A COMPARATIVE STUDY OF ENVIRONMENTAL ACCOUNTING
PRACTICES BETWEEN MULTINATIONAL COMPANIES AND INDIAN
COMPANIES

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ABSTRACT

An industries are integral part of the society and economy. In fact, they have succeeded in expanding their business worldwide, substantially over the years. Through their contribution to the economic development is commendable, but the growth of these industries leads to many environmental issues by its uncontrolled emission. In fact, Industry’s impact on society are not considered while determining financial position of the company and even determining the Gross Domestic Product of a nation, and moreover, it consumes very less space in the annual reports of an Indian company. Against this background, the present study makes an attempt to evaluate the environmental accounting practices of selected Japan origin Indian companies and Indian companies. Samples are drawn from 20 industries (10 Japan Multinational Companies, 10 Indian companies) from various sectors, such as, Automobiles, Electricals, Banking Service, Information Technology and Infrastructure. The study is based on annual reports, sustainability report, environmental report and corporate responsibility report of selected industries for the year 2018. The hypothesis have analyzed with the help of ‘t’ test and it tested at 95% significance level to evaluate the results of environmental accounting, environmental cost, and environmental benefit variables. The result shows there is a significant difference in environmental accounting practice and also shows that environmental issues are found very less in the annual report of the companies.

Keywords: Economic Development, Environmental Accounting, Environmental Report, Sustainability Report, Polluted Emissions, Environmental Benefit and Environmental Cost.

INTRODUCTION

Industries play pivotal role in the overall economic development of the country and at the same time these industries contribute many benefits to the society in the form of developing advanced
technology, generation of employment opportunities, and increase in national income and per
capital income, the economy of any country could be determined with the help of Gross
Domestic product (GDP) and national domestic product (NDP). But GDP measures the volume
of goods and services produced by the country and it incorporates and accounts only marketed
goods and services and not the negative impact on the environment, human health and the
society.

Besides, The Government mainly focuses on the development of industries by offering various
loan schemes to different sector, some of these schemes are Credit Guarantee Scheme (CGS),
Small Industrial Development Bank of India (SMILE), National Bank for Agricultural, National
Small Industries Corporation Limited (NSIC), Micro Units Development and Refinance Agency
Ltd (MUDRA), Stand Up India Scheme and it also liberalizes policies and guidelines to
encourage foreign industries to establish business in India, but on the other hand it neglects to
concern towards environmental issues. In fact, these industries generate huge volume of waste
which is dangerous to the environment. Such disposal of waste contributes towards
environmental pollution and it leads to many problems and its impacts on human beings in the
form of increasing health issues, non-availability of good drinking water, good air etc. here are
provided a few examples of pollution created by industries or environment, they are ‘Harihara
Poly fibers in Karnataka, it dumped hazardous waste on the roadside even it callously discharged
into rivers, deadly effluents released by the Caustic Soda Manufacturing firm and it took nearly
400 lives, Bhopal Gas tragedy which killed thousands and disfigured several thousand which is
still green in one’s memory¹. Like this many environmental victims took place around the globe.

With all, controlling of pollution become main agenda of many countries, the recent landmark
study published ‘Lancer finds that toxic air, water, soils and polluted workplaces at least 9
million people affected and cost trillions of dollars on health every year. Pollution kills more
people in India than anywhere else in the world revealed the study². Environmental pollution is
the major issue in both developed and developing countries. It is at an alarming level in many
parts of the world, example Delhi Pollution in India and Beijing in China.

