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## **ENVIRONMENTAL ACCOUNTING AND DISCLOSURE IN SAUDI ARABIA**

**A Thesis Submitted in Fulfilment of the Requirements for the Degree  
of Doctor of Philosophy of the University of Wales, Cardiff**

**By:**

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**2005**

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## **DEDICATION**

*To my mother, wife, and children.*

## **ABSTRACT**

Interest in environmental issues has grown in the last three decades. This increase in interest has been attributed, at least in part, to global environmental problems (such as the thinning of the ozone layer; global warming; deforestation; species extinction; air, water, and land pollution; and toxic waste) and industrial accidents (such as Bhopal in 1984; Chernobyl in 1986; and the Exxon Valdez in 1989). This rise in environmental awareness has resulted in an increase in research relating to the environment in many disciplines including accounting. However, the literature review indicated that research relating to environmental accounting and disclosure in developing countries is small, and the majority of research in this area is in the context of developed countries. Moreover, no research has been undertaken that analyses and evaluates environmental accounting and disclosure (EAD) practices in Saudi Arabia. This research therefore aims to fill the gap identified in the literature.

The main aims of this thesis were to examine current and perceived EAD in Saudi Arabia. Two methods were utilised to collect data for this endeavour. A questionnaire survey was distributed to three groups of respondents (namely, financial managers in the Top 100 Saudi companies, auditors, and accounting academics), and semi-structured interviews were conducted with members of these three groups to investigate issues relating to EAD in more depth.

The main research findings point to the lack of adoption of current EAD practices by Saudi companies and only a small number of companies among the Top 100 in Saudi Arabia currently have an environmental policy (EP). These findings suggest a lack of awareness of the significance of environmental issues among organisations' management. In fact, lack of interest from organisations' management was thought to be the main reason for not adopting environmental accounting followed by insufficient benefits generated from it. Environmental issues were thought to influence the profitability, survival, competitiveness, image, and decision-making process of Saudi organisations. Accounting for and disclosing information about items related to the environment included water; energy; waste disposal; recycling; remediation; and product life-cycle assessment (LCA). Improvement of the organisation's image in the eyes of the public was considered to be the most influential reason for the disclosure of environmental information (EI) disclosure followed by adherence to local environmental laws. Most important reasons preventing EI disclosure included the non-existence of mandatory requirements to do so and non-requirement by Saudi accounting standards. Due to lack of regulations in Saudi Arabia, disclosure of EI is currently voluntary. The preferred form is a mixture of qualitative, quantitative, and financial forms.

Finally, the overwhelming majority of respondents agreed that Saudi companies should adopt EPs appropriate to their size and activities, and these should include all commitments that will lead to limiting organisations' negative effects on the environment and enhancing positive effects. Environmental information systems (EISs) should be developed and implemented to facilitate EI production and disclosure. Measurement of all environmental impacts of an organisation should be carried out to facilitate decision-making both internally and externally. Governmental agencies and other non-governmental parties should play a major role in promoting environmental awareness to increase the adoption of EAD practices in Saudi Arabia.

## **ACKNOWLEDGEMENTS**

After thanking Allah Almighty, without whose guidance and support this work would not have been possible, I would like to thank many individuals for helping me throughout the course of this thesis. My deepest gratitude goes to my supervisors, Professor Michael John Jones and Dr. Yusuf Karbhari for their unlimited support, sincere advice, and encouragement since the start of my work on this thesis.

I would like to extend my appreciation to Mark Clatworthy, Mahmoud Ezzamel, Howard Mellett, Ken Peattie, Maurice Pendlebury, Aris Solomon, and Jason Xiao, members of staff at the Cardiff Business School of the University of Wales, for their valuable comments during the design stages of my questionnaire. I would also like to thank members of staff at KSU and Imam University in Saudi Arabia for their useful comments on the Arabic version of the questionnaire. My PhD colleagues at Cardiff Business School and my friends deserve special thanks for their support and friendship throughout my stay in Cardiff. Further, I would like to express my thanks to all the respondents to my questionnaire in general, and to individuals who agreed to be interviewed in particular.

I owe my mother the warmest gratitude for her continued love, sincere prayers and unlimited support throughout my life. Also, I am deeply appreciative of the love and joy my wife and children have surrounded me with during the ups and downs of my research.

All members of my family and my friends in Saudi Arabia deserve to be thanked for their continued love and support.

Finally, I am grateful for the financial support from both Imam and AlQaseem Universities, provided through the Saudi Cultural Bureau in London. Special thanks to Mr. Abdullah AlNaser, the Cultural Attaché, and all his staff for the help and support they have given me and all other Saudi students in Great Britain. I also would like to extend my thanks to the University of Wales at Cardiff for providing me with the needed material for my research.

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## **LIST OF ABBREVIATIONS**

AAA	American Accounting Association
ACCA	Association of Chartered Certified Accountants
AICPA	American Institute of Certified Public Accountants
CC	Consultative Council
CDS	Central Department of Statistics
CER	Corporate Environmental Reporting
COM	Council of Ministers
CPA	Certified Public Accountant
CPAR	Certified Public Accountants Regulation
CSD	Corporate Social Disclosure
CSR	Corporate Social Reporting
EAD	Environmental Accounting and Disclosure
EI	Environmental Information
EIS	Environmental Information System
EMAS	The Eco-Management and Audit Scheme
EMSs	Environmental Management Systems
EP	Environmental Policy
ER	Environmental Report
EU	European Union
GAB	General Auditing Bureau
GAO	General Accounting Office
GCC	Gulf Cooperation Council
GFT500	Global Fortune 500 Companies
GPDS	General Presentation and Disclosure Standard
GRI	Global Reporting Initiative
HCCA	Higher Committee of Chartered Accountants
HSE	Health, Safety and Environment
IAS	International Accounting Standards
IASC	International Accounting Standards Committee
ICAEW	Institute of Chartered Accountants in England and Wales
IFAC	International Federation of Accountants
ISO	International Standardisation Organisation
JSC	Joint Stock Companies
KACST	King Abdulaziz City for Science and Technology
KLSE	Kuala Lumpur Stock Exchange
KSU	King Saud University
LCA	Life Cycle Analysis/Assessment
MCCG	Malaysian Code on Corporate Governance

MEPA	Meteorology and Environmental Protection Administration
MOC	Ministry of commerce
MOE	Ministry of Education
MOFNE	Ministry of Finance and National Economy
MOIE	Ministry of Industry and Electricity
MOMRA	Ministry of Municipal and Rural Affairs
MOP	Ministry of Planning
MOPMR	Ministry of Petroleum and Mineral Resources
NACRA	National Corporate Reporting Awards
NCWCD	National Commission for Wildlife Conservation and Development
NGO	Non-governmental Organisation
PIF	Public Investment Fund
RCJY	Royal Commission for Jubail and Yanbu Industrial Cities
REDF	Real Estate Development Fund
SAA	Saudi Accounting Association
SAB	Saudi Agricultural Bank
SABIC	Saudi Basic Industries Corporation
SAMA	Saudi Arabian Monetary Agency
SAR	Social Responsibility Accounting
SCB	Saudi Credit Bank
SCIs	Specialised Credit Institutions
SD	Standard Deviation
SEA	Social and Environmental Accounting
SIDF	Saudi Industrial Development Fund
SME	Small and Medium Enterprise
SOCPA	Saudi Organisation for Certified Public Accountants
SPSS	Statistical Package for the Social Sciences
SR	Saudi Riyal
SRA	Social Responsibility Accounting
SRD	Social Responsibility Disclosures
SSM	Saudi Stock Market
TNC	Transnational Corporations
UEC	The Union Européenne des Experts Comptables Economiques et Financiers
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
US	United States of America
VESAD	Voluntary Environmental And Social Accounting Disclosures

**CHAPTER ONE:  
INTRODUCTION**



# CHAPTER 1: INTRODUCTION

## 1.1 INTRODUCTION

*“Only when the last blade of grass is gone, only when the last tree is cut down, only when the last fish is caught, only when the last river is poisoned, will man realise you cannot eat money.”*

Chief Seattle, to the US Congress, 1854, quoted in ACCA (2003).

The thinning of the ozone layer, global warming, deforestation, species extinction, waste disposal, habitat destruction, energy usage, acid rain, desertification, soil erosion, air pollution, water depletion, water pollution, usage of toxic chemicals, land pollution, nuclear waste, noise pollution, and resource scarcity are some examples of the global environmental problems that are prevalent today (see, for example, Deegan *et al.*, 2000; Ditz and Ranganathan, 1997; Gray and Bebbington, 2001; Mathews, 1997; and Patten, 1992).

In addition to the above examples of global environmental problems, in 1984, one of the world’s worst industrial accidents took place in the Indian city of Bhopal at a pesticide-manufacturing factory owned by Union Carbide, the US-based multinational corporation. The estimations of mortality and morbidity figures as a result of that accident were 3,800 and 350,000, respectively (The Lancet, 2000). In 1986 an explosion in the Chernobyl Reactor, in the former Soviet Union, created an international social and environmental disaster. An extensive radioactive smoke cloud from the burning Chernobyl reactor

spread, not only over the immediate surroundings of the reactor but over vast areas of neighbouring countries, nearly causing a serious nuclear disaster (Marples, 1988). Later, in 1989, the oil carrier, the Exxon Valdez, struck a reef in Alaska's Prince William Sound, setting off one of the most serious environmental catastrophes. Millions of gallons of oil spilled over 1,500 miles of wilderness. As a result, Exxon paid \$1.5 billion in restitution to the state and federal governments. Nevertheless, it was estimated that the amount of punitive damages to the local community was \$5 billion (Fonda, 1999 and Mitchell, 1999). These three environmental catastrophes are major examples of what effects business operations can have on the natural environment and human populations. The effects of such disasters are not only limited to the external environment but also significantly affect the organisations which cause them, in terms of fines, compensation, and, in particular, damage to reputation.

Environmentalists assert that environmental problems have reached such a stage that environmental catastrophes will become far more frequent. This, in turn, has led to an increasing global emphasis on environmental protection, to help minimise environmental problems (see, for example, Deegan *et al.*, 2000; Ditz and Ranganathan, 1997; Gray and Bebbington, 2001; Mathews, 1997; and Patten, 1992). The importance of environmental protection has emerged as a critical issue in the international community only recently (Deegan *et al.*, 2000). The threat of the adverse effects of environmental degradation on human

life is now treated far more seriously. Environmental disasters such as those mentioned above have led to a demand for controls to be imposed on the activities of major corporations in terms of their environmental impact (Deegan *et al.*, 2000 and Patten, 1992). Environmental accounting is an emerging method for monitoring them.

## **1.2 ENVIRONMENTAL AWARENESS AND ACCOUNTING**

Environmental awareness having grown in parallel with the growth in industrial pollution, concerns about the impact of human activities on the earth's systems and resources have generated a rich debate over the last three decades about the balance between economic development and environmental protection. Research concerning the environmental problems has been rapidly evolving. Environmental risks associated with industrialisation has come to occupy a central place in social theory, resulting in the emergence of a new research field. Two social theorists, Ulrich Beck and Anthony Giddens, consider risks, especially environmental and technological risks, as the key to understanding the characteristics and the limits of modernity. Beck (1992) views modern world transformation as creating inequality in the distribution of technological risks. He describes the modern industrial society as one of risk, particularly of technological failure and environmental catastrophe, because modern institutions act in an irresponsible manner and must engage in discourse over society's capacity to deal with the side effects of modern technology, including ecological effects.

According to Giddens (1990) this signals a change in the nature of trust between organisations and the society. In a risk society, trust becomes bestowed trust, which has to be earned or won by organisations from autonomous individuals (see also Giddens, 1993).

Consequently, a collective response is required from the international community, especially those involved in the industrial and commercial activities that have an impact on the environment. Mass production has brought with it a need to focus on the business-environment relationship issues, resulting in growing demands for accounting to play its role in satisfying users' needs for environmental as well as financial information (see, for example, Adams *et al.*, 1998; Bansal and Howard, 1997; Belkaoui, 1984; Deegan *et al.*, 2000; Frost and Wilmshurst, 2000; Gamble *et al.*, 1996; Gray *et al.*, 1995b; Gray, 2001; Hopwood and Miller, 1994; Mathews, 1997; and Patten, 1992). The role of accountants in the context of environmental matters has recently attracted significant attention. For instance, the President of the Institute of Chartered Accountants in England and Wales (ICAEW), Mike Lickiss, once wrote:

*"In responding to the challenges posed by the environment, which is our natural wealth, all aspects of accountancy including financial reporting, auditing, management accounting and taxation will have to change. In doing so, there will be an impact on all members of the institute whether in public practice or in commerce and industry, and whether working at home or abroad"* Lickiss (1991).

Fulfilling the need for environmental information (EI) represents a

major challenge to accountants, because this task falls outside accounting's traditional domain. The American Accounting Association (AAA) identifies the main objectives of traditional accounting as being to identify, measure, record and communicate the financial activities of business (AAA, 1966). The social significance of accounting, which has often been neglected by the accountancy profession, should be handled within the domain of the accountant's role. The usefulness of accounting information extends beyond its immediate focus. Social and political issues (and these include the environment) should be considered within accounting practice. Extensions and modifications to present conventional accounting practices are essential if the accountancy profession is to comprehensively embrace its accountability function (see, for example, Adams *et al.*, 1998; Belkaoui, 1984; Ditz and Ranganathan, 1997; Frost and Wilmshurst, 2000; Gray *et al.*, 1993; Hopwood and Miller, 1994; and Mathews, 1997). Gray *et al.* (1993) also suggest that accountants should be aware of emerging environmental issues and deal with them in a forward looking way. In addition, Ditz and Ranganathan (1997) argue that for many segments, the implications of environmental accounting will be profound. For example, accounting and reporting business environmental performance is expected to become a routine practice, providing a useful information source for customers and shareholders. Thus, environmental performance will be incorporated into financial institutions' evaluation of businesses which are seeking investment partners, finance and insurance. Environmental

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performance during the production, use and disposition stages of products is likely to influence the decisions of environmentally aware consumers. Furthermore, access to EI will enable communities to benchmark the operations of businesses around the world. Finally, environmental accounting will help government agencies, such as environmental authorities, to evaluate environmental policies and their reforms (Ditz and Ranganathan 1997).

The call for accounting to broaden its borders to incorporate the effects of businesses on the environment has been echoed by many accounting researchers (such as Gamble *et al.*, 1996; Gray *et al.*, 1993; Gray *et al.* 1995b; Gray, 2001; Gray and Bebbington, 2001; Mathews, 1997; Owen, 1992; Owen and Lehman, 2000; and Owen and Swift, 2001), in a large body of work, which will be discussed in more detail in chapter three.

### **1.3 THE GAP IN THE LITERATURE**

A literature review of environmental accounting and disclosure (EAD) indicates that EAD has become the subject of research for many academics in the economics, management and accounting fields, and also the basis for a new philosophy that influences the performance of economic entities (see, for example, Gray *et al.*, 1995b; Gray, 2001; and Mathews, 1997). Many international companies have already adopted EAD practices. They incorporate environmental and social information into their public reports (see, for example, KPMG, 2002;



PIRCP, 1998; Raynard and Forstater, 2002; and Stanwick and Stanwick, 1998). Companies provide this information in response to demands from shareholders, as well as a broader group of stakeholders, such as communities, customers, employees, and regulators. Companies generally disclose such information to help stakeholders make informed decisions about their involvement with individual companies. There have been many studies conducted to evaluate the extent to which EAD practices have been carried out in the context of developed countries (see, for example, Adams *et al.*, 1995; Adams *et al.*, 1998; Anderson, 1980; Brown and Deegan, 1998; Campbell, 2000; Collison and Slomp, 2000; Cormier and Gordon, 2001; Cowen *et al.*, 1987; Deegan *et al.*, 1995; Deegan and Gordon, 1996; Deegan and Rankin, 1996 and Deegan and Rankin, 1999; Deegan *et al.*, 2000; Fortes and Åkerfeldt, 1999; Frost and Wilmshurst, 1996; Gray *et al.*, 1995a; Hackston and Milne, 1996; Hall and Jones, 1991; Harte *et al.*, 1991; Jones, 2000; Kreuze *et al.*, 1996; Milne and Chan, 1999; Milne and Patten, 2002; Moneva and Llana, 2000; Neu *et al.*, 1998; Niskala and Pretes, 1995; Nyquist, 2003; O'Dwyer, 2002; Stray and Ballantine, 2000; Tilt, 1994; Tilt and Symes, 1999; Trotman, 1979; Walden and Schwartz, 1997; Wilmshurst and Frost, 2000; and Zeghal and Ahmed, 1990). However, in the context of developing countries the number of EAD studies is relatively smaller (see, for example, Abu Baker and Naser, 2000; ACCA, 2002; Andrew *et al.*, 1989; Belal, 2000; Chiu *et al.*, 2002; de Villiers, 1998; Fun, 2002; Lodhia, 2003; Mezher and Zreik, 2000; Naser and Abu Baker, 1999; Perry and Sheng, 1999;

Savage, 1994; and Rowe and Wehrmeyer, 2001). Indeed, the role that accounting might play, especially in developed countries, has not yet received the attention it fully deserves in developing countries, such as those in the Middle East in general, and Saudi Arabia in particular (see, for example, Belal, 2000).

Most accounting studies focusing on Saudi Arabia have concentrated on the development of accounting standards, the usefulness of corporate reports to providers of finance, and the professional status of accountants (see, for example, Al-Amari, 1989; Al-Dhowaih,y 2003; Alebaishi, 1998; Algaber, 1995; Almahmoud, 2000; Al-Rehaily, 1992; and Ba-Eissa, 1984). Ba-Eissa (1984) compared the development of the accounting profession in Saudi Arabia with the development of the profession in the US and the UK. Al-Amari (1989) examined the development of accounting standards and practice in Saudi Arabia. He investigated factors influencing reporting practices, accounting regulation and policy making, professional motivation, and problem areas. The main aim of Al-Rehaily (1992) was the evaluation of accounting systems in Saudi Arabia. He attempted to highlight the main shortcomings in each component of the accounting system and proposed several suggestions and recommendations for improvement, taking into account the socio-economic development needs of the country. Algaber's (1995) study concentrated on the financial and management accounting practices of British and Saudi Arabian universities. Alebaishi (1998) focused on management accounting

practices in the industrial sector in Saudi Arabia. His study evaluated the use of management accounting information and compared practice with that in developed countries. Almahmoud, 2000 examined the usefulness of annual report information to participants in the Saudi Stock Market (SSM). More recently, Al-Dhowaihy's (2003) study examined the management accounting practices of Saudi Arabian municipalities.

From the above examples, it is clear that there is not a single study conducted in the context of Saudi Arabia dealing with EAD practices. Therefore, it is hoped that this research will shed light on EAD practices in a developing country, namely, Saudi Arabia, and help fill the gap in the accounting literature.

#### **1.4 RATIONALE FOR THE STUDY**

Several factors signify the importance of an examination of EAD practice in Saudi companies. It is desirable to determine whether they can fulfil their social responsibilities in terms of reporting relevant and useful environmental information (EI) to investors, creditors, suppliers, governmental agencies and other stakeholders.

This study attempts to fill the gap in the literature concerning the status of accounting in developing countries and seeks to contribute to a greater understanding of accounting problems by examining EAD practices in Saudi Arabia. Despite recent worldwide interest in environmental issues (see chapter three, section 3.3 for more

details), Saudi Arabia seems to have paid little attention to the environment, as indicated by the lack of studies in the field. This study will therefore shed some new light and help Saudi businesses to understand the underlying issues relating to EAD practice. This will involve gathering and analysing information about Environmental Policies (EPs), Environmental Information Systems (EISs), the measurement and recording of environmentally related items, and environmental risk assessment, to provide a valuable insight into environmental accounting practices. Moreover, obtaining information about the parties to whom EI is disclosed, the frequency, the timing, the location and the form of EI and disclosure will be necessary to evaluate current EI disclosure practices. Generally, the present study may be considered unique, in that it attempts to address the role that accounting can play in terms of expanding the disclosure of corporate information in Saudi Arabia to incorporate EI, which might help in understanding and hence solving some of the environmental problems confronting the country.

This requires consideration of the accountability of organisations operating in Saudi Arabia not only to their owners but also to an extensive set of stakeholders, including current and potential investors, customers, suppliers, money lenders, governmental agencies, insurance companies, employees, the media, and the general public.

To this end, the study surveys the views and perceptions of members of three groups in Saudi Arabia regarding their acceptance of the concept

of holding organisations environmentally responsible and socially accountable for the effects of their activities, and regarding the basic features of EAD practice in Saudi Arabia.

The Saudi authorities in general and the Saudi Organisation for Certified Public Accountants (SOCPA) in particular need to attend to the limitations and shortcomings of current accounting standards covering environmental issues and the disclosure of related information to a wider audience.

SOCPA, which is responsible for developing accounting and auditing standards (see sections 2.3.4 and 2.3.5), issued seventeen accounting standards and fourteen auditing standards up to December, 2003. Surprisingly, none of these included any reference to EAD. This study may perhaps contribute by helping SOCPA to introduce a new EAD standard or to modify an existing standard, such as the General Presentation and Disclosure Standard (GPDS), to incorporate effective EAD guidelines.

This study may also prove useful to Saudi governmental agencies responsible for environmental work, such as the Meteorology Environmental Protection Administration (MEPA), the National Commission for Wildlife Conservation and Development (NCWCD), the Ministry of Agriculture and Water (MOAW), the Ministry of Planning (MOP), and the Ministry of Municipal and Rural Affairs (MOMRA).

The Seventh Five-year Saudi Development Plan (2000-2004) has called for more research on Saudi environmental issues to help preserve and improve the local natural environment (see section 2.2.3.2.2.1). This research is in response to that call, and its outcomes will assist the efforts to preserve and improve the natural environment in Saudi Arabia, through examination and identification of current perceptions on future EAD practice.

The introduction of international environmental management standards and guidelines, such as ISO 14000, the Eco-Management and Audit Scheme (EMAS), and the Global Reporting Initiative (GRI), draws attention to the need to introduce and implement environmental accounting. Some Saudi companies may be interested in adopting standards and guidelines, which may require them to conduct EAD. This study will provide them with some of the needed guidelines from experts (i.e. academics, auditors, and financial managers) to put them on track.

Saudi Arabia is seeking to join The General Agreement on Tariffs and Trade (GATT). Hence, Saudi companies will face more challenges, such as competition from international companies. If Saudi companies are to successfully compete in the international arena, they will need to consider environmental issues and adopt policies that will enable them to be competitors in terms of environmental performance. This study thus seeks to assist Saudi companies' understanding of such challenges

and to provide them with guidance on how to adopt EAD practices.

### **1.5 AIM OF THE STUDY**

In spite of the importance of accounting studies relating to social and environmental issues in the developing countries (Wallace, 1990; and Belkaoui, 1984), no study has been undertaken to analyse and evaluate EAD practice in Saudi Arabia. Hence, the researcher aims to comprehensively explore the issue of EAD through a critical examination of current and future potential practice and the perceptions of interested parties about it in Saudi Arabia.

In order to achieve this aim, answers to several research questions will be required. Questions relating to EAD in Saudi Arabia eliciting the what, why, how, who, where and when will be posed to gain the needed information. This would be accomplished through an empirical survey carried out to examine current EAD practice by Saudi companies and to explore the views and perceptions of interested groups as to the perceived features of it.

### **1.6 RESEARCH QUESTIONS**

The research seeks to answer ten research questions. These form the basis for the study questionnaire and the interview questions, which do not necessarily follow the same format. These questions will seek information from the respondents on both current and potential EAD

practices in Saudi Arabia.

These questions are as follows:

- Q1.** What environmentally related tasks and activities are Saudi Arabian organisations considering?
- Q2.** What is the current and perceived influence of environmental issues on Saudi Arabian organisations?
- Q3.** What are the current and perceived inhibitors and enablers for the adoption of EAD practices by Saudi Arabian organisations?
- Q4.** Who are the current and perceived targets for EI disclosure?
- Q5.** What is the current and perceived form of EI disclosure?
- Q6.** What is the current and perceived timing of EI disclosure?
- Q7.** What is the current and perceived medium of EI disclosure?
- Q8.** What are the current and perceived subjects of EI disclosure?
- Q9.** What are the current and perceived environmentally related issues Saudi Arabian organisations carry out risk assessment for?
- Q10.** Who is the current and perceived party who is/would be in charge of assessing and reporting the impacts of environmental incidents involving Saudi Arabian organisations?

## **1.7 THE RESEARCH METHODOLOGY**

The research utilises more than one type of method, namely a descriptive method and an empirical survey. A descriptive method is used to review, examine and evaluate the socio-economic environment in which accounting operates. A review of the social and environmental accounting literature is also undertaken to gain clearer understanding



and to identify trends in the field.

The research tasks will be undertaken in three sequential stages. First, a review of the literature focusing on EAD will be conducted. The purpose of this review is to identify and gain a clearer understanding of various aspects relating to the subject. In addition, information resulting from this review will be used in the development of a postal survey and subsequently the development of a semi-structured interview check-list.

The postal survey will be conducted to gather data about current practices and perceptions of EAD in Saudi Arabia. The questionnaire will contain two main parts. In the first main part are questions about current EAD practices in Saudi companies. This part consists of two sub-sections of questions to financial managers in Saudi companies. The first sub-section includes questions about some aspects of current environmental accounting practices while the second sub-section contains questions about current environmental disclosure practices.

The second main part of the questionnaire focuses on the perceptions of three groups (financial managers, accounting academics, and certified auditors). The purpose of this part of the questionnaire is to elicit perceptions on EAD practices (for more details, see sections 4.5.1 and 4.5.2 and appendix A).

After analysing data collected via the postal surveys, semi-structured interviews (see section 4.6 and appendix C) will be conducted with those questionnaire survey respondents who indicate their willingness

to be interviewed. The purpose of the interviews is to probe more into the issues under investigation, seek explanations and justifications from interviewees, and clarify responses to some of the questions posed during the first stage of data collection. A detailed description of the techniques employed in the data collection and analysis will be presented in chapter four.

## **1.8 STRUCTURE OF THE THESIS**

As illustrated in figure 1.1, the thesis consists of seven chapters. The first chapter has introduced the research subject and provided background information on the research theme, explaining the emerging need for EAD. It presents the rationale for the research and explains the aim of the study. A brief description of the research methodology to be employed in the study is also provided.

The second chapter presents background information on the socio-economic characteristics of Saudi Arabia, covering major historical, political, social, economic and environmental aspects. Detailed background information on the accounting environment in the country is also presented in this chapter.

The third chapter reviews the EAD literature. This review sheds light on the historical, philosophical and empirical developments in the field. The chapter provides a theoretical background and reviews the literature from developed and developing countries, in order to give a clear picture of developments in the field of social and

environmental accounting and disclosure. In addition, the literature review helps to develop both the questionnaire and semi-structured interview check-list and guides the analysis of the data.

The fourth chapter details the research methodology. It starts with a discussion about research design, presenting philosophical and theoretical issues relating to research methodology. Then, it discusses various methods of data collection, highlighting their advantages and disadvantages. Justifications for using mixed methods for data collection are also provided. The rest of the chapter focuses on the research questions, the development and administration of the study instruments, data collection techniques, identification of the study population, sample selection, and response rates. This chapter concludes with an explanation of the statistical techniques and tests used in the analysis.

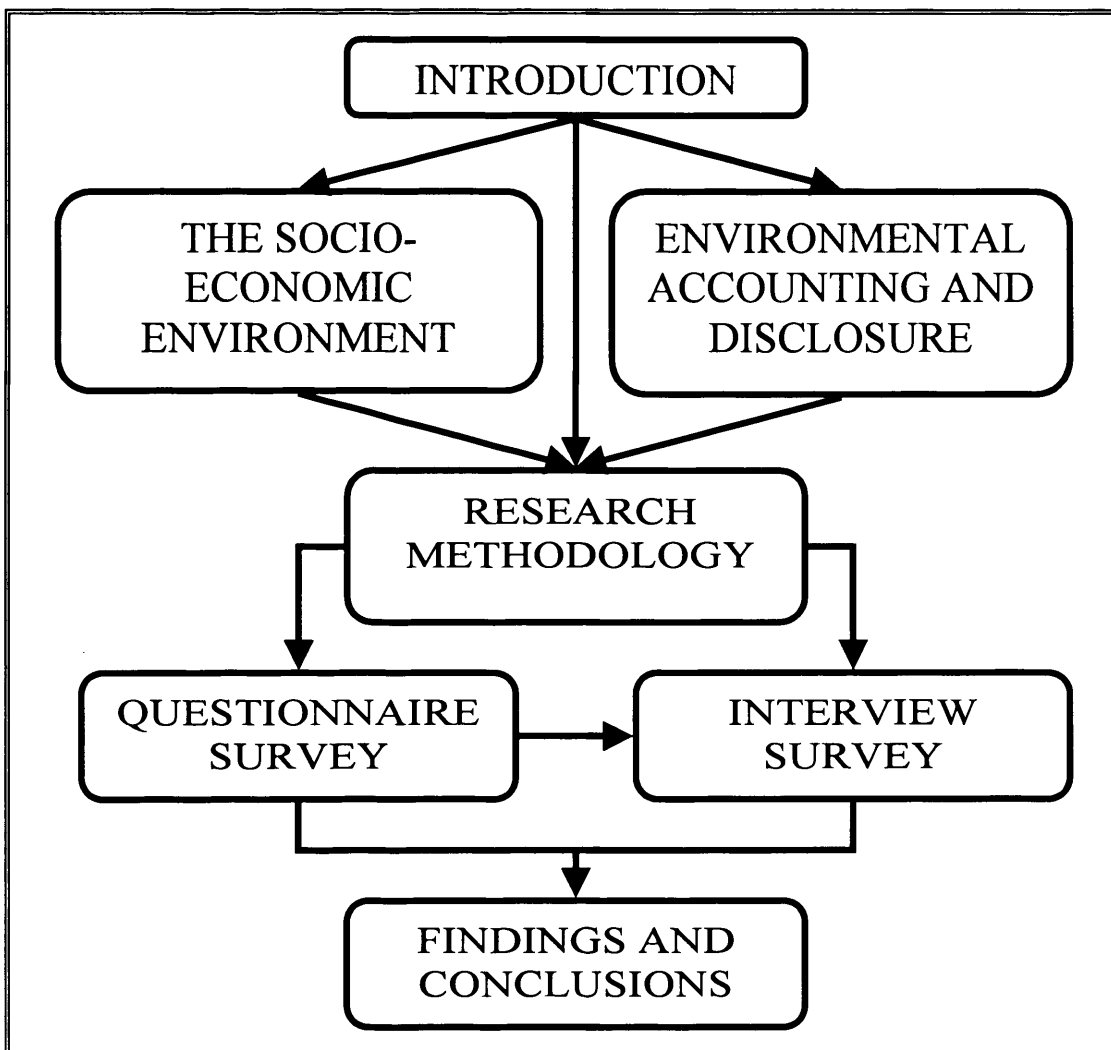
The fifth chapter analyses the data collected through the questionnaires. It presents descriptive as well as in-depth analysis of the collected data. Also, the results of this study are compared with those of prior studies. Statistical tests, such as the Kruskal-Wallis and the Mann-Whitney tests, are used to investigate differences between respondents in terms of demographic characteristics.

The sixth chapter analyses the interview data derived from those respondents who had indicated their agreement to be interviewed at the end of the postal questionnaire survey. In addition to the triangulation

of the results, the analysis of the interview data will help to explain and justify some of the results from the postal survey.

The seventh chapter provides a summary and discussion of the findings and concludes the research. The limitations of the research are also highlighted. Answers to the research questions are summarised and recommendations and suggestions for further research are proposed.

Figure 1-1: Structure of the thesis



## 1.9 SUMMARY

Global environmental problems such as the thinning of the ozone layer, global warming and deforestation in addition to environmental incidents, such as the Bhopal gas leak, the Chernobyl nuclear explosion, and the Exxon Valdez oil spill, have drawn the public's attention to the need for controls on the activities of major corporations in terms of their environmental impact. Some researchers believe that accounting has a role to play beyond its traditional one. In their view, through its external reporting process, accounting can establish an organisational social dimension. It is believed that by including accountants as key players in the environmental management process, the goal of environmental sensitivity within organisations can be achieved.

The second section of this chapter provided background details on the research theme, through a discussion of the role that environmental accounting might play in resolving the issues and introducing the case for the accountancy profession to play a social role. The gap in the environmental accounting literature was identified in the third section of the chapter. subsequently, the rationale and aim of the study were presented, next the research questions and suggested methodologies and finally the structure of the thesis. Background information on the Saudi socio-economic environment as well as the accounting environment will be provided in the next chapter.

**CHAPTER TWO:  
THE SAUDI SOCIO-ECONOMIC  
ENVIRONMENT**

## **CHAPTER 2: THE SAUDI SOCIO-ECONOMIC ENVIRONMENT**

### **2.1 INTRODUCTION**

A study about Saudi Arabia cannot be undertaken without an understanding of the attributes of the country. A review of geographical, historical, political, socio-economic, environmental and accounting factors is essential background detail to the research aims and objectives. Because Saudi Arabia is a relatively new country, documentary materials are limited and difficult to find. A further drawback is that most material about Saudi Arabia is in Arabic and hence must be translated (Al-Farsy, 1986).

The present chapter is divided into three main sections. The first section (section 2.2) provides general geographical, historical, political and socio-economic details. The second section (section 2.3) focuses on the country's historical development as well as the current state of the accounting profession in the Kingdom. The third section (section 2.4) presents an overview of issues relating to the local natural environment.

## **2.2 GENERAL BACKGROUND**

### **2.2.1 Geographical and Historical Background**

Saudi Arabia is located in the south-western part of Asia. It occupies 80% of the Arabian Peninsula, with an area of about 2.25 million square kilometres, of which less than 2% is cultivated. Its climate is characterised by extreme heat during the day, especially in summer, with a rapid drop in temperature at night, and slight, irregular rainfall, although the province of Asir on the south-western coast enjoys milder conditions. There are some differences between coastal, desert and south-western mountain climates (Senani, 1983).

In 1932, King Abdulaziz Al Saud, founded the modern state of Saudi Arabia. In that period, Saudi Arabia was a very poor country, a desert kingdom with few known natural resources and a largely uneducated population. There were few cities and virtually no industry. All this changed when oil was discovered during the 1930s. Saudi Arabia's exploitation of its oil resources transformed the country into a wealthy nation. Wealth brought with it enormous material and social change, so much so that Saudi Arabia became an exaggerated paradigm of possibilities for development in the Third World (Presley and Westaway, 1989, pp. 1-3).

Saudi Arabia is among the fastest growing nations of the world in terms of population, tripling from 7.3 million in 1975 to 21.3 million in 1999. According to the Central Department of Statistics (CDS),



the Kingdom's total population reached 23.37 million in mid 2002, compared with 22.69 million in mid 2001, 3% increase. The government's massive investments in infrastructure projects and private sector investments have necessitated the recruitment of extensive expatriate manpower, which currently accounts for about one fourth of the Kingdom's population (CDS, 2002). The increase in population has led to an increasing demand for basic services, such as water, electricity and housing, which, in turn, calls for continued allocation of economic resources to meet the requirements of development. There needs to be sufficient information for Saudi decision-makers and planners about the usages of natural resources, water and power. This study may help decision-makers to identify the requisite information and determine the timing, form, medium and other aspects of its disclosure.

### **2.2.2 Political Background**

Saudi Arabia is a monarchist state, whose legitimacy is built on four pillars: the King, the Consultative Council (CC), the Council of Ministers (COM) and the various ministries. The King exercises very broad powers, as head of state and government. All legislative enactments are either by royal decree or by ministerial decree (sanctioned by the King). In 1992, King Fahad compiled governmental regulations into a single document called the *Alnitham Al Asasi* (the Basic System), which incorporates the arrangements for the *Ash Shura*, the CC and Regional Government (Al-Farsy, 1999).

The CC was established in 1992. It initially consisted of sixty members, all appointed by the King, and representing public figures from academia, the military, the professional world, and religious scholars (Bulloch, 1992). In 1997, the number of members increased from 60 to 90 and again to 120 in 2001. The CC has the authority to propose new laws, which need approval from the COM in order to proceed (Ash Shura, 2003).

The COM is an influential legislative body in the political system. The King, serving also as Prime Minister, appoints and heads the Council of Ministers, and is the ultimate authority in matters involving all Ministries and state agencies (Al-Farsy, 1999). As regards local government, Saudi Arabia consists of thirteen provinces. The primary objective of local government is to administer the provinces in line with the public policy of the State, and this entails a commitment to furthering the social and economic development of the provinces (Al-Farsy, 2001). This clearly indicates the government's overall control of legislation and all other administrative matters in the country. There are no NGOs or unions, such as labour unions, in the country, which renders difficult the exposure of opinions and the concerns of different groups. If there is a need to introduce any legislation, it has to come from the COM, the CC or the ministries. Any regulation to protect the environment is the sole responsibility of the government.

### **2.2.3 Socio-economic Background**

The oil boom in the 1970s and early 1980s created massive revenues for Saudi Arabia, leading to complete social and economic transformation (Johany *et al.*, 1985). A common approach to analysing socio-economic development in Saudi Arabia is to distinguish two periods, the first from the foundation of the Kingdom up to the early 1970s, and since then a period marked by a series five-year strategies (Al-Bogami, 1996).

#### **2.2.3.1 Pre-1970 stage**

Prior to the discovery of oil in 1938, and even for some time after its discovery, Saudi Arabia was poor and lacked resources. In the 1960s, oil revenues increased due to the increase in oil prices and production. Oil production facilities in Saudi Arabia had to expand to meet growing demand. This expansion enabled the country to earn the necessary revenues to finance the development of the first five-year plan, marking the beginning of the second stage of socio-economic development (Al-Bogami, 1996).

#### **2.2.3.2 The Five-Year Development Plan Era**

The oil economy and dependence on imports created a demand for improved transport and communication infrastructures. This, in turn, led to the establishment of new Ministries to cope with the demands of the new era (Lackner, 1978), in as short a time as possible.

The basic aim of subsequent Five-year Development Plans was to spread the country's economic base, and to lessen dependence on oil as the country's major source of income. In general, each plan aims to achieve specific objectives, programmes and policies. Thus, each individual plan encompasses the basic dimensions of development which are: (1) the social dimension, with an emphasis on improving social welfare through upgrading health, educational and cultural aspects. In economic terms, this develops the manpower for future growth; (2) the economic dimension focuses on supporting the main economic base, diversifying sources of income, realising balanced growth in various economic sectors, seeking optimal utilisation of economic resources, and realising high productivity of human and economic resources; and (3) the institutional dimension is directed at raising the efficiency of government services (MOP, 2000a). In order to achieve these three main objectives, an adequate amount of information about activities relating to these objectives needs to be available. Information about the usage and consumption of natural resources is among the requisite information for developing and monitoring the Five-year Development Plans. The three objectives are the pre-cursors of the current study, regarding social and environmental issues and accounting issues. The following two sub-sections provide a brief overview of the major objectives and achievements of the Sixth Five-year Development Plan (1995-1999) and the objectives of the Seventh Five-year Development Plan (2000-2004), respectively.

#### **2.2.3.2.1 The Sixth Five-year Development Plan**

This plan was expected to achieve an overall average growth rate of around 3.8% for the oil sector, and slightly more for the non-oil sector (3.9%) (SAMA, 1998). Strengthening the role of the private sector was a major theme, with priority to maximisation of new job opportunities, diversifying the economy, developing the country's infrastructure, improving social services, and maintaining a balanced budget (MOP, 1995, pp. 63-64). In general, as Table 2-1 indicates, the Kingdom's economy developed positively during the Sixth Five-year Development Plan, but only at an average annual growth rate of 1.11% a, because of the decline in world oil prices by about 38% in 1998. The non-oil sector's share in Gross Domestic Product (GDP) increased from 66.8% in 1994 to about 68.4% in 1999, and the private sector's contribution to GDP increased from 49% to 50.6% during the same period, indicating a small increase in the contribution of this sector to the diversification of the production base. As a whole, private investment grew at an average annual rate of 6.41% during the period of the development plan (MOP, 2000a, pp. 64-65).

#### **2.2.3.2.2 The Seventh Five-year Development Plan (2000-2004)**

The Seventh Five-year Development Plan aimed at achieving higher growth rates 3.16% in GDP with a focus on non-oil private sector, projected to grow by 0.04% (SAMA, 2002, p. 236). The trends are indicated in Table 2-1 below.

**Table 2-1: The Saudi Economy's Performance in the Sixth Development Plan**

Indicators	1994	1999*	Average Annual Growth Rate (%)	Share in GDP (%)	
	Billion SR	Billion SR		1994	1999
<b>GDP:</b>	<b>450.0</b>	<b>475.7</b>	<b>1.11</b>	<b>100</b>	<b>100</b>
- Non-oil sectors	300.7	325.4	1.59	66.8	68.4
- Private sector **	220.6	240.9	1.78	49.0	50.6
<b>Government sector</b>	<b>80.1</b>	<b>84.5</b>	<b>1.08</b>	<b>17.8</b>	<b>17.8</b>
- Oil sector***	147.0	147.8	0.11	32.7	31.1
- Net import duties****	2.3	2.5	1.16	0.5	0.5
<b>Consumption:</b>	<b>305.4</b>	<b>308.9</b>	<b>0.23</b>	<b>67.9</b>	<b>64.9</b>
- Private	185.8	188.9	0.33	41.3	39.7
- Government	119.6	120.0	0.07	26.6	25.1
<b>Gross Fixed Capital Formation:</b>	<b>84.2</b>	<b>106.3</b>	<b>4.77</b>	<b>18.7</b>	<b>22.3</b>
- Private sector	52.1	71.1	6.41	11.6	14.9
- Oil sector	8.1	7.8	(0.77)	1.8	1.6
- Government sector	24.0	27.4	2.71	5.3	5.8
Consumer Prices Index	1	1.06	1.2		

\*At the constant 1994 prices.

\*\*Private sector: includes petroleum refining and excludes bank service charges.

\*\*\*Oil sector: includes crude oil and natural gas only.

\*\*\*\*Import duties less bank service charges.

Source: MOP (2000a).

Among the sixteen general objectives of the Seventh Development Plan (2000-2004), key points are to prepare the national economy to adjust more flexibly and efficiently to economic changes and international developments, to develop and to discover new mineral resources; and to continue to protect the environment against pollution and develop appropriate systems to preserve natural resources and conserve wildlife (MOP, 2000b, p.107).

It can be seen from the background history that major steps occurred

(over five-year periods) to move from poor to affluent status, with new consideration now for EI, involving work with a variety of institutions, and in the case of this research, the accounting profession.

#### **2.2.3.2.2.1 Key Environmental Issues in the Seventh Five-year Development Plan**

This section highlights some of the key environmental issues included in the Seventh Five-year Development Plan. The government continues to support the private sector, encouraging its entry into new economic activities and removing obstacles that impede its development. The Seventh Plan reaffirms the need for greater coordination between government and the private sector through the dissemination and improved reliability of information (including information about the environmental performance of private sector entities). The Seventh Five-year Development Plan also focuses on the concept of rationalisation, as a means for realising economic efficiency in the use of resources at both production and consumption levels and the elimination of waste. The calls for rationalisation as a basis for supporting socio-economic development (MOP, 2000b, p.110).

The Seventh Five-year Development Plan was the first to include a separate objective for the environment, to protect it against pollution, develop appropriate systems, preserve natural resources and conserve wildlife (MOP, 2000b, p. 107). The Saudi planners recognised that shortages of environmental data and information negatively affect the efficiency of agencies responsible for protecting and maintaining the

environment, which, in turn, prevents proper analysis of environmental phenomena and the establishment of criteria for addressing environmental problems resulting from natural factors. This calls for the provision of appropriate environmental information to all related agencies (MOP, 2000b, pp. 107, 363).

The present study may help in this respect by eliciting the views of accounting professionals and academics on the quality and quantity of environmental information that should be produced and disclosed to different user groups. The outcomes of this study are expected to enable Saudi planners and policy makers to decide what environmental information is needed for disclosure, when to disclose such information, how often, in which media to disclose it and in what form.

#### **2.2.3.3 Industrial Development**

Industrial sector progress in the Kingdom has continued, with considerable support from government. Several Specialised Credit Institutions (SCIs) have been established, including The Public Investment Fund (PIF), The Real Estate Development Fund (REDF), The Saudi Agricultural Bank (SAB), The Saudi Credit Bank (SCB) and The Saudi Industrial Development Fund (SIDF). Since their inception, the SCIs have contributed to promoting development in areas such as agriculture, industry, housing, handcraft work, and others. The loans disbursed are interest-free. The total investment credit disbursed by all public financial institutions since their inception to the end of 1999

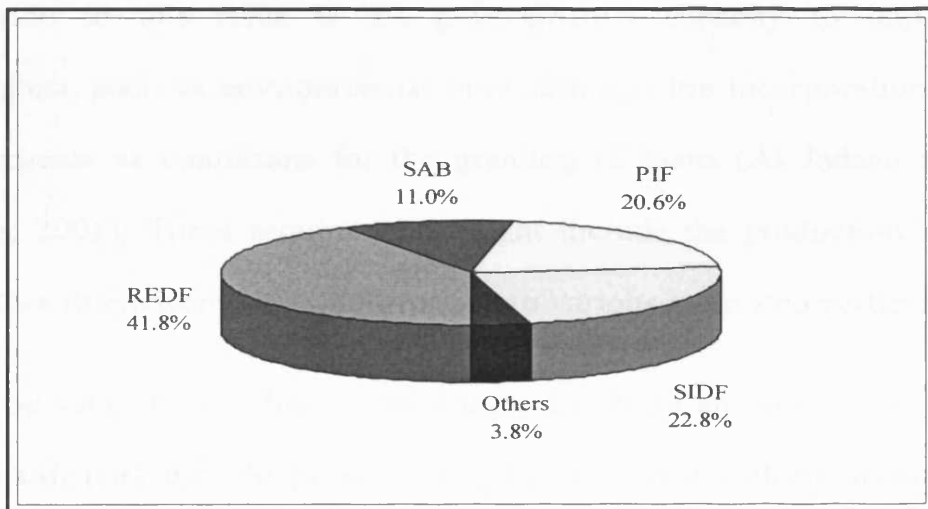


amounted to SR 283.8 billion. The REDF advanced SR 118.6 billion (41.8%), the SAB: SR 31.3 billion (11%), the PIF: SR 58.3 billion (20.6%), the SIDF: SR 64.8 billion (22.8%), and others: SR 10.8 billion (3.8%) (MOP, 2000a, Figure 2-1)

#### 2.2.3.3.1 The Public Investment Fund

The PIF was established in 1971 to provide medium and long-term loans to the public and semi-public corporate sectors. Corporations which have benefited from the fund include Saudi Arabian Airlines, electricity companies, and the Saudi Basic Industries Corporation (SABIC) (SAMA, 2002, p. 167). Table 2-2 shows that lending by the PIF grew from SR 603 million in 1975 to SR 3.7 billion in 1985, dropping gradually to 6 million in 1993 and eventually ceasing in 1994. However, in 1999 it again contributed SR 542 million (MOP, 2000a).

**Figure 2-1: Total Investment Credit Disbursed by All SCIs 1970-1999**



Compiled by the researcher from MOP (2000a, p. 96).

#### **2.2.3.3.2 The Saudi Industrial Development Fund**

The SIDF was established in 1974 to provide long-term loans for the private sector's industrial projects. It offers technical advisory services and marketing assistance, and plays an active role in Saudi Arabia's industrial development process (SAMA, 2002). Total loans approved for industrial projects amounted to SR 150 million in 1974, rising to a cumulative figure of SR 36.4 billion in 1999, covering a total of 1,668 industrial projects and making a significant contribution towards building materials, cement, foodstuffs, minerals, chemicals, and other essential products, besides exports of surplus (MOP, 2000a, p. 27).

The provision of loans to the private sector and public corporations clearly shows that the Saudi government is keen to diversify the national economic base instead of relying on oil as the sole source of income (see Table 2-2 below and Figure 2-1 above). Another dimension to this issue is the government's capacity to impose regulations, such as environmental ones, through the incorporation of requirements as conditions for the granting of loans (Al Jadaan and Mercer, 2001). These requirements might include the production and disclosure of environmental information to various interested parties.

It can be seen from Table 2-2 that there has been an increase in the amounts disbursed by SCIs, which can be associated with the increase in industrialisation in Saudi Arabia, and might imply potential for more environmental problems, and the need for more environmental

information.

<b>Year</b>	<b>SAB</b>	<b>PIF</b>	<b>SIDF</b>	<b>Total</b>
1970	16	-	-	16
1974	145	603	35	783
1980	1129	2949	6486	10564
1984	2322	3662	2416	8400
1985	1551	1429	926	3906
1986*	1019	130	355	1504
1987	841	382	543	1766
1988	755	130	439	1324
1989	854	40	829	1723
1990	1017	364	664	2045
1991	757	44	1023	1824
1992	775	20	1179	1974
1993	941	6	1055	2002
1994	671	0	1322	1993
1995	413	118	2001	2532
1996	431	300	2002	2733
1997	627	542	2003	3172
1998	897	1072	1931	3900
1999	903	542	1246	2691
<b>Total</b>	<b>16064</b>	<b>12333</b>	<b>26455</b>	<b>54852</b>
* For ten months only. Source MOP (2000a, table 25, p.242)				

#### 2.2.3.4 Privatisation in Saudi Arabia

The adoption of free market principles has ensured that the private sector is a main focus of economic activity. Increases in oil revenues offered the government an opportunity to take a leading role in guiding and stimulating economic development. The Sixth Five-year Development Plan had encouraged privatisation, as reflected in the issuance of COM Resolution 60 in 1997, the first paragraph of which states that:

*“Expanding the private sector’s participation in*

*the national economy and enabling it to undertake its role in investment and financing should be in line with national development plans, and this process shall be positive for both the government and the private sector” (MOP, 2000b, p. 63).*

The privatisation process began with the transformation of telecommunications (telegraph and telephone) and the merger of the country’s electricity companies into one joint stock company (MOP, 2000b and SAMA, 2002).

As the privatisation of governmentally owned entities increases, it is expected that the concentration on profits will prevail over social and environmental considerations. If the Saudi government intends to improve the social welfare and protect the environment, as indicated in the Seventh Five-year Development Plan (see sections 2.2.3.2.2.1 and 2.4.5), it might be useful for the government to embed EAD practices in privatised entities, taking into consideration social and environmental issues.

## **2.3 ACCOUNTING BACKGROUND**

### **2.3.1 Introduction**

Some of the socio-economic and political factors discussed in the previous sections have implications for the accountancy profession in Saudi Arabia, as will be shown in this section.

In the early stages of the foundation of Saudi Arabia, there was little demand for accounting because of the basic nature of business (Shinawi

and Crum, 1971, p. 106 and Elkharouf, 1985). However, when oil became the major source of income, the state invested heavily to accelerate economic development. This development stimulated the establishment of Joint Stock Companies (JSC), which led to growing demand for accounting and auditing services, as required by the 1965 Company Act. The need for accountancy was based on the perception that reliable information facilitates rational and efficient decision-making as regards of the generation and allocation of resources. In addition, external audits are perceived as giving reliability and credibility to financial statements (Al-Faisal, 1992, pp. 130-131).

### **2.3.2 Historical Background**

The Saudi government has played a major role, both as a user and regulator, during the various stages of the development of the accountancy profession in the Kingdom. As an information user, it influences the accounting and reporting practices required for the preparation of national planning and economic development. As a regulator, the government exercises control over accounting and reporting practices to protect the public from manipulation and fraud by companies or individuals. The most authoritative government body influencing the accounting profession in Saudi Arabia is the Ministry of Commerce (MOC). It derives its authority from Royal Decree M6 (1965) concerning the regulation of companies (the 1965 Company Act), through which it became the agency to regulate, enforce, and control rules governing all companies working in Saudi Arabia (Al-

Motairy, 2000).

In 1930, the authorities in Saudi Arabia expressed concern about the accountancy profession and, as a result, the Commercial Business Regulation was issued by Royal Decree M32, which stated that accounting records should be maintained. Company Regulations, issued by Royal Decree M6 in 1965, required companies to prepare financial statements, which needed to be audited by a licensed Certified Public Accountant (CPA). It also included provisions that governed the assignment of a CPA and a definition of the scope of his responsibilities. Ministerial resolution 422, issued in 1968, specified that certain requirements should be complied with in order to practise auditing. This resolution was in force until the CPA Regulation of 1974 was issued. This regulation is considered to be the beginning of the modern accountancy profession in Saudi Arabia. In 1979, the MOC conducted a preliminary survey of the accounting environment, and concluded that it should be developed, in line with other countries, mainly the US and the UK, but taking into account the special circumstances of Saudi Arabia (Al-Motairy, 2000).

Accounting practice in Saudi Arabia has developed rapidly over the last two decades. Several factors have contributed, including an increased awareness of the importance of the accounting profession and its role in economic development, especially by some government agencies, such as the MOC, the MOFNE, and the SAMA. The increasing importance of the private sector due to the increase in the number of entities has

emphasised the need for accounting information for decision making processes. At the same time, there has been an increase in the number of academics and accounting graduates in the country (Almahmoud, 2000).

Subsequently, Royal Decree M12 (1992) authorised the formulation of new CPA regulations. This led to the emergence of a new accountancy body, the Saudi Organisation for Certified Public Accountants (SOCPA). The new body operates under the supervision of the MOC to promote the profession and includes among its responsibilities the review, development and approval of accounting and auditing standards and other regulations (details about the formation of SOCPA appear later in this chapter). The chairman of SOCPA's board of directors is the Minister of Commerce, and the state's overall control of the accounting profession is reflected by the presence on the board of three permanent members of state agencies (for more details about the development of the accountancy profession in Saudi Arabia, see Al-Amari, 1989; Alebaishi, 1998; Almahmoud, 2000; Al-Motairy, 2000; Al-Rehaily, 1992; Al-Rumaihi, 1997; and Ba-Eissa, 1984).

The influence of Western practices on the Saudi accountancy profession can easily be recognised. For example, the 1965 Company Act (which describes the structures of different legal forms, the procedures for merging and liquidating companies, and the provisions of various accounting regulations, such as those that govern the assignment of a certified public accountant and definitions of the scope

of his responsibilities, as well as other business matters) has certain links to Western law (Al-Rumaihi, 1997).

Al-Faisal (1981) points out that, since the early days of economic development, private sector companies and establishments and the accountancy profession have depended highly on foreign expertise. For instance, in 1979, the MOC asked Deloitte Haskins and Sells (an international accountancy firm) to prepare a proposal for developing the accountancy profession in the country (MOC, 1979). At the time of the first accounting conference in Saudi Arabia in 1981, Muhansi, 1981, described existing auditing practice as unsatisfactory, and asked the Higher Committee of Chartered Accountants at the MOC to select an internationally recognised body to be its consultant. The conference's recommendations were, among others, the introduction of accounting and auditing standards based on Western experience, and it called for the formation of an institution similar to that in Western countries to be responsible for promoting accounting and auditing practices and for preparing professional examinations. Ba-Eissa (1984) supported the idea and suggested that the model appropriate to the Saudi case should include features from both British and American models. In 2000, Saudi accountancy firms numbered 112, compared to only one Saudi accountancy firm in 1955 (SOCPA, 2001b).



### **2.3.3 The Saudi Company Act**

In 1965, Royal Decree M6 introduced the Company Act. It was the first legislative basis for accounting and auditing practice. The Act, amended in 1982 and again in 1985, consists of 234 articles, mostly providing a legal framework for companies and dealing with such issues as the formation and liquidation of companies. Even though the Company Act is considered to form part of accounting regulation in the country, it does not contain any mention of accounting standards (Al-Amari, 1989).

### **2.3.4 The Saudi Certified Public Accountants Regulation**

In 1974, the Certified Public Accountants Regulation (CPAR) was introduced to regulate the accounting profession simultaneously with the Accountants' Law, and then altered comprehensively and approved by Royal Decree M12 (1992). In Article 19, the Regulation calls for the need to establish the SOCPA to operate under the MOC's supervision. The main objective of SOCPA is the promotion of the accounting and auditing profession and all matters leading to the development of the profession.

The Regulation's articles outline the rules to be applied by auditors in Saudi Arabia. Some of the articles included in the Regulation relate to practice itself, the qualifications of accountants and their obligations, and penalties that may result from violation of laws (SOCPA, 1994). As mentioned in chapter one, section 1.4, the SOCPA issued seventeen

accounting standards and fourteen auditing standards up to December, 2003. For more details of the emergence of the SOCPA, see Al-Motairy (2000).

### **2.3.5 Issuance of Saudi Accounting and Auditing Standards**

As the Saudi government has extensive power over all regulations in the country, it is expected to have the power of direct intervention in regulating the accountancy profession, including the setting of standards. Some authors argue that state intervention in regulating the accountancy profession, including the setting of standards, is an important requirement for the implementation of accounting regulations in developing nations (see, for example, Al-Rumaihi, 1997).

It is typical of Saudi Arabia with its emphasis on and the power of individuals, that certain key players have had an important role in the development of the accountancy profession, as well as in the setting of standards. These key players include accounting professionals as well as accounting academics (Al-Rumaihi, 1997).

Accounting academics in Saudi universities have participated effectively in the development of the accountancy profession. Because there are insufficient accounting and auditing systems to cope with local needs, many academics in different organisations, such as the Saudi Accounting Association (SAA), and accounting departments in some Saudi universities, such as King Saud University (KSU), have participated in the development of the accountancy profession in order

to ensure it remains abreast of other ongoing developments in other fields in the country. In 1981, KSU held a conference on the development of accounting methods, with a view to issuing suitable recommendations. Most of the research and discussion papers at the conference recommended the development of accounting standards, based on the experience of other countries, particularly the US and the UK (see, for example, Al-Amari, 1989; Al-Motairy, 2000; Al-Rehaily, 1992; Ba-Eissa, 1984; and Muhansi, 1981). As a result of the conference, and in the same year, the Academic Board of KSU agreed that the university could establish the SAA as an independent body responsible for the development of the accountancy profession in the country. The SAA has since played an important role in the development of the accountancy profession in the Kingdom (see, for example, Al-Amari, 1989; Al-Motairy, 2000; Al-Rehaily, 1992; and Al-Rumaihi, 1997).

The first attempt to issue accounting and auditing standards in the country was made by the Higher Committee of Chartered Accountants at the MOC in 1981, using Western auditing standards as a base. In 1982, another attempt was made by the General Auditing Bureau (GAB) to issue auditing guidelines (not required by law) for public sector programmes and activities. Their preparation was based on a comparative study of the auditing standards issued by the American Institute of Certified Public Accountants (AICPA), the US General Accounting Office (GAO), the Institute of Chartered Accountants in

England and Wales (ICAEW), the International Federation of Accountants (IFAC), the Union Européenne des Experts Comptables Economiques et Financiers (UEC), and Egyptian accounting regulations. The GAB recommended the adoption of International Accounting Standards (IAS), wherever there were no local standards (GAB, 1982, p.135).

In 1985, the government represented by the MOC asked the Al-Rashed Firm to evaluate the state of the accounting profession, to identify the problems facing it, and propose recommendations for overcoming them. In addition, the Al-Rashed Firm was asked to prepare a framework for the development of the accounting profession, with particular attention to the specific requirements of the Saudi environment. The Al-Rashed Firm came up with a two-phase plan. The first phase suggested carrying out a comparative study of the accounting profession in nine countries, which included the USA, the UK, Canada, France, West Germany, Sweden, Tunisia, Venezuela, and Brazil. Later on, three countries representing different accounting systems were selected for the final comparative study. These countries were the USA, West Germany and Tunisia. A provisional conclusion as to the implications of the study for the development of the accounting profession in Saudi Arabia was provided.

In the second phase, three working groups were formed to determine the objectives of financial accounting, to introduce standards for general presentation and disclosure, to determine and develop auditing

standards, and to organise the internal structure of the profession. As a result, a proposal was prepared and presented to the MOC (Al-Motairy, 2000). In 1986, the MOC issued Ministerial Decree 692, stating that the GPDS would be the official guide for all accounting practitioners in Saudi Arabia. In 1990, the MOC issued Ministerial Decree 852, requiring all companies in Saudi Arabia to comply with the GPDS in the preparation of their annual reports (Al-Motairy, 2000).

As indicated in sections 2.3.2 and 2.3.5, the accounting academics and professionals have significant influence on the development of the accounting profession in Saudi Arabia, in the framework of the Seventh Five-year Development Plan. For this reason, accounting professionals and academics are included in the sample of this study, which elicits views regarding current and future EAD practice in Saudi Arabia.

## **2.4 SAUDI ARABIA'S NATURAL ENVIRONMENT**

### **2.4.1 Introduction**

A number of Ministries and executive agencies are responsible for environmental work, in what is termed 'interlocking' collaboration. These include the MEPA, the NCWCD, the MOP, the Ministry of Petroleum and Mineral Resources (MOPMR), the MOMRA, The Ministry of Education (MOE), the RCJY, and King Abdulaziz City for Science and Technology (KACST). Environmental protection is the major task of the MEPA, which is also responsible for coordination between the various related agencies, participation in the

preparation of strategies and associated policies, monitoring environmental activities and presenting the viewpoints of the Kingdom on environmental issues at regional and international levels.

#### **2.4.2 The Meteorology and Environmental Protection Administration**

With national economic growth, the Department of Meteorology was established within the Civil Aviation Directorate in 1951. Following further growth in the demand for meteorological services from diverse users, a Royal Decree was issued in 1966 establishing the General Directorate of Meteorology. The Directorate's responsibilities include response to pollution of all kinds, and the establishment of different environmental standards. In 1981, a Royal Decree was issued to change the title of the organisation to the Meteorology and Environmental Protection Administration (MEPA, 2002).

A new environmental regulation was recently enacted by Royal Decree M34 (2001). The new regulation aims to create a general regulatory framework for the development and enforcement of environmental rules and regulations. The new regulation was implemented in 2002 (Um al Qura, 2001, 16/10/2001). It assigns to the MEPA the general responsibility for creating a regulatory framework for the development and enforcement of environmental rules and regulations, and coordination with other government agencies, such as the MOAW, MOP, and MOMRA, regarding their development and enforcement (MEPA, 2002).

#### **2.4.3 The National Commission for Wildlife Conservation and Development**

The NCWCD was established in 1986 to conserve, protect and develop land and marine wildlife, ensure ecological balance, and conduct scientific research in the field. Since its foundation, the NCWCD has implemented programmes related to the conservation of endangered wildlife in the sea, on land and in the air. The NCWCD is also responsible for managing *AlMahmiat* (nature reserves), and plays a vital role in enhancing awareness of the importance of conserving wildlife and environmental resources through the mass media, and in stressing the economic and social benefits resulting from conservation efforts (Al-Turaief, 1996, pp. 14-17).

#### **2.4.4 The Ministry of Municipal and Rural Affairs**

Planning of cities, towns and villages in the Kingdom is among MOMRA's general responsibilities. As the protection of environmental resources is an essential element in the sustainability of the urbanisation process, the duties of the MOMRA include minimising environmental damage originating from urbanisation and securing public hygiene and the wellbeing of the country's inhabitants. The MOMRA is involved in areas such as air pollution, ozone measurement, food hygiene, the disposal of wastes, recycling and industrial exhaust treatment. The importance of the municipalities is reflected in the provision of infrastructure and services, and spatial organisation in cities, towns and villages, as well as efforts to enhance public health and the

environment, and improve living conditions (MOP, 2000a).

#### **2.4.5 Environmental Regulations in Saudi Arabia**

Saudi Arabia is the world's largest oil producer, holds the largest oil reserves and has a very large petrochemical industry. The revenues from these are impressive, but the scale of the industries exposes the country to environmental hazards, such as air pollution from carbon emissions, and land and water pollution from oil spills. Therefore, environmental protection is a serious issue. Article 32 of the Basic Law states: "The state works for the preservation, protection, and improvement of the environment, and for the prevention of pollution" (MOP, 2000b).

Saudi Arabia's environmental laws have developed in line with increasing awareness of environmental issues throughout the world. A new environmental regulation was recently enacted aiming to create a general regulatory framework for the development and enforcement of environmental rules and regulations. Under the new regulation, polluting the sea and land of Saudi Arabia with toxic, nuclear or other similar dangerous materials may be punished by imprisonment, fines, cessation or suspension of business activities, seizure and confiscation of machinery, the payment of a compensatory sum commensurate with the damage caused by the pollution, and/or rectification of any damage and cleaning up at the affected site (Um al Qura, 2001, 16/10/2001).

Notably, the new regulation places an obligation on funding institutions



to consider compliance with applicable environmental standards as condition to the disbursement of funds under loan. However, it is not clear exactly what type of entities the new regulation is referring to when it refers to those 'lending funds'. This could be a reference to Saudi Arabian government lending agencies only (such as the SIDF and the PIF), or to commercial lenders generally. It is expected that the regulations will shed some light on this when they are fully implemented. In the meantime, commercial lenders may assume that the new regulations refer to them and, accordingly, they should insist that, as part of the terms and conditions for providing or arranging any loan, the borrower is in compliance with applicable environmental standards before the loan is granted (Al Jadaan and Mercer, 2001).

The new environmental regulations do not include issues relating to EAD practice by organisations operating in Saudi Arabia. The regulations were general in nature, and other governmental agencies, such as MEPA or SOCPA, may introduce their own regulations in the future. These governmental agencies may find this study helpful, as it reveals the views of accounting academics and professionals about the relevant issues.

#### **2.4.6 Water Issues**

The only sources of water in Saudi Arabia are desalinated seawater, underground water, rainfall, and very scarce surface water. This means that the availability of water is a basic factor influencing the social and

economic development processes in the country. The scarcity of fresh water resources is a key sustainable development issue in the Kingdom (MOP, 2000b).

#### **2.4.6.1 Water Development Processes**

According to MOP (2000a) and MOP (2000b), there are many interrelated water issues in terms of management and development. These issues deserve further consideration and require effective measures to resolve them. It is necessary to determine water use priorities consistent with conservation system and to give priority to domestic users in urban and rural areas, as well as providing for livestock, and other agricultural and industrial demands for sustainable development.

The Seventh Development Plan stresses improvements in water management and development, taking into account economic, social and environmental aspects (MOP, 2000b). It seems necessary to make information available about water usage within organisations operating in Saudi Arabia to help develop and implement effective national water policies.

#### **2.4.7 Environmental Achievements During the Five-year Development Plans**

There were many achievements during the Sixth Five-year Development Plan period (1995-1999), with respect to the protection, management and improvement of the environment. For instance, in coordination with other related agencies, the MEPA prepared a

plan for managing coastal zones, to ensure ecological safety and natural balance, as well as to protect against environmental pollution and deterioration, and to sustainably utilise natural resources. Further, standards for controlling toxic and hazardous waste and water quality were updated. The NCWCD prepared a national strategy for conservation of major species of flora and fauna.

Notwithstanding the achievements of the concerned agencies in the field of environmental protection, several key issues that still need to be addressed, such as water resources, desertification, oil pollution, environmental degradation and overgrazing (MOP, 2000a, p. 67 and MOP, 2000b, pp. 359-360).

The present study contributes by eliciting the views of accounting professionals and academics on the quality and quantity of environmental information that should be produced and disseminated to different user groups. The outcomes of the study may enable Saudi planners and policy makers to decide what environmental information is needed for disclosure, when to disclose it, how frequently, in which media and in what form.

Environmental procedures and the disclosure of environmental information to various interested parties may be required in the future. As indicated in Table 2-2 on page 34 above, there has been an increase in the amounts disbursed by SCIs, associated with the increase in industrialisation in Saudi Arabia. The increase raises more

environmental problems, which need to be dealt with in the most appropriate way, and require adequate environmental information to allow for rational decision making processes.

## **2.5 SUMMARY**

A Five-year Development Plan Strategy was initiated in 1970 and continues up to the present day. Although not all objectives have been accomplished, the country has witnessed notable developments in a number of aspects of life. The Saudi population has tripled during the last three decades, (in part because of influx of foreign manpower, needed for maintenance of the infrastructure). The high population has led to an increased demand for basic services, such as water, electricity and housing, which, in turn, requires wise planning to allocate economic resources fairly and efficiently. In its effort to diversify sources of national income, the Saudi Government has established SCIs to aid the private sector and commercially oriented public corporations through their financing services, which provide interest free loans. The government has also adopted a privatisation strategy to increase the participation of the private sector and mobilise it in the development process.

As regards the accounting environment in Saudi Arabia, the development of the accounting profession has paralleled economic development. In the early stages of the foundation of Saudi Arabia, there was little demand for accounting. However, with the vast increase

in oil revenues and the acceleration of economic development, the demand for accounting and auditing services grew noticeably. Up to the end of December, 2003, SOCPA had issued seventeen accounting standards and fourteen auditing standards, none of which was related to environmental accounting or disclosure practices.

Regarding the natural environment in Saudi Arabia, the responsibility for environmental work was originally shared among a number of Ministries and executive agencies. Recently, however, the MEPA, established in 1951, was assigned general responsibility for creating a regulatory framework for the development and enforcement of environmental rules and regulations. The NCWCD was established in 1986 to conserve, protect and develop land and marine wildlife. Among the general responsibilities of the MOMRA are the minimisation of environmental damage originating from urbanisation, public hygiene and the wellbeing of the Saudi public. In 2001, a new Saudi environmental regulation was enacted. Water resources in Saudi Arabia are very scarce and local needs are paramount. The imbalance between available water resources and the rising demand for fresh water resources indicates the delicacy of the water issue in the country, calling for serious and effective measures to cope with the problems. The Seventh Five-year Development Plan is the only development plan to incorporate an environmental objective and discuss environmental issues extensively (designating all of one chapter to environmental matters). Notwithstanding the achievements of the concerned agencies

in the field of environmental issues, there is still a long way to go to achieve acceptable levels of environmental protection and improvement. The current study could assist the effort to preserve and improve the natural environment in Saudi Arabia by exploring the issues relating to EAD. The outcomes of this study may provide interested parties with useful information about the production and disclosure of EI which may be necessary for the planning and monitoring of environmentally related issues.

The next chapter will review the literature, focusing on environmental accounting and disclosure.

**CHAPTER THREE:**  
**ENVIRONMENTAL ACCOUNTING AND**  
**DISCLOSURE IN THEORY AND PRACTICE**

## CHAPTER 3: ENVIRONMENTAL ACCOUNTING AND DISCLOSURE IN THEORY AND PRACTICE

### 3.1 INTRODUCTION

The purpose of this chapter is to review the literature and provide a broad view of empirical studies relating to EAD, and the theory and current practice in organisations. Jones and Matthews (2000, p. 7) state that environmental accounting research focuses on:

*“building a theoretical framework ... or on conducting empirical studies that seek to describe and explain environmental accounting in terms of corporate or organisational characteristics”*

However, it does not attempt to provide an operational and practical framework for environmental accounting.

A great proportion of the literature dealing with accounting and disclosure (including EAD practice) has focused on the developed countries, such as the US, Australia, the UK and other European countries (see, for example, Anderson, 1980; Brown and Deegan, 1998; Campbell, 2000; Cormier and Gordon, 2001; Cowen *et al.*, 1987; Deegan *et al.*, 1995; Deegan and Gordon, 1996; Deegan and Rankin, 1996 and Deegan and Rankin, 1999; Deegan *et al.*, 2000; Fortes and Åkerfeldt, 1999; Frost and Wilmshurst, 1996; Gray *et al.*, 1995a; Hackston and Milne, 1996; Hall and Jones, 1991; Kreuze *et al.*, 1996; Milne and Chan, 1999; Moneva and Llena, 2000; Neu *et al.*, 1998; Niskala and Pretes, 1995; Stray and Ballantine, 2000; Trotman, 1979;



Walden and Schwartz, 1997; Wilmshurst and Frost, 2000; and Zeghal and Ahmed, 1990).

A relatively smaller proportion has dealt with the subject of accounting and disclosure in developing countries, and even less with the environmental aspects. Examples of countries that have been studied are Bangladesh, China, Fiji, Hong Kong, Jordan, Malaysia, Singapore and South Korea (see, for example, Abu Baker and Naser, 2000; ACCA, 2002; Belal, 2000; Chiu *et al.*, 2002; Fun, 2002; Lodhia, 2003; Naser and Abu Baker, 1999; Perry and Sheng, 1999 and Rowe and Wehrmeyer, 2001). EAD is a relatively new area of research, and to the researcher's knowledge, there is no evidence in the literature that indicates the existence of any research in the area in Saudi Arabia.

The theoretical framework and various definitions of social and environmental accounting and disclosure will be presented in section 3.2. as well as the limitations that traditional accounting suffers from in dealing with social and environmental issues, and offers some explanations as to how to overcome these limitations. The theories of environmental accounting and disclosure are discussed in sub-section 3.2.3. Section 3.3 presents a number of empirical studies that have been conducted on this subject in international contexts (sub-section 3.3.1) and national contexts, in developed and developing countries (sections 3.3.2 and 3.3.3, respectively). The adoption of mandatory environmental reporting by some countries is highlighted in sub-section 3.3.4, while the adoption of EMSs is discussed in sub-section 3.3.5.

Sub-section 3.3.6 presents some examples of studies relating to the reporting of EI on the Internet, and major trends found in the literature and relating to the thesis are discussed in section 3.4.

## **3.2 THEORETICAL FRAMEWORK**

### **3.2.1 Definitions of Social and Environmental Accounting and Disclosure**

EAD appears in the literature under many titles, such as environmental accounting and reporting or disclosure, corporate social accounting reporting or disclosure, environmental reporting, social and ethical accounting and reporting or disclosure, social and ethical accounting and auditing and reporting, social responsibility disclosure and reporting, triple-bottom-line, sustainability reporting, sustainable development and even social audit (see Gray *et al.*, 1995b and Mathews, 1997).

The question is whether these represent the same concepts but under different names. A definition is therefore required. According to Gray *et al.* (1995a), a basic definition is a prerequisite for any research. Several writers have observed, however, that this topic lacks consensus on definitions. Gray *et al.* (1995b), for example, note that the literature “does not possess an overall coherence” (p. 47). Gray (2002, p. 688) further commented:

*“... lack of homogeneity of the social accounting project is probably both the source of its continued vibrancy and one of the root causes for its (perceived?) lack of coherