Chapter III

Environmental auditing: Disclosure practices in India

3.1. Introduction

From the very inception of idea of environmental reporting as part of social responsibility, it is continuously argued that such disclosure by an entity is an important and useful gesture by the business. Number of studies identified such disclosures as value creators for the firm. Even after having identified environmental accounting and auditing practice as need of the present days to have long term sustainability of the business, different studies revealed that developed societies and economies like U.K., U.S.A. and Australia are also aware and show concern about issues related to environment, but developing countries like India ignore such issues of grave concern to mankind and society. These issues are ignored, may be having no direct adverse economic effect on the performance of the businesses. Thus, identified environmental accounting and auditing parameters for corporate disclosure as a part of Annual reports are either ignored or do not get due attention. In the study carried out in 2008 Holm and Rikhardsson arguing on the same line sought answers to the same questions:

- Are environmental performance disclosures relevant to investors?
- Do such disclosures affect the investment allocation decisions?

The outcome of all such studies reveals that environmental performance disclosures are relevant. Such disclosures are also identified as valued component for market players like investors and financial analysts, since they influence stock market prices and market value of the firm. Therefore, the present research endeavour has incorporated detailed study of environmental accounting and auditing disclosure practices in India.

There are two theories in the field of Environmental performance disclosures, One is known as Legitimacy theory and another is Stakeholder theory. According to Legitimacy theory, it is essential to meet the societal norms and expectations to ensure the survival of firm in long-term (Lindblom, 1993). The supporters of this theory argue that corporate social and environmental responsibility tends to reduce the risk of regulatory actions and boycotts by stakeholders and strengthens the firm’s license to operate. Thus, it is also assumed that non discloser may lead to rejection by investors and they may not invest in the said business.

The another theory called as Stakeholder theory advocates the environmental performance disclosures with an argument that firms have accountability towards a broad range of stakeholders, apart from shareholders, i.e. customers, suppliers, employees, government, community, environment, future generations, etc. Corporate social and environmental responsibility helps in strengthening the relationship between firm and society in which it operates. Ignoring the stakeholder interests may taint firm’s public image, which would unfavourably affect its financial performance (Freeman, 1984).

Considering the sensitivity of environmental issues and its threat towards human existence, everyone speaks in favour of the environmental accounting and auditing. Every sensible person favours the disclosures of environmental performance indicators. The idea is supported by numerous investigative as well as exploratory research works carried out by social scientists across the globe. It is consistently suggested by existing literature that environmental performance disclosures are value relevant for market players like investors and financial analysts, since they influence stock market prices and market value of firm reflected in the survey conducted by them on European, US and Canadian firms and showed that high quality environmental disclosures make financial analysts’ earnings forecasts more precise and concrete. However, the impact gets diminished for firms belonging to environmentally sensitive industries and those firms which are increasingly followed by analysts (Holm & Rikhardsson, 2008).

The environmental impacts include greenhouse gas emissions, toxic and ozone-depleting substances, common pollutants and solid waste generation and public disclosure of such information portrays the company’s commitment to environmental sustainability. The proponents of Legitimacy theory argue that corporate social and environmental responsibility tends to reduce the risk of regulatory actions and boycotts by stakeholders and strengthens the firm's license to operate. Now question arises, are corporates serious about environmental performance disclosures? To check the state of affairs related to environmental performance disclosure, the present research endeavour has dedicated present part of the study to investigate the environmental performance disclosure practice by Indian listed companies.

In last two decades world has seen exponential growth with so many inventions and technological advancements that have increased means of comforts and luxury having negative impacts on environment leading to climate change and global warming. So, it has been felt that sensible management practices can be equated with better environmental management leading towards good corporate citizenship.

Businesses need to behave ethically and shall act in a manner that takes care of interests of all stake holders. Its behavior as an entity must be befitting with good commercial citizen, where they are expected to display pledge to ethical conduct by harmonizing stakeholders' interests and achieving organizational goals in a manner that is in the best interest of the society as a whole. The commitment towards ethical corporate citizenship can be adopted by:

- employing physically challenged, disabled and other individuals who need work by assisting a varied personnel
- helping community members in seeking jobs, providing them soft and technical skills and other training
- providing convenience to community stakeholders through installing handicap entrances, ride restraints, holding open door meetings and asking for customer feedback
- complying with legal, ethical and economic responsibilities, as established by shareholders
- to produce higher standards of living and quality of life for the communities that surround them and still maintain profitability for stakeholders (http://www.investopedia.com/terms/c/corporatecitizenship.asp)

Logan et al (1997) has described corporate citizenship, “Adherence to laws, regulations, and accepted business practices in the places where a company operates. A more expansive interpretation is the conduct of business in ways that reflect proactive, responsible behavior in business and in dealings with all constituents and with respect to communities, society, and natural environment more generally.”

Matten et al (2003), have argued that corporate citizens are substantially more than fellow members of the same community who cozily rub shoulders with other fellow citizens while bravely respecting those other citizens’ rights and living up to their own responsibility as corporations – as the conventional rhetoric wants us to believe. Behind this relatively innocuous mask then, the true face of corporate citizenship suggests that the corporate role in contemporary citizenship is far more profound, and ultimately in need of urgent reappraisal.

Thus, an idea of corporate citizenship is not new but it is accepted and practiced widely by corporates from the very inception. It speaks about attention towards all stakeholders including society and nation. It not only gives importance to the welfare of the society with an argument not to harm or spoil any of the resources which can adversely affect the social life and human lives in general but also to environmental issues. Business leaders are called to engage with activists as well as analysts, to manage social and environmental risks and market risks to be accountable for their non-financial as well as financial performance (Nelson, J., 2004).

Corporates should also take care of surrounding areas where they operate by taking care of cleanliness of air, soil and water. Even as a part of social responsibility they are supposed to take care not to spoil but strengthen the environmental conditions in the best interest of the society. Besides following the norms stipulated by the regulatory and monitoring bodies, corporates are supposed to contribute towards society by tree plantation, maintenance of cultural heritage, adoption of natural parks and animals in zoo, bringing awareness amongst community by arranging various programmes and celebrating some international days like earth day, environment day, forest day, etc.

Better environmental management ensures proper usage of resources which restrict the production cost also and ultimately availability of products at cheaper price tags. The production houses can clearly benefit from self-examination of processes it carries to concentrate on the areas requiring improvement. Environmental Audit helps towards such self-analysis. Number of such arguments and identified benefits are sounded to society and commercial enterprises for implementing environmental accounting and auditing practices and its disclosures in the reporting formats. But, these ideas and practices are still in infancy and not adopted by small scale business houses whereas very few large scale corporate business houses have adopted considering the environmental values. Thus, at this juncture number of questions regarding disclosures related to environmental accounting and auditing practices arise.

These questions are:

- why only a few organisations have adopted environmental accounting and auditing disclosure practices?
- why environmental accounting and auditing disclosure practices are not widely accepted in India?
- why the importance and usefulness of environmental accounting and auditing disclosure practices are not yet established?
- whether environmental accounting and auditing disclosure is a time consuming and resource wasting unfruitful exercise?

To get the answers of all such questions, the present chapter plans to study environmental accounting and auditing disclosure practices followed by Indian corporates. This is done with intention to identify issues of concern to business related to environmental accountability and its disclosure. The objective of this research endeavor is to investigate the variables related to environmental disclosure and importance given to them by corporates after analysing corporate reports with the help of qualitative measures. The purpose of this chapter is to supplement the objectives of this research endeavour specifically, to:

- expound the theoretical understanding of environmental accounting frame work.
- study application of 'Environmental auditing' i. e. assessment or evaluation with reference to 'Environmental Disclosure' practices and its impact in India.
- study the objectivity of environmental reporting in India.
- study the disclosure of environmental performance and assessment trends among select companies.

Hence, in the present study 200 companies listed on National Stock Exchange, Mumbai are selected and the present chapter is designed as under:

I. study of guidelines for voluntary and mandatory disclosures recommended by different bodies
II. identification of companies following environmental accounting and auditing disclosure practices
III. study of information published by different organisations following the environmental accounting and auditing disclosure practices in India

Chauhan, (2005); Pahuja, (2007); Pramanik et al. (2007); and Chatterjee and Mir (2008) have found that the empirical work is observed on determinants of environmental disclosure in developed countries like USA, UK, Japan, Germany, New Zealand and others. In same context very little attention has been devoted by developing countries. In line with prevailing trend in developing countries, there are few empirical studies carried out in India. The gesture of these studies is limited to describing the current status, extent and nature of environmental disclosure.

To this end, the present chapter is divided in three parts, Part One narrates the need and importance of identified environmental parameters /components as far as disclosure practices are concerned. Part Two examines the related variables identified and reported by select corporates. This is done by analysing items chosen for disclosures so as to understand the relative importance given by corporates to the different select identified components. Part Three, lists out important contents of given preference in reporting as well as important components ignored or less weightage is given in reporting and disclosure practices by Indian companies.

3.2. Importance of Environmental parameters in disclosure practices

John Elkington introduced the concept of Triple Bottom Line (TBL) where financial (profit), social (people) and environmental (planet) aspects were given importance. After the introduction of ‘Triple Bottom Line’ (TBL) reporting framework and its importance in terms of Corporate Social Responsibility (CSR), the environmental pillar was required to be given due attention by the business entities. So, paradigm shift in reporting practices is experienced by corporate reporting practices where equal importance is given to people and planet with profit. In India global presence of the major corporates and their keen interest to stand with repute led to adoption of reporting practices in line with global reporting practices led by developed countries addressing needs to take care of all the stakeholders. Such reporting practices were also insisted by statutory bodies in India initially as a desirable requirement and the same were recently made mandatory for listed corporates. Ho and Taylor (2007) investigated Triple Bottom-Line (TBL) disclosures of 50 of the largest US and Japanese companies and found that for total TBL disclosure (combining economic, social and environmental categories), the extent of reporting is higher for firms with larger size, lower profitability, lower liquidity, and for firms with membership in the manufacturing industry. Also the extent of overall TBL reporting is higher for Japanese firms, with environmental disclosure being the key driver.

Creel Timothy S. (2010) reported that the environment is one of the most important issues the world faces today. Climate change, energy supply and demand, waste removal, and other issues are growing in magnitude. The corporate world faces a challenge in how it responds to the environment and what it can do to improve the current situation. U.S. organizations such as Target, Apple, and Dell report positive environmental events on their websites and in the news, but questions remain as to the depth of the commitment of U.S.

companies towards the environment. Even though it is voluntary, many U.S. corporations upload internally generated reports that summarize their environmental performance, but only a few have their environmental activities reviewed by an independent third party. Some companies use the Global Reporting Initiative (GRI) as the framework for their environmental strategy because it offers a comprehensive guide to follow for environmental reporting. One way to examine the commitment of organizations to their environmental strategy is to examine their overall environmental reporting. Many large U.S. companies report significant amounts of environmental activities on their websites and in advertising, but how committed are they to environmental friendly business strategies. The 100 largest U. S. companies are examined to verify if they discuss the environment on their websites, produce a separate report based on their environmental performance, follow the guidelines of the global reporting initiative, and have their separate report on the environment reviewed by an independent third party.

3.2.1. National Voluntary Guidelines for Disclosure Practices (NVG)

In the year 2011 Global Reporting Initiative held a consultation with stakeholders to prepare a draft on National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of business (NVG). The consultation meet was designed to facilitate dialogue among companies and industry associations on adopting 'Responsible Business' practices and sustainability reporting.

The pertinent question may arise that, what is the need for such new reporting framework? Non- financial metrics such as those relating to environmental, social and governance (ESG) factors need to be captured by companies and thus, the need for a standardized reporting framework. UN Global compact, Global Reporting Initiative (GRI) and Carbon Disclosure projects are internationally accepted reporting frameworks which provide a platform for companies to disclose their sustainability practices and policies.

However, there had been no Indian guidelines/framework which took into account the needs of the Indian stakeholders. The National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVG) in the year 2006, an initiative by Indian Institute of Corporate Affairs (IICA) with support from Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) is a step in this direction. After 2006, the process started in end of 2009 by establishment of Guidelines Drafting Committee (GDC), which submitted its final recommendations of the draft NVGs to Ministry of Corporate Affairs (MCA) in November 2010.

The primary objective of these guidelines is to encourage adoption of sustainability reporting and mainstream disclosure on environmental, social and governance metrics. It is based on the premise that you can't change unless you measure. NVG provide businesses a framework which enables them to move towards responsible decision making and urges them to adopt the 'triple bottom-line' approach.

The guidelines can be adopted by all companies irrespective of their size or sector and are unique, Indian version of a reporting framework which addresses the needs of Indian stakeholders. Due to their universal applicability, a special section has been included in the draft NVG on the adoption of these guidelines by the resource constrained micro, small and medium enterprises (MSMEs) to enable greater future business opportunities and to help them remain socially relevant. Thus, adoption of NVG can help in -

- Following ethical business practices, producing sustainable goods and services, caring for employee well-being and being responsive to customer demands will lead to new customers and business partners and increased loyalty from existing customers leading to higher revenue growth and new market access.
- Increased efficiency gains across the value chain, higher worker productivity and reduced risk of litigation will bring in greater cost savings and increase profitability. (http://www.sustainabilityoutlook.in/content/national-voluntary-guidelines...)

India's National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs) were released by the Ministry of Corporate Affairs (MCA) in July 2011. The national framework on Business Responsibility is essentially a set of nine principles that offer businesses an Indian understanding and approach to inculcating responsible business conduct.

'Responsible Business' conduct refers to the commitment of businesses to operating in an economically, socially and environmentally sustainable manner while balancing the demands of shareholders and other interest groups. It's about managing risks and impacts, which affect business' capacity to meet its objectives. The NVGs are formulated with the objective of creating positive framework conditions to advance the role of business in economic growth which is socially and environmentally sustainable, while also ensuring enhanced competitiveness and integration into the global markets.

The NVGs serve as a guidance document for businesses of all size, ownership, sector, and geography to achieve the triple bottom line.

3.2.2. 'Business Responsibility Report' guidelines

Since adoption of economic liberalization and deregulation, Indian economy has been experiencing boost in the development of the private sector and made it the forerunner of economic growth. Frenetic expansion and growth of the private sector has also therefore thrown up challenges necessitating proactive action towards making it sustainable and equitable. Ministry of Corporate Affairs, in the recent past, has sharpened its focus on encouraging businesses to play a proactive role in ensuring sustainable and inclusive growth.

While Indian business traditionally stuck to corporate philanthropy, today business leaders understand that practicing responsible business is of strategic importance to their growth, longevity and competitiveness. The NVGs are an embodiment of an integrated and comprehensive understanding of responsible business. The Guidelines encourage and enable businesses to go beyond compliance and embrace sustainability as part of their business ethos. The nine principles and the corresponding indicators encompass all the elements of what constitutes responsible business conduct. It also delineates the fundamentals of implementing the NVGs, which are:

1. Leadership: the commitment and role of leadership,
2. Integration: the weaving in of the principles and core elements into the very DNA of the business,
3. Engagement: continuous engagement with relevant stakeholders,
4. Reporting: measuring the impact of business activities on all the nine principles and communicating these to their stakeholders.

Following the release of the NVGs, the MCA reconstituted Disclosures Framework Committee with two additional members and tasked it with developing a disclosure framework based on the NVGs. The disclosure framework, ‘Business Responsibility Report’ (BRR), was formulated by the Disclosure Framework Committee to ensure wider evidence based uptake of the NVGs. The ‘Annual Business Responsibility Report’ (ABRR) is a reporting format that requires principle-wise (NVGs) disclosure by businesses. This reporting framework helps Indian companies implement the NVGs and communicate the same to its stakeholders. It is designed on an ‘Apply or Explain’ methodology and aims at assisting companies to re-examine their processes and align them with the ethos of the NVGs.

The ‘Apply-or-Explain’ principle is an enabling measure that encourages companies to do three things:

I. Disclose the current status of sustainability driven performance at whatever stage that may be.
II. Disclose reasons for non-adoption of any of the principles, which may include non-applicability as per their understanding, or future plans of implementation.
III. Ideally undertake a process of review to identify and manage sustainability gaps and risks in line with the future outlook of the company(https://en.wikipedia.org/wiki/National_Voluntary_Guidelines_on_Social)

Under 'Business Responsibility Report' format, in all nine prescribed principles, only two i.e. Second and Sixth principles are taking care of disclosure information related to environment. These principles require to disclose information related to environment as under:

The Principle Two speaks about required disclosure on product and/or process at an organization which concern the environmental issues. Thus, it requires detailed disclosure as under:

- List up to three of your products or services whose design has incorporated social or environmental concerns, risks and/or opportunities.
- For each such product, providing the details in respect of resource use (energy, water, raw material etc.) per unit of product (optional).
- Does the company have procedures in place for sustainable sourcing (including transportation)? If yes, what percentage of the companies' inputs was sourced sustainably? Also, provide details thereof, in about fifty words or so.
- Has the company taken any steps to procure goods and services from local & small producers, including communities surrounding their place of work? If yes, what steps have been taken to improve their capacity and capability of local and small vendors?

The Principle Six demands disclosure about how company addresses environmental issues which are damaging or spoiling environment due to product or process in detailed as below:

- Does the policy related to Principle six cover only the company or extends to the Group/Joint Ventures/Suppliers/Contractors/NGOs/others.
- Does the company have strategies/ initiatives to address global environmental issues such as climate change, global warming, etc?
- Does the company identify and assess potential environmental risks?
- Does the company have any project related to Clean Development Mechanism?

- Has the company undertaken any other initiatives on – clean technology, energy efficiency, renewable energy, etc.
- Are the Emissions/Waste generated by the company within the permissible limits given by CPCB/SPCB for the financial year being reported?
- Number of show cause/ legal notices received from CPCB/SPCB which are pending (i.e. not resolved to satisfaction) as on end of Financial Year.

To identify issues related to environmental accountability and its disclosure by corporates, this research study is purported to investigate the level of Corporate Environmental Disclosure by companies through understanding and applying qualitative measures.

3.2.3. Environmental Parameters Disclosure

Even after identification of important issues for about more than 30 years of debates and deliberations, ideas related to environmental concern are not yet accepted and implemented widely, concepts and issues of environmental concern for business world and society as a whole i.e. environmental reporting and environmental auditing are still in infancy and used by corporates as ornamental value to the reporting practices. Hence, this part of the present research study tries to study and document the environmental accounting disclosure practices of select corporates in India. For this, content analysis of different pieces of information related to important components identified as above are discussed. Besides, an effort is made to catalogue the different items and their frequency of reporting by select Indian corporates.

Even after serious efforts made by researchers, social scientists, professionals and environmental scientists across the globe for about more than thirty years of emergence of environmental reporting and auditing idea, a few companies have started disclosing environmental accounting and auditing related information. In India none of the regulatory authority or bodies had issued any guidelines for environmental accounting and auditing related disclosure practices. In recent past i. e. in year the 2011 - Ministry of Corporate Affairs, Government of India came out with suggestion for 'National Voluntary Disclosure Guidelines' (NVGs).

All these guidelines and efforts by different bodies, are the outcome of long debate which formally commenced with the idea floated by and Benston (1982). He came out with an idea to delineate and analyze the ways in which social responsibility accounting can be used to measure and serve as a means of controlling externalities. Further, he stated that the means by which corporations could be more accountable is through reports of financial position and performance. He examined rationale and techniques of social responsibility accounting analytically. He found that corporate managers were concerned with those with whom corporation contracts viz. stakeholders as creditors, workers, consumers, etc. Even after floating the idea of recognizing corporate entity on the basis of how they can be evaluated on the parameter of corporate social responsibility, it was not accepted much by corporates. This debate was further boosted by an argument of having such practice valuable than the cost of such practice. This argument was also made by Lang and Lundholm, (1992), that the firm's performance must exceed some threshold value before it warrants incurring the cost to disclose, and the more sensitive a firm is to the perceptions of outsiders, the more it will disclose.

Initially, environmental disclosure practices were identified as the need for corporate entity to fulfil the corporate social responsibility but was not much accepted and practised by corporates. Such disclosures are necessary and helpful to the stakeholders as good management practice gained momentum in the second half of nineties when Gray *et al.,* (1996) has noted that the stakeholder theory emerges from the view that corporate disclosure is a management tool for managing the informational needs of the various powerful stakeholder groups (employees, shareholders, investors, consumers, government and others).

After emergence of ideas to incorporate environmental accounting and auditing parameters as part of Annual Report disclosures, initially few corporate entities started giving importance to information by placing them in Annual Reports.

Academic and research community has been continuously discussing related issues with intention to create awareness and make idea of environmental accounting and auditing disclosure practices more and more acceptable as part of Corporate Social Responsibility. To strengthen the idea of environmental related disclosures as part of CSR a number of researchers and social scientists have started keeping an eye on related contents of Annual Reports. For this purpose content analysis across the globe particularly in U. K., U. S. A., Canada, Australia and New Zealand has contributed positively by identifying parameters to be added to enrich such disclosure practices. This has been reflected in the research work of Adams *et al.* (1998) who examined corporate social reporting practices for a sample of 150 annual reports from six European countries. The study divided social disclosures into three categories: environmental reporting, reporting on employee issues and ethical reporting. The findings of the study indicate that the amount and nature of social disclosure varied significantly across countries. The German firms, in particular, disclosed the most information across all three categories. Netherlands had the lowest disclosure level in terms of environmental information.

Singh G. (2009) found that the corporations in the developed economies closely link their performance with the extent, quality and timeliness of environmental disclosures. The increasing trend towards liberalisation and globalization demands increased integration and the convergence to global environment reporting and accounting standards. Therefore it is not only important for the companies to be transparent, accountable and socially responsible but also to ensure adequate returns to the shareholders and satisfy various stakeholders and society at large about their conduct. He has studied the environment management and disclosure practices in India, identified the nature and assessed the extent to which Environmental Disclosures (ED) is reported for environmental information by the companies followed by Safety concern, Health concern, Social obligations and Pollution abatements.

Singh M. (2010) explored that Indian business is going through one of its golden times when many Indian companies are going global. Some of them have managed to be listed in top Stock Markets of the world and the year 2009 has recorded industrial growth after twenty years though, many countries are struggling to come out of a big economic crisis. Globalization and boundary-less market had forced Indian corporations to change their survival strategy. It is observed that steps have taken towards corporate environmental sustainability and disclosing the environmental performance to the customers and other stakeholders. Many of the past literatures on corporate sustainability never speak aloud of or, remain silent on Corporate Environmental Sustainability. Some of them even argue that the natural stock/capital remains stable all the time. But on going changes and disasters like tsunami, water and food shortage, climate change cannot be ignored. India being heavily industrialized country is always blamed for an increasing rate of consumption and warned about these disasters in many international forums.

Here, in this study content analysis is carried out based on certain criteria or themes related to environmental information. Content analysis refers to a set of procedures for collecting and organizing information in standardized format (GAO, 1982). As stated in Holland and Foo (2003), "Content analysis is defined as the method of a research technique for the objective, systematic and quantitative description of the manifest content of communication (Berelson, 1971)." Mukherjee, K. et al. (2010) have observed in their research study that the growing global concern towards corporate environmental disclosure has led to the voluntary reporting of environmental information by Indian companies as well. However, the nature and content of disclosure vary across industries and firms, and these variations can be attributed to various firm specific factors. Environmental disclosure was measured by developing an environmental disclosure index based on prior literature. The sample for the study comprised select companies chosen from ten environmentally sensitive industries, viz., distillery, sugar, fertilizer, pulp and paper, chlor alkali, pharmaceuticals, dyes and dye intermediates, pesticides, oil and refinery and petrochemicals. These themes were chosen based on previous empirical literature (Wiseman, 1982; Blacconiere and Patten, 1994; Burritt, 1997; Holland and Foo, 2003; Dixon et al., 2005; Clarkson et al., 2007; and Chatterjee and Mir, 2008)

Ullah, M. H., et al (2014) have made the study on Environmental Disclosure Practices in Annual Report of the listed Textile industries in Bangladesh and revealed that more than two-third (69%) of the sample companies addressed no environmental issues in their annual reports. For development of Disclosure Index environmental items considered were environmental policy, environmental product process, environmental energy, environmental cost/investment etc.

On the basis of above discussion of research work carried out by different research scholars, social as well as environmental scientists, professionals and according to Business Responsibility Report aspects to be disclosed principle wise, researcher has tried to identify and list out important parameters requiring attention of stakeholders as far as disclosures are concerned. Hence, as a result of this academic exercise, identified environmental parameters are grouped on the basis of concern and relevance and listed as under:

(i) Carbon disclosure;
(ii) Global Reporting Initiatives (GRI);
(iii) ISO 14001;
(iv) Renewable Energy;
(v) Awards and accolades for environmental performance and
(vi) Research and development in the environmental area.

Adoption, application and disclosure through reporting of these parameters can facilitate to understand the accountability and responsibility of any corporate entity towards various stakeholders in letter and spirit also. Six parameters selected in present study are explained in brief subsequently.

3.2.3.1. Carbon Disclosure

At present, pressure is surmounting on the corporates to minimise the impact on environment. Emission of Carbon Dioxide (CO2) and other Green House Gases (GHGs) have substantially damaged the planet Earth due to industrial activities. So, companies have started taking initiative towards disclosing the efforts and steps taken on ‘carbon footprint’.

Today, the term ‘carbon footprint’ is often used as shorthand for the amount of carbon (usually in tonnes) is being emitted by an activity or organization. The carbon component of the Ecological Footprint takes a slightly differing approach, translating the amount of carbon dioxide into the amount of productive land and sea area required to sequester carbon dioxide emissions. This tells us the demand on the planet that results from burning fossil fuels. Measuring it in this way offers a few key advantages. On a practical level, the Ecological Footprint shows us how carbon emissions compare and interact with other elements of human demand, such as our pressure on food sources, the quantity of living resources required to make the goods we consume, and the amount of land we take out of production when we pave it over to build cities and roads. The carbon footprint is 54 percent of humanity’s overall Ecological Footprint and its most rapidly growing component. Humanity’s carbon Footprint has increased 11-fold since 1961. (http:// www. footprintnetwork.org/ en/index.php/ GFN/page/carbon).

The carbon footprint measures CO2 emissions associated with fossil fuel use. In Ecological Footprint Accounts, these amounts are converted into biologically productive areas necessary for absorbing this CO2. The carbon Footprint is added to the Ecological Footprint because it is a competing use of bio productive space, since increasing CO2 concentrations in the atmosphere is considered to represent a build-up of ecological debt. Some carbon Footprint assessments express results in tonnes released per year, without translating this amount into area needed to sequester it (http://www.footprintnetwork.org/en/index.php/GFN/page/glossary)

3.2.3.2. Global Reporting Initiative (GRI)

GRI has pioneered corporate sustainability reporting since 1997, transforming it from a niche practice to one now adopted by a growing majority of organizations. GRI is an international, independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others (https://www.globalreporting.org/information/news-and-press-center/pre..).

We live in a world of challenge and change. Shifting landscapes in the environmental, social and governance arenas constantly test our abilities to create innovative approaches to address global issues, such as climate change and human rights. Within this flux and flow, GRI has occupied a prime position. The past 17 years has seen sustainability reporting move from a practice undertaken only by pioneers to become standard practice for thousands of organizations worldwide.

GRI has played a fundamental role in catalysing and enabling this movement, with the establishment of a robust set of Sustainability Reporting Guidelines, at a time when little else existed. The GRI Sustainability Reporting Guidelines are now generally regarded as the most trusted and respected, with over 5,000 organizations having used them across more than 90 countries at the end of June 2014. In addition, they are referenced in the policies of 24 countries and their development is underpinned by continual, global, multi-stakeholder engagement – a process which ensures that every group has an equal voice at the table.

GRI is continuously building on its legacy as a pioneer in sustainability reporting. *Forward thinking, future focus* not only gives a structured insight into GRI's activities and its sustainability impacts since the launch of G4 – the recent version of the Guidelines – but also demonstrates how the organization is addressing the rapid changes taking place in the sustainability reporting field. G4 has also provided the backbone for GRI's Organizational Stakeholder Program during 2013-2014, which connected nearly 600 organizations in 60 countries committed to advancing sustainability reporting (Christianna W. and Michael M., 2014).

3.2.3.3. ISO 14001- Environmental Management System (EMS)

An ISO 14001 Environmental Management System (or commonly referred to as an EMS) is a structured system designed to help organisations manage their environmental impacts and improve environmental performance caused by their products, services and activities. An environmental management system provides structure to environmental management and covers areas such as training, record management inspections, objectives and policies. Implementation of an environmental management system requires the following steps to be completed by an organisation:

- Development of an environmental policy that reflects its commitments;
- Appointment of a person(s) responsible for its coordination;
- Identification of how the organisation interacts with the environment;
- Identification of actual and potential environmental impacts;
- Identification of relevant legal and other requirements;
- Establishment of environmental objectives, targets and programs;
- Monitoring and measurement of the progress to achieve its objectives;
- Reviewing the system and environmental performance; and
- Continuous improvement of the organisation's environmental performance (http://www.environmentalmanagementsystem.com.au/what-is-an-envir).

International Organisation for Standards (ISO) has a multi-faceted approach to meet the needs of all stakeholders from business, industry, governmental authorities and nongovernmental organizations, as well as consumers, in the field of the environment (www.iso.org/ Environmental labelling and declarations – How ISO standards help).

ISO 14001 is the world’s most recognized framework for Environmental Management Systems (EMS) implemented that helps organizations both to manage better the impact of their activities on the environment and to demonstrate sound environmental management.

Other environmental management tools developed by ISO/TC 207 include: ISO 14004, which complements ISO 14001 by providing additional guidance and useful explanations (www.iso.org/Environmental Family Standards help).

In the present study an attempt is made to explore that to what extent Indian companies have started to adopt and implement EMS.

3.2.3.4. Renewable Energy

Renewable energy is energy generated from natural resources—such as sunlight, wind, rain, tides and geothermal heat—which are renewable (naturally replenished). Renewable energy technologies range from solar power, wind power, hydroelectricity/micro hydro, biomass and biofuels for transportation. This energy cannot be exhausted and is constantly renewed. Alternative energy is a term used for an energy source that is an alternative to using fossil fuels. Generally, it indicates energies that are non-traditional and have low environmental impact. The term alternative is used to contrast with fossil fuels according to some sources. By most definitions alternative energy doesn't harm the environment, a distinction which separates it from renewable energy which may or may not have significant environmental impact (http://extension.psu.edu/natural-resources/energy/what).

India also is the world's third largest producer of coal, and relies on coal for more than half of its total energy needs. Indian Renewable Energy Development Agency Limited is a public limited Government Company established in 1987, under the administrative control of Ministry of Non-Conventional Energy Sources (MNES) to promote, develop and extend financial assistance for renewable energy and energy efficiency/conservation projects with the motto 'Energy For Ever' (Investors Manual for Energy Efficiency Confederation of Indian Industry Energy Management Cell - www.greenbusinesscentre.com). The information of Conservation of Energy as required under Section 134 (3) (m) of the Companies Act, 2013 read with Companies (Accounts) Rules, 2014 is applicable to certain business segments. However, as part of Business Responsibility Report, few companies have started providing details of steps taken in the areas of energy conservation and other Sustainability Initiatives.

In present case study it is explored that in Nifty 200 companies, whether companies adopt the measures for renewable energy or alternate energy leading to energy conservation and how this parameter of environmental concern is addressed to stakeholders in the reports.

3.2.3.5. Awards and Accolades

Awards and accolades provide impetus to any individual or entity for better performance. In corporate world, numerous kinds of presentations are applauded in terms of various awards by different organisations and institutes. Here the awards and recognition granted for environmental activities, processes and recitals are to be considered for the study.

Various organizations are appreciated and recognized in terms of awards and accolades in the categories of:
Environment/Forestry/Horticulture protection, Health, Heritage Conservation, Project towards Swachh Bharat Mission, Public Relations in CSR, Rehabilitation & Resettlement Project, Renewable Energy, Road Safety, Safe Drinking Water, Sanitation (Rural), Sanitation (Urban), Skill Development-Skill India, Social Media Awareness Campaign, Technology in CSR, Water Conservation, Water Conservation/Watershed Development, Waste Management, etc. For example, Greentech Environment Award were presented to companies/units demonstrating highest level of commitment to environment management covering all sectors of industry and services sector who demonstrate highest level of commitment and best practice. The awards aim to recognize exemplary operations, systems and the evidence of their impact to business vitality. Awards serve as a catalyst to understand the intrinsic value of Environment Management in business excellence and sustainability. Greentech Foundation invites nominations from companies and their units having strong concern and commitment for Environment Management and are willing to improve their own performance. All large, medium, small scale Industrial /

service sector companies / organizations and their units are eligible for participation in the award (http://www.greentech.org/greentech-environment-award-2015/).

The India CSR Awards focuses on honouring and celebrating the innovation and significant contributions that CSR practices make to the economy and the society. The vision is to identify and recognize the corporate best practices of on going social and environmental responsibility initiatives in various domains in India, with the mission to inspire, encourage, corporate social responsibility awareness and practices in India (http://awards.indiacsr.in/categories.php).

Moreover, The TERI (The Energy and Resource Institute) Corporate Awards offer a platform for Indian corporate houses to showcase how development concerns can be met with social commitment for their outstanding achievement in environmental management and social responsibility practices.

TERI instituted the Corporate Environmental Awards in 2000-01 to recognise corporate leadership in environmental management. The Corporate Social Responsibility Awards were established in 2001-02 in recognition of good corporate citizenship. TERI's Corporate Awards are known for the recognition they accord to innovative initiatives promoting sustainable development.
(http://infochangeindia.org/corporate-responsibility/news/teri-gives-env)

3.2.3.6. Research and Development

Environmental research provides knowledge for the development of sound evidence-based policies and strategies towards conservation of natural resources. Globally, environmental research has provided important inputs for devising strategies to ensure ecological security and sustainable development.

The Ministry of Environment & Forests, Government of India has been supporting research in Environment since 1985 in multidisciplinary areas by providing grants to various research institutions and universities for implementing research projects. The previous *Guidelines for Support to Environmental Research* were brought out in 2006.

The identified broad thematic areas aim at focusing the efforts in environmental research. Special attention has been given to pollution amelioration, biodiversity conservation, ecosystem studies, bioremediation, ecological restoration of degraded ecosystems, development of cutting-edge technologies, socio-economic issues relating to the environment, etc. Through these Guidelines, a mechanism has been put in place for the wider dissemination of research findings and the scaling up of those outcomes and innovations, which are generated through research projects and are of societal relevance (Chatterjee, T, 2012).

Research & Development (R&D) in the field of environmental protection keeps on motivating commerce and trade and also aids to diminish environmental impact by evolving cleaner and safer yields and substitutes. Therefore it is need of an hour to improve and grow in answerable style and meet the potentials of all stakeholders. As the world populace rises, the pressure on the fundamentals of life – water, food and energy – becomes graver. Nowadays companies plan processes in a way that alleviates environmental impacts attaining the main values to design processes environment friendly. Environment R & D plan necessitates a methodical attitude to environmental management scheduling to achieve persistent performance enhancement.