With all these issues, the globe is a chant towards protecting and conserving of natural
environment. Their main agenda is to protect and safeguard the precious environment. When it
comes to India, India achieved notable progress to safeguard the environment, many
environmental events undertaken by India and it acknowledge the progress of sustainability,
‘Rio Earth Summit of 1992 is a most influential summit it helps to India to hold Convention on
Biological Diversity (CBD), the 11th Conference of Parties (COP-11) - In Hyderabad, during

² http://www.indiaenvironmentportal.org.in/content/448308/the-lancet-commission-on-pollution-and-health/, dt
21/10/2017
October 2012; it helps to show the world that is beginning to recognize that protecting biodiversity and ecosystems is a crucial national priority\(^3\). Professor Michael Hauff that made a statement that, “it is remarkable that India was the first country in the world to enshrine environmental protection as a state global in its constitution”\(^4\). India is also much advanced in preserving natural resources by incorporating environmental friendly technologies, development of environmental friendly products, submitting of environmental statements (as regulatory requirement) to Central or State pollution control boards etc. in order to provide very healthy future to next generation, it is obviously need of concern towards environment.

Eventually, along with Central and State pollution control board, there are many working groups working to bring environmental norms in India, we can see from the decision taken by the Central pollution control board with respect to announcement of certain norms to monitor air and water quality. The primary responsibilities of every organization are promoting environmental activities in accordance with economic activities. Hence, a Tradeoff between environmental protection and industrial sustainable development, giving birth to the new branch of accounting i.e., Environmental Accounting.

History of environmental accounting, going back to 1970, very few European countries working on to incorporate environmental data into national accounts, by the late 1980s the United Nations and other international organizations were beginning to build proposed methods for environmental data. in fact, Norway was the first country practiced Environmental accounting later other countries are the Netherlands, France, Japan, United States, Finland, China, and Scotland followed, but in India it is still in infancy stage, During 2004, The ‘Green Accounting for Indian States and Union Territories Project (GAISP) in India was constituted, the main intention is to develop an account of timber, carbon, fuel wood, non-timber forest products, agricultural cropland, sub-soil assets, biodiversity, ecological services and accounting for fresh water quality in India\(^5\). The Government has initiated to incorporate monetary value to natural resource used, including depletable assets on the other hand, National Environmental Policy (NEP) 2006, ‘recommended to develop standardized environmental accounting practices and norms in preparation of statutory financial statement for large industrial enterprises, in order to encourage greater environmental responsibility in investment decision making management practices and public scrutiny’\(^6\). However, it is essential to incorporate the value of natural resource into financial account. In addition, the environmental cost and benefits associated with various activities should be evaluated and duly taken into account in decision making.

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\(^3\)https://en.wikipedia.org/wiki/Convention_on_Biological_Diversity, Dt 21.11.2017
\(^4\)http://www.legalserviceindia.com/articles/eco_gr.htm, Dt 21/10/2017,
\(^5\) Green Accounting for Indian States project by HaripriyaGundimeda, sanjeevSanyal, Rajiv Sinha, PavanSukhdev
ENVIRONMENTAL ACCOUNTING: A CONCEPTUAL FRAMEWORK

Natural resource plays pivotal role in economic development of any country. The costs of these do not find place in the conventional accounting system. Hence, the limitations of the conventional accounting system help to develop a new accounting system for natural resources. In the words of Bertrand De Jouvenel (1968) “because national accounts are based on financial transactions they account nothing for Nature, to which we don’t owe anything in terms of payments but to which we owe everything in terms of livelihood”\(^7\). It helps to give birth to new accounting system called “Environmental Accounting or Green Accounting”.

- **Meaning and Definitions**

In this paragraph, beamed light rays on core study of this paper i.e., the concepts and terms related to environmental accounting.

SEEA was developed Environmental Accounting in relationship with SNA. The concepts and classification are more closely linked with SNA. Environmental accounting seeks to track environmental resource use, including both resource depletion and environmental degradation and it integrates result with SNA. So, it helps for planning and policies for the environment and sustainable growth of the nation. Even though, efforts are made to define environmental accounting. There is no standard definition of natural resources and environmental accounting. The meaning varies according to purpose. So, environmental accounting defined from different perspectives. It is also called green accounting, sustainability accounting and full cost accounting.

