

UNIVERSITY OF ZIMBABWE

IIBReview

Business Review

Environmental reporting: An evaluation of the Zimbabwe Stock Exchange-listed companies annual reports — 2008

Rodney Ndamba

Department of Accountancy, University of Zimbabwe

ABSTRACT

Environmental Reporting continues to receive attention in emerging economies and financial markets, including Africa. This paper presents results of a research on the Zimbabwe Stock Exchange (ZSE) listed companies' annual reports for 2008 in an attempt to establish the level of disclosure and perceptions on environmental reporting in Zimbabwe. The research applies content analysis and survey strategies. The results provide empirical evidence for potential policy influence on corporate reporting culture within the Zimbabwe Stock Exchange listed companies. The findings of this research provide a basis for future studies addressing legitimacy of environmental reporting in Zimbabwe.

Key words: Environmental Reporting, Sustainability Reporting, Corporate Disclosure, Zimbabwe Stock Exchange

1. INTRODUCTION

Environmental Reporting has developed in recent years to the extent of being part of corporate disclosure in annual reports. Though perceived as less prominent among environmental stakeholders, the accounting profession has taken keen interest in this kind of reporting (Gray and Bebbington, 2001). However, most of the developments in the field of environmental reporting have been led by developed nations like Denmark, Sweden, Norway, United Kingdom, Germany, Canada and Australia. African countries have lagged behind despite suffering from environmental disasters (UN-Economic Commission for Africa, 2002). In Southern Africa, Environmental Reporting is an emerging subject which has received limited attention except in South Africa (De Villiers and Barnard, 2000; De Villiers and Antonites, 2003).

This paper presents results of a research aimed at establishing the level of environmental reporting at the Zimbabwe Stock Exchange. It will also attempt to establish whether the level of disclosure could be associated with any perceptions and other factors. The research employed a questionnaire on perceptions of auditing firms and economic sector bodies while content analysis strategy was applied to annual reports — 2008 review. Annual reports remain a vehicle for environmental performance disclosures (Brown and Deegan, 1998). This research provides a basis for policy influence on environmental reporting in Zimbabwe.

The significance of this research is to draw attention to environmental reporting consideration in stock exchange listing rules, particularly on mining companies. Economies in Southern Africa are mainly supported by mining activities which have some environmental impact. However, some of the impact has been associated with multinational corporations which take advantage of poor environmental management and regulatory policies in the region. This observation is also noted by Hawkins (2006) on a growing trend of business ventures being moved to less regulated regions such as Asia, Africa and Latin America.

Environmental reporting is not mandatory in many financial markets in Southern Africa with the exception of South Africa which has a more developed financial market. In South Africa, environmental reporting is covered under King III Code of Corporate Governance which promotes sustainability reporting (economic, social, environmental and governance) (Institute of Directors Southern Africa, 2009). As for the Zimbabwe Stock Exchange (ZSE), environmental reporting is not mandatory. The ZSE is among the oldest stock exchanges in Southern Africa established in 1896 but has received limited research attention. As such, this research dedicates its evaluation on the full listing while limiting the subject to environmental reporting.

R. Ndamba

The rest of this paper is organised as follows: In section 2, a perspective of environmental reporting in relation to accounting and context of Zimbabwe is discussed. Section 3 outlines the methodology and data collection strategy. Section 4 provides descriptive statistics while section 5 presents results and analysis. Section 6 concludes this paper.

2. PERSPECTIVE OF ENVIRONMENTAL REPORTING

Environmental reporting has developed with recognition among accounting institutions and bodies (Gray and Bebbington, 2001) with implications for accounting to accommodate environmental issues. Within the accounting profession there has been a discourse on whether existing international accounting standards are adequate to fully account for environmental impacts (Gray and Bebbington, 2001). While accounting bodies believe that existing accounting standards, together with current exposure drafts, are generally adequate to account for the environment (Gray and Bebbington, 2001; Adams et al, 2002), United Nations Conference on Trade and Development (UNCTAD) — ISAR illustrated how IAS 37 Provisions, Contingent liabilities and assets could be used to financially account for the environment (Adams et al, 2002).