3.3. Analysis of Disclosure Practices in Indian companies

In India any specific enactment does not clearly provide for the disclosure on environmental parameters in the financial statements of the corporates. Still, the premier professional bodies viz. The Institute of Chartered Accountants of India (ICAI) has not issued any specific guidelines and accounting or auditing standard on environmental accounting, auditing and disclosure aspects. Therefore, it is up to the companies to determine how much evidence, what information and in which form they desire to disclose voluntarily in their Annual Reports along with the financial statements or elsewhere. But admitting the arguments rose in favour of the environmental information disclosure and auditing practice, some companies have voluntarily began the disclosures relating to environmental parameters. Recently Securities and Exchange Board of India has made an initiative for 'Business Responsibility Report' where the listed companies are required to disclose the specified information principle wise.

Cormier and Magnan (1999) made an attempt to identify the determinants of environmental disclosure by Canadian companies and found that information costs and firm's financial conditions are key determinants of environmental disclosure. It was also observed that firm size, the regulatory regime governing corporate disclosure and industry characteristics as well contribute to explaining environmental disclosure. Holland and Foo (2003) explored that the qualitative and non-financial information provided by an organization is also related to disclosure and, consequently, to the notion of accountability.

Based on previous literature, in present study six environmental parameters have been identified in terms of –

I. Carbon disclosure;
II. Global Reporting Initiatives (GRI);
III. ISO 14001;
IV. Renewable Energy;
V. Awards and accolades for environmental performance and
VI. Research and development in the environmental area.

The object of this study is to find the possible elements of environmental disclosure in Nifty (CNX) 200 Indian companies spread across the eighteen industries are classified and grouped by National Stock Exchange. In order to undertake this study, data from the annual reports has been collected for each of the company in the sample for the financial year 2014-15 i.e. year ending March, 2015. The information on selected parameter is compiled from the Annual reports available from website of the respective company. There are number of ways in which Indian companies have started disclosing their environmental information to its stakeholders, such as annual reports, websites of company and separate sustainability reports.

Under this study, Annual Reports of 200 companies for Financial Year 2014-15 is reviewed. The review is undertaken of companies on the basis of Nifty (CNX) 200 on 29th January, 2015. The Nifty 200 Index is designed to reflect the behaviour and performance of the large and mid-market capitalization companies. Nifty 200 includes all companies forming part of Nifty 100 and Nifty Full Midcap 100 Index.

Nifty 200 Index is computed using free float market capitalization method, wherein the level of the index reflects the total free float market value of all the stocks in the index relative to particular base period. Nifty 200 can be used for a variety of purposes such as benchmarking fund portfolios, launching of index funds, Exchange Traded Funds (ETFs) and structured products.

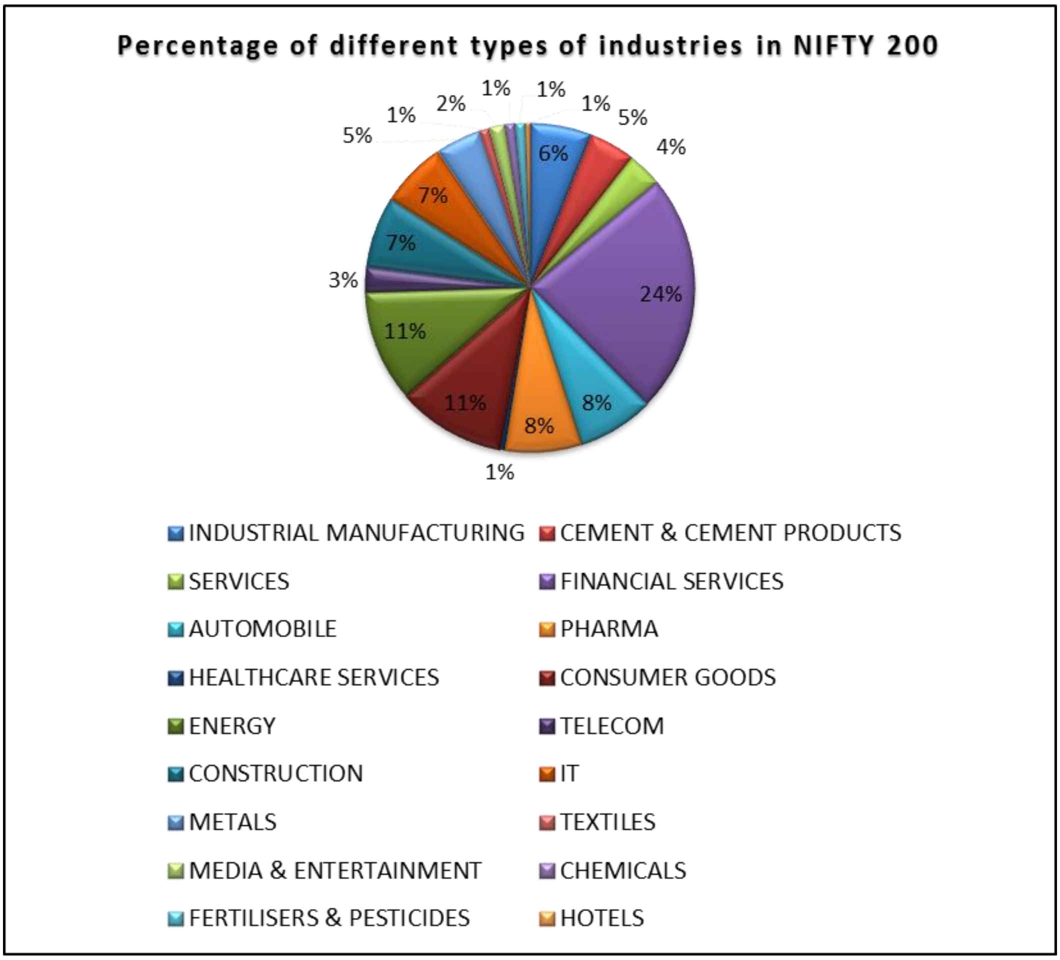
Hence, the sample of present study includes companies which have found place according to decisive yardstick of stock index of the recognised National Stock Exchange of India. Selection of large sample size was necessary as environmental parameters disclosure practices are still evolving in India.

However, in this study, the downloaded annual reports are selected as the source of identified environmental parameters for corporate environmental disclosures, as it is widely recognized as the principal means for corporate communication to stakeholders and is the primary source of environmental reporting by corporations. Wiseman (1982) had adopted the same methodology earlier. For prevalent environmental disclosure practices companies have started disclosing through Annual reports which would be source for data analysis.

The summary depicting the disclosure of six parameters selected amongst the Annual Reports of NIFTY 200 companies is annexed (Annexure 3). Here, industry wise composition of Nifty 200 companies is given as under:

Graph 3.1

Industry wise compositions of Nifty 200 companies



It is explored here that different companies which were constituent of Nifty 200 index on selected date are grouped in eighteen industries by National Stock Exchange. These are Industrial Manufacturing, Cement and Cement products, Services, Financial Services, Automobiles, Pharmaceuticals, Health care services, Consumer goods, Energy, Telecom, Construction, IT, Metals, Textiles, Media and Entertainment, Chemicals, Fertilisers & Pesticides and Hotels.

24% companies fall into Financial Services sector, 11% companies fall into Energy and 11% companies fall into Consumer goods sector. Automobile and Pharmaceuticals sector constitute 8% each and Construction sector 7% in Nifty 200. Healthcare services, Textiles, Chemicals and fertilisers and Hotels sector contribute 1% each in the composition of Index on reporting date.

The first section of present analysis reveals number of corporates representing different eighteen selected industries. Now, industry wise environmental accounting and auditing parameters considered for disclosure as part of Annual Reports have been identified in the following section of the present study. Detailed content analysis of Annual Reports published and available online for 200 selected companies divided in 18 industries throws the light on serious matter that very few organisations are considering all six environmental parameters for disclosures, which is reflected by the following Table.

Table 3.1

Number of Companies in which selected Parameters are observed

(with 'YES' score)

Sr. No.	Industry	Total No. of Companies	Carbon Disclosure	GRI	ISO 14001	Renewable Energy	Awards	R & D
1	Industrial manufacturing	12	8	2	7	11	5	9
2	Cement & cement products	9	7	4	6	9	7	5
3	Services	7	4	1	3	4	2	4
4	Financial services	47	15	2	4	27	7	6
5	Automobile	15	9	2	8	12	7	11
6	Pharma	15	2	0	7	14	4	12
7	Healthcare services	1	0	0	0	0	0	0
8	Consumer goods	21	13	0	8	18	7	15
9	Energy	22	14	8	14	22	16	11
10	Telecom	5	5	0	1	5	1	1
11	Construction	14	5	2	6	9	6	6
12	IT	13	8	2	6	9	5	9
13	Metals	9	9	7	9	8	6	8
14	Textiles	2	1	0	0	1	1	0
15	Media & entertainment	3	1	0	0	0	0	0
16	Chemicals	2	1	1	1	2	2	1
17	Fertilisers & pesticides	2	1	0	2	1	1	2
18	Hotels	1	1	1	0	1	0	0
	TOTAL	**200**	**104**	**32**	**82**	**153**	**77**	**100**

Above Table reflects that highest number of companies i. e. about 52 percent companies are disclosing carbon issues; 16 percent have adopted Global Reporting Initiative Guidelines; 41 percent companies have disclosed about ISO 14001; 76.5 percent have reported that they have adopted Renewable energy measures; 38.5 percent companies have bagged awards and accolades for environmental performance and 50 percent companies have disclosed that they have conducted research and development activities in the environmental area.

Parameter wise total number of companies considering for disclosure (Yes) and ignoring or not considering (No) are summarised in following Table.

Table 3.2

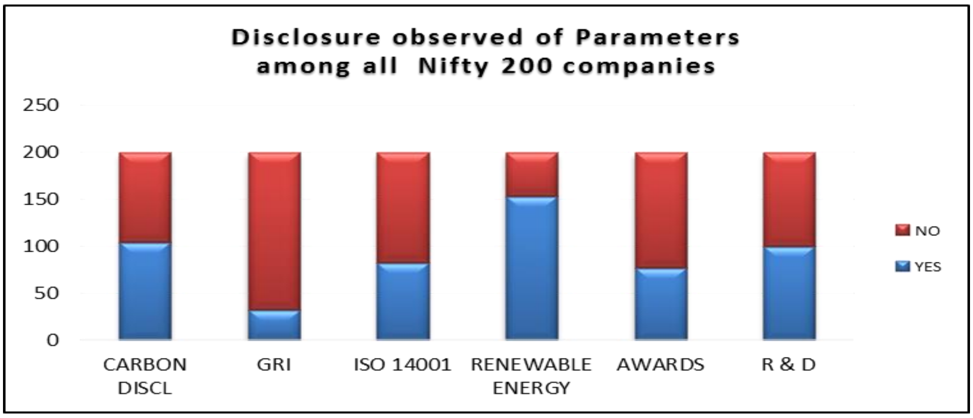
Summary of Disclosure for Six Parameters in Nifty 200 companies

DISCLOSURES (OBSERVATIONS)	CARBON DISCL	GRI	ISO 14001	RENEWABLE ENERGY	AWARDS	R & D
YES	104	32	82	153	77	100
NO	96	168	118	47	123	100
	200	200	200	200	200	200

The most important fact revealed during Content analysis of Annual reports is that no company give weightage to disclosure environmental related information by accommodating the in the main section but they provide the environmental related detail as an additional information in the Annual reports. At the same time it is also observed that some corporates have reflected environmental related information as separate eye catching section entitled ‘Sustainability report’ but again as part of additional information. Content analysis reveals that highest weightage is given to parameter related to renewable energy adoption measures and lowest weightage is given to GRI parameter. Number of companies giving place in annual report disclosure reflected by following Bar chart:

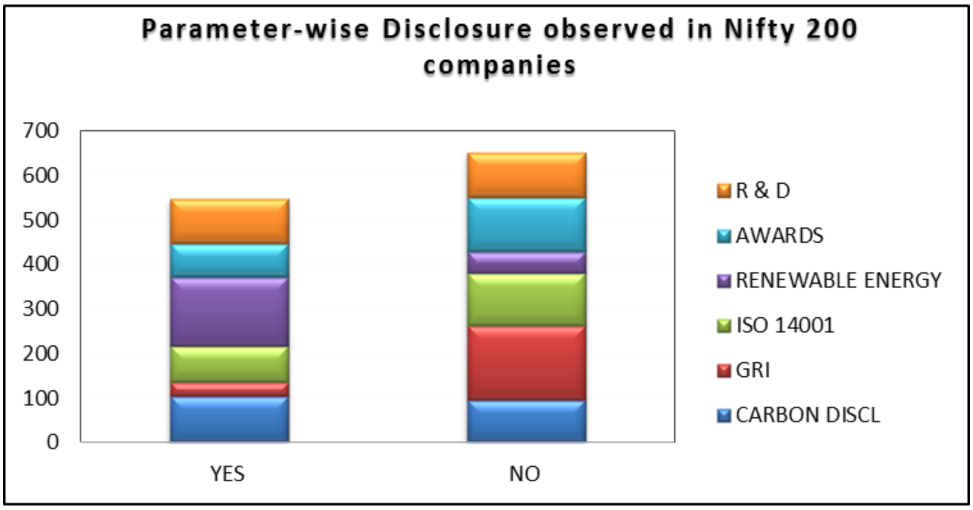
Graph 3.2

Summary of Disclosure for Parameters in Nifty 200 companies



From the above chart it is clear that, out of 200 select companies, 104 companies consider Carbon disclosure related parameters as part of their Annual report. It further reflects that only 32 companies and 77 companies are considering disclosure parameters related to GRI and Awards respectively. The content analysis further revealed that out of 200 companies, 82 companies are disclosing adoption of ISO 14001, 153 companies have applied the measures to initiate renewable energy measures and 100 companies have disclosed in the Annual Reports that they have undertaken the research and development activities in processes, operations and activities to reduce the environmental impact.

Graph 3.3
Parameter-wise disclosure in Nifty 200 companies



From above Graphs following findings can be traced out:

- 52% companies of Nifty 200 are reporting on Carbon Disclosures.

- Only 16% companies are reporting as per GRI guidelines.
- 41% companies are providing information on ISO 14001
- 76.5% companies have taken measures and installations for the Renewable Energy
- 38.5% of total companies are in receipt of Awards and accolades for Environmental performance.
- 50% of the companies are involved in Research and Development towards Environmental conservation and protection and pollution abatement.

The above discussion makes it clear that highest weightage is given to Renewable energy measures, then on Carbon issues disclosures, investing in Research and development, adoption of ISO 14001 and performing well and bagging Awards and accolades. The lowest weightage is given to adoption of Global Reporting Initiatives guidelines. These numbers represent importance given by different corporates to the different parameters across the industries. But to have idea about sensitivity of different industries towards different environmental parameters, further analysis is undertaken to check number of organisations considering industry wise environmental parameters in reporting disclosures. This analysis is undertaken as different industry affects environment at different scale.

The result of industry wise analysis of companies surprisingly reveals that environmental disclosure practices adopted by corporates considering ornamental value rather than addressing the sensitivity towards such issues of social concerns. The companies representing that industry having environmental concern are not giving importance to the environmental related information disclosure whereas companies having less environmental concern give importance to environmental parameters disclosures as part of annual reports. Higher number of companies representing finance, IT and Service providing sector have given due importance to environmental issues whereas companies representing Cement, Textile, Pharmaceuticals, Automobile and Construction are giving less weightage to environmental issues in annual report disclosures. This becomes clear from the data related to industry wise number of companies giving related to different environmental parameters as part of annual report disclosure practices as summarized by the following table:

Table 3.3

Summary of Parameter disclosures among various Industries of Nifty 200

PARAMETER	**CARBON DISCL**	**GRI**	**ISO 14001**	**RENEWABLE ENERGY**	**AWARDS**	**R & D**	**NUMBERS OF COMPANIES**
INDUSTRIAL MANUFACTURING	8	2	7	11	5	9	**12**
CEMENT & CEMENT PRODUCTS	7	4	6	9	7	5	**9**
SERVICES	4	1	3	4	2	4	**7**
FINANCIAL SERVICES	15	2	4	27	7	6	**47**
AUTOMOBILE	9	2	8	12	7	11	**15**
PHARMA	2	0	7	14	4	12	**15**
HEALTHCARE SERVICES	0	0	0	0	0	0	**1**
CONSUMER GOODS	13	0	8	18	7	15	**21**
ENERGY	14	8	14	22	16	11	**22**
TELECOM	5	0	1	5	1	1	**5**
CONSTRUCTION	5	2	6	9	6	6	**14**
IT	8	2	6	9	5	9	**13**
METALS	9	7	9	8	6	8	**9**
TEXTILES	1	0	0	1	1	0	**2**
MEDIA & ENTERTAINMENT	1	0	0	0	0	0	**3**
CHEMICALS	1	1	1	2	2	1	**2**
FERTILISERS & PESTICIDES	1	0	2	1	1	2	**2**
HOTELS	1	1	0	1	0	0	**1**
Total	**104**	**32**	**82**	**153**	**77**	**100**	**200**

Table 3.4

Summary of Total Disclosures in all Nifty 200 companies

Disclosure	Carbon Disclosure	GRI	ISO 14001	Renewable Energy	Awards	R & D
YES	104	32	82	153	77	100
NO	96	168	118	47	123	100
	200	200	200	200	200	200

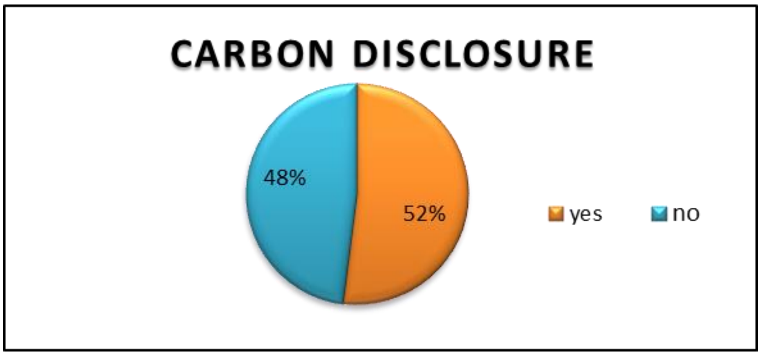
3.3.1. Disclosure Practices: Parameter wise

To understand the disclosure practices of Indian corporate content analysis has been under taken in the subsequent part on the basis of selected Environmental Parameters.

