

# Corporate Environmental Accounting and Reporting

Accounting refers to measurement of economic events and summarising and reporting them in the form of financial statements for use by the stakeholders i.e. bankers, creditors, shareholders, public and government. Reporting is thus the end function of accounting. To enhance the reliability of the accounting numbers, the financial statements need to be authenticated by an independent auditor. Hence, without such authentication, the financial statements lose their usefulness to the stakeholders.

## Accounting for Corporate Environmental Measurement

In this context, the requirement is to identify the role of accounting in measuring economically environmental activities, taking decisions on environment related issues based on cost benefit analysis, managing environmental costs, taking capital budgeting decisions based on, among others, green justification of processes and products, preparing financial statements in compliance with generally accepted accounting principles, getting the financial statements audited by an independent auditor and disclosure in financial statements to promote decision making of the stakeholders. In short, the object is to account for economic effects of all environmental activities of the firm to promote quality of life. Accordingly, accounting is used in a broader sense to include fi-



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**There are several environmental challenges to the activities of companies. How do the corporate citizens meet their environmental challenges is the key question. Accounting, measures and reports all the economic activities of the firm but accounting in the context of corporate environmental management is under greater focus these days. Environmental accounting may be understood from two broad perspectives – one relating to National Level Environmental Accounting and the other, Corporate Level Environmental Accounting. This article delves into various aspects of Corporate Environmental Accounting and Reporting.**

financial, cost and management accounting issues including control functions like internal and external audits. Some of relevant issues are:

- How to recognise environmental effects on conventional accounting practice and framing accounting policies accordingly?
- Are the environment-related costs and revenues separately identified, measured and reported in the conventional system?
- What are environmental costs? Is there proper allocation of hidden environmental costs for better decision-making?
- Are the amount incurred, if any, for taking necessary environmental measures during the period sub-divided into suitable heads, such as:
  - ❖ liquids effluent treatment;
  - ❖ waste gas and air treatment;
  - ❖ solid waste treatment;
  - ❖ analysis, control and compliance;
  - ❖ remediation;
  - ❖ recycling;
  - ❖ accident and safety, and
  - ❖ others, if any,
- What is the financial and operational effect of environmental protection measures on the capital expenditure and earnings of the company in the current year? Do they have any specific impact an future periods?
- Is the capital expenditure decision making process suitably adjusted for justifying “green technology”?
- What policy is followed regarding amortisation of environment related capital

- expenditure?
- Does the existing system of recording and reporting company's liabilities and provisions take into consideration environmental issues?
- How does the company treat additional expenditure incurred for training of employees to enhance their environmental awareness?
- How much is spent annually on research and development to innovate environment-friendly processes and products?
- Is there any scope for setting up a catastrophe reserves?
- Does the product innovation decision take care of environment friendliness? Does it involve additional cost?
- What are environmental benefits? Can these benefits be identified, measured and disclosed under suitable classification, such as —
  - ❖ process benefits;
  - ❖ product benefits;
  - ❖ fiscal benefits, and
  - ❖ overall other benefits?
- What is the impact on profitability of the company for getting ISO 14000 accreditation and for following ISO 14001 standards? Can ISO 14001 increase net operating profit of the company?
- What accounting standards do we need for measurement and reporting of economic activities that take care of environmental issues? Did the FASB or IASB issue any such standard? How can ICAI cooperate with other notable international accounting standard-setters to formulate a suitable accounting standard to capture identification, measurement and disclosure of environ-

ment costs and benefits of a firm in India?

- Has the company introduced a separate environmental audit system? If yes, who forms part of the audit team – employees or external persons? What is the composition of the team?
- Does the environmental audit report form part of the statutory audit report or separate environmental report?
- What is the level of social responsibility reporting in the annual report of the company? Does the reporting of a environmental activities form part of social responsibility and shown separately? Or, is it shown only as a part of Director's Report?
- Does the company show expenses on environmental activities in the annual report under a separate head or are they clubbed with items of operating expenses?

The above and many other similar issues become pertinent for discussion in the context of accounting for corporate environmental management. It would be impossible to delineate here all of them for the constraint of volume. Accordingly, only a few of them are discussed here briefly.

#### Accounting Policies

Accounting policies form the basis of measurement and reporting of economic activities of the firm and are critical for understanding its accounting numbers contained in the annual reports. The environmental awareness of the firm, translation of the awareness into environmental measures leading to some economic activities and treatment of environment-related ex-

penses can be captured well only when accounting policies of the firm make a suitable disclosure of them in appropriate places of the financial statements. In India, Accounting Standard (AS) 1, *Disclosure of Accounting Policies*, deals with the disclosure of significant accounting policies to be followed for preparation and presentation of financial statements. The purpose of this standard is to promote better understanding of financial statements by making the disclosure of significant accounting policies in the financial statements and the manner of doing so. Such disclosure facilitates a more meaningful inter-period and inter-firm comparison.

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What kind of disclosure should then form part of accounting policies to capture environment-related economic activities of the firm? Few of them are:

- Financial effect of environmental protection measures both in revenue and capital expenditure and the basis of such classification.
- Capitalisation and accumulation of environmental costs and amortisation thereof.
- Measurement and disclosure of environment related liabilities and provisions.
- Setting up of catastrophe re-

- serves and use of the same.
- Environment related revenue expenses and their classification into suitable heads. vis. recycling, remediation, accident and safety, to mention of few.
- Disclosure of contingent liabilities.

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Out of the above-mentioned issues disclosure of contingent liabilities is a complex issue. The amount of contingent liabilities depends on the lack of environment awareness of the firm. The greater the measures taken by the firm to promote environmental activities, the lower the amount involved and *vice versa*. Contingent liabilities are normally disclosed, if *material*, in the notes to financial statements. The contingent liabilities relating to the environmental activities of the company may include:

- liabilities, provisions and reserves that have been set for the current period, and amounts accumulated to date;
- contingent liabilities, with an estimate of the amount involved, if the event is likely to occur. The possible loss could be quantified to the extent reasonably practicable. A feasibility study of remediation costs may be taken to estimate the contingent liability. However, if

the possible loss cannot be reasonably estimated, a description of the nature of contingent liability should be furnished and the reason why an estimate of the amount of the loss cannot be made should also appear as part of the note.

It may be mentioned that AS 4, *Contingencies and Events Occurring after the Balance Sheet Date*, is to be complied with both in letters and spirit. The standard requires disclosure only in respect of those contingencies and events which affect the financial position to a *material extent*. Simple disclosure of events occurring after the balance sheet date is not expected to be useful, as it would not facilitate future projections. It is necessary to disclose anticipated effect of such events on revenues, expenses, assets and liabilities of the reporting entity.

#### **Environmental Costs Management**

Strategic cost management cannot ignore environment factors. Environmental costs may be hidden, contingent and image building or such costs may be a part of allocated costs of the asset used for prevention of environmental degradation. The hidden costs are included in overhead expenses borne by all operations, rather than charged back to departments actually using the service. These items need proper analysis and allocation for decision-making and control.

Activity-based costing may be used for more accurate cost allocation. Since hidden costs occupy a significant portion of the total costs of a company, impact of allocation of indirect costs to products or services more accurately would be significant. In strategic cost management, the thrust is on *prevention of misallo-*

*cation* of indirect costs to products and processes and ensuring more scientific allocation of the same to products and services. Thus, improved cost allocation is used as a 'superior strategy' to become, ultimately, better off in terms of decision-making compared to its competitors.

Better-cost management enhances profitability and shareholder value. Some companies are able to cut costs and improve environmental performance simultaneously (Business and the Environment, 1991). As for example, major Hotel Chains over the past two decades have tried to follow this approach. These companies' strategies include reducing their solid-waste generation and cutting their water and energy use. Almost all of them have replaced small bottles of shampoo and soap bar with small packs of shampoo and liquid soap saving substantial money both in terms of consumption and waste of the articles by the customers. Many are also using recycled packaging for amenities.

Industrial companies may cut costs and enhance environmental performance at the same time by redesigning inflexible or wasteful routines. For example take the case of Xerox Company, in late 1980s the Company's market share declined and its profit margin eroded substantially due to emergence of new entrants in the market. In 1990, the Company's management responded to the challenge with a new management initiative – the Environmental Leadership Programme – that eventually included waste reduction efforts, product "take-back" schemes, and environment-friendly design. By the mid-1990s, Xerox's large manufacturing complexes

in Webster and New York was sending only 2% of its hazardous waste to landfills. The Company then labeled the programme an unqualified success (Business & the Environment, pp. 46-47). Thus, dramatic cost savings are possible when a company is under tremendous market pressure. Does stringent environmental regulation put the same kind of pressure on companies that competitive pressure does? It can be argued that investments in environmental improvements, like all other investments, are worthwhile if they deliver value after all the management costs have been included.

Another important area in environmental cost management is management of insurance and other costs. For many, environmental management means risk management. The primary objective is to avoid the costs that are associated with an industrial accident, a consumer boycott or an environmental lawsuit. Managing these areas effectively can itself be a source of competitive advantage. A company can benefit from a review of its insurance policies and risk management systems. Is the company buying the right policies? Is it retaining risk when the coverage is overpriced? Is it rewarding managers who reduce risk in their own operations or subsidising risky behaviour by failing to control it adequately? The company can analyse the relative value of investing more in environment-friendly systems, rapid response teams, maintenance, and other systems and activities that reduce environmental risk. It can also work to change employee's attitude towards environmental and safety issues by designing suitable training programme and frequently conducting such pro-

grammes in order to reduce the risk of accidents. Environmental risk can be managed more effectively both by applying more rigorous quantitative analysis and by increasing the company's emphasis on training and cultural change programmes. Like traditional business risks, some investment in environmental risk management is prudent.

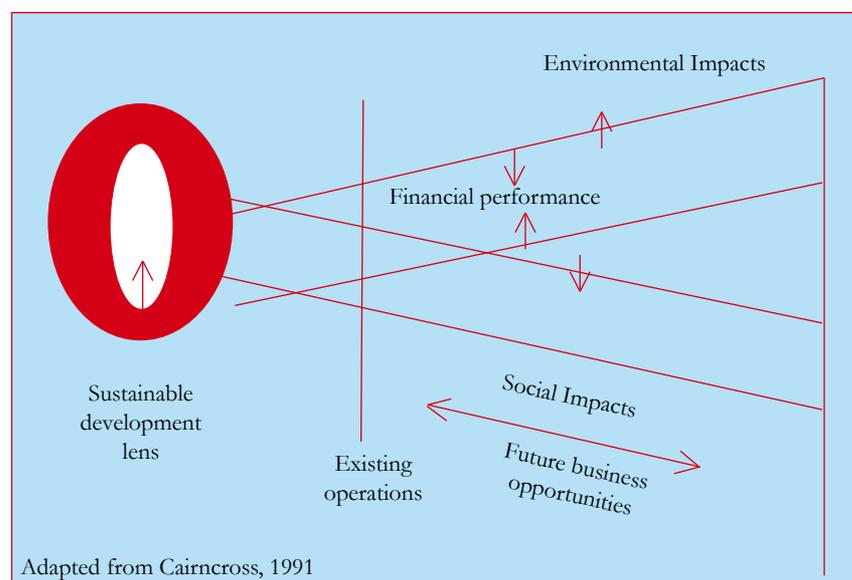
## Reporting Principles and Contents

Preparation and presentation of corporate financial reports are governed by Generally Accepted Accounting Principles (GAAP) that are applicable in a particular context. Reporting of environmental performances of the firm is generally considered as a part of Corporate Social Reporting (CSR) and is likely to be guided by the same principles, guidelines and regulatory provisions. In this context, issues concerning sustainability are generally raised. Sustainable economic development encompasses economic, environmental and social performances of the company. The Royal Dutch/Shell Group of Companies

considers sustainable development reporting in an interesting way as shown in Figure 1. Therefore, from the standpoint of sustainability, reporting may assume a different dimension. Accordingly, the reporting principles and contents rooted in the premise of sustainability are briefly discussed below.

## Reporting Principles

The Global Reporting Initiative (GRI) Guidelines (June, 2000) presented a first version of the principles that are essential to produce a balanced and reasonable report on an organisation's economic, environmental and social performance. GRI (2002) presents a revised set of principles with the benefit of time and learning through application of the June 2000 Guidelines. These principles are designed with the long term in mind and are expected to create an enduring foundation upon which performance measurement will continue to evolve on new knowledge and learning. The questions those may be addressed in this context and the possible answers in brief are as follows:



*The lens lets the management see the world through the eyes of stakeholders.*

- What principles form the framework of the report? The core principles are transparency, inclusiveness and auditability.
- What information to report? It involves completeness, relevance and sustainability context.
- What will be the quality or reliability of reported information? The required criteria are accuracy, neutrality and comparability.
- What will be the accessibility (how, when) of reported information? It includes two important quality aspects: clarity and timeliness.
- Is the environmental report auditable? The principle of auditability relates to several other principles such as comparability, accuracy,

neutrality and completeness. Auditability demonstrates that the process underlying report preparation and information in the report itself meets standards for quality, reliability and other similar expectations.

The 11 principles, suggested by GRI 2002 Guidelines, can now be shown in Figure 2.

It may be mentioned that the principles of transparency and inclusiveness represent the starting point for the reporting process and are woven into the fabric of all other principles, Transparency in reporting is an exercise in accountability – the clear and open explanation of one’s actions to those who have a right reason to inquire. The inclusiveness principle is rooted in the premise that stakeholder

views are integral to meaningful reporting and must be incorporated during the process of designing a report. The third core principle, as shown in the figure 2, is auditability, which refers to the extent to which information management systems and communication practices lend themselves to being examined for accuracy by both internal and external parties. In other words, reported data and information should be recorded, compiled, analysed and disclosed in a way that would enable internal or external auditors to attest to their reliability.

In short, the principles outlined above should help ensure that the sustainable development report:

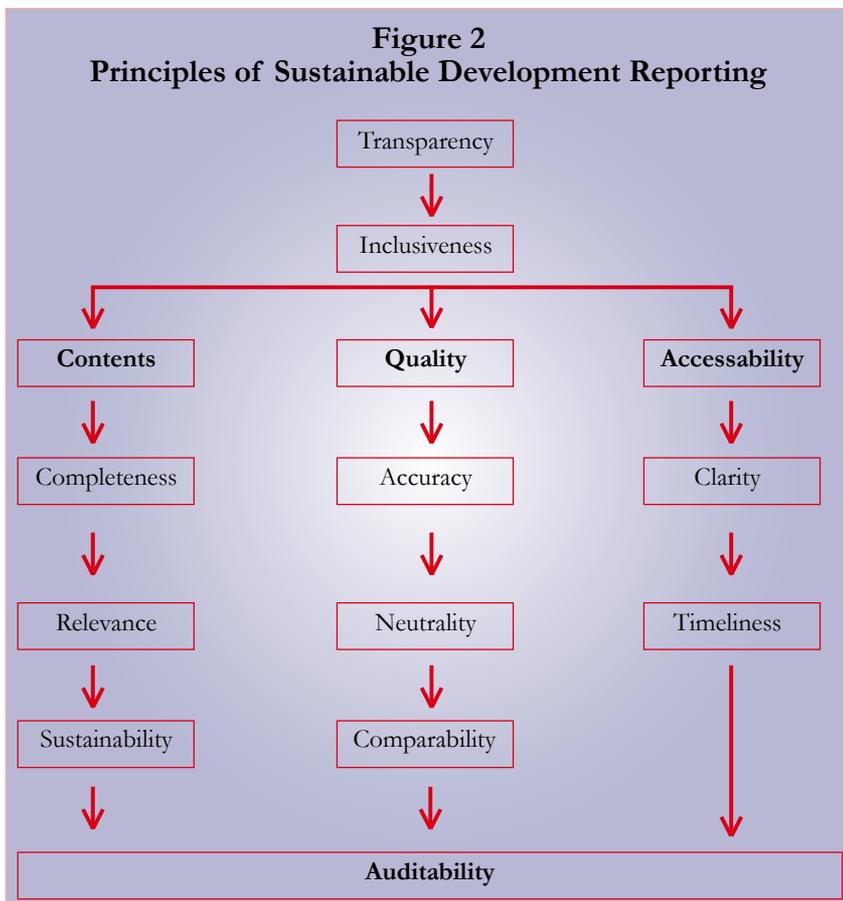
- presents a balanced and reasonable account of economic, environmental and social performance, and the resulting contribution of the organisation to sustainable development;
- facilitates comparison over time and across organisations, and
- credibly addresses issues of concern to stakeholders.

### Contents of the reports

Part C of GRI Guidelines suggests the content of the report in five sections, vis.

- (i) description of vision and strategy;
- (ii) a profile of reporting organisation’s structure and operations and of the scope of the report;
- (iii) governance structure and management systems;
- (iv) content index, and
- (v) performance indicators (economic, environ-

**Figure 2**  
**Principles of Sustainable Development Reporting**



mental, social and integrated, if possible) performance indicators.