Developments in environmental reporting have shown an emerging classification of environmental data. A review of literature by Moneva and Llen (2000) classified environmental data into quantitative and qualitative while noting a gradual shift from qualitative reporting by Spanish companies. However, qualitative environmental reporting may be difficult to compare over periods (Nyquist, 2000). A development in non financial information reporting has lead to a homogeneous reporting which entrenches environmental reporting within sustainability reporting. Annual reports now carry an integration of qualitative and quantitative information on environmental impacts.

2.1 Perspective of Financial Accounting on Environmental reporting

Financial accounting consideration of environmental issues has developed over time with Gray and Bebbington (2001) illustrating how a change in legislation to accommodate environmentally friendly assets can include the changing life expectancy of an asset, hence impacting depreciation charges. This illustration displays the significance of financial accounting in environmental reporting. Gray and Bebbington (2001) went on to recognise environmental reporting in financial accounting by identifying five (5) areas for displaying environmental data in an annual report (Figure 1). These areas were considered as compulsory reporting disclosures by Moneva and Llen (2000).

Figure 1: Environmental Reporting Sections in an Annual Report

- 1 Contingent liabilities;
- 2 Provisions:
- 3 Extraordinary or exceptional charges against profit;
- 4 Operating and Financial review comments;
- 5 Profit and capital expenditure forecasts for shareholders' circular.

Source: Gray and Bebbington (2001), p199.

In addition, the International Accounting Standards Board (IASB) provides International Accounting Standards (IAS) useful for environmental reporting. For illustration, IAS 36 Impairment of Assets deals with changes or factors that affect the value of an asset as a result of technological changes influenced by environmental concerns (IASB, 2008). IAS 16 Property, Plant and Equipment require costs of an item of property, plant and equipment to be included in the initial estimate of costs of dismantling and removal of an asset and restoring the environment on which it is located (IASB 2008), which therefore mean capitalisation of environmental costs.

IASB (2008) also provides other accounting provisions such as IFRIC 1 Changes in existing Decommissioning, Restoration and Similar Liabilities and IFRIC 5 Rights to interest arising from Decommissioning, Restoration and Environmental Rehabilitation Funds. IFRIC 6 Liabilities arising from Participating in Specific Market — Waste electrical and electronic equipment provides guidance on costs arising from disposal of electrical gadgets (IASB 2008) that can be harmful to the environment. These provisions illustrate the extent to which environmental aspects are covered in financial accounting supported by international accounting standards.

Lastly, IAS 1 Presentation in Financial Statements, IAS 8 Accounting policies, Changes in Accounting Estimates and Errors and IAS 23 Borrowing costs (IASB, 2008) provides provisions regarding the presentation, measurement and capitalisation in financial statements. These provisions incorporate elements of compulsory reporting in annual reports (Gray and Bebbington, 2001; Moneva and Llen, 2000; Medley, 1997).

2.2 Narrative Reporting Perspective on Environmental Reporting

Environmental data can be presented in various forms in an annual report. Environmental data can either be qualitative (narrative) or quantitative (numeric). Moneva and Llena (2000) divide narrative information into generic and qualitative information. Generic information includes general data on the inter-relationship between the company's activities and the natural environment (Moneva and Llen, 2000). This information tends to cover aspects such as environmental policies, practices and commitments. Moneva and Llen (2000) describe qualitative information as including details about environmental policies and activities which are either planned or already undertaken. Qualitative information tends to reflect action or performance.

Narrative information in environmental reporting tends to include management reports. Moneva and Llena (2000) categorised narrative information as voluntary reporting which cover general company information, chairman's report and a separate environmental report. Over the past years, there has been a general shift in narrative reporting of environmental impacts. The establishment of Global Reporting Initiatives (GRI) and its sustainability reporting frameworks had significant impacts to narrative reporting. Companies now present both qualitative and quantitative information in similar sections when reporting on performance (GRI, 2012).

