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ENVIRONMENTAL ACCOUNTING AND SUSTAINABILITY REPORTING IN RELATION TO INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS/IAS)

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ABSTRACT

In the recent years environmental effect of economic development has become a matter of great concern. A number of companies all over the world have started the practice of making environmental disclosures in annual reports. However there is lot of variation in the disclosure practices all over the world. There is no international accounting standard which exclusively deals with environmental issues in the corporate annual reports. The analysis of IAS/IFRS shows up that no international standard is exclusively dedicated to the provisions of such information but there are numerous direct and indirect remarks on the topic of environmental accounting in the different accounting standards. The accelerated process of globalization, increased financial market interdependence and high capital mobility have all contributed to increased awareness of the necessity for a common set of accounting standards. In light of this, IAS/IFRS were adopted to enhance financial statement comparability across firms. However, opportunities and motivations for the existence of financial reporting differences remain due to flexibility provided by accounting standards and because of differences in reporting traditions and national legal, taxation and financing systems.

This research paper makes a critical appraisal of the contemporary environmental accounting literature and examines the applicable and relevant paragraphs of the global financial reporting standards (IFRS). Present paper is also an attempt to find out various provisions of IAS/IFRS which deals directly and indirectly with environmental disclosures.
The relevant paragraphs for environmental accounting have been analyzed in relation to the environmental financial reporting.

INTRODUCTION

To determine whether reporting habits and national characteristics affect environmental information reported by firms complying with IAS/IFRS, to analyze all IAS/IFRS standards and IFRIC interpretations to identify the environmental reporting constraints imposed by IAS/IFRS. This analysis allowed to create a grid aimed at calculating a score to quantify the environmental information available in financial statements.

As financial globalization proceeds, international financial reporting and auditing standards are increasingly becoming important instruments of integration. This has been observed in both the London and Pittsburg summits of the G20 leaders in 2009. The G20 leaders reinforced the influence of International Financial Reporting Standards (IFRS) in that they called for the implementation of global accounting standards by 2011. By the end of 2008, there were over 100 countries that had adopted IFRS. Another parallel summit was the United Nations special summit on the environment which was held on 22 September 2009. The United Nations' summit underscored the link between environment and finance.

Background and hypothesis development

As suggested by Ball et al. (2003), Ball (2006), Nobes (2006), Bradshaw and Miller (2008), Holthausen (2009), and Kvall and Nobes (2010), the adoption of a single set of accounting standards does not systematically ensure comparability of financial statements. The suggested reasons for persistent differences in financial reporting notably include differences in national regulations and in reporting traditions. Therefore, compliance with IAS/IFRS environmental requirements may differ across countries because of differences in the national regulations on environmental disclosures, and across firms because of differences in the Pre-IFRS reporting practices concerning voluntary environmental information.

While there are numerous studies devoted to voluntary disclosure of environmental information, much less attention has been paid to environmental disclosure requirements set by accounting standards in general and IFRS in particular. Branco and Rodrigues (2007) analyze the state of the literature on corporate and environmental reporting from diverse methodological and theoretical standpoints. Baker and Barbu (2007) identify over 200 articles, from the 1960s to 2005 (i.e. the year of IFRS implementation in Europe), related to international accounting harmonization. These two literature reviews suggest that to date no study has linked environmental reporting to the process of international accounting convergence.

Worldwide growth of public concern for the natural environment has been one of the most important developments in recent decades. Globalization has helped connect societies and their environmental fates more closely than ever before. At the same time, environmental problems increasingly transcend national borders and pose serious challenges to the health of the planet. The development of more effective environmental laws and legal systems throughout the world has thus become critical to directing economic development and growth onto a path of environmental sustainability.

Now a days, most of the organization invokes trans-boundary and non-trans-boundary environmental issues into the earnings quality literature. It is because of the absence of provisions for decommissioning and rehabilitations in the various environmental laws and global accounting standards. The same situation is with the reserves set aside for contingent liabilities for activities that are related to the firm's past and present activities. Hence, there is a paucity of research on the link between accounting quality studies and environmental accounting studies.

Sustainability is now a central issue for business and society. Even among long-standing champions of sustainability, the urgency of the debate has moved beyond the concern for future generations to the here and now. In our market system we face a huge range of possible initiatives that could drive progress towards a sustainable world but limited time and resources to achieve that goal. Information is central to this. There is a vital role that the accounting profession can play in meeting the need for high quality information about the sustainable options available to us, the actions that these options call for and their impacts.

Many larger companies now regard environmental issues such as climate change as a commercial opportunity just as much as a risk. Reputation can be enhanced by a policy of transparency, enabling the market to identify businesses that are more forward looking. Disclosure about research and development expenditure, for instance, could be linked to spending on environmental measures. As well as earning competitive advantage, the process of reporting, particularly the disclosure of management policy on any material environmental matters will help to avoid risks and drive internal change. Increased disclosure resulting from the business review requirement is therefore welcome a foundation on which useful information about environmental and social issues can be built

In the recent years environmental effect of economic development has become a matter of great concern. A number of companies all over the world have started the practice of making environmental disclosures in annual reports. However there is lot of variation in the disclosure practices all over the world. There is no international accounting standard which exclusively deals with environmental issues in the corporate annual reports. The analysis of IAS/IFRS shows up that no international standard is exclusively dedicated to the provisions of such information but there are numerous direct and indirect remarks on the topic of environmental accounting in the different accounting standards. Present paper is an attempt to find out various provisions of IAS/IFRS which deals directly and indirectly with environmental disclosures.

