | 6                   | 2              | 8     |
| (i) Manufacturing Total .....     | 10                  | 7              | 17    |
| <b>Non-Manufacturing</b>          |                     |                |       |
| Banking                           | 0                   | 2              | 2     |
| IT                                | 2                   | 2              | 4     |
| Telecom                           | 0                   | 1              | 1     |
| (ii) Non Manufacturing Total..... | 2                   | 5              | 7     |
| Total (i) + (ii) .....            | 12                  | 12             | 24    |

**Figure 1**

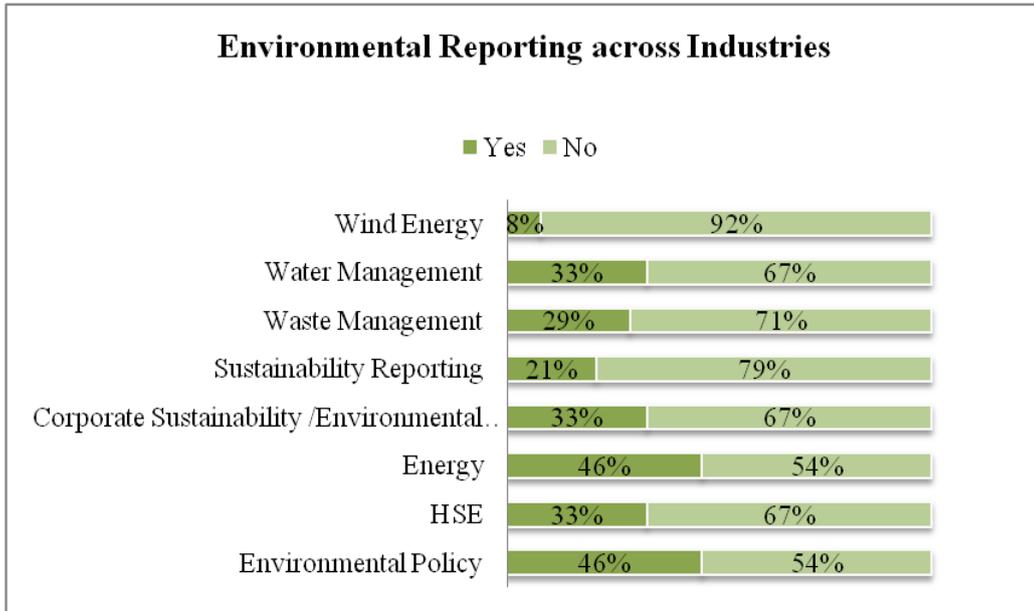


Figure 2

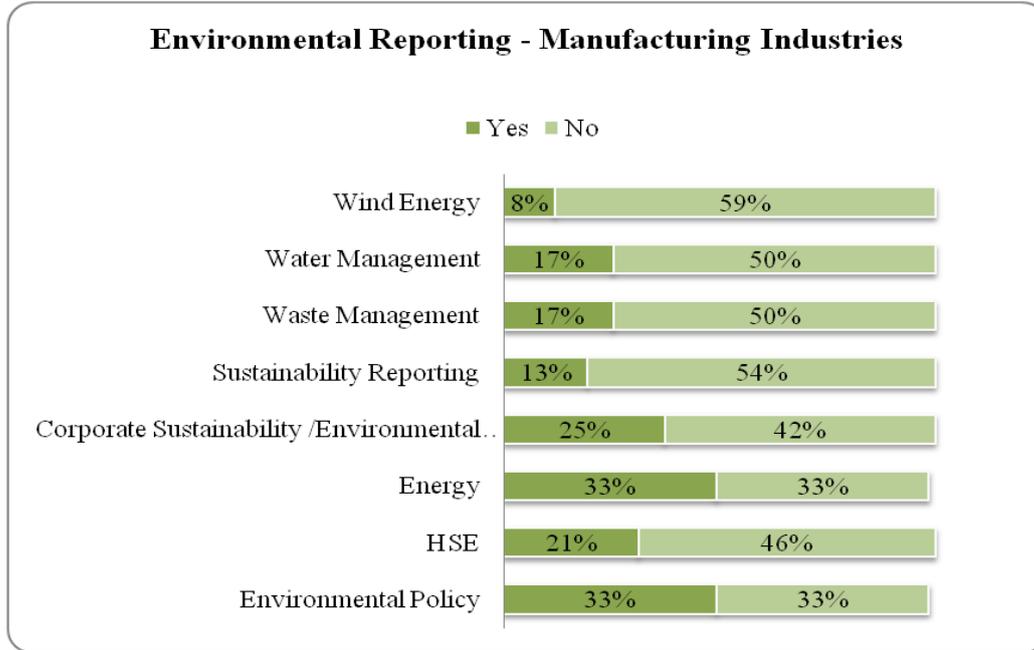


Figure 3