Performance indicators are grouped in terms of the three dimensions of the conventional definition of sustainability – economic, environmental and social. Table 1 contains performance indicators according to a hierarchy of category, aspect and indicator.

Performance indicators may be expressed either in qualitative or quantitative form or in both. Quantitative indicators are auditable and are more authentic information to rely upon. Qualitative indicators

**Environmental audit refers to a systematic method of verifying that environmental regulations are complied with, the processes and products are environmentally acceptable and the business activities of the company do not affect the environment adversely. EA helps a company to identify issues before they become big problems affecting seriously the environment and the company.**

may be complementary to present a complete picture of an organisation's economic, environmental and social performance. In a highly complex situation, where it is not possible to identify or measure quantitative indicators that capture the organisation's contribution – positive or negative

**Table 1 - Sustainability Performance Indicators**

	Category	Aspect
1.	<b>Economic</b>	<ul style="list-style-type: none"> <li>• Customers</li> </ul>
	Direct economic impacts	<ul style="list-style-type: none"> <li>• Suppliers</li> <li>• Employees</li> <li>• Providers of capital</li> <li>• Public sector (taxes, subsidies, etc)</li> </ul>
2.	<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Materials</li> <li>• Energy</li> <li>• Water</li> <li>• Biodiversity</li> <li>• Emissions, effluents and waste</li> <li>• Suppliers</li> <li>• Products and services</li> <li>• Compliance</li> <li>• Transport</li> <li>• Overall</li> </ul>
3.	<b>Social :</b>	<ul style="list-style-type: none"> <li>• Employment</li> </ul>
	(i) Labour practices and decent work	<ul style="list-style-type: none"> <li>• Labour and management relations</li> <li>• Health and safety</li> <li>• Training and education</li> <li>• Diversity and opportunity</li> </ul>
	(ii) Human rights	<ul style="list-style-type: none"> <li>• Strategy and management</li> <li>• Non-discrimination</li> <li>• c Freedom of association and collective bargaining</li> <li>• Child labour</li> <li>• Forced and compulsory labour</li> <li>• Disciplinary practices</li> <li>• Security practices</li> <li>• Indigenous rights</li> </ul>
	(iii) Society	<ul style="list-style-type: none"> <li>• Community</li> <li>• Bribery and corruption</li> <li>• Political contributions</li> <li>• Competition and pricing</li> </ul>
	(iv) Product responsibility	<ul style="list-style-type: none"> <li>• Customer health and safety</li> <li>• Products and services</li> <li>• Advertising</li> <li>• Respect of privacy</li> </ul>

– to economic, environmental and social conditions, qualitative information may be the most appropriate one.

## The Shell (2003) Reporting Practice

The Royal Dutch Petroleum Company has been following GRI Guidelines for preparation and presentation of its sustainable reporting. The Shell Report 2001 was titled as “People, Planet and Profits”. Then the company incorporated many changes in its 2001 report to improve its content and quality in succeeding years. In the Shell Report 2003,

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the company integrates the sustainable development considerations into the following:

- (1) *A Social Responsibility Committee* of non-executive directors reviews the “performance in living” by” the company’s Business Principles (including support for fundamental human rights

and company’s commitment to sustainable development).

- (2) *Mandatory Shell policies and standards* (business principles, health, safety and environment policies; global environmental performance standards).
- (3) *Internal assurance*. Executive responsible for business segments must provide annual assurance that their operations comply with Shell policies and standards.
- (4) *Appraisal and reward*.
- (5) *Investment reviews*. All projects are required to complete integrated environmental, social and health impact assessments.
- (6) *Interactions with the communities*. For example, in 2003 report, all major chemicals sites introduced a social performance plans with internal reviews for high risk facilities. Similarly, major oil products sites and exploration and production companies and projects did the same in 2004.
- (7) *Leadership development*. The company undertakes training of employees and makes internal communication to them so that employees increasingly understand their contribution to sustainable development in respect of their jobs.

### Performance data

The Shell 2003 report contains performance data (pp. 22-25) in terms of (i) economic key performance indicators, (ii) environmental key performance indicators and (iii) social key performance indicators, a few examples of each of which are given below:

#### (i) Economic indicators

Total shareholder return

(1994-2003). It is calculated as the total of stock appreciation and yield from reinvested dividends before taxes. For other indicators Find out more on [www.shell.com/annualreport](http://www.shell.com/annualreport) or [www.shell.com/shellreport/data](http://www.shell.com/shellreport/data)

#### (ii) Environmental indicators

Global warming potential (million tonnes CO<sub>2</sub> equivalent with target for 2010).

Energy efficiency (whether targets met) in respect of its:

- Oil products,
- Chemicals, and
- Exploration and production.

Total spills (thousand tonnes).

Flaring in exploration and production (million tonnes).

(External perception of environmental performance.

#### (iii) Social indicators

Diversity and inclusiveness (e.g. gender diversity in senior leadership, management and supervisory/professional staff).

Fatalities:

- fatal accident rate (among employees and contractors: per 100 million working hours).
- Injuries-total reported case frequency (among employees and contractors; per million working hours and showing target upto 2007).

Reputation (Shell vs. nearest competitor; survey among general public).

Integrity (based on survey among staff). Respect for staff.

### Environmental Audit (EA)

For most environmentally conscious companies an environmental audit is very important. The concept was first developed in the United States where corporations, through EA, used to check on compliance with en-

environmental laws (Cairncross, 1992). After the Bhopal disaster these corporations were anxious to ensure that their overseas subsidiaries met the same standards as their parent corporation. American multinationals started to audit abroad since then. In Europe, environmental liabilities are less severe and companies see environmental auditing as a way of discovering how they could improve their environmental performance as to demonstrate their environmental responsibilities to the outside world. In India, the practice has not yet become popular although some companies in the private sector, vis. TISCO, ITC and a few others, have been conducting EA periodically.

Environmental audit refers to a systematic method of verifying that environmental regulations are complied with, the processes and products are environmentally acceptable and the business activities of the company do not affect the environment adversely. EA helps a company to identify issues before they become big problems affecting seriously the environment and the company. EA makes an objective evaluation of how well the company has been managing its environment-related activities. Environmental activists are more interested in EA. There are certain important issues that become pertinent for discussion regarding Environmental audit. Some of them are given below.

- What areas should be brought under EA in a developing country like India?
- Who should conduct the audit and what should be

the audit methodology and tools and techniques?

- Should the EA report form part of the statutory audit report or should it become a separate report?

In the developing economies, the environmental awareness among the corporate citizens is not of very high level, and because of less stringent legislations, environmental liabilities are also less severe. The scope of the audit may, therefore, be framed keeping in view the environmental-awareness of the company, its environment policy and commitment and finally, the impact of its activities on the environment. The following are some of the suggested areas (Paliwal, 2001):

- Environmental policy of the company and commitment of management.
- Resource conservation [section 217(1)(e) of the Companies Act, 1956]
- Work environment, occupational health and safety.
- Compliance with regulatory requirements in terms of (a) air and water pollution, (b) discharge of effluents, etc.
- Implementations of EMS if the company concerned has obtained ISO 14000 standards and following ISO 14001 standards.
- Overall impact of the company's business activities on the environment.

In view of complex nature of the job that requires multidimensional approach, the work should be done by a team of experts rather than by an individual. Some companies may form the team out of its own employees to start the process; for a com-

pany, which has been showing a high level of environmental performance, it may be constituted out of external experts only. It is desirable that the team should comprise a chartered accountant (member-secretary), a chemical engineer, a mechanical engineer, a management expert and a practicing lawyer. In the absence of an acceptable standard of audit methodology, the team should define the objectives, methodology and procedures of audit and the tools and techniques that should be applied. Companies which have obtained ISO accreditation and are following ISO 14000 standards, should follow the prescribed guidelines for EA.

On the question of EA report, in the developing countries, where environmental awareness is not very high even among the corporate citizens, it is hard to expect that a separate report should be published along the line of statutory audit report. Rather, it should be made part of annual audit report to make the report least expensive way of bringing it to the attention of the management and the stakeholders. EA may be conducted periodically rather than making it an annual feature. Audits become far more useful when senior management backs them than when they are considered merely an obligation. Further, no company may be willing to append to its annual report the full details of its auditor's review of environmental performance on the ground of cost and public criticism. What matters, after all, is not how the report is published but what action is taken to follow up on the audit findings. □