- **Carbon Disclosure Practices**

Today, the term 'carbon footprint' is often used as shorthand for the amount of carbon (usually in tonnes) which is being emitted by an activity or process of organization. Reducing the impact is very important to protect the ozone layer and combat the global warming. Here, the initiatives taken to reduce the carbon footprint and disclosure thereof in the annual reports of select companies are analysed which is highlighted in Graph 3.4.

Graph 3.4
Carbon Disclosure observed in Nifty 200 companies



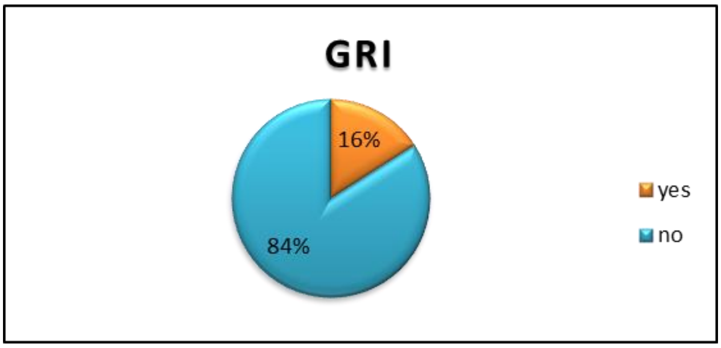
It is found that 104 (52%) companies have reported Carbon disclosure practices in annual reports. Companies have incorporated efforts undertaken to control and minimise the carbon footprints on planet earth. Whereas 96 (48%) companies have not reported Carbon disclosure practices.

- **Disclosure on Reporting as per GRI Guidelines**

Global Reporting Initiative (GRI) has pioneered corporate sustainability reporting since 1997, transforming it from a niche practice to one now adopted by a growing majority of organizations. GRI has played a fundamental role in catalysing and enabling this movement, with the establishment of a robust set of Sustainability Reporting Guidelines, at a time when little else existed. In this study, it is explored that in Nifty 200 companies, how many companies have adopted the GRI guidelines and complied with its reporting structure.

Graph 3.5

Reporting as per Global Reporting Initiatives (GRI) guidelines



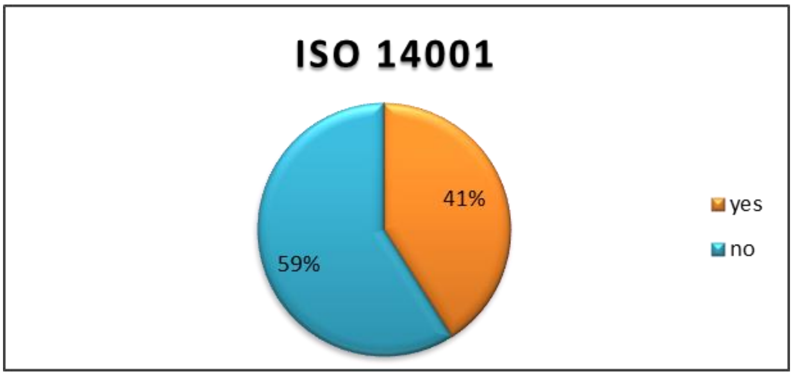
It is explored that 32 (16%) companies have adopted Global Reporting Initiative (GRI) practices in annual reports to create the brand in the corporate sector as per globally well accepted trend. Whereas 168 (84%) companies have not reported as per GRI guidelines.

- **Disclosure on adoption of ISO 14001**

An ISO 14001 Environmental Management System (or commonly referred to as an EMS) is a structured system designed to help organisations manage their environmental impacts and improve environmental performance caused by their products, services and activities. In the present study an attempt is made to observe that to what extent Indian companies have started adopting and implementing EMS.

Graph 3.6

Adoption of ISO 14001 in the entity



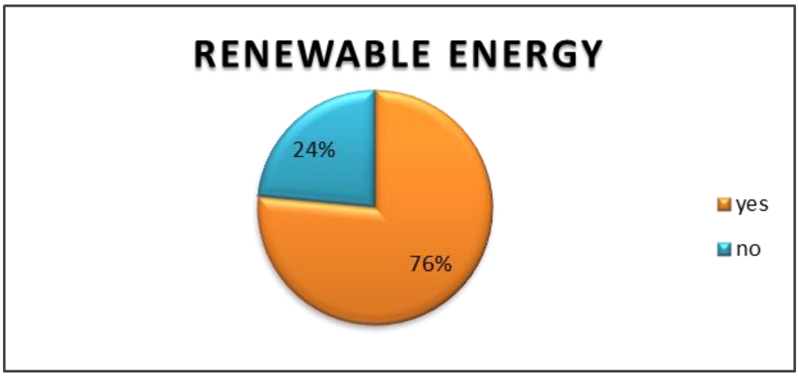
It is observed that 82 (41%) companies have adopted ISO 14001 model of Environmental Management System (EMS) in their entity to run the entity efficiently with vision of environment protection in responsible manner. Whereas 118 (59%) companies have not adopted EMS as per ISO 14001.

- **Disclosure on Practices in area of Renewable Energy**

Generally, renewable energies indicate energies that are non-traditional and have low environmental impact. The term alternative energy is also used in contrast with fossil fuels according to some sources. By most definitions, alternative energy doesn't harm the environment. In present case study it is explored that in Nifty 200 companies, whether companies adopt the measures for renewable and alternate energy and how this parameter of environmental concern is addressed to stakeholders in the reports. It is explored in this study that the companies have disclosed in their annual reports various steps taken for energy conservation and adoption of alternate energy means as per their requirements and nature of operations viz. replacing sodium vapour lights with Light Emitting Diode (LED) lights, replacing Compact Fluorescent Lamp (CFL) lights with LED bulbs, providing transparent Fibre Reinforced Plastic (FRP) sheets on the roof to get natural lights, replacing packaged air-conditioners with panel coolers for Computer Numerical Control (CNC) machine panels and usage of solar water heaters for washing utensils and vessels, etc.

Graph 3.7

Practices followed in area of Renewable Energy in the entity



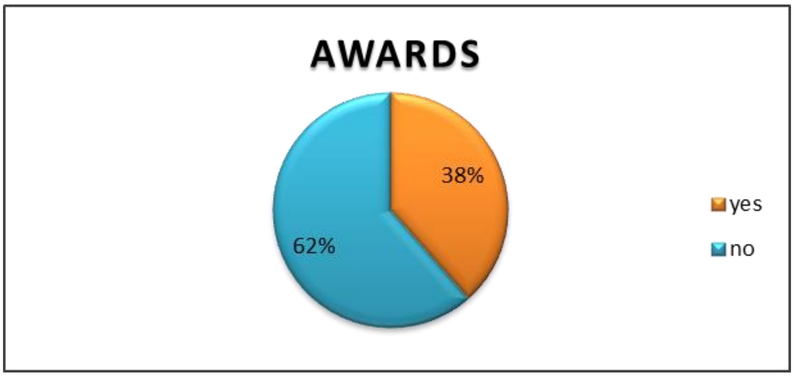
It is noticed that 153 (76%) companies have followed practices in the area of Renewable Energy against utilisation of conventional source of energy in their entity to reduce the impact on environment of Earth. Whereas 47 (24%) companies have not followed the practices in the area of Renewable Energy.

- **Disclosure on Bagging the Awards and accolades for best practices**

Awards and accolades provide impetus to any individual or entity for better performance. In corporate world, numerous kinds of presentations are applauded in terms of various awards by different organisations and institutes. Here the awards and recognition granted for environmental activities, processes and recitals are to be considered for the study. Here, an attempt is made to observe that how many companies have bagged the awards and accolades for fair and better environmental performance practices and disclosure thereof is made in the annual reports.

Graph 3.8

Bagging the Awards and accolades for best practice in the field of Environment



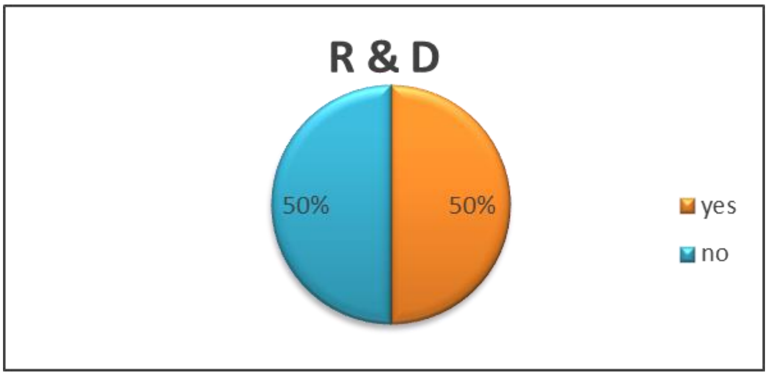
It is observed that 77 (38%) companies have bagged the awards and accolades for best practices and examples set in the areas of technological innovation, energy and water conservation, input material reduction, exploration and implementation of alternatives against use of scarce natural resources, afforestation drive, etc. towards environmental protection. Whereas 123 (62%) companies have not received awards and accolades for any practice(s) in the area of environment.

- **Disclosure on adoption of Research and Development practices in the area of Environment protection**

Environmental research provides knowledge for the development of sound evidence-based policies and strategies towards conservation of natural resources. Globally, environmental research has provided important inputs for devising strategies to ensure ecological security and sustainable development. The following Graph 3.9 exhibits the percentage of select Nifty 200 Indian companies which have adopted and invested in Research and development policies and operations towards better environmental practices.

Graph 3.9

Research and Development practices adopted in the field of Environment



It is found that 100 (50%) companies have invested in Research and Development towards better environmental practices in terms of Environmental conservation, protection and pollution abatement to minimise the impact on environment. Whereas 100 (50%) companies have not invested Research and Development expenditure to save environment.

3.3.2. Disclosure Practices: Industry wise

In the subsequent part, content analysis has been under taken to understand the disclosure practices of Indian corporate on the basis of Industry.

- **Disclosure Practices in Industrial manufacturing industry**

Industrial manufacturing industry is considered to be environment sensitive. In the below part, the disclosure practices of select environmental parameters followed by companies belonging to such industry is analysed.

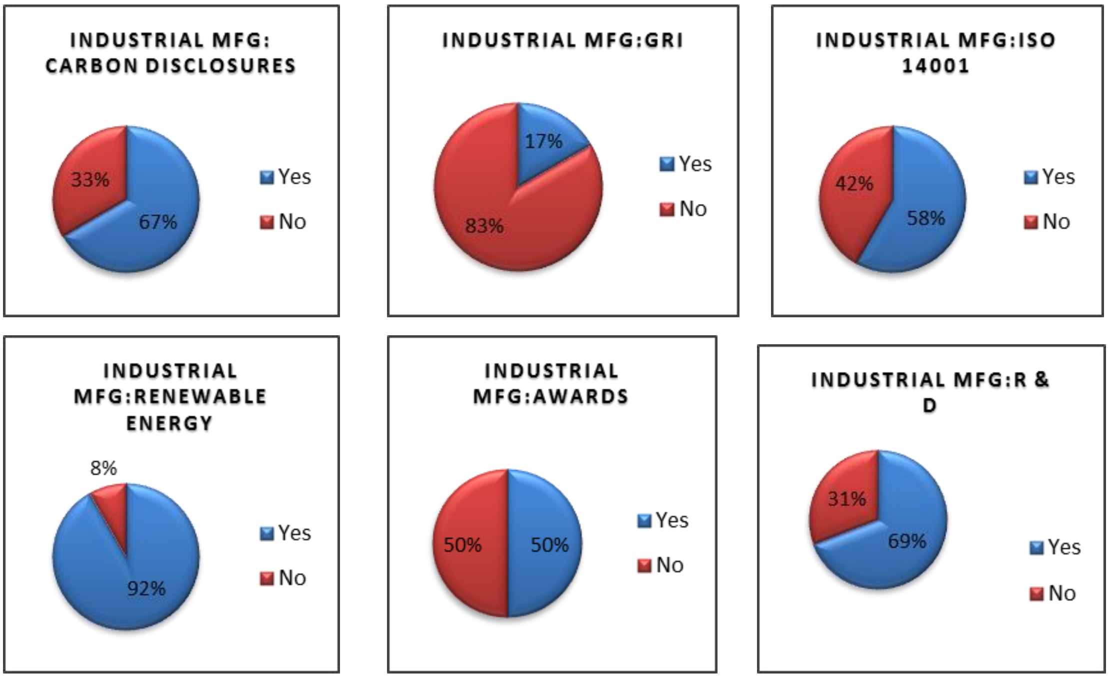
Table 3.5

Disclosure of Parameters in Industrial Manufacturing companies

No.	Parameter	Industrial Manufacturing
1	Carbon Disclosure	8
2	GRI	2
3	ISO 14001	7
4	Renewable Energy	11
5	Awards	5
6	R & D	9
	Number of Companies	12

Graph 3.10

Disclosure of Parameters in Industrial Manufacturing companies



In Industrial Manufacturing industry, 92% of the companies have substantially reported to adoption of Renewable Energy measures towards environmental betterment. 67% of the companies are reporting on Carbon Disclosure, 69% companies have invested and undertaken R & D projects for protection of environment and 58% companies have attempted to comply with ISO 14001 requirements.

Yet only 50% companies in this segment of industry could bag the Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Only 17% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Cement & Cement Products Industry**

Cement and cement products industry is prone to impact the environment of planet Earth due to nature of extraction of lime stones and crushing as well as processing to manufacture the cement and allied products. Here, it is explored that how companies falling within this industry have disclosed the select environmental parameters in their annual reports.

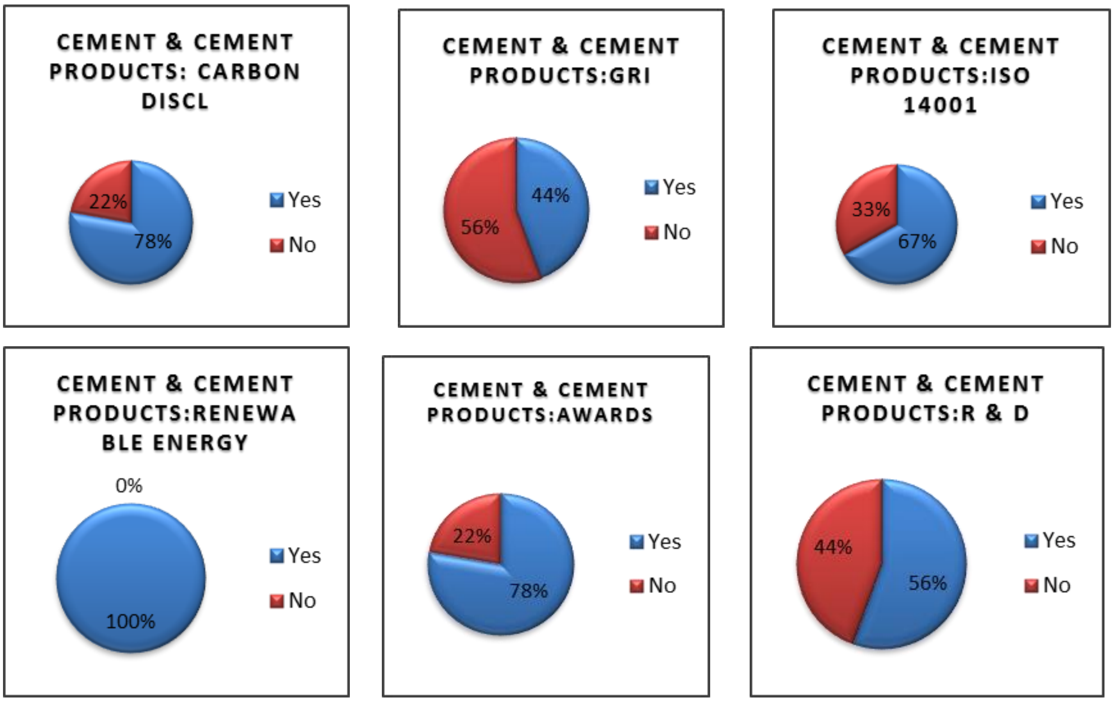
Table 3.6

Disclosure of Parameters in Cement and Cement products companies

No.	Parameter	Cement & Cement Products
1	Carbon Disclosure	7
2	GRI	4
3	ISO 14001	6
4	Renewable Energy	9
5	Awards	7
6	R & D	5
	Number of Companies	9

Graph 3.11

Disclosure of Parameters in Cement and Cement products companies



In Cement and cement products industry, all (100%) companies have reported adoption of Renewable Energy measures towards environmental betterment. 78% of the companies are reporting on Carbon Disclosure, 56% companies have invested and undertaken R & D projects for protection of environment and 67% companies have attempted to comply with ISO 14001 requirements.

78% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 44% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Service provider industry**

Normally it is perceived that Service provider companies do not harm the environment as they deal with non-manufacturing operations and processes. In the subsequent part an attempt is made to know that how companies belonging to service sector have disclosed the select environmental parameters in their annual reports.

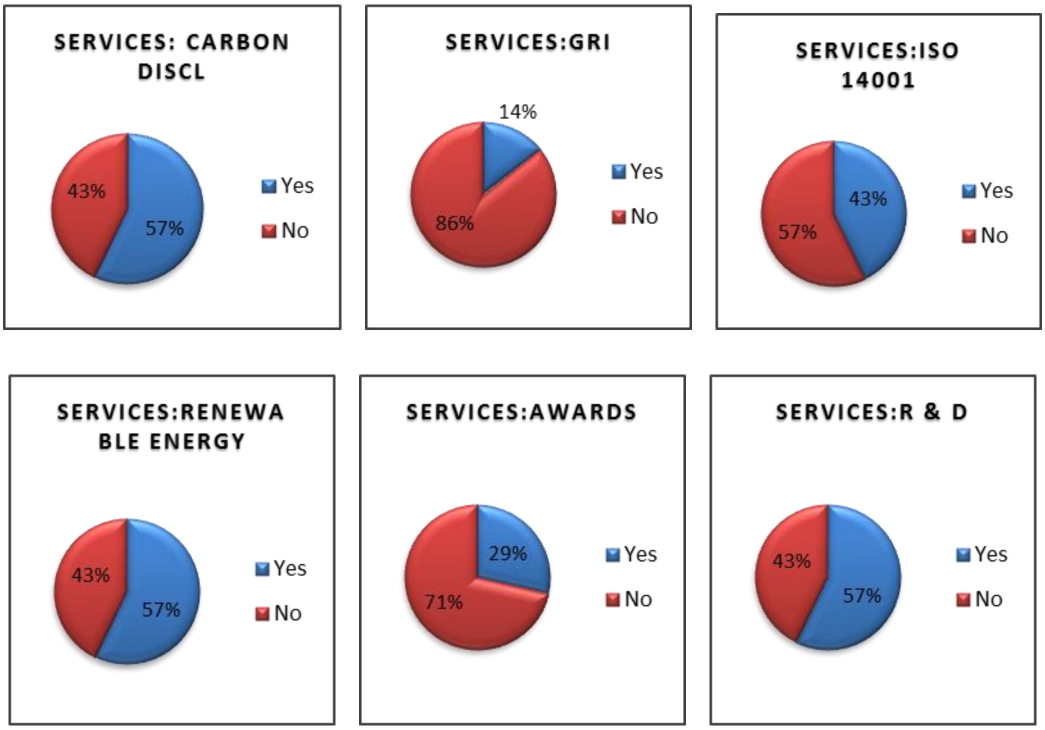
Table 3.7

Disclosure of Parameters in Service provider companies

No.	Parameter	SERVICES
1	Carbon Disclosure	4
2	GRI	1
3	ISO 14001	3
4	Renewable Energy	4
5	Awards	2
6	R & D	4
	Number of Companies	7

Graph 3.12

Disclosure of Parameters in Service provider companies



Under Services sector, 57% companies have reported adoption of Renewable Energy measures towards environmental betterment. 57% of the companies are reporting on Carbon Disclosure, 57% companies have invested and undertaken R & D projects for protection of environment and 43% companies have attempted to comply with ISO 14001 requirements.

29% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 14% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Financial services industry**

Generally it is believed that Financial service provider companies do not harm the environment as they deal with non-manufacturing operations and processes. In the following part it is explored that how companies belonging to financial service sector has disclosed the select environmental parameters in their annual reports.

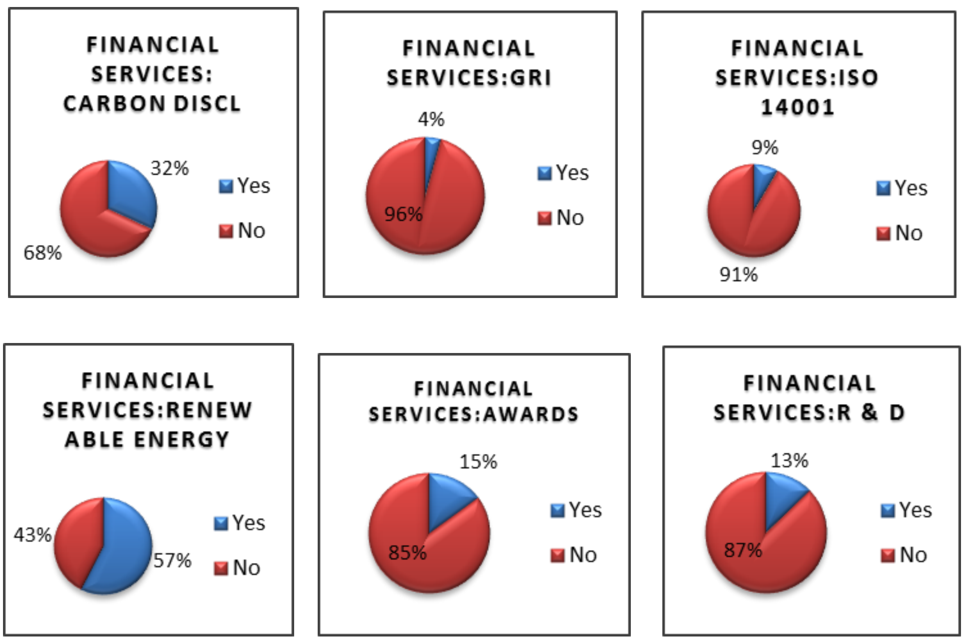
Table 3.8

Disclosure of Parameters in Financial service provider companies

No.	Parameter	FINANCIAL SERVICES
1	Carbon Disclosure	15
2	GRI	2
3	ISO 14001	4
4	Renewable Energy	27
5	Awards	7
6	R & D	6
	Number of Companies	47

Graph 3.13

Disclosure of Parameters in Financial service provider companies



Under Financial services sector, 57% companies have reported adoption of Renewable Energy measures towards environmental betterment. 32% of the companies are reporting on Carbon Disclosure, 13% companies have invested and undertaken R & D projects for protection of environment and only 9% companies have attempted to comply with ISO 14001 requirements.

15% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 4% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Automobile industry**

Automobile industry is considered to affect the environment adversely as nature of manufacturing operations and consumption of natural resources may be detrimental to the environment if due precautions are not taken. Here, an attempt is made to analyse that how companies falling within this industry have disclosed select environmental parameters in their annual reports.

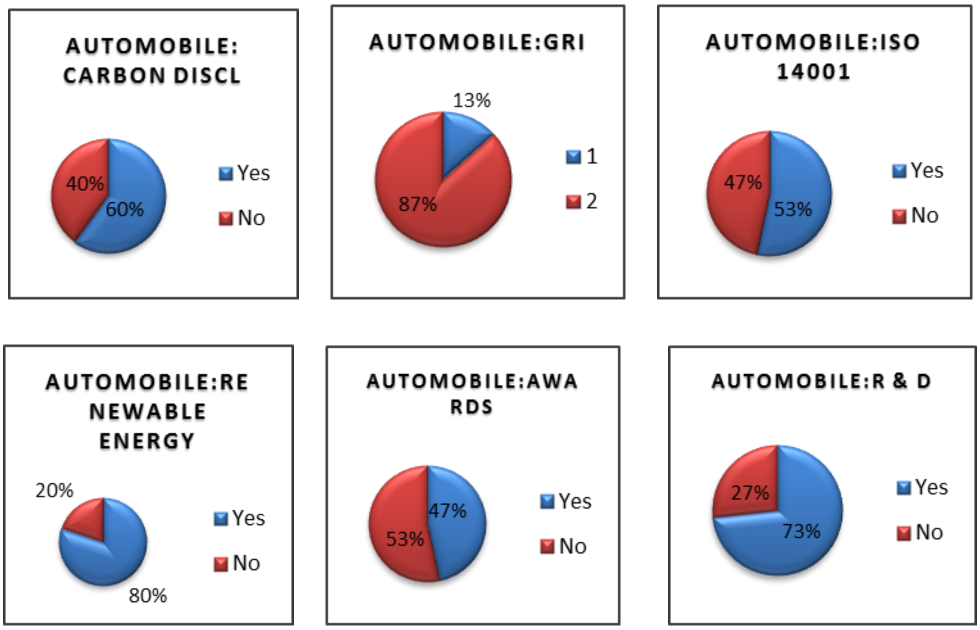
Table 3.9

Disclosure of Parameters in Automobile companies

No.	Parameter	AUTOMOBILE
1	Carbon Disclosure	9
2	GRI	2
3	ISO 14001	8
4	Renewable Energy	12
5	Awards	7
6	R & D	11
	Number of Companies	15

Graph 3.14

Disclosure of Parameters in Automobile companies



Under Automobile sector, 80% companies have reported adoption of Renewable Energy measures towards environmental betterment. 60% of the companies are reporting on Carbon Disclosure, 73% companies have invested and undertaken R & D projects for protection of environment and 53% companies have attempted to comply with ISO 14001 requirements.

47% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 14% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Pharmaceutical industry**

Pharmaceutical industry is perceived to affect the environment adversely if appropriate technology is not used in processes. Pharmaceutical company may damage quality of air, water and soil if it is not sensitive to environmental issues. Following part explores that how the companies belonging to this industry have disclosed the select environmental parameters in their annual reports.

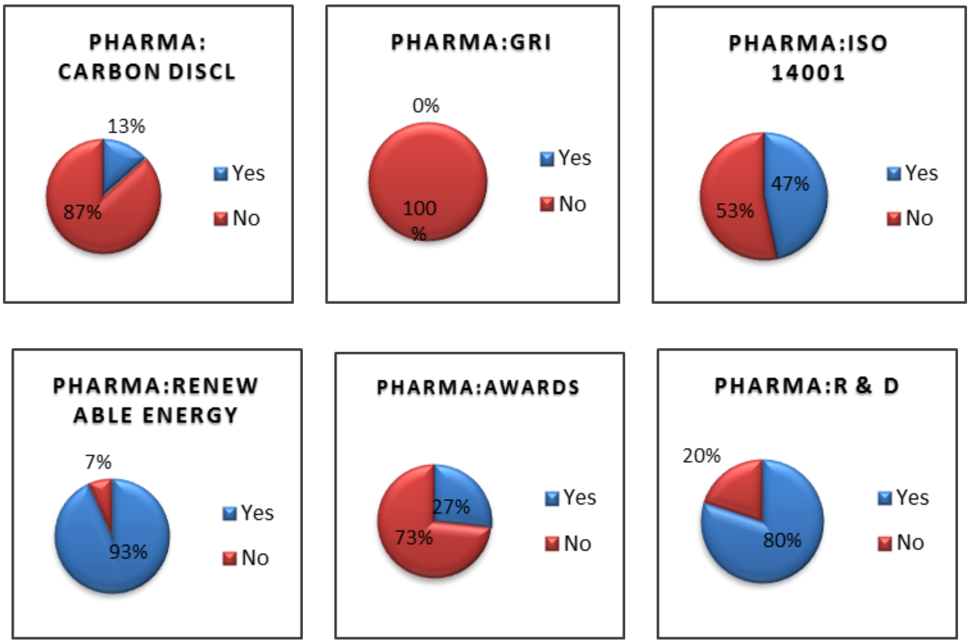
Table 3.10

Disclosure of Parameters in Pharmaceutical companies

No.	Parameter	PHARMA
1	Carbon Disclosure	2
2	GRI	0
3	ISO 14001	7
4	Renewable Energy	14
5	Awards	4
6	R & D	12
	Number of Companies	15

Graph 3.15

Disclosure of Parameters in Pharmaceutical companies



In Pharmaceuticals industry, 93% companies have reported adoption of Renewable Energy measures towards environmental betterment. 13% of the companies are reporting on Carbon Disclosure, 80% companies have invested and undertaken R & D projects for protection of environment and 47% companies have attempted to comply with ISO 14001 requirements.

27% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, no company has adopted GRI guidelines in reporting.

- **Disclosure Practices in Healthcare services industry**

Normally healthcare service industry is considered less vulnerable to environmental issues. But now-a-days from perspective of bio-waste and its incineration process, it is exposed to environmental issue. Here, the environmental parameter selected in the study is applied to the company belonging to healthcare service sector.

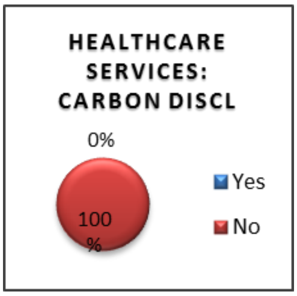
Table 3.11

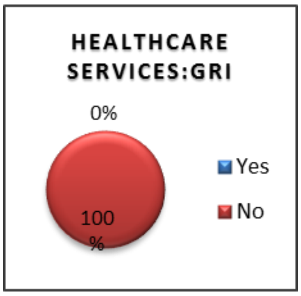
Disclosure of Parameters in Healthcare services companies

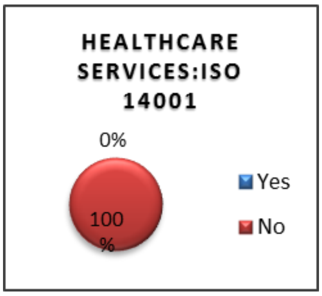
No.	Parameter	HEALTHCARE SERVICES
1	Carbon Disclosure	0
2	GRI	0
3	ISO 14001	0
4	Renewable Energy	0
5	Awards	0
6	R & D	0
	Number of Companies	1

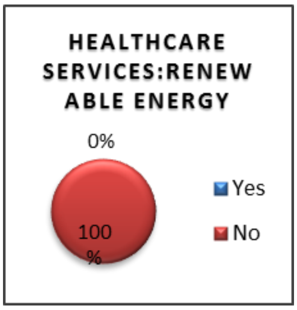
Graph 3.16

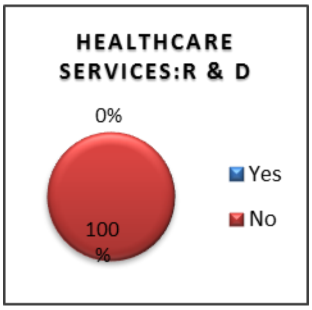
Disclosure of Parameters in Healthcare services companies











In Healthcare industry, only one company is part of Nifty 200.

It has not reported any selected parameter in its Annual Report in terms of adoption of Renewable Energy measures towards environmental betterment, Carbon Disclosure, investment in R & D projects for protection of environment, compliance with ISO 14001 requirements, bagging of Awards and accolades for achieving the best performances in environmental protection and pollution abatement, GRI guidelines in reporting.

- **Disclosure Practices in Consumer goods industry**

Consumer goods industry is Fast Moving Consumable Goods (FMCG) industry. This industry uses the maximum natural resources and other ingredients which directly or indirectly affect the environment i.e. from manufacturing point to waste recycling. In the below part it is explored that how companies belonging to this industry has disclosed the select environmental parameters in their annual reports.

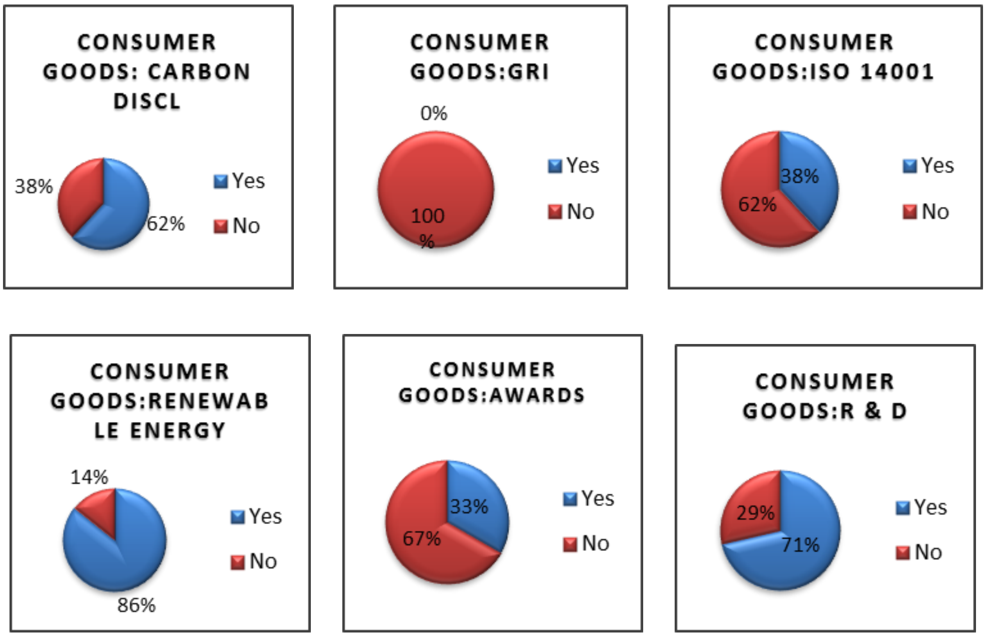
Table 3.12

Disclosure of Parameters in Consumer goods companies

No.	Parameters	CONSUMER GOODS
1	Carbon Disclosure	13
2	GRI	0
3	ISO 14001	8
4	Renewable Energy	18
5	Awards	7
6	R & D	15
	Number of Companies	21

Graph 3.17

Disclosure of Parameters in Consumer goods companies



Under Consumer goods sector, 86% companies have reported adoption of Renewable Energy measures towards environmental betterment. 62% of the companies are reporting on Carbon Disclosure, 71% companies have invested and undertaken R & D projects for protection of environment and 38% companies have attempted to comply with ISO 14001 requirements.