Research Problem

The existence of environmental management accounting is a first step to improve environmental as well as economic performance. Sustainability Reporting by leading Indian firms indicate their commitment for improvement of environmental performance. In light of this information it is likely that business firms have evolved their accounting system to provide information for environmental related decision making. The Environmental Management Accounting system, being designed for effective internal management of environmental and economic performances may be existing in organizations but may not be formally documented and/ or reported as it is not mandatory or felt necessary by organizations. The industries should focus and set aside a part of their funds for environmental protection and ecological balance. Thus business organizations are expected to account for the use of substances which may damage the Environment. Green accounting is in preliminary stage in India. Indian Corporate are now introducing a separate a firm environmental policy such as taking steps for pollution control, comply with the related rules and regulations, mention adequate details of environmental aspects in the annual statements as per the information IFRS/IAS.

Objectives of this paper

The key objectives of this paper is to know the meaning and importance of Environment accounting, and at the same time, understand the application aspect as per IFRS/IAS, especially in the developing countries. The paper also examines the steps adopted to incorporate Environment Accounting in companies as per IFRS/IAS

Methodology of study

The study is based on the secondary data collected from sources like websites, trade publications, books, and articles in newspapers, magazines, and journals.

Definition

Corporate Environmental Reporting

The term environment can be defined in many ways. As Einstein quoted, "Environment is everything but myself". The European Commission defines environment as "The natural physical surroundings and includes air, water, land flora, fauna and nonrenewable resources as fossil fuels and minerals" (Commission Recommendation 2001/453/EC) and the international environmental management standard ISO 14001 (SFSEN ISO 14001) as "Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna and their interrelation". McGraw Hill Encyclopedia of Environment Science defines the environment as "Sum total of all conditions and influences that affect the development and life of organisms".

In the recent years environmental effect of economic development has become a matter of great concern. A number of companies all over the world have started the practice of making environmental disclosures in annual reports. Corporate Social Disclosure (CSD) first developed as a companion to the social responsibility debates in the late 1960s and early 1970s. Corporate

Environmental Disclosure (CED), at that stage, was not addressed separately, but was considered as part of the Corporate Social Disclosures. The main location for such disclosure at that time was the corporate annual/financial report. It was in general considered to be incomplete, imprecise, inconsistent, incomparable, unverified and declaratives rather than quantitative and positive (AICPA, 1977).

Before understanding the concept of Environmental Reporting we must understand the concept of Reporting. In broad sense reporting is providing information to the diversified stakeholders. It aims at fulfilling the information needs of a wide range of internal and external users. According to Longman Dictionary, Reporting is the "fact or details that tell you something about a situation, person, event etc". In the case of corporate reporting, Bromwich (1992, p. 121) defines it as "new knowledge, which leads to a change in actions of decision makers". So the corporate reporting aims at providing useful information about its activities to present and potential investors, creditors and other stakeholders.

This information may be voluntary or involuntary, quantitative and qualitative but has an important impact on the decision makers. Environmental reporting requires to be incorporated with environmental issues in the corporate annual reports. It not only involves reporting of physical environment but also social environment. Many experts believe that environmental reporting is very significant. "Environmental disclosures constitute part of what is generally termed social responsibility reporting. Social responsibility disclosures include, among other things, disclosures relating to the interaction between an organization and its physical and social environment. Social responsibility reporting may include information about environment, energy, human resources, community involvement" (Deegan and Gordon).The Association of Chartered Certified Accountants‟ defined environmental reporting as "Environmental reporting‟ is the term commonly used to describe the disclosure by an entity of environmentally related data, verified (audited) or not, regarding environmental risks, environmental impacts, policies, strategies, targets, costs, liabilities, or environmental performance, to those who have an interest in such information, as an aid to enabling/enriching their relationship with the reporting entity via either: the annual report and accounts package a standalone corporate environmental performance report a site centered environmental statement some other medium (e.g. staff newsletter, video, CDROM, website).

Definitions of corporate environmental reporting/disclosure

Environmental reporting is an umbrella term that describes the various means by which companies disclose information on their environmental activities. This should not be confused with corporate environmental reports (CERs), which represent only one form of environmental reporting. CERs are publicly available, standalone reports issued voluntarily by companies on their environmental activities. P-Brophy& Starkey, 1998, p. 151-153

Environmental disclosure can be defined as the disclosure made by an organization about its positive and negative impacts on the broader physical environment within which it operates.- Deegan, 2010, p. 96.

Mandatory v/s Voluntary Environmental Disclosures

Due to economic expansion and the population growth there is a lot of pressure on diminishing natural resources one hand and it also results in degradation of environment. So, it is very clear that there is need of changing the way business is carried traditionally. Accounting and reporting is not an exception to this? Increasing awareness among the different groups of society needs a new era of public reporting. It means that conventional method of financial reporting is not enough. It also implies that non -financial reporting like social responsibility reporting also needs

Some change and needs expansion in the way information is reported. Till now there are only a few large companies that are making social and environmental reports. Now there is a need of such non-financial reports at large scale and even medium or small scale organization must also prepare such reports. This cannot simply be the result of regulatory pressure, but different forms of regulation including self-regulation can play an important role in advancing the comparability, credibility and relevance of information disclosed. There is a debate among academicians, business managers and legal experts about mandatory environmental reporting or voluntary environmental reporting. Corporations on one side demand that there should be voluntary disclosure of non-financial information including environmental information, on the other hand NGO and pressure groups mandatory disclosures as they believe that companies won't disclose objective information under the voluntary disclosures. Some experts believe that there must be voluntary initiative from the companies for environmental reporting. This will ensure a genuine effort from their side and would result in more conducive reports. But there is a fear among experts that this process may be very slow. So they want that there must be mandatory disclosures for the corporations as it will provide a level playing field for all the companies. Stocken [2000] argues that in absence of a mechanism to enforce verifiability, voluntary disclosures are not credible and therefore are ignored by the market.

However, accounting reports that verify information in managers‟ voluntary disclosures make these disclosures credible and thus informative in equilibrium. In a similar vein, Lundholm [2003] argues that even though the mandatory report is backward looking and therefore has no informational content, it improves the credibility of voluntary disclosure. Ball [2006] argues that when managers believe accounting numbers are more likely to be reported accurately and independently (mandatory Reporting), they are less likely to disclose misleading information about their expectations (voluntary disclosure). Mandatory reporting presents several advantages such as the creation of standardized and comparable measures that enable benchmarking and best practices (Hess 2008). Voluntary reports are also found to be incomplete and are not related to the firms‟ actual environmental performance (Wiseman, 1982)

Reasons for reporting

Mandatory approaches to reporting Changing the corporate culture leaders will continue to innovate above minimum requirements

• Incompleteness of voluntary reports
• Comparability
• Non-disclosure of negative performance
• Legal certainty
• Market failures theory of regulation
• Reduction of non-diversifiable market risk free rider problem
• Cost savings
• Standardization
• Equal treatment of investors

Reasons against reporting

•Knowledge gap between regulators and industry
• One size does not fit all
• Inflexibility in the face of change and complexity
•Lack of incentive for innovation
• Constraints on efficiency and competitiveness

Voluntary approaches to reporting

• Flexibility
• Proximity
• Compliance
• Collective interest of industry

Reasons against reporting

• Conflicts of interest
• Inadequate sanctions
• Under enforcement
• Global competition
• Insufficient resources

Integrating IFRS/IAS & Environmental Reporting Practices

Different countries have different regulations related to accounting and reporting which leads to confusion and makes reports incomparable. Recognizing the need for accounting practices at international level 1973, the International Accounting Standards Committee (IASC) was established. In 2001 IASC was reconstituted as the International Accounting Standards Board (IASB). The objectives of IASC are promotion of the International Accounting Standards for worldwide acceptance and observance so that the accounting practices in different countries are harmonized. There is no international accounting standard which exclusively deals with environmental issues in the corporate annual reports. The analysis of IAS/IFRS shows up that no international standard is exclusively dedicated to the provisions of such information but there are numerous direct and indirect remarks on the topic of environmental accounting in the different accounting standards. For instance, IFRIC 3 deals with emission rights IFRS 8 also define reportable segments. IAS 38 deals with the impairment of emission rights. IAS 32, IFRS 7 and IAS 39 deal with presentation, disclosure, and recognition and measurement of financial instruments. IFRS 6 deals with exploration for and evaluation of mineral resources. IAS 37 deals with provisions, contingent liabilities and contingent assets. Following is brief description of various IAS/IFRS which deals with environmental issues

- The objective of **IFRS 1** is to prescribe the basis for presentation of general purpose financial statements, to ensure comparability both with the entity's financial statements of previous periods and with the financial statements of other entities. IAS 1 sets out the overall requirements for the presentation of financial statements, guidelines for their structure and minimum requirements for their content. It points out that all financial risks must be disclosed. Environmental risks are no exception and shall be handled in the same way as all other revenues, costs, assets and liabilities.

According to IAS 1 entities are encouraged to furnish other related financial and nonfinancial information in addition to financial statements. This information can be in form of environment reports or other value added statements etc. The IAS states that Enterprises are encouraged to present such additional statements if management believes they will assist users in making economic decisions. At the same time, IAS 1 contains several remarks on additional information and reports issued by companies, to provide their stakeholders with a comprehensive view of their environmental and social impacts. Entities are encouraged to produce such reports, whenever managers consider that they are useful in shaping the external users' opinions and actions.

- IAS 2 Inventories is relevant whenever highly polluting industries, such as mining, recognize their waste as assets with a residual value. This standard requires such waste to be recognized as inventories only if additional costs were to be incurred to convert the waste products into marketable goods.

- **IFRS 3** on business combinations provides guidance on contingent liabilities including environmental related liabilities that exists at time of business combination i.e. merger and acquisitions. IFRS 3 Business combinations provide that identifiable assets and liabilities acquired in a business combination should be evaluated at their fair value, which may be connected to the environmental impact of such elements. The fair value of asset or liability is that amount which exists in market for the same asset or liability or such value may be determined by taking into consideration amount that neutral third party will pay for the same asset or liability on the date of acquisition. The fair value of the provision required for any remediation work in respect of environmental matters relating to acquired property, requires the identification of environmental matters and the estimate of costs of remediation.

- **IFRS 5 –** Decommissioning restoration & environmental rehabilitation funds The purpose of decommissioning restoration and environmental rehabilitation funds hereafter referred to as 'decommissioning funds' or 'funds' is to segregate assets to fund some or all of the costs of decommissioning plant (such as a nuclear plant) or certain equipment (such as motor cars) or in undertaking environmental rehabilitation (such as rectifying pollution of water or restoring mined land) together referred to as 'decommissioning' (Para – 1). The contribution in the above funds may be through voluntary or regulatory obligations. The funds may have any of the following structures. (a) Funds that are established by a single contributor to fund its own decommissioning obligations whether for a particular site or for a number of geographically dispersed sites. (b) Funds that are established with multiple contributors to fund their individual or joint decommissioning obligations when contributors are entitled to reimbursement for decommissioning expenses to the extent of their contributions plus any actual earnings on those contributions less their share of the costs of administering the fund. Contributors may have an obligation to make additional contributions for example in the event of the bankruptcy of another contributor. (c) Funds that are established with multiple contributors to fund their individual or joint decommissioning obligations when the required level of contributions is based on the current activity of a contributor and the benefit obtained by that contributor is based on its past activity. In such cases there is a potential mismatch in the amount of contributions made by a contributor (based on current activity) and the value realizable from the fund (based on past activity). The contributor shall recognize its obligation to pay decommissioning costs as a liability and recognize its interest in the fund separately unless the contributor is not liable to pay decommissioning costs even if the fund fails to pay (Para – 7).

- **IFRS 6** deals with Exploration for and Evaluation of Mineral Resources. It is a highly environmental sensitive industry as it is linked with extractive activities. Paragraph 11 of IFRS 6 states that "In accordance with IAS 37 Provisions, contingent liabilities and contingent assets, an entity recognizes any obligations for removal and restoration that are incurred during a particular period as a consequence of having undertaken the exploration for and evaluation of mineral resources". According to provisions of IFRS 6 a company can treat exploration and evaluation expenditure as revenue expenditure or capital expenditure as per their choice but there must be consistency in such practice from period to period or from item to item. This gives flexibility to the company to treat the item as per their country specific regulations. IFRS 6 does not cover expenditures incurred before or after the exploration and evaluation phase. So organization can follow policies for pre exploration and post exploration expenditures in consistence with other IAS and IFRS.

  IFRS 6 - Exploration & evaluation of mineral resources IFRS 6 permits a mining company to select an accounting policy of either immediately expensing or capitalizing exploration or evaluation (E&E) expenditures provided the policy is applied consistently between periods and to similar items and activities. The policy to expense or capitalize should reflect the extent to which the type of E&E expenditure can be associated with finding specific mineral resources. This means that Canadian mining entities will most likely be able to retain their existing Canadian GAAP accounting policy for eligible E&E expenditures. IFRS 6 does not cover expenditures incurred before or after the E&E phase. Entities must therefore adopt policies for pre-exploration (typically incurred before obtaining the legal rights to explore a specific area) and development activities (after the technical feasibility and Commercial viability of extracting a mineral resource is demonstrable) which are consistent with the IASB Framework. IFRS requires that decommissioning provisions be recognized when a present obligation from a past event exists and it is probable that future costs will be incurred to restore or rehabilitate a property or other long-lived asset. The definition of a provision under IFRS is broader. IFRS requires a liability to be recorded even when only a constructive obligation exists which may have been created by promises or established patterns of carrying out similar activities. In addition, measurement of the liability under IFRS differs in several respects including use of a current discount rate specific to the liability and presentation of accretion of the discount as interest expense in the income statement. In accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets an entity recognizes any obligations for removal and restoration that are incurred during a particular period as a consequence of having undertaken the exploration for and evaluation of mineral resources (Para – 11).

- **IFRS 8** deals with Accounting, Policies, and Changes in Accounting Estimates and Errors is applied in selecting and applying accounting policies, accounting for changes in estimates and reflecting corrections of prior period errors. It provides entities guidance on the process to be followed when selecting accounting policies to be used in preparing financial statements and how the entities should account for a change in the accounting policies. The scope of IAS 8 covers fundamental errors, retrospective adjustments of financial statements, and when and how material omissions or misstatements should be practically treated, and corrected. As a result of the uncertainties inherent in business activities, many items in financial statements cannot be measured with precision but can only be estimated. Estimation involves judgments based on the latest available reliable information. For example, estimates may be required for Provision for cleanup costs, Provision for other environmental related costs such as air pollution, noise pollution, toxic gases and hazardous waste materials, Provision for acquisition of equipments for pollution control.

  IFRS 8 requires an entity to report financial and descriptive information about its reportable segments. Reportable segments are operating segments that meet specified criteria. IFRS 8 also requires firms to disclose their products, services and the geographical areas in which they are operating. IFRS 8 requires firms to report operating segment that earns 10% or more of the combined revenue. These provisions of IFRS 8 has implications for the firms having operating segments related with environmental service and environmental protection such as recycling, green technology and clean energy etc.   IAS 8 :Accounting policies changes in accounting estimates and errors In the absence of an IFRS that specifically applies to a transaction other event or condition management shall use its judgment in developing and applying an accounting policy that results in information that is: (d) relevant to the economic decision-making needs of users and (e) reliable. In that the financial statements (f) represent faithfully the financial position. Financial performance and cash flows of the entity (g) reflect the economic substance of transactions, other events and conditions and not merely the legal form.

- **IFRS 10** contains requirements for when events after the end of the end of the reporting period should be adjusted in the financial statements. Adjusting events are those providing evidence of conditions existing at the end of the reporting period, whereas non adjusting events are indicative of conditions arising after the reporting period (the latter being disclosed where material). Such events, which may carry an environmental impact, should be described with the causes that had generated them before year end. An entity might become aware shortly after the end of its financial reporting year of a pollution incident, for example seepage of chemicals, that has gone undetected for some time (before the balance sheet date). So far as the financial implications are assessable then this relates to a condition that existed before the balance sheet date and the accounts must be adjusted to recognize the event. Alternatively the effects of an environmental incident, for example an offshore oil spillage, occurring after the balance sheet date should not be recognized no matter how significant. If such non adjusting events are material and non disclosure could influence users then the entity should disclose the nature of the event and an estimate of its financial effect or a statement that such an estimate cannot be made.

  IFRS 10 Events after the Balance Sheet Date describes the steps to be taken by any entity when disclosing relevant events occurring after the balance sheet date. Such events, which may carry an environmental impact, should be described in concert with the causes that had generated them before year-end.

- An IFRS 12 Income tax prescribes the accounting treatment for income taxes. The general principle of this standard is that deferred tax liabilities and assets should be recognized, with some exceptions, for the taxable/deductible temporary differences. For example, when the carrying amount of an environmental asset is bigger than its tax base, results include a taxable temporary difference and a deferred tax liability.

- **IFRS 16** provides some guidance on the treatment of environmental expenditure relating to property, plant and equipment. Paragraph 24 of IAS 16 permits subsequent expenditure relating to an item of property, plant and equipment to be capitalized only when it is probable that future economic benefits, in excess of the originally assessed standard of performance of the existing asset, will flow to the enterprise. If a company purchase certain asset which is required for meeting the provisions of the law for safety of environment or reducing the emission etc., such asset may not be resulting in any additional economic benefit, so considering the condition of additional economic benefit it may not be treated as asset, but in absence of this asset it will not be possible for the company to continue the operations in future. In that case the future cash flows will be nil. If company purchases this asset they can continue with their operations. So we can assume that this asset is resulting in additional economic benefit, hence it can be treated as asset as per the provisions of the standard. IAS 16 also requires the incorporation of future dismantling and decommissioning costs into the value of the fixed asset. These costs are estimated at the beginning of the asset's useful life.

- **IFRS 20** deals with government grants and government assistance. According to this standard any emission trading allowance from the government should be treated as grant from the government. However, the standard states that any government grants including non-monetary grants at fair value shall not be recognized until there is reasonable assurance that : (a) the entity will comply with the conditions attaching to them; and (b) the grants will be received. Accounting for Government Grants contains an implicit reference to the initial distribution of emission rights and their recognition in the financial statements. IAS 20 – Accounting for Government Grants and Disclosure for Government Assistance Government grants including non-monetary grants at fair value shall not be recognized until there is reasonable assurance that: (a) the entity will comply with the conditions attaching to them; and (b) the grants will be received. Once a government grant is recognized any related contingent liability or contingent asset is treated in accordance with IAS 37 Provisions. Contingent Liabilities and Contingent Assets There are two broad approaches to the accounting for government grants: the capital approach under which a grant is recognized outside profit or loss and the income approach under which a grant is recognized in profit or loss over one or more periods

- **IFRS 36** deals with impairment of assets. Impairment is an event that causes a fall in the value of a fixed asset. This could be due to an environmental incident of change in environmental legislation. Such assets should be written down immediately to reflect the environmental position. The impairment loss should be recognized in the profit and loss account. IAS 36 Impairment of assets requires that the old plant must be reviewed for impairment. If its carrying value is greater than its recoverable amount, it must be written down and an impairment loss must be charged against profits. This should be disclosed separately in the notes to the income statement/statement of comprehensive income if it is material.

- **IFRS 37** Provisions, contingent liabilities and contingent assets states that three conditions must be met before a provision may be recognized (a) the entity has a present obligation as a result of a past event (b) it is probable that a transfer of economic benefits will be required to settle the obligation (c) a reliable estimate can be made of the amount of the obligation. So in case activities of a firm have created environmental contamination, it may not a legal obligation to remove such contamination. But as per IAS 37 provision can be made in accounts as though there is no legal obligation but there is a constructive obligation if firm is acting in environmental responsible way. IAS 37 states that obligation must arise from the past event. So provision can be made only for the environmental loss that has already been done, no provision is required to be created for the amount which firm intends to spend for stopping future environmental damage. Provision should be made for a transfer of economic benefits to satisfy an obligation when reliable estimates can be made and there is an obligation to undertake work. For instance, environmental liabilities such as hazardous waste and pollutant releases can be difficult to forecast because of uncertainties over timing or value or both. Where it is not possible to make reliable estimates, narrative disclosure is still required.

- **IFRS 38** dealing with intangible assets also has some implications on environmental reporting. In order to reduce the emission the European Union (EU) established a cap and trade emissions program a market based response to the emissions reduction established under Kyoto Treaty. Under this programme with effect from January 1, 2005, carbon emitting entities were allocated allowances through a complex allocation process. Companies are required to maintain their overall emissions as per these initial allocations. Any company emitting more than their allotted allowance either must purchase additional amount by making some payment under EU Emissions Trading Scheme (ETS) or must pay a fine. Companies emitting less than their allotted allowance may sell their excess allowances. This provides companies with a direct financial incentive to curtail emissions levels. Consequently, the ETS has become an active market for buying and selling emissions allowance (generally under forward contracts providing for the delivery of allowances in the future). IAS 38 dealing with intangible assets considers recognition and measurement of such emission rights. Company must record purchased allowance at cost and in case these are received from government at less than fair market value, these can be shown at fair market value and as per IAS 38, increases in fair value are reported in stockholders equity and decreases in fair value are recognized in profit and loss to the extent they exceed the revaluation surplus.

IAS 38 Intangible Assets is linked to the recognition and measurement of environmental assets such as development expenses or emission rights, either received as a subsidy or acquired from the market

- **IFRS 41** deals with Agriculture. Though there is no mention of agriculture in the IAS 41 but this standard deals with an activity which is highly environmental sensitive. IAS 41 prescribes the treatment, presentation and disclosure of Agricultural activity, which has been defined as the "management by an enterprise of the biological transformation of living animals or plants (biological assets) for sale, into agricultural produce, or into additional biological assets" (para. 5). A Biological asset or agricultural produce should be recognized when, and only when: the enterprise controls the asset as a result of past events; it is probable that future economic benefits associated with the asset will flow to the enterprise; and the fair value or the cost of the asset can be measured reliably Under the standard, any changes in the fair value of the biological asset for the year is to be included in the profit and loss statement for the period in which it occurs. IAS 41 – Agriculture IAS 41 prescribes the accounting treatment financial statement presentation and disclosures related to agricultural activity. And any related matter not covered in other Standards. Agricultural activity is the management by an entity of the biological transformation of living animals or plants (biological assets) for sale into agricultural produce or into additional biological assets. IAS 41 prescribes among other things the accounting treatment for biological assets during the period of growth degeneration production and procreation and for the initial measurement of agricultural produce at the point of harvest. It requires measurement at fair value less costs to sell from initial recognition of biological assets up to the point of harvest other than when fair value cannot be measured reliably on initial recognition. However, IAS 41 does not deal with processing of agricultural produce after harvest; for example processing grapes into wine and wool into yarn. IAS 41 requires an entity to measure that biological asset at its cost less any accumulated depreciation and any accumulated impairment losses. Once the fair value of such a biological asset becomes reliably measurable an entity should measure it at its fair value less costs to sell. Under a transaction-based historical cost accounting model a plantation forestry entity might report no income until first harvest and sale perhaps 30 years after planting. On the other hand, an accounting model that recognizes and measures biological growth using current fair values reports changes in fair value throughout the period between planting and harvest. IAS 41 requires an unconditional government grant related to a biological asset measured at its fair value less costs to sell to be recognized in profit or loss when and only when the government grant becomes receivable. If a government grant is conditional including when a government grant requires an entity not to engage in specified agricultural activity an entity should recognize the government grant in profit or loss when and only when the conditions attaching to the government grant are met. If a government grant relates to a biological asset measured at its cost less any accumulated depreciation and any accumulated impairment losses the entity applies IAS 20 Accounting for Government Grants and Disclosure of Government Assistance.

Changes in the fair value of the asset usually arise through changes in market demand, or through the biological change in the asset itself. In cases where an unconditional government grant is received which relates to a biological asset, then the grant is recognized as income when the grant officially becomes receivable.

This research paper makes a critical appraisal of the contemporary environmental accounting literature and examines whether international financial reporting standards (IFRS) can contribute towards the monitoring and protection of the environment. In this research, the relevant paragraphs of international accounting standards presently known as international financial reporting standards for environmental accounting have been analyzed as discussed below.

1. Framework for the preparation and presentation of Financial Statement Financial statements are prepared and presented for external users by the entities around the world. The definition of financial statements not only restricted to financial statements, now a days. But it has been extended to environmental financial reporting for most of the business entities. The environmental financial reporting covers all those activities associated with the presentation of financial and non financial environmental information. Although such environmental financial statements may appear similar from country to country, there are various differences due to variety of social economic and legal circumstances and by different countries having in mind the needs of different users of financial statements when setting national requirements.

- ❖ **Accountability of Information**: According to Paragraph 14 of the Framework, the preparation and presentation of financial statement is the responsibility of the management. The management should report all the relevant figures and information's which may affect the decisions of its users or material from the management point of view. Those users who wish to assess the stewardship or accountability of management do so in order that they may make economic decisions. These decisions may include even the replacement of management.
- ❖ **Relevancy of Information:** The management should disclose all information which may be useful for its users. Information must be relevant to the decision-making needs of users. The disclosed information has the quality of relevance when it

influences the economic decisions of users by helping them evaluate past, present or future events or confirming or correcting, their past evaluations (Para – 26).

- **Materiality:** In the context of environmental accounting, the management should measure and disclose the contingent liabilities in financial statement for those activities which may arise in futures based upon the past experience as foot note. Information is considered material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial statements. Materiality depends on the size of the item or error judged in the particular circumstances of its omission or misstatement. Thus, materiality provides a threshold or cut-off point rather than being a primary qualitative characteristic which information must have if it is to be useful.
- **Substance over Form**: If information is to represent faithfully the transactions and other events that it purports to represent. It is necessary that they are accounted for and presented in accordance with their substance and economic reality and not merely their legal form. The substance of transactions or other events is not always consistent with that which is apparent from their legal or contrived form (Para – 35).
- **Neutrality:** To be reliable, the information contained in financial statements must be neutral. i.e. free from bias. Financial statements shall not be neutral where the selection or presentations of information influence the making of a decision or judgment in order to achieve a predetermined result or outcome (Para – 35).
- **Prudence:** The preparers of financial statements have to contend with the uncertainties that inevitably surround many events and circumstances such as the collectability of doubtful receivables the probable useful life of plant and equipment purchased for pollution control any other environmental liabilities claims that may occur. Such uncertainties are recognized by the disclosure of their nature and extent and by the exercise of prudence in the preparation of the financial statements. Prudence is the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under conditions of uncertainty such that assets or income are not overstated and liabilities or expenses are not understated. However the exercise of prudence does not allow, for example, the creation of hidden reserves or excessive provisions the deliberate understatement of assets or income or the deliberate overstatement of liabilities or expenses because the financial statements would not be neutral and therefore do not have the quality of reliability (Para – 37).
- **Capital maintenance adjustments:** The revaluation or restatement of assets and liabilities gives rise to increases or decreases in owner's fund. While these increases or decreases meet the definition of income and expenses, they are not included in the income statement under certain concepts of capital maintenance. For example, any amount which is incurred in the preceding financial year and omitted from recording shall be adjusted from the capital. In the latest case of Coca Cola, India the company

has been penalized for Rs. 276 Crores for violating the environmental laws shall not be adjusted from the current year result. However it shall be adjusted from the capital funds.

Accounting for obligations to make additional contributions When a contributor has an obligation to make potential additional contributions, for example in the event of the bankruptcy of another contributor or if the value of the investment assets held by the fund decreases to an extent that they are insufficient to fulfill the fund's reimbursement obligations. This obligation is a contingent liability that is within the scope of IAS 37. The contributor shall recognize a liability only if it is probable that additional contributions will be made (Para – 10).

- **Retrospective application:** When a change in accounting policy is applied retrospectively in accordance with paragraph 19(a) or (b), the entity shall adjust the opening balance of each affected component of equity for the earliest prior period presented and the other comparative amounts disclosed for each prior period presented as if the new accounting policy had always been applied (Para – 22). However the provisions of paragraph 22 are subject to paragraph 23 of the said IAS.
- **Changes in accounting estimates:** As a result of the uncertainties inherent in business activities, many items in financial statements cannot be measured with precision but can only be estimated. Estimation involves judgments based on the latest available reliable information. For example, estimates may be required of: (a) Provision for cleanup costs. (b) Provision for rehabilitation costs for mining industries. (c) Provision for contingency claims. (d) Provision for other environmental related costs such as air pollution, noise pollution, toxic gases and hazardous waste materials. (e) Provision for acquisition of equipments for pollution control. The use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability (Para – 33). Under this reporting standard the entity provides the statistics about emissions production of pollutants toxic waste disposal systems ground water pollution & land degradation depletion industrial accidents and environmental impact studies from the various raw data during the compilation.
- **Errors:** Errors can arise in respect of the recognition measurement presentation or disclosure of elements of financial statements. Financial statements do not comply with IFRSs if they contain either material errors or immaterial errors made intentionally to achieve a particular presentation of an entity's financial position financial performance or cash flows. Potential current period errors discovered in that period are corrected before the financial statements are authorized for issue. However material errors are sometimes not discovered until a subsequent period and these prior period errors are corrected in the comparative information presented in the financial

statements for that subsequent period (paragraphs 42–47). It is necessary to make estimates in applying an accounting policy to elements of financial statements recognized or disclosed in respect of transactions other events or conditions. Estimation is inherently subjective. And estimates may be developed after the reporting period. Developing estimates is potentially more difficult when retrospectively applying an accounting policy or making a retrospective restatement to correct a prior period error because of the longer period of time that might have passed since the affected transaction other event or condition occurred. However, the objective of estimates related to prior periods remains the same as for estimates made in the current period namely for the estimate to reflect the circumstances that existed when the transaction other event or condition occurred. IAS 1 Presentation of financial statements financial statements are a structured representation of the financial position and financial performance of an entity. The objective of financial statements is to provide information about the financial position financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions. Financial statements also show the results of the management's stewardship of the resources entrusted to it. To meet this objective financial statements provide information about an entity's: (a) Assets (b) Liabilities (c) Equity (d) Income and expenses. including gains and losses (e) Contributions by and distributions to owners in their capacity as owners (f) Cash flows These information's along with other information in the notes assists users of financial statements in predicting the entity's future cash flows and in particular their timing and certainty (Para – 9). An entity cannot rectify inappropriate accounting policies either by disclosure of the accounting policies used or by notes or explanatory material (Para – 18).

- **Going concern:** When preparing financial statements management shall make an assessment of an entity's ability to continue as a going concern. An entity shall prepare financial statements on a going concern basis unless management either intends to liquidate the entity or to cease trading or has no realistic alternative but to do so. When management is aware in making its assessment of material uncertainties related to events or conditions that may cast significant doubt upon the entity's ability to continue as a going concern the entity shall disclose those uncertainties. When an entity does not prepare financial statements on a going concern basis it shall disclose that fact together with the basis on which it prepared the financial statements and the reason why the entity is not regarded as a going concern.

Information to be presented in the statement of financial position As a minimum the statement of financial position shall include line items that present the following amounts: (a) property (plant and equipment) (b) investment property (c) intangible assets (d) financial assets (excluding amounts shown under (e) (h) and (I)) (e) investments accounted for using the equity method (f) biological assets (g) inventories (h) trade and other receivables (i) cash and cash equivalents (j) the total of assets classified as held for sale and assets included in disposal groups classified as held for sale in accordance with IFRS 5 - Non-current Assets Held for Sale and Discontinued Operations (k) trade and other payables (l) provisions (m) financial liabilities (excluding amounts shown under (k) and (l)) (n) liabilities and assets for current tax. As defined in IAS 12 Income Taxes (o) deferred tax liabilities and deferred tax assets. As defined in IAS 12 (p) liabilities included in disposal groups classified as held for sale in accordance with IFRS 5 (q) Non-controlling interests.

Sources of estimation uncertainty According to Paragraph – 125, an entity should disclose information about the assumptions it makes about the future and other major sources of estimation uncertainty at the end of the reporting period that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year. In respect of those assets and liabilities the notes shall include details of: (a) their nature (b) their carrying amount as at the end of reporting period. IAS 37 - Provisions. Contingent Liabilities and Contingent Assets Provisions the Standard defines provisions as liabilities of uncertain timing or amount. A provision should be recognized when and only when (a) An entity has a present obligation (legal or constructive) as a result of a past event. (b) It is probable (i.e. more likely than not) that an outflow of resources embodying economic benefits will be required to settle the obligation; and (c) A reliable estimate can be made of the amount of the obligation. The Standard notes that it is only in extremely rare cases that a reliable estimate will not be possible. In rare cases, for example in a law suit, it may not be clear whether an entity has a present obligation. In these cases a past event is deemed to give rise to a present obligation if taking account of all available evidences it is more likely than not that a present obligation exists at the end of the reporting period. An entity recognizes a provision for that present obligation if the other recognition criteria described above are met. If it is more likely than not that no present obligation exists the entity discloses a contingent liability unless the possibility of an outflow of resources embodying economic benefits is remote. The amount recognized as a provision should be the best estimate of the expenditure required to settle the present obligation at the end of the reporting period in other words the amount that an entity would rationally pay to settle the obligation at the end of the reporting period or to transfer it to a third party at that time. If an entity has a contract that is onerous the present obligation under the contract should be recognized and measured as a provision. An onerous contract is one in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it.

Contingent liabilities -The Standard defines a contingent liability as: (a) a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or (b) a present obligation that arises from past events but is not recognized because: (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or (ii) The amount of the obligation cannot be measured with sufficient reliability. An entity should not recognize a contingent liability. An entity should disclose a contingent liability unless the possibility of an outflow of resources embodying economic benefits is remote. The above all discussed international Financial Reporting Standards and International Accounting Standards are discussed with a view to applicability in various situations in the environmental accounting. The accountant and the auditor are required to be familiar with the applicable paragraphs of the above said standards for the recording measurement and reporting in the financial statements.

CONCLUSION:

On the basis of above discussion, it is concluded that environmental financial reporting practice are increasing day by day. Still the organization is required to enhance the scope of environmental financial reporting from the present reporting practices consistency of methodological approaches as recognition and measurement of environmental costs environmental benefits environmental assets and environmental liabilities. These should be based upon the relevant paragraphs of the standard prescribed by the International Financial Reporting Standards. Hence, improvements in quality of environmental financial reporting are required. Further a formal set of recognized reporting principles and a standardized reporting framework not dissimilar in principle to those adopted in the Company law or to IASB framework should help overcome any perception that reporting of social and environmental information lack credibility.

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