From the words of V.S. Jaganathan, “The Environmental Accounting is also known as sustainability accounts and full cost accounting. It is a technique of providing information about the impact of organizational activities, products and services on the natural and environmental resources through some adjustment in financial accounts. This concept of environmental accounting is developed on the basis of concepts of agency theory and social contract\(^8\).

The growth of any country can be measured with the help of GNP and NNP, but in reality, national income has been overstated because it does not take into account natural resources used, damages caused and the changes incurred by their use in economic growth. As per the perception of N.Das Gupta (2005), Environmental accounting is, one of the methods, takes into account environmental resources and services, and changes therein, and measures their effects of GNP and NNP to reveal true maximum income (True Net Capital Formation) which a nation can

\(^7\) Measuring sustainable development: the importance of Green Accounting for moving beyond GDP 17-08-2017
\(^8\) A study of Environmental Accounting and Reporting- An Empirical Analysis- V.S.Jaganathan
consume while maintaining a sustainable development and growth without jeopardizing the interests of the present and the future generations, as well as of our neighbors” ⁹.

As per the Guidelines of Environment Accounting 2002, ‘it aims at achieving sustainable development, maintaining a favorable relationship with the community, and pursuing effective and efficient environmental conservation activities. These accounting procedures allow a company to identify the cost of environmental conservation during the normal course of business, identify benefit gained from such activities, provide the best possible means of quantitative measurement (in monetary value or physical units) and support the communication of its results’ ¹⁰.

(Source: Environmental Accounting Guidelines, 2002).

As it referred in the EPA’s, the definition of the Environmental Protection Agency (EPA)’s arises from 3 separate contexts: national income accounting, financial accounting and managerial accounting.

In National income Accounting, Environmental accounting can also refer Natural resource accounting” It is an important tool to measure Gross Domestic Product of any country accurately, because via environmental accounting, it helps to measure consumption of both renewable and non-renewable natural resources both in physical and Monterey units. In financial accounting the environmental accounting refers to estimation of environmental liabilities and environmental cost, and the same it reports to the external stakeholders. Lastly, in managerial accounting the environmental accounting refers to planning, directing, controlling of

⁹ Environmental Accounting – N.Das Gupta  
¹⁰Environmental Accounting Guidelines, 2002, page no 3
environmental cost and use this information to plan, evaluate, control for effective managerial decisions.

<table>
<thead>
<tr>
<th>Types of Environmental Accounting</th>
<th>Focus</th>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) National income accounting</td>
<td>Nation</td>
<td>External</td>
</tr>
<tr>
<td>(2) Financial accounting</td>
<td>Firm</td>
<td>External</td>
</tr>
<tr>
<td>(3) Managerial or management accounting</td>
<td>Firm, division, facility, product line, or system</td>
<td>internal</td>
</tr>
</tbody>
</table>

(Source: An Introduction to Environmental Accounting as a Business Management Tool: Key concepts and terms)

Alok Kumar Pramanik (2008) defined different from above definitions. “Environmental accounting involves the identification, measurement and allocation of environmental costs, and the integration of these costs into business and finally communicating the information to the companies’ stakeholders”. While going through all of the above definitions and details, explanations, environmental accounting can be defined as follows.

“Environmental accounting is a process of identification, classification, measuring, recording and communicating the environmental impacts of entity on society and reporting to stakeholders to take necessary decision”

With these we can come to a conclusion that Environmental Accounting is a new branch of accounting, it encompasses of environmental reporting, sustainability reporting, environmental financial reporting.

REVIEW OF LITERATURE

This section provides comprehensive details of literature include both from India and abroad. And it also observed that, most of the work found in developed countries rather in India.