33% companies in this segment have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. It is noticeable here that out of 21 companies, no company has adopted GRI guidelines in reporting.

- **Disclosure Practices in Energy industry**

Energy industry is considered to provide impact on the environment. The use of conventional fossil fuels in energy generation and huge infrastructure in distribution of energy is susceptible to environment. Here, an attempt is made to know that how companies relating to energy industry deal with the environmental parameters disclosures in their annual reports.

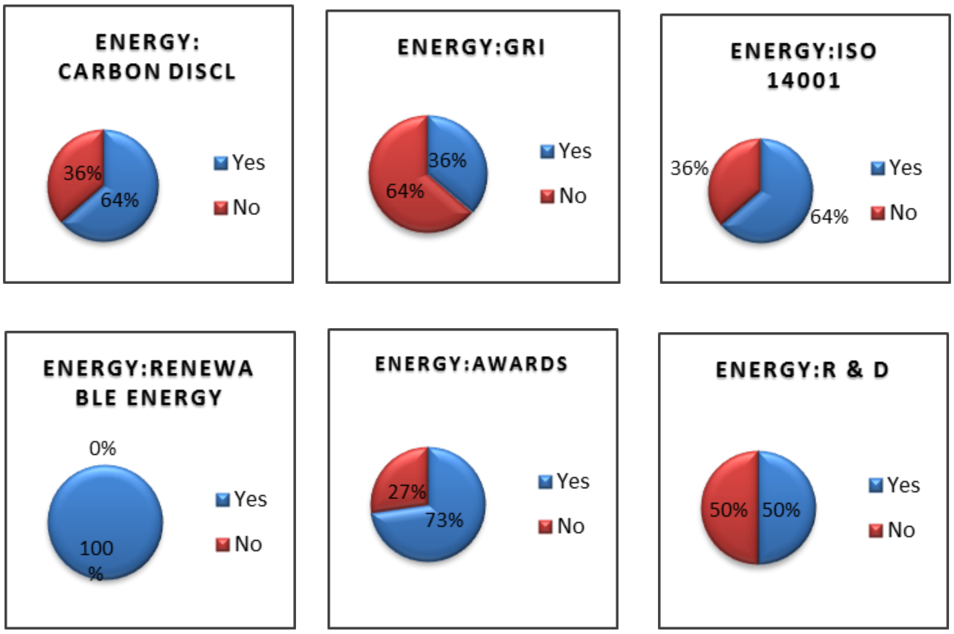
Table 3.13

Disclosure of Parameters in Energy sector companies

No.	Parameter	ENERGY
1	Carbon Disclosure	14
2	GRI	8
3	ISO 14001	14
4	Renewable Energy	22
5	Awards	16
6	R & D	11
	Number of Companies	22

Graph 3.18

Disclosure of Parameters in Energy sector companies



In Energy industry, all the companies have reported adoption of Renewable Energy measures towards environmental betterment. 64% of the companies are reporting on Carbon Disclosure, 50% companies have invested and undertaken R & D projects for protection of environment and 64% companies have attempted to comply with ISO 14001 requirements.

73% companies in this of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 36% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Telecom industry**

Telecom industry is considered to be service providing industry. Normally it is seen as less harmful to the environment. But in wake of large spectrum of outreach and high-speed data distribution to the customers, the installation of telecom towers and other infrastructure has posed threat to the environment. Here, it is explored that how these companies have disclosed the environmental parameters in their annual reports.

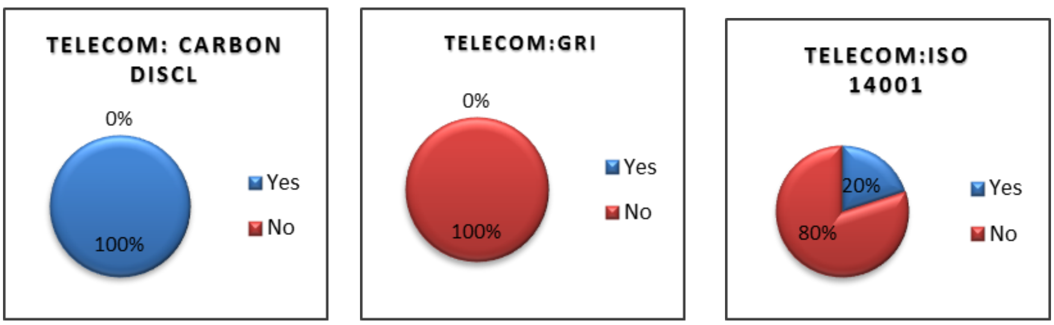
Table 3.14

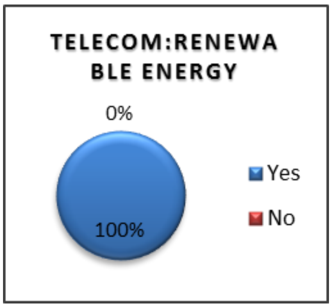
Disclosure of Parameters in Telecom companies

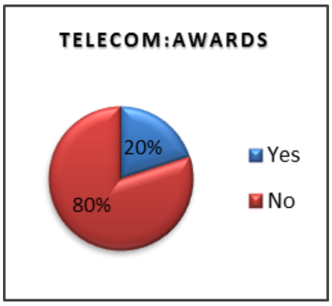
No.	Parameter	TELECOM
1	Carbon Disclosure	5
2	GRI	0
3	ISO 14001	1
4	Renewable Energy	5
5	Awards	1
6	R & D	1
	Number of Companies	5

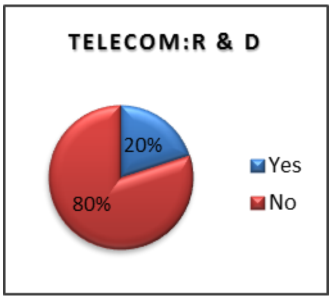
Graph 3.19

Disclosure of Parameters in Telecom companies









Under Telecom sector, all companies have reported adoption of Renewable Energy measures towards environmental betterment and all companies are reporting on Carbon Disclosure, only 20% companies have invested and undertaken R & D projects for protection of environment and have also attempted to comply with ISO 14001 requirements. 20% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.

Further, no company has adopted GRI guidelines in reporting.

- **Disclosure Practices in Construction industry**

Construction industry is considered to be high-end user of various natural resources and manufactured resources. Consumption of greater quantum of water, sand, wood, bricks (soil) and steel-bars (metal) is evident in this industry. An attempt is made to know that how the companies belonging to this industry have disclosed the environmental parameters in their annual reports.

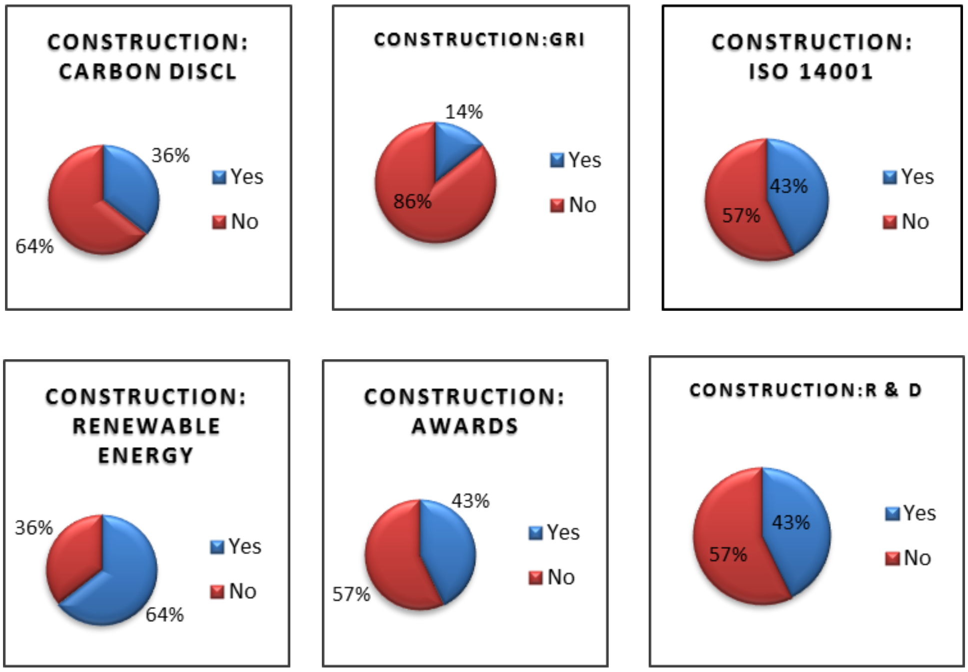
Table 3.15

Disclosure of Parameters in Construction companies

No.	Parameter	CONSTRUCTION
1	Carbon Disclosure	5
2	GRI	2
3	ISO 14001	6
4	Renewable Energy	9
5	Awards	6
6	R & D	6
	Number of Companies	14

Graph 3.20

Disclosure of Parameters in Construction companies



In Construction industry, 64% companies have reported adoption of Renewable Energy measures towards environmental betterment. 36% of the companies are reporting on Carbon Disclosure, 43% companies have invested and undertaken R & D projects for protection of environment and in same proportion companies have attempted to comply with ISO 14001 requirements.

43% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 14% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in IT industry**

Information Technology industry is considered to be service providing industry. This industry is perceived to have less impact on environment. In the following part, it is explored that how companies belonging to IT industry have disclosed the select environmental parameters in their annual reports.

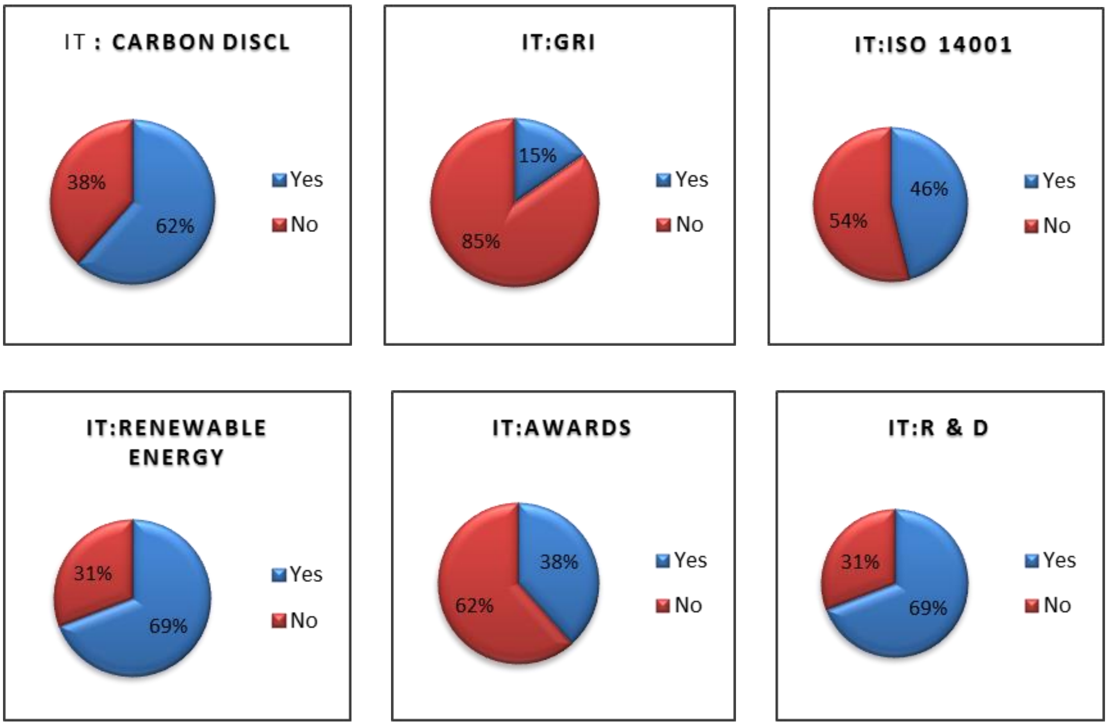
Table 3.16

Disclosure of Parameters in IT companies

No.	Parameter	IT
1	Carbon Disclosure	8
2	GRI	2
3	ISO 14001	6
4	Renewable Energy	9
5	Awards	5
6	R & D	9
	Number of Companies	13

Graph 3.21

Disclosure of Parameters in IT companies



Under IT sector, 69% companies have reported adoption of Renewable Energy measures towards environmental betterment. 62% of the companies are reporting on Carbon Disclosure, 69% companies have invested and undertaken R & D projects for protection of environment and 46% companies have attempted to comply with ISO 14001 requirements.

38% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 15% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Metals industry**

Metal industry is highest consumer of natural resources. The mineral ores in different forms are extracted from the Earth and processed to manufacture various products. These inputs and processes have higher impact on the environment. Here, an attempt is made to know that how the companies have disclosed the environmental parameters in the annual reports.

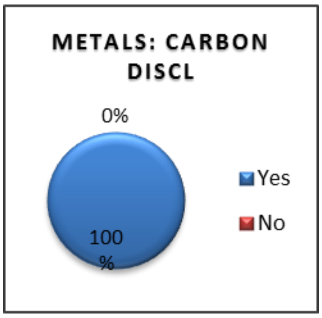
Table 3.17

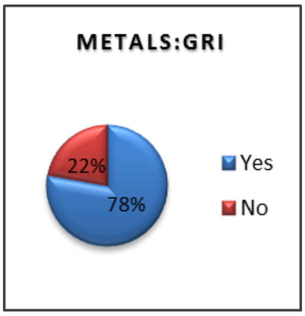
Disclosure of Parameters in Metals companies

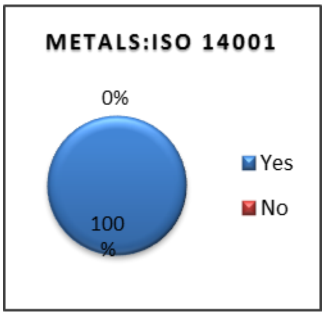
No.	Parameters	METALS
1	Carbon Disclosure	9
2	GRI	7
3	ISO 14001	9
4	Renewable Energy	8
5	Awards	6
6	R & D	8
	Number of Companies	9

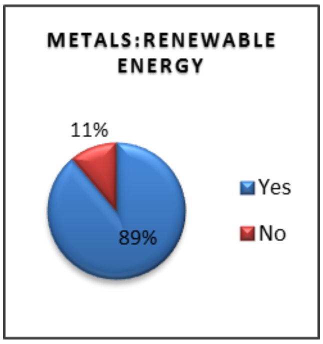
Graph 3.22

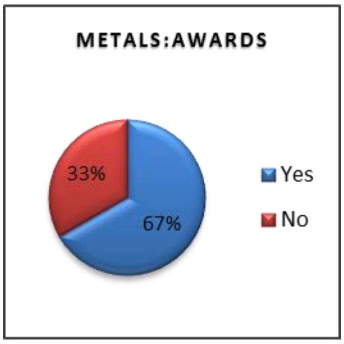
Disclosure of Parameters in Metals companies

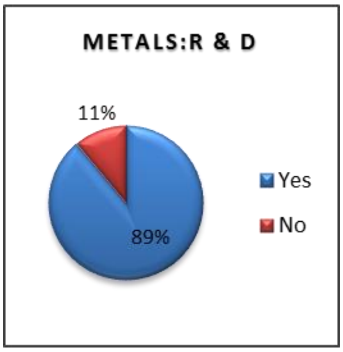












In Metals industry, 89% companies have reported adoption of Renewable Energy measures towards environmental betterment. All companies are reporting on Carbon Disclosure, 89% companies have invested and undertaken R & D projects for protection of environment and all companies have attempted to comply with ISO 14001 requirements.

67% companies in this segment have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 78% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Textiles industry**

Textile industry is prone to environmental impact. The nature of processes carried out by the companies is considered critical from environment point of view. Here it is explored that how companies belonging to this industry disclose the select environmental parameters in their annual reports.

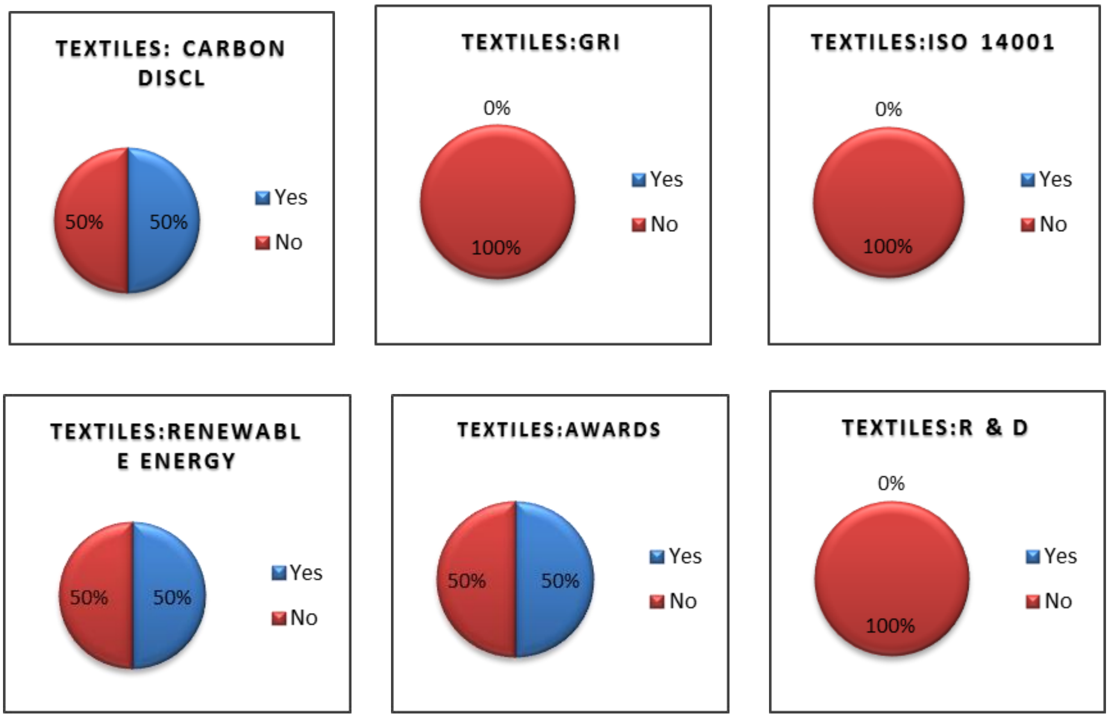
Table 3.18

Disclosure of Parameters in Textiles companies

No.	Parameter	TEXTILES
1	Carbon Disclosure	1
2	GRI	0
3	ISO 14001	0
4	Renewable Energy	1
5	Awards	1
6	R & D	0
	Number of Companies	2

Graph 3.23

Disclosure of Parameters in Textiles companies



Under Textile sector, 50% companies have reported adoption of Renewable Energy measures towards environmental betterment. 50% of the companies are reporting on Carbon Disclosure, no company has invested and undertaken R & D projects for protection of environment and no company has attempted to comply with ISO 14001 requirements.

50% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, no company has adopted GRI guidelines in reporting.

- **Disclosure Practices in Media and Entertainment industry**

Media and Entertainment industry is service provider industry. This industry does not leave impact on environment. Here from amongst three companies attempt is made to know how the companies disclose the select environmental parameters in their annual reports.

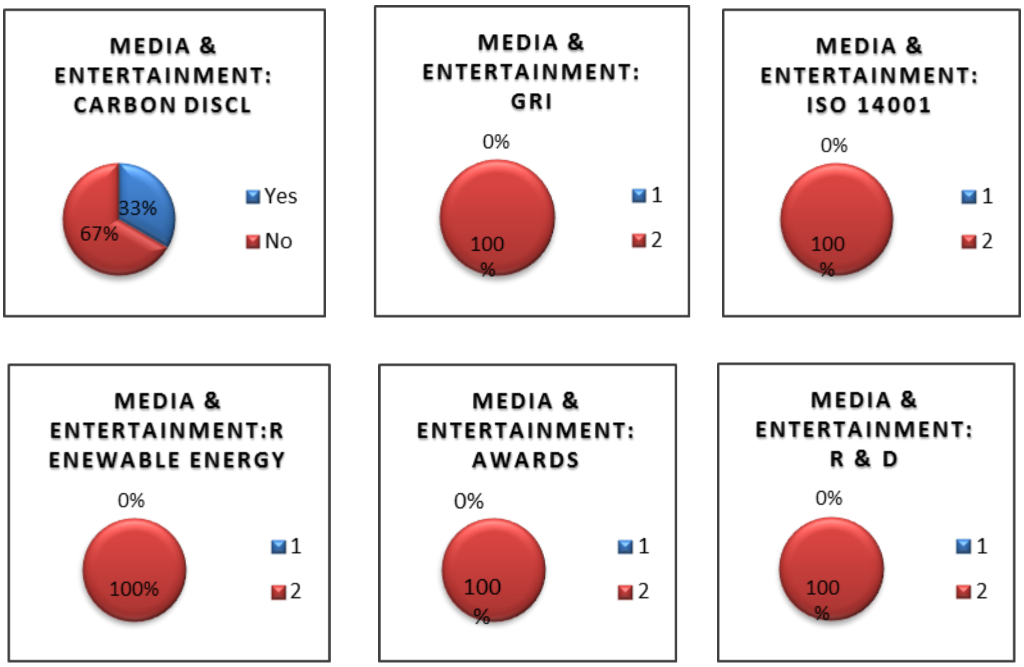
Table 3.19

Disclosure of Parameters in Media and Entertainment companies

No.	Parameter	MEDIA & ENTERTAINMENT
1	Carbon Disclosure	1
2	GRI	0
3	ISO 14001	0
4	Renewable Energy	0
5	Awards	0
6	R & D	0
	Number of Companies	3

Graph 3.24

Disclosure of Parameters in Media and Entertainment companies



In Media & Entertainment industry, no company has reported adoption of Renewable Energy measures towards environmental betterment; no one has invested and undertaken R & D projects for protection of environment. Neither compliance with ISO 14001 requirements is found nor begging of Awards and accolades for achieving the best performances in environmental protection and pollution abatement is explored. GRI guidelines in reporting are also not explored in any company.

Only 33% companies have reported on Carbon Disclosure.

- **Disclosure Practices in Chemical industry**

Chemical industry is considered to be environment polluting and damaging industry. Water, air and soil pollution and contamination are prominent in the surrounding areas of chemical companies. Here, it is explored that how companies belonging to this industry have disclosed the select environmental parameters in their annual reports.

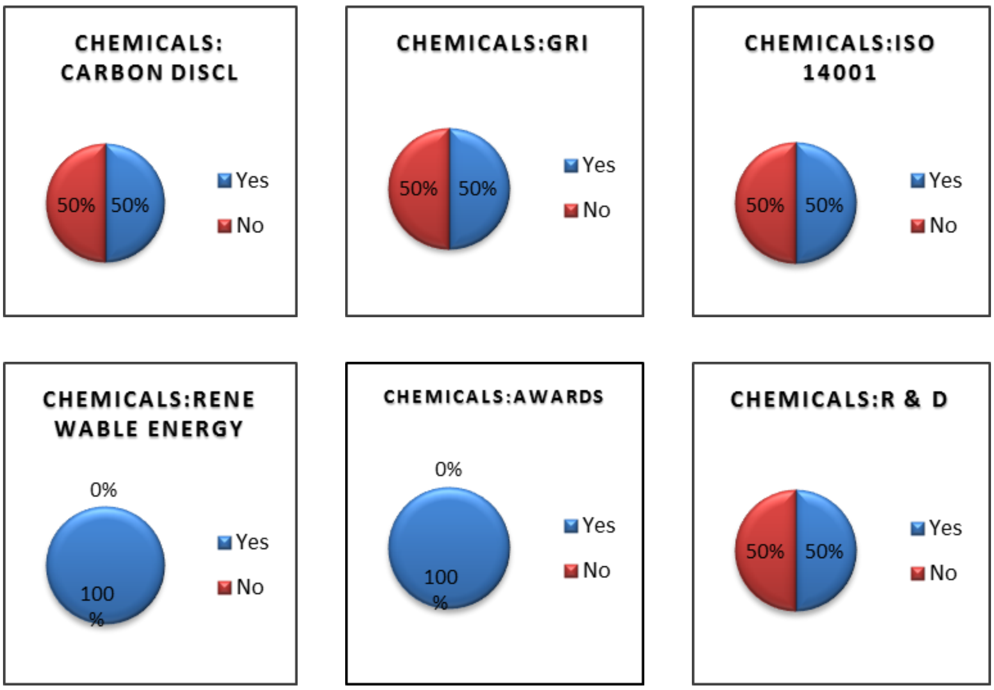
Table 3.20

Disclosure of Parameters in Chemical companies

No.	Parameter	CHEMICAL
1	Carbon Disclosure	1
2	GRI	1
3	ISO 14001	1
4	Renewable Energy	2
5	Awards	2
6	R & D	1
	Number of Companies	2

Graph 3.25

Disclosure of Parameters in Chemical companies



Under Chemicals industry, all companies have reported adoption of Renewable Energy measures towards environmental betterment. 50% of the companies are reporting on Carbon Disclosure, 50% companies have invested and undertaken R & D projects for protection of environment and 50% companies have attempted to comply with ISO 14001 requirements.

All companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, 50% companies have adopted GRI guidelines in reporting.

- **Disclosure Practices in Fertilisers & Pesticides industry**

Fertilisers and pesticides industry is prone to provide impact on environment. The waste water discharge and harmful gas emission cause serious damage to environment. An attempt is made to know how companies belonging this industry have disclosed the select environmental parameters in their annual reports.

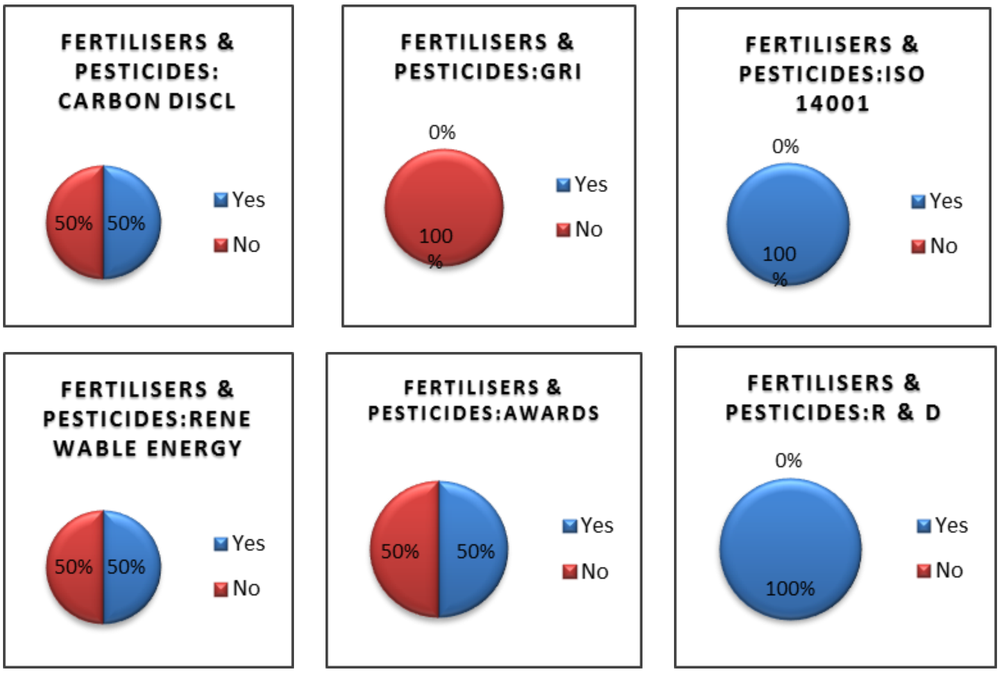
Table 3.21

Disclosure of Parameters in Fertilisers & Pesticides companies

No.	Parameter	FERTILISERS & PESTICIDES
1	Carbon Disclosure	1
2	GRI	0
3	ISO 14001	2
4	Renewable Energy	1
5	Awards	1
6	R & D	2
	Number of Companies	2

Graph 3.26

Disclosure of Parameters in Fertilisers & Pesticides companies



In Fertilisers and Pesticides industry, 50% companies have reported adoption of Renewable Energy measures towards environmental betterment. 50% of the companies are reporting on Carbon Disclosure, all companies have invested and undertaken R & D projects for protection of environment and also all of them have attempted to comply with ISO 14001 requirements.

50% companies in this segment of industry have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, no company has adopted GRI guidelines in reporting.

- **Disclosure Practices in Hotels industry**

Hotel industry is considered to be service provider industry. Here, there are fewer operations causing serious damage to environment except the waste of water, food and eatables. In the study only one company formed the part of sample and attempt is made to know how it has disclosed the select environmental parameter in the annual report.

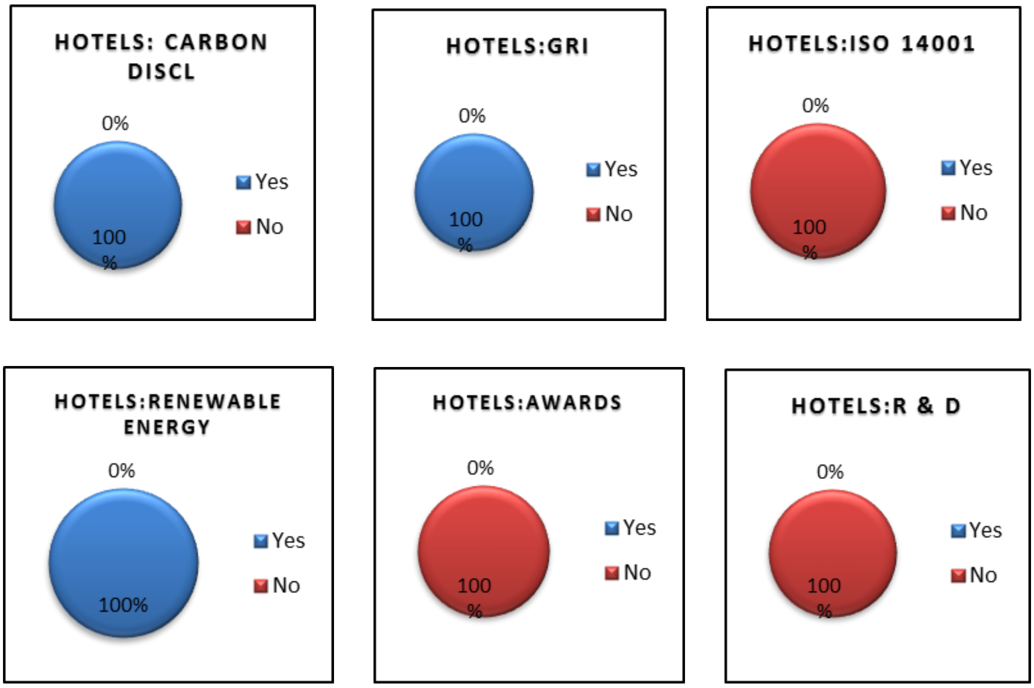
Table 3.22

Disclosure of Parameters in Hotels companies

No.	Parameter	HOTELS
1	Carbon Disclosure	1
2	GRI	1
3	ISO 14001	0
4	Renewable Energy	1
5	Awards	0
6	R & D	0
	Number of Companies	1

Graph 3.27

Disclosure of Parameters in Hotels companies



Under Hotel sector, there is only one company forming part of Nifty 200. Company (100%) has reported adoption of Renewable Energy measures towards environmental betterment; adopted GRI guidelines in reporting and reported on Carbon Disclosure.

Company has not invested and undertaken any R & D projects for protection of environment and also not attempted to comply with ISO 14001 requirements. Company has not bagged any Awards and accolades for achieving the best performances in environmental protection and pollution abatement.

Further, to explore the uniform applicability of selected environmental parameters across the all companies of different industry, one way ANOVA analysis is conducted subsequently.

- **One way ANOVA analysis of six parameters on industry wise disclosures**

The One way single ANOVA analysis is performed to test the variability of disclosure practices in different Indian companies ranging in aggregate 18 industries.

ANOVA Tables are used to test hypotheses about the population means. When the null hypothesis of equal means is true, the two mean squares estimate the same quantity (error variance), and should be of approximately equal magnitude. In other words their ratio should be close to 1. It is a statistical method used to test differences between two or more means. Here, inferences are made by analyzing variance.

Industrial Manufacturing industry has disclosed 42 parameters; Cement & Cement Products industry has adopted 38 parameters; Service sector have disclosed 18 parameters; Financial Services sector has adopted 61 parameters; Automobile industry has disclosed 49 parameters; Pharma industry has adopted 39 parameters; Healthcare Services has not disclosed any parameter; Consumer Goods sector has adopted 61 parameters; Energy sector has disclosed 85 parameters; Telecom sector has adopted 13 parameters; Construction industry has disclosed 34 parameters; IT industry has adopted 39 parameters; Metals industry has disclosed 47 parameters; Textiles industry has adopted 3 parameters; Media & Entertainment sector has disclosed 1 parameter only;

Chemicals industry has adopted 8 parameters; Fertilisers & Pesticides industry has disclosed 7 parameters and Hotels sector has adopted 3 parameters.

Ho1 = It is assumed that all six parameters are uniformly disclosed in all Nifty 200 companies ranging from different industries.

Table 3.23

Average and Variance of Industry wise Disclosure

No.	Industry (Group of companies)	*Count*	*Sum*	*Average*	*Variance*
1	Industrial Manufacturing	6	42	7	10
2	Cement & Cement Products	6	38	6.3333	3.0666
3	Services	6	18	3	1.6
4	Financial Services	6	61	10.1666	87.7666
5	Automobile	6	49	8.16666	12.5666
6	Pharma	6	39	6.5	31.1
7	Healthcare Services	6	0	0	0
8	Consumer Goods	6	61	10.1666	42.1666
9	Energy	6	85	14.1666	22.5666
10	Telecom	6	13	2.1666	4.9666
11	Construction	6	34	5.6666	5.0666
12	IT	6	39	6.5	7.5
13	Metals	6	47	7.8333	1.3666
14	Textiles	6	3	0.5	0.3
15	Media & Entertainment	6	1	0.1666	0.1666
16	Chemicals	6	8	1.3333	0.2666
17	Fertilisers & Pesticides	6	7	1.1666	0.5666
18	Hotels	6	3	0.5	0.3

Table 3.24

One way ANOVA analysis of Industry wise Disclosure

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1770.740741	17	104.16122	8.104763519	6.39634E-12	1.737467
Within Groups	1156.666667	90	12.85185185			
Total	2927.407407	107				

Rejection criterion: Reject H_0 if $F_{cal} \geq F_{tab}$

Here $F_{cal} =$8.104763519 and $F_{tab} = F_{17,\ 90,\ 0.05} = 1.737$

Conclusion: It is found from ANOVA analysis that $F_{cal} =$8.104763519 $> F_{tab} = F_{17,\ 90,\ 0.05} = 1.737$ So, null hypothesis is rejected at 5% level of significance (α), numerator degrees of freedom 17 and denominator degrees of freedom 90, and inference can be made that there is significant difference in environmental disclosure practices in Annual reports pertaining to selected six parameters applied to Nifty 200 companies ranging from different industries under the study.

3.4. Findings and Conclusions

Today, businesses are no longer liable to add value to only their shareholders. They have a greater responsibility of catering to a range of stakeholders which include their employees, suppliers, governments, environment and the community. There is an increasing pressure from these stakeholders on the businesses to become more responsible. Businesses too, are increasingly recognising this fact and have started working in this direction. Keeping apart the responsibility to convey financial aspects in the reports to various stakeholders, need was felt to report on social and environmental aspects and issues pertaining to the business activities and operations. Considering this fact, this part of the study planned to check the seriousness and objectivity of corporates in India towards the environmental performance disclosures.

To fulfil the objective of checking the state of affairs related to environmental performance disclosure, the present part of the study investigates the environmental performance disclosure practice by Indian listed companies. To have fruitful results giving ideas about state of affairs of disclosure practices by Indian companies, large sample size of 200 listed Indian companies are selected for content analysis. For the study all these 200 companies are classified on the same line as classified by NSE. NSE has identified eighteen groups and the study is carried out keeping the same classification. These groups are Industrial Manufacturing, Cement and Cement products, Services, Financial Services, Automobiles, Pharmaceuticals, Health care services, Consumer goods, Energy, Telecom, Construction, IT, Metals, Textiles, Media and Entertainment, Chemicals, Fertilisers & Pesticides and Hotels. To check the disclosure practice related to environmental accounting and auditing, on basis of literature review as well as past surveys and research, six most important environmental parameters are identified and then collecting annual reports online, content analysis is carried out.

Further, to have fair idea about seriousness of corporates on serious environmental issues, on the basis of research work carried out by different research scholars and social as well as environmental scientists and as per Business Responsibility Report aspects to be disclosed principle wise, the most important environmental parameters have been identified and listed as:

(i) Carbon disclosure;

(ii) Global Reporting Initiatives (GRI);

(iii) ISO 14001;

(iv) Renewable Energy;

(v) Awards and accolades for environmental performance and

(vi) Research and development in the environmental area.

The study is carried out by identifying major industries and grouping selected companies industry-wise annual reports' contents were observed and analysed for disclosures related to environmental accounting and auditing parameters.

The content analysis is carried out of sample corporates, industry wise as well as individual company wise parameters are given importance as part of annual reports disclosed. The results are quantified in number as well as in percentage. The present study also identifies the industry and company giving importance to environmental parameter disclosure and also tries to identify parameter wise importance given across the companies as well as industries. Following are the findings that came up while conducting the study of environmental disclosure parameters of Nifty 200 companies

1. Only sixteen companies have disclosed information related to all six parameters.
2. Content analysis of 200 companies representing different industries having zero to highest degree of environmental sensitivity reveals that all the companies are not giving the same weightage to the disclosure of environmental parameters. This result of the present study is also supported by results of content analysis carried out by social scientists in different parts of the world. One of the important study conducted in

Europe by Roberts C. (1991) explored that the environmental disclosure practices in five countries had no uniformity at that point of time.

3. On the basis of content analysis of 200 Nifty companies, disclosure of selected six environmental parameters in the annual reports reveal the following:
    a. about 52 percent companies are disclosing carbon issues;
    b. approximately 16 percent companies have adopted Global Reporting Initiative Guidelines;
    c. nearly 41 percent companies have disclosed about ISO 14001;
    d. about 76.5 percent have reported that they have adopted renewable energy measures; The information of Conservation of Energy as required under Section 134(3)(m) of the Companies Act, 2013 read with Companies (Accounts) Rules, 2014 is applicable to certain business segments. However, as part of Business Responsibility Report few companies to whom such requirement is not applicable; they have provided details of steps taken in the areas of energy conservation and other Sustainability Initiatives.
    e. approximately 38.5 percent companies have bagged awards and accolades for environmental performance and
    f. nearly 50 percent companies have disclosed that they have conducted research and development activities in the environmental area.

4. In Industrial manufacturing industry, 92 percent companies have reported adoption of Renewable Energy measures towards environmental betterment. 67 percent companies have reported on Carbon Disclosure practices, 69 percent companies have undertaken R & D projects for protection of environment and 58 percent have made compliance with ISO 14001 requirements.
5. In Cement and cement products industry, all nine companies have reported on adoption of Renewable Energy measures towards environmental betterment. Out of nine, seven companies have reported on Carbon Disclosure and five have invested and undertaken R & D projects for protection of environment and six companies have attempted to comply

with ISO 14001 requirements. Seven companies have bagged awards for better environmental performance.

- It is noticeable here that, four companies out of nine have adopted GRI guidelines in reporting.

6. Under Automobile sector, majority companies have reported adoption of Renewable Energy measures towards environmental betterment.
    - More than half of the companies have reported on Carbon Disclosure, invested and undertaken R & D projects for protection of environment and attempted to comply with ISO 14001 requirements.
7. In Pharmaceuticals industry, almost 93 percent companies have performed very well on the adoption of Renewable Energy measures and 80 percent have made investment in R & D projects for protection of environment.
    - Around 47 percent companies have attempted to comply with ISO 14001 requirements. And 27 percent companies have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - But, no company has adopted GRI guidelines in reporting.
    - Reporting on Carbon Disclosure is found poor with respect to this industry.
8. Under Consumer goods sector, in substantial number i.e. eighteen out of twenty one companies have reported adoption of Renewable Energy measures towards environmental betterment, thirteen out of twenty one companies have made disclosures on Carbon Disclosure and fifteen have made investment in R & D projects for protection of environment.
    - It is noticeable here that out of twenty one companies, not a single company has adopted GRI guidelines in reporting.
9. In Energy industry, all the companies have reported adoption of Renewable Energy measures towards environmental betterment.
    - More than half of the companies have reported on Carbon Disclosure, attempted to comply with ISO 14001 requirements and have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.

- It is pertinent to note here that, as compared to other industry here many companies (36 percent) have adopted GRI guidelines in reporting.

10. Under Telecom sector, all companies (100 percent) have reported adoption of Renewable Energy measures towards environmental betterment and all companies are reporting on Carbon disclosures.
    - Only few companies (20 percent) have invested and undertaken R & D projects for protection of environment; 20 percent companies have attempted to comply with ISO 14001 requirements and 20 percent companies have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - Further, no company has adopted GRI guidelines in reporting.
11. In Construction industry, majority companies have reported adoption of Renewable Energy measures towards environmental betterment. Many companies have reported on Carbon Disclosure, investment in R & D projects for protection of environment and compliance with ISO 14001 requirements and bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - Few companies have adopted GRI guidelines in reporting.
12. Under IT sector, nine out of thirteen companies have substantially reported the adoption of Renewable Energy measures towards environmental betterment, eight have reported disclosures on Carbon issues, nine have made investment and undertaking R & D projects for protection of environment and six out thirteen have complied with ISO 14001 requirements.
    - Only two companies have adopted GRI guidelines in reporting.
13. In Metals industry, 89 percent companies have reported adoption of Renewable Energy measures, 100 percent companies have reported on Carbon Disclosure and 89 percent have made investment in R & D projects for protection of environment.
    - All companies have attempted to comply with ISO 14001 requirements.

- Approximately 67 percent companies in this segment have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
- It is noteworthy here that, around three fourth (78 pecent) companies have adopted GRI guidelines in reporting.

14. Under Textile sector, one out of two companies has reported on adoption of Renewable Energy measures, Carbon Disclosure and have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - But neither company has invested in R & D projects for protection of environment and nor attempted to comply with ISO 14001 requirements.
    - In addition, no company has adopted GRI guidelines in reporting.
15. Disclosure of Parameters in Media and Entertainment companies

    Out of three companies, only one case of reporting on Carbon Disclosure is found in this industry. No other parameter is disclosed in the annual reports.
16. Under Chemicals industry, all two companies have reported adoption of Renewable Energy measures and bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - Further, one out of two companies have adopted GRI guidelines in reporting, has made disclosures on carbon, had complied with ISO 14001 and made investments in Research and development for environmental betterment.
17. Under Fertilisers & Pesticides sector, all companies have invested and undertaken R & D projects for protection of environment and also all of them have attempted to comply with ISO 14001 requirements.
    - But no company has adopted GRI guidelines in reporting.
18. Disclosure of Parameters in Hotels companies
    - In Nifty 200, only one company represented Hotel sector.

- Company has reported on adoption of Renewable Energy measures towards environmental betterment; adopted GRI guidelines in reporting and reported on Carbon Disclosure.
- Other parameters in terms of investment in R & D projects, compliance with ISO 14001 requirements and bagging of any Awards and accolades are not reported.

19. In Healthcare industry, only one company is part of Nifty 200.
    - Company has not reported any selected parameter in its Annual Report.
20. Under Services sector, four out of seven companies have reported adoption of Renewable Energy measures, Carbon Disclosure, investment in R & D projects and attempted to comply with ISO 14001 requirements.
    - Here, two out seven companies have bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement. Further, only one company has adopted GRI guidelines in reporting.
21. Under Financial services sector, twenty seven out of forty seven (57 percent) companies have reported adoption of Renewable Energy measures disclosures and fifteen (32 percent) have reported Carbon disclosure in annual reports.
    - Here, only six out of forty seven (13 percent) companies have invested and undertaken R & D projects for protection of environment, four (9 percent) companies attempted to comply with ISO 14001 requirements and seven (15 percent) companies bagged Awards and accolades for achieving the best performances in environmental protection and pollution abatement.
    - It is noticeable that adoption of GRI guidelines in reporting is also found in 2 out of 47 companies.

23. It is found that there is significant difference in environmental disclosure practices in Annual reports pertaining to selected six parameters applied to selected sample.

Number of studies across the globe have suggested that ethical practices by corporates towards communication to stakeholders increase value of the firm by getting favour from different sections of the society including investors, customers, suppliers, employees, etc. Even after such conclusions and suggestions for fair disclosure practices, sample companies here in this study are found less sensitive towards most important challenging and perilous to existence of humanitarian issue of environment and its disclosure. The findings of the present study support the findings of number of earlier studies. One of the important study conducted by Deegan C. and Rankin M. (1999) which explored that corporate environmental reporting practices within Australia and other countries are typically deficient and not of a standard to satisfy the information needs of various classes of readers.

This chapter of the study devoted to have idea about environmental disclosure practices followed by Indian companies. Above discussion gives demotivating results which speak about ignorance of stakeholders in reporting practices as far as such an important issue related to mankind. This list of 200 corporates includes variety of industries having concern or even no concern with environmental issue. Hence, to check the sincerity and concern environment sensitive industries in environmental auditing disclosure practices, again content analysis is carried out. For this purpose only environmental sensitive industries are selected for content analysis.

The Ministry of Environment, Forest and Climate Change (MoEFCC) had brought out notifications in 1989, with the purpose of prohibition/ restriction of operations of certain industries to protect ecologically sensitive areas or areas of specific importance. This has brought the concept of categorization of industries to ‘Red’, ‘Orange’ and ‘Green’ and restricts their operation in certain areas of importance. Amongst the above, Central Pollution Control Board (CPCB) has notified Industrial manufacturing, Cement and cement products, Automobiles, Pharmaceuticals, Consumer goods, Energy, Telecom, Construction, Metals, Textiles, Chemicals and Fertilisers industry, as polluting industries after consultation with Ministry of Environment and Forest. We find 128 companies falling in the category of environmental sensitive industries out of 200 Nifty companies considered for this content analysis.

After selecting 128 companies representing environmental sensitive industries, all six environmental parameters are kept constant for content analysis. The following Table reflects the details of number of companies considering environmental parameters as part of corporate reporting.

Table 3.25

Disclosure practice by environmental sensitive companies

(with 'YES' score)

Sr. No.	Industry	Total No. of Companies	Carbon Disclosure	GRI	ISO 14001	Renewable Energy	Awards	R & D
1.	Industrial Manufacturing	12	8	2	7	11	5	9
2.	Cement & Cement Products	9	7	4	6	9	7	5
3.	Automobile	15	9	2	8	12	7	11
4.	Pharma	15	2	0	7	14	4	12
5.	Consumer Goods	21	13	0	8	18	7	15
6.	Energy	22	14	8	14	22	16	11
7.	Telecom	5	5	0	1	5	1	1
8.	Construction	14	5	2	6	9	6	6
9.	Metals	9	9	7	9	8	6	8
10.	Textiles	2	1	0	0	1	1	0
11.	Chemicals	2	1	1	1	2	2	1
12.	Fertilisers & Pesticides	2	1	0	2	1	1	2
	TOTAL	**128**	**75**	**26**	**69**	**114**	**63**	**81**

The analysis of disclosed contents related to environmental parameters by corporates representing environmental sensitive industries, reveals following observations.

a. Even companies representing groups of environmental sensitive industries are not serious in environmental disclosures as part of annual reports.

b. About 59% companies have taken initiatives to control and minimise the carbon footprints on planet earth and portrayed disclosure of such in Annual reports.

c. About 20% companies have adopted Global Reporting Initiative (GRI) guidelines and disclosed about the same in annual reports to create the brand in the corporate sector as per globally well accepted trend.

d. Nearly, 54% companies have adopted ISO 14001 model of Environmental Management System (EMS) in their entity to run the entity efficiently with vision of environment protection in responsible manner and made the disclosure in the reports.
e. Many companies (89%) have followed practices in the area of Renewable energy against utilisation of conventional source of energy in their entity and taken steps towards alternate energy instruments and equipment to reduce the impact on environment of Earth.
f. About 49% companies have bagged the awards and accolades for best practices and examples set in the areas of technological innovation, energy and water conservation, input material reduction, exploration and implementation of alternatives against use of scarce natural resources, afforestation drive, etc. towards environmental protection.
g. About 63% companies have invested in Research and Development towards better environmental practices in terms of environmental conservation, protection and pollution abatement to minimise the impact on environment and have made the disclosures in the annual reports.

After a lot of hue and cry for taking care of environment by the business world, number of statutory bodies across the globe came forward with statutory or mandatory steps to be taken by corporate. These steps include- protection and rehabilitation of environment with transparent communication to the stakeholders as part of annual report disclosures. These initiatives by regulatory and compliance bodies are considered as positive steps towards environmental issues that sensitize society at large. At the same time environmental performance is considered as one of the important measures of business success as it can significantly reduce or eliminate environmental cost, promotion of greener process technology and in response to these companies get favour from investors, customers and other stakeholders. Even after identifying environmental disclosures as such an important issue for profitability and sustainability in theories like Legitimacy theory and Stakeholder theory, this issue has not been given proper attention and weightage from business world. The study carried out by Sahay A. (2004) has also explored that the command and control policy of governments, the world over, has not produced the desired result. The present study also reveals that Indian corporates have also shown attitude of exploiting resources to achieve the organizational financial goals.

Corporate environmental reporting is emerging as a tool for the same. Indian corporations, like their counterparts in developed countries, took hesitant steps towards environmental protection – most of them driven by legal compliance. A selected few companies, however, took to environmental protection, enhancement and reporting through overall business considerations. The study indicates that environmental reporting, barring a few cases, is unsystematic and non-comparable. Though good work is being done by some industrial sectors and some units in different sectors, the reports seem to be aimed more at publicity than providing environmental facts and figures.

From the above findings it is evident that after introduction of reporting requirement as per 'Business Responsibility Report', Indian corporates have begun disclosing the environment related information in their Reports. But, findings exhibit that Indian corporates have not reported selected environmental parameters with objectivity.

The outcome of disclosure analysis reflects that, the Indian companies have given reasonable weightage on renewable energy measures. The content analysis of environmental disclosures in annual reports reveals that some initiatives have been taken on carbon issues by the companies. The trend has begun to adopt and comply with ISO 14001 requirements. The study exhibits that adoption of Global Reporting Initiatives (GRI) by the Indian companies is still in the infancy stage.

There is no uniformity of environmental disclosure parameters in the annual reports of the Indian companies due to lack of awareness and/ or commitment on the part of the company management about the social responsibility of the company. The reasons for the same might be the poor environmental performance of the company as well as poor enforcement of the environmental protection acts. So, it can be suggested that the absence of standardized environmental reporting practices and disclosure techniques at both the national and international levels as well as legal enforcement spur the advocacy of having mandatory environmental reporting practices under the supervision of some regulatory and statutory bodies.

Here, it would be pertinent to note that companies should be made aware of the environmental policy as well as encourage incorporating environmental protection measures in their mission statement to protect and nurture the environment, by creating moral pressure with the help of social awareness and sensitization programmes. For all the identified environmental sensitive industries, adoption of ISO 14001 should be made mandatory along with the stipulated requirements.

There have been less empirical studies on the environmental disclosure practices of Indian industries. Earlier related research in the corporate social responsibility literature relied on secondary data and examined the relationships among environmental performance, economic performance, and social disclosures. Numerous opportunities exist for additional research in the areas of environmental management and environmental auditing. This research included only Nifty 200 companies from the various industrial and service sectors. However, many of the private companies discharging waste and transfers of toxic chemicals not as per the prescribed norms by the pollution control authorities, do not disclose such crucial environmental parameters in the company documents and reports.

Despite being aware of the harmful effects of exploitation of natural resources to the brim, companies at large have ignored their responsibilities towards environmental protection and preservation. It is observed in the present study that the adherence to environmental friendly practices has been not convincing as revealed in the Nifty 200 companies.

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