2.3 Context of Environmental Reporting in Zimbabwe

In Southern Africa, trends show that only Botswana, Namibia and South Africa have environmental accounting policies unlike Zimbabwe which currently does not have a standing policy for environmental reporting (Lange, 2003). In South Africa, environmental reporting is mainly driven by mining companies who are also the main drivers of the economy (De Villiers and Antonites, 2003; De Villiers & Barnard, 2000). The trend in South Africa can be associated with the nature of the economy, regulations and competitive forces (De Villiers and Antonites, 2003), unlike in Zimbabwe where it is voluntary.

As for Zimbabwe, environmental reporting lacks drivers. Firstly, the Environmental Management Act [Chapter 20:27] (EMA, 2008) does not make mandatory disclosure requirements for listed companies. Secondly, the country does not have a code of corporate governance which can compel companies to disclose environmental impacts. The perception in South Africa is that environmental issues are an important business issue (De Villiers, 1995). Such a perception has potential impact to influence the level of environmental reporting, which may need to be seen in the case of Zimbabwe.

The Government of Zimbabwe launched a National Environmental Policy and Strategy document (Govt of Zimbabwe, 2009) but the document did not cover environmental reporting. The document overlooked other existing drivers such the Standards Association of Zimbabwe (SAZ)'s ISO 14001 certification on Environmental Management System. ISO14001 requires companies to meet certain environmental standards in their business operations. Costs associated with compliance qualify for environmental reporting from a financial accounting perspective while the process could be disclosed through narrative reporting.

R. Ndamba

Economically, Zimbabwe went through a decade of economic paralysis that ended early 2009 with an adoption of a multi-currency economic system. As such, annual reports for 2008 were the last to be prepared under the Zimbabwean Dollars as a currency unit, with the guidance of IAS29 — Accounting in hyperinflationary economies. Inflation rate for Zimbabwe had reached 231,150,888.87 % (Year on year) in July 2008 while the July 2008 inflation rate had reached 35,500,566,912,457.9% (Reserve Bank of Zimbabwe, 2009). After this period, no inflation statistics could be recorded. Financial statements after this period are currently being reported in United States Dollars. As such, this makes this research interesting as a basis for future research that could establish whether the level of disclosure can be related to the state of the economy.

3. METHODOLOGY AND DATA COLLECTION

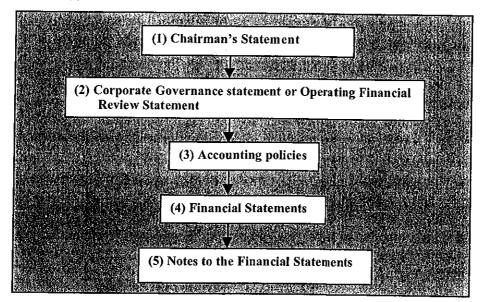
3.1 Research Design

Content analysis was employed to consider environmental elements in both compulsory and voluntary reporting (Moneya and Llen, 2000) to establish a quantitative measure of the level of disclosure in annual reports. A similar approach was employed in a study of environmental reporting in Finland (Niskala and Pretes, 1995). Content analysis provides an unobtrusive method for generating data systemically in identified variables (Bryman and Bell, 2003). Since the research was meant to trace a single variable, content analysis was considered appropriate to enable establishing the level of disclosure.

The review focused on five (5) key sections (Figure 2) split between generic and compulsory (Moneva and Llena, 2000) starting with information contained in the chairman's report (Section. 1) which is expected to highlight any certification or compliance with applicable environmental regulations and requirements. Secondly, the corporate governance or the Operating financial Review statement section (Sections. 2) which is expected to state the company's attitude towards environment. The Accounting policy section (Section. 3) is expected to state policies on how environmental transactions should be recognised in financial statements. De Villiers and Barnard (2000) consider accounting policy section as a minimum requirement in an annual report. Section 1, 2 and 3 provides information of a qualitative nature.

In Section 4, the financial statements are expected to reflect the quantitative or economic values of environmental impacts while Notes to the financial statements (Section 5) are expected to disclose any other financial values or figures and information not qualifying for recognition in financial statements, for example contingent liabilities and assets relating to the environment (De Villiers and Barnard, 2000; Gray and Bebbington, 2001).

Figure 2: Content Analysis Approach



Other than establishing a quantitative measure of the level of environmental disclosure, the research attempts to collect perceptions on the subject in the context of prevailing economic conditions. These perceptions were collected from economic sector bodies and auditing firms through a questionnaire survey. Auditing firms were surveyed because of their role in the quality of environmental information disclosed in annual

3.2 Data Collection

Data was gathered using the 5 Sections above as a checklist for identifying environmental disclosures. The data collected was quantified to allow establishing a quantitative measure of the level of disclosure in all the five sections. Access to data sources was granted by Zimbabwe Stock Exchange only to the extent of publicly available information. Perceptions were collected through a questionnaire survey of economic sector bodies and auditing firms. Descriptive statistics of data collected is presented next.

4. DESCRIPTIVE STATISTICS

Table 1 describes the data set and various aspects of the sample. Analysis data set shows that 76 company reports representing 100% of the actively trading companies at ZSE were used in the analysis while 3 were included as non-disclosures due to stock exchange suspension status. 71 annual reports from 2008 were used together with 5 annual reports from 2007. The 2007 reports used were for companies that had failed to produce annual reports for 2008 due to economic reasons. Survey A shows all 10 questionnaires circulated were received. Survey B shows all questionnaires circulated to economic sector bodies with membership from listed companies were all received. Table 2 outlines a trend of ISO14001 certification in Zimbabwe to the 31 companies by 2008. Table 1: Sample Data

No of 2008 annual reports reviewed		
No of 2007 annual reports reviewed		
No of listed Companies	71	
No of actively trading companies	5	
No of reviewed annual report	79	
% of actival annual report	76	
% of actively trading companies audited by the Big 4 audit firms Survey A: Audit firms	76	
	94%	
No of audit firm questionnaires		
vo of respondents	to.	
Big Four Firms respondents	10	
Survey B: Economic Sector Bodies	10	
o of questionnaires	4	
lo of respondents		
respondent?	3	
able 2: Statistics of ISO14001 Certification 1.	3	

Table 2: Statistics of ISO14001 Certification in Zimbabwe

Nov. O	2001	2002	2003	2004				
New Certifications	1	ì	8	2004	2005	2006	2007	2008
Certification Suspended Oluntary suspension		_	-	<u></u>	7	7 -	2	3
umulative Certifications			-			_	1	-
ource: Standards Association of	of Zimbal	2	10	12	19	1		-
and Amondation (ot Zimbabw	2 (2009)				27	28	31

5. RESULTS AND ANALYSIS

Results of this research are presented, starting with content analysis of 79 annual reports meant to establish the level of environmental reporting at Zimbabwe Stock Exchange. These results are followed by survey results of auditing firms and some bodies in the economic sector. The survey was meant to assess whether the level of disclosure could be associated with any perceptions in the corporate life of the Zimbabwe Stock Exchange listed companies.

5.1 Annual reports

The results presented in Table 3 show that 60% (48 companies) of listed companies made no disclosure of environmental issues in their annual reports. Another larger margin of 28% (22 companies) made only 1 disclosure, while 6% (5 companies) made only 2 disclosures in their annual report. However, 3% (2 companies) of the 79 companies made 4 disclosures on environmental aspects. The full 5 Section disclosures were made by 2 companies representing 3% of listed companies. This level of disclosure could question the legitimacy of corporate reporting at Zimbabwe Stock Exchange.