The Main responsibility of any business is to communicate financial performance of the company. But with the changes in social values of stakeholders, their concern on the environmental impact of business organization has been increased. Initially, ‘environmental accounting and reporting activities started in developed countries because pollution created by these countries are more’ (Ugur Kaya, 2008). As the authors Alok Kumar Pramanik (2008) and Geoffrey R. Frost finds that ‘the information provided by industries in the annual report is not satisfactory’, because disclosure of environmental information is voluntary and descriptive in

11Contemporary Environmental Accounting, Issues, concepts and practices- Alok Kumar Pramanik
nature. For example, information on types of devices installed to protect the environment and pollution control equipment’s (Akash S.B 2008) & (J.K.Nandi, 2007). A. Sahay (2008) observed that ‘Reporting of environmental information is very less compared with developed countries’ it is mainly, because ‘Indian companies faces difficulty in valuing natural resources because it follows methodology designed by USA (Himanshu Sekhar Rout). And ‘even though, practice of environmental accounting in India is in an early stage and it is not mandatory (J.K.Nandi, 2007). Regarding the awareness on environmental accounting, Ajay Kumar Mohanty, (2005) suggested that, ‘In order to increase awareness on environment, industries have to conduct seminars / workshops on environmental accounting and incorporate subject at the academic level. Nikhil Chandra Shil (2008), CA Mohammad Firoz A & Aziz Ansari (2010) observed in order to improve quality of environmental accounting and reporting practices, ‘It needs of standard framework and formal set of recognized reporting principles’. But, so far there is no comprehensive study has been conducted to examine the environmental accounting and reporting practices of companies between the countries.

OBJECTIVE OF THE STUDY

(1) To study the extent of environmental accounting and reporting practices between Japan Multinational companies and Indian companies.

(2) To examine the various environmental parameters adopted by selected industries.

DESIGN OF THE STUDY

(1) Samples Size: The study is based on 20 industries (10 Japan Multinational companies and 10 Indian companies) from various sectors like, automobile, electrical, banking sector, and infrastructure. Samples are selected on gross turnover during 2018.

(2) Methodology: For the study, data for the analysis of environmental accounting and reporting has been collected from latest annual reports, sustainability report and environmental report. Reports have been analyzed with the help of t’ test.

(3) Content Analysis

Used Content analysis of the annual reports of sample selected Japan and Indian industries in order to proceed with the scoring of the items based on the checklist that I developed. Content analysis is a method used to codify the text of a piece of writing into various categories, based on some predetermined criteria. The information received is divided in to 4 parts i.e. score of ‘4’ was given for environmental information disclosed with monetary figures , if an item was disclosed in qualitative with non-monetary, a score “3” was assigned, If an item was disclosed in descriptive , a score “2” Was assigned. If the items were not disclosed “1” score was assigned for the absence of items.
The Scoring Procedures of the Disclosure checklist:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description of scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Items are not disclosed</td>
</tr>
<tr>
<td>2</td>
<td>Items disclosed in descriptive</td>
</tr>
<tr>
<td>3</td>
<td>Items disclosed are quantitative and non-monetary</td>
</tr>
<tr>
<td>4</td>
<td>Item disclosed in monetary.</td>
</tr>
</tbody>
</table>

This study seeks to provide evidence of Environmental Accounting and Disclosure practice of companies operating in India. For the said purpose, the annual reports, sustainability report of 10 companies belonging to Japan Multinational Companies and 10 Indian companies selected from various industries such as automobiles, banking, IT, oil refinery, electronics and communication during 2018. As a part of the study, 20 parameters have been selected on the basis of Global Reporting Indicators (GRI) and few have been identified in the annual reports. They are Environmental policy and objectives, Environmental Management system, environmental awards, energy conservation, environmental hazards, recycle of waste, environmental accounting, environmental cost, environmental reports, sustainability reports, corporate social responsibility report, etc.

RESULT AND DISCUSSION

The study makes an attempt to compare 20 environmental variables between the Japan Multinational Companies and Indian Companies, but main focus is given to environmental accounting, environmental cost and environmental benefits variables, because it plays major difference between the countries. For this, the hypothesis framed and result analyzed for above mentioned variables.

Below are provided the details with respect to the extent of reporting of environmental variables in the annual report or sustainability report.
Table 01: Shows the reporting of environmental variables in the Annual Report/Sustainability Report

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Variables</th>
<th>Japan Industries (10)</th>
<th>Indian Industries (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>01</td>
<td>Environment Policy</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>02</td>
<td>Environment Plans</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>03</td>
<td>Tree Plantations</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>04</td>
<td>Environmental Audit</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>05</td>
<td>Environmental Awareness/Training</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>06</td>
<td>Research and Development</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>07</td>
<td>GHG Emission</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>08</td>
<td>Conservation Biodiversity</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>09</td>
<td>Environmental Management System</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>ISO 14001</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Recycle and Reuse</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>Environmental Cost</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>Environmental benefit</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>14</td>
<td>Environmental Accounting</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>15</td>
<td>Eco friendly products</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>16</td>
<td>Environmental awards</td>
<td>100</td>
<td>00</td>
</tr>
<tr>
<td>17</td>
<td>Hazardous waste</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>18</td>
<td>Environmental Report</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>19</td>
<td>Sustainability Report</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>20</td>
<td>Corporate Social Responsibility</td>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

The figures in the above table are indicate the extent of environmental variables disclose in Annual Report/Sustainability Report, it is observe that Japan Multinational Companies provides more environmental information on Environmental policy (100 percent, Environmental plans (100 percent) and environmental awards (100 percent). Even, they are much advanced in disclosing more environmental information, such has variables ike GHG, Conservation of Biodiversity, EMS, ISO 14001, recycle and reuse (nearly 90 percent and above). However,
Indian based companies disclose very few variables like environmental policy (100 percent), tree plantations, conservation of biodiversity, corporate social responsibility (90 percent) can find place in annual reports/ sustainability reports of selected samples and very less found in variables called environmental audit (10 percent), Environmental accounting (0 percent), environmental benefits (10 percent), environmental training (30 percent), Research and Development and EMS (50 percent) companies.

Hypothesis Analysis:-

Variable: Environmental Accounting Practice

Environmental Accounting is a new branch of accounting, in this section, provides detail insight towards environmental accounting practices between Japan multinational companies and Indian Companies

Hypothesis: - 01

H0: There is no significant difference in the environmental accounting practices adopted by Japan Multinational companies and Indian companies

H1: There is a significant difference in the environmental accounting practices adopted by Japan Multinational companies and Indian companies

Table 02: Descriptive statistics of Japan Industries and Indian Industries on “Practice of Environmental Accounting”

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan Industries</td>
<td>10</td>
<td>2.8000</td>
<td>1.54919</td>
<td>.48990</td>
</tr>
<tr>
<td>Indian Industries</td>
<td>10</td>
<td>1.0000</td>
<td>.00000</td>
<td>.00000</td>
</tr>
</tbody>
</table>
Levene's Test for Equality of Variances

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>216.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

Standard deviation is .000, so t value cannot be calculated

(Author Computed with help of SPSS 16.00 trail version)

It is clear from the above descriptive and “t” test table that multinational companies practices more environmental accounting and reporting practices (i.e., when compared with mean value is 2.80 and Indian companies mean is 1.00).

The hypothesis have been tested at 95 percent confidence level and result obtained, the ‘p’ value is less than 0.05, the first null hypothesis, there is no significant difference in the environmental accounting practices adopted by Japan Multinational companies and Indian companies. Is tested and rejected. Therefore, alternative hypothesis, ‘there is significant difference in the environmental accounting practices adopted by Japan Multinational companies and Indian companies’ is accepted.