Table 3: Scores Statistic

· · · · · · · · · · · · · · · · · · ·	0-Score	1-Ѕсоге	2-Scores	3-Scores	4-Scores	5-Scores	Totals
Companies	48	22	5	0	2	2	79
Percentage	60%	28%	6%	0%	3%	3%	100%

The results presented in Table 4 below show the number of companies that made disclosure in their annual reports on the environmental issue in any of the 5 Score aspects. The results show that a bigger proportion of the ZSE listed companies could not make environmental disclosures in the compulsory reporting (Moneva and Llen, 2000) section of their annual reports. On average, 12% of the 79 companies of the ZSE made disclosures.

Table 4: Statistics of Disclosures

Section	No of ZSE Listed Companies	No of Company Disclosures	% of Company Disclosures of Total ZSE listing	
1. Chairperson's Statement	79	11	14%	
2. Corporate Governance Statement	79	24	30%	
3. Accounting Policy	79	7	9%	
4. Financial Statement	79	4	5%	
5. Notes to the Financial Statement	79 -	4	5%	

5.1.1 Chairperson's Statement Disclosure

Results from Section 1 above show that only 11 chairpersons of the 79 of listed companies expressed their awareness of environmental issues by disclosing them in the annual reports. The total disclosure of chairmen represents only 14% of the 79 listed companies.

5.1.2 Corporate Governance statement or Operating Finance Review disclosure

Disclosures in the statement of corporate governance statement or operating financial review section fall in the jurisdiction of Chief Executive Officers (CEOs) or Managing Directors (MDs) who are responsible for

day to day operation of the company. The results above show that only 24 CEOs and Directors made disclosure of environmental issues in their annual reports. The CEOs and Managing Directors represented only 30% of the total listing and 32% of actively trading companies.

5.1.3 Accounting Policies Statement Disclosure

Accounting policy aspects tend to fall under responsibility of Finance Directors or Senior Finance personnel. However, the results above shows only 7 Financial Directors representing 9% of total listed companies made disclosure in company accounting policy on environment.

5.1.4 Financial Statements Disclosure

Finance statement falls in the jurisdiction of reporting accountants. Results of the analysis show that only 4 company reporting accountants representing only 5% of the total of listed companies made a disclosure on how much their companies had spent or set aside as provision for environmental restoration.

5.1.5 Notes to the Financial Statements Disclosure

In the same way, notes to the financial statement are supporting information for reporting accountants. In this section, the same companies that made a disclosure in the finance statement were the same who made disclosures in the notes to the financial statement. There were only 4 companies.

5.1.6 Disclosure by Major Sectors

Results in Table 5 below show that companies in the mining had the highest disclosure of 15 followed by manufacturing (13), Agro-processing (10), Retail & Textile Industry (5), Construction, logistic & engineering (4), Finance services (2) and finally Tourism (1) in making environmental disclosures. The results share the same findings by De Villiers and Barnard (2000) that notes the mining sector in South Africa making more

Table 5: Disclosure by Major Sectors

Major Sectors	Chairman Statement	Corporate Governance	Accounting Policy	Financial		
Manufacturing	3	0		Statement	Notes	TOTAL
Retail &Textile	2	3	2		_	13
Mining	3	2	_			5
Construction,&	-	3	3	3	3	15
Engineering		Ť				15
inance Services	_	1	1	1	1	4
gro-Processing	3	∠ 7				2
ourism	<u>-</u>	<u>-</u>	-		~	10
otal	11	24	<u> </u>	- -	-	1
		24	7	4	4	50

5.2 Audit firms survey

The overall objective of this survey was to establish perceptions of audit firms and factors that could influence the level of environmental reporting by listed companies. The survey posed 5 questions, looking into the level of awareness of auditing staff on environmental issues; knowledge and skills of accounting and auditing standards relating to environmental issues, and awareness of existing environmental regulatory framework.

Finally, the research assesses perceptions of auditors' views on their clients' attitude or expertise on environmental reporting.

The results (Figure 2) show that the level of awareness on environmental issues and existing legislative frameworks by auditing staff was less than average (50%). Consistently, auditing firms expressed that the level of knowledge and skills of their staff on environmental matters is far below 50%. An assessment of three (3) variables show the level of awareness skewed to below 50%. The results also show that 9 out of the 10 big audit firms considered environmental matters to be important for disclosure in annual reports. Finally, 8 out of 10 big audit firms indicated that they were aware that the majority of their clients did not possess adequate knowledge and skills necessary for environmental reporting.

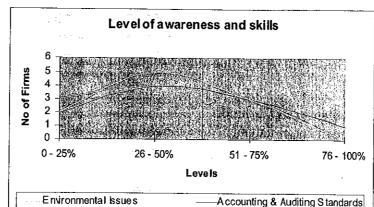


Figure 2: Level of Awareness and Skills

5.3 Economic sector bodies survey

Legislation

The overall objective of the survey was to collect perceptions that could provide a link on whether the level of disclosure is influenced by prevailing economic conditions and perceptions. The survey posed 5 questions looking into whether companies would consider environmental issues part of corporate social responsibility (philanthropy) or part of normal business (Management approach); whether companies considered environmental issues important around 2007 -2008 and whether the state of the economy had any influence, if any. Finally, the survey sought to find out whether environmental accountability had any influence on company performance and whether it was important for companies to be ISO14000 certified.

The results (Figure 3) showed that 67% of economic sector representative bodies perceived environmental issues as part of corporate social responsibility. These results correlated with low level of corporate disclosure. The remaining 33% that considered environmental issues as part of normal business were from the mining sector. Such could be influenced by Global Mining Initiatives and legislations.

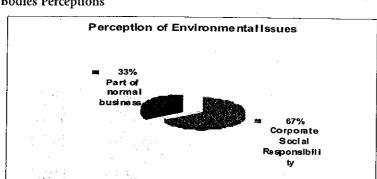


Figure 3: Economic Sector Bodies Perceptions

About two thirds (67%) of the economic sector bodies considered environmental issues to be important around 2007-2008. However, all bodies indicated that the state of the economy between 2005 and 2008 had an impact in their responses to environmental issues. The economic meltdown during that period required companies to focus on survival rather than social issues. However, all bodies believed that environmental disclosure had an effect on market performance of their stocks. Therefore, they would encourage their members to be ISO 14000 certified.

6. CONCLUSIONS

The outcomes of this research provide useful information necessary in future development of the corporate disclosure culture at the Zimbabwe Stock Exchange in relation to non financial information that includes environmental reporting. A 3% disclosure level indicates that there has been very little development since Maphosa's (1997) findings on corporate social responsibility reporting in mission statements. While Maphosa (1997) focused on generic information, the results of this research provide a holistic picture covering both voluntary and compulsory reporting (Moneva and Llen, 2000). Results of perceptions survey show that environmental reporting still occupies the periphery of Zimbabwe Stock Exchange corporate reporting culture.

A key finding from this research shows that environmental information is more concentrated in voluntary reporting sections of the annual report as compared to the compulsory section. As such, this can be a cause for questioning the legitimacy of environmental disclosure at the Zimbabwe Stock Exchange. Narrative information disclosed on environmental aspects could not be easily translated or related to the financial information. Moneva and Llen (2000) indicated that disclosure of qualitative information should transcend to quantitative measures of performance. While a number of limitations were observed from the survey, prevailing state of the economy and perceptions could have contributed to the established level of disclosure.

On the basis of the findings of this research, it can be recommended that future researches collect data over a number of years to enable testing theories that could help provide an empirical understanding of the relationships between the state of the economy and level of environmental disclosure. While the Zimbabwe Stock Exchange is perceived to receive limited research attention, increased research on the exchange could contribute significantly to the corporate culture and life of the companies listed on the Zimbabwe Stock

7. REFERENCES

Adams, R., Coulson, A., Mueller, K., Sturm, A. and Bartel, C. (2002) UNCTAD Guidance manual: Accounting and financial reporting for Environmental costs and liabilities, UNCTAD: Geneva.

Ahmad, Y. J., Serafy, S. E. and Lutz, E, (Ed) (1989) Environmental Accounting for Sustainable development, UNEP/Word Bank:

Brown, N. and Deegan, C (1998) The Public disclosure of environmental performance information — a dual test of media agenda setting theory and legitimacy, Accounting and Business Research, Vol. 29, No.1, pp 221 -41, Winter Issue.

Bryman, A. and Bell, E. (2003) Business Research Methods, Oxford University Press: New York.

De Villiers, C.) and Barnard, P (2000) Environmental Reporting in South Africa from 1994 to 1999: A Research Note: Meditari

De Villiers, C. J. and Antonites, E. (2003) Trend in South African corporate environmental reporting, A research note, Meditari

De Villiers, C.J (1995) More environmental reporting for South Africa?: A research note, Social & Environmental Accounting

EMA (2008) Environmental Management Act (20:27).

Global Reporting Initiative (2012) Sustainability Reporting Guidelines (G3.1), GRI.

Government of Zimbabwe (2009) National Environmental Policy and strategies, Ministry of environment & natural resources

Gray, R. and Bebbington, J. (2001), Accounting for the Environment, 2nd Ed, Sage publications: London.

R. Ndamba

Hawkins, D. E. (2006) Corporate Social Responsibility: Balancing tomorrow's sustainability and today's profitability, Palgrave Macmillan: New York.

International Accounting Standard Board (2008) International Financial Reporting Standards (IFRS) 2008, IASCF: London.

Institute of Directors Southern Africa (2009) King Report on Governance for South: IOD Southern Africa: Johannesburg.

Lange, G M. (2003) Policy Applications of Environmental Accounting, World Bank: Washington DC.

Maphosa, F. (1997) Corporate Social Responsibility in Zimbabwe: A content analysis of mission statements and annual reports: Zambezia, XXIV (ii).

Medley, P (1997) Environmental Accounting — What does it mean to professional accountants, Accounting, Auditing & Accountability Journal, Vol.10, No.4, pp 594-600.

Moneya, J. M and Llena, F. (2000) Environmental disclosures in the annual reports of large companies in Spain: European Accounting Review, 9:1, pp 7-29.

Niskala, M. and Pretes, M. (1995) Environmental Reporting in Finland: A note on the use of annual reports, Accounting, organisation and society, Vol. 2, No.6, pp. 457-466.

Nyquist, S. (2000) Accounting theory and financial environmental reports, Eco-management and Auditing Journal, Dec, Vol7, Issue 4, page 178-185.

Reserve Bank of Zimbabwe (2009), Inflation Data, RBZ.

Standards Association of Zimbabwe (2009), ISO14001 Register, SAZ.

United Nations — Economic Commission for Africa — Southern Africa (2002) Economic Impacts of Environmental Degradation in Southern Africa, ECA/SRDC/SA Publication: Zambia.

BIBLIOGRAPHY

International Federation of Accountants (2005) Environmental Management Accounting, IFAC: New York.

Institute of Chartered Accountants England & Wales (2004) Sustainability: Role of Accountants, ICAEW: London.

King, M and Lessidrenska, T. (2009) Transient Caretakers: Making life on earth sustainable, Pan Macmillian: Johannesburg. McChlery, S (2000) accounting for the environment, ACCA Student Newsletter, ACCA: London.

Piasecki, B.W, Fletcher, K. A. and Mendelson, F. J. (1999) Environmental Management and Business Strategy: Leadership Skill for the 21st Century, Wiley & Sons: New York.

Robbins, T. P. (2001) Greening the Corporation: Management strategy and the environmental challenge, Earth Scan publication: London.

The Accounting for sustainability team (2008) The Accounting for sustainability, Beacon Press: London.

Zadek, S., Raynard, P., Forstater, M. and Oelschlaegel, J. (2004) The Future of Sustainability Assurance, ACCA Research no 86, Certified Accountant Education Trust: London.