Variable-2: Environmental Cost

There no specific guidelines in regards to environmental cost or expense because it is left to the discretion of the corporations to decide which expenditure to be included in the environmental expenditure or costs. In the absence of standards or guidelines for recognizing authority, industries may develop their own mechanism for the same.

Hypotheses Testing:

\( H_0 \): There is no significant difference in the environmental cost disclosed by Japan Multinational companies and Indian companies

\( H_2 \): There is a significant difference in the environmental cost disclosed by Japan Multinational companies and Indian companies
Table 03: Descriptive statistics of Japan Industries and Indian Industries on “Practice of Environmental Cost”

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan Industries</td>
<td>10</td>
<td>3.400</td>
<td>1.2649</td>
<td>.4000</td>
</tr>
<tr>
<td>Indian Industries</td>
<td>10</td>
<td>2.600</td>
<td>1.5055</td>
<td>.4761</td>
</tr>
</tbody>
</table>

Levene's Test for Equality of Variances

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>2.912</td>
<td>.105</td>
<td>1.287</td>
<td>18</td>
<td>.215</td>
<td>.8000</td>
<td>.6218</td>
</tr>
</tbody>
</table>

(Author Computed with help of SPSS 16.00 trail version)

Table -02 gives the mean value of both sectors, it shows that Japan Industries much advanced in incorporating environmental cost into accounts (Mean value 3.400) when compared with Indian companies (mean value is 2.600) and even cost of reporting found more deviation in Indian companies (Standard Deviation 1.5055) comparison to Japan companies (Standard Deviation 1.2649).

The second hypothesis have been tested at 95 percent confidence level and result obtained, the ‘p’ value is more than 0.05, the first null hypothesis, There is no significant difference in the environmental cost disclosed by Japan Multinational companies and Indian companies. Is tested and accepted. Therefore, alternative hypothesis, ‘there is a significant difference in the environmental cost disclosed by Japan Multinational companies and Indian companies is rejected.

Variable: Environmental Benefit Practice
Environmental benefits can be measured with the help of well defined “improved” environmental accounting.

**Hypotheses Testing: 3**

**H₀:** There is no significant difference in the environmental benefits disclosed by Japan Multinational companies and Indian companies

**Hₐ:** There is a significant difference in the environmental benefits disclosed by Japan Multinational companies and Indian companies

**Table 04: Descriptive statistics of Japan Industries and Indian Industries on “Practice of Environmental Benefits”**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan Industries</td>
<td>10</td>
<td>2.500</td>
<td>1.581</td>
<td>.5000</td>
</tr>
<tr>
<td>Indian Industries</td>
<td>10</td>
<td>1.300</td>
<td>0.948</td>
<td>.3000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.001</td>
</tr>
</tbody>
</table>

(Author Computed with help of SPSS 16.00 trial version)

Table -04 gives the mean value of both sectors, it shows that Japan Industries much advanced in incorporating environmental benefits into accounts (Mean value 2.500) when compared with Indian companies (mean value is 1.300) and even there is a wide deviation in disclosing and accounting of environmental benefits, there is more variation among Japan companies (Standard Deviation 1.581) when compared with Indian companies (Standard Deviation 0.948).
The third hypothesis have been tested at 95 percent confidence level and result obtained, the ‘p’ value is more than 0.05, the third null hypothesis, *There is no significant difference in the environmental benefits disclosed by Japan Multinational companies and Indian companies* is tested and accepted. Therefore, alternative hypothesis, ‘There is a significant difference in the environmental benefits disclosed by Japan Multinational companies and Indian companies” is rejected.

**MAJOR FINDINGS**

The following are the important findings based on the factual analysis of available literature and also the detailed collected from annual report, sustainability report.

1. More number of Japan companies practices, environmental accounting and reporting (i.e., when compared with mean value is 2.80 and Indian companies mean is 1.00).
2. Japan Industries much advanced in incorporating environmental cost into accounts (Mean value 3.400) when compared with Indian companies (mean value is 2.600).
3. Japan Industries much advanced in incorporating environmental benefits into accounts (Mean value 2.500) when compared with Indian companies (mean value is 1.300).
4. Wide deviation in disclosing and accounting of environmental benefits, there is more variation among Japan companies (Standard Deviation 1.581 when compare with Indian companies (Standard Deviation 0.948).
5. Deviation in the reporting or Environmental cost more in Indian companies (Standard Deviation 1.5055) compared to Japan companies (Standard Deviation 1.2649)
6. Majority of selected variables reporting by Japan companies rather than Indian companies.

**CONCLUSION**

Around the globe pollution level reached at danger level, in order to mitigate are reduce pollution, many counties chant towards sustainability economy, so, Sustainability means meeting the needs of present generation without affecting the needs of the future generation. With due concern towards protecting environment, presently, industries mainly concentrate on develop ecofriendly products and spending more on energy conservation activities. In addition, many developed countries much advanced in implementing environmental accounting and it is mandatory requirement as per the government regulatory norms. But in India accounting of natural resources are not existed due to non-availability of environmental accounting standards and even though the reporting of environmental information is also found very less with the developed ones. To overcome this, there is an urgent need from government, accounting professionals, NGOs, or environmental agency takes initiative towards development of
environmental standards and it also required time to time environmental guidelines from proper regulatory bodies (Central and State) towards environmental protection activities and reporting and accounting of such information. Because, In India, we know that there is no mandatory requirement to account of environmental resources and moreover few companies provide sustainability reports in guidelines with GRI that too in voluntary basis. Hence, it is urgent need of accounting standards, methods and valuation techniques to measure and account environmental information in their annual reports.

Appendix

Table 05: Names of the Japan Multinational Companies

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Companies</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Suzuki Motor Corporation</td>
<td>Automobile</td>
</tr>
<tr>
<td>02</td>
<td>Sony</td>
<td>Electronics</td>
</tr>
<tr>
<td>03</td>
<td>Honda</td>
<td>Automobile</td>
</tr>
<tr>
<td>04</td>
<td>Panasonic</td>
<td>Electronics</td>
</tr>
<tr>
<td>05</td>
<td>India Yamaha Motor Pvt Ltd.</td>
<td>Automobile</td>
</tr>
<tr>
<td>06</td>
<td>Toyota</td>
<td>Automobile Manufacture</td>
</tr>
<tr>
<td>07</td>
<td>Canon India Pvt Ltd.</td>
<td>Digital camera, Printers,</td>
</tr>
<tr>
<td>08</td>
<td>Toshiba India Pvt Ltd</td>
<td>Hardware, computer peripherals, Home appliances</td>
</tr>
<tr>
<td>09</td>
<td>Mitsubishi</td>
<td>Air Conditioning, Energy systems, Transport systems, automotive equipment</td>
</tr>
<tr>
<td>10</td>
<td>Hitachi India Pvt Ltd</td>
<td>Digital solutions and services, 2. Infrastructures system like water, oil and gas supply</td>
</tr>
</tbody>
</table>


Table 06: Names of the Indian Companies

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Companies</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Reliance Industries</td>
<td>Hydrocarbon exploration, petroleum refining, telecommunication</td>
</tr>
<tr>
<td>02</td>
<td>State Bank of India</td>
<td>Banking Service</td>
</tr>
<tr>
<td>03</td>
<td>HDFC</td>
<td>Banking Service</td>
</tr>
<tr>
<td>04</td>
<td>Indian Oil</td>
<td>Oil Refinery</td>
</tr>
<tr>
<td>05</td>
<td>Tata Motors</td>
<td>Automobile</td>
</tr>
<tr>
<td>06</td>
<td>ICICI Bank</td>
<td>Banking Service</td>
</tr>
<tr>
<td>07</td>
<td>Tata Consultancy</td>
<td>IT service</td>
</tr>
</tbody>
</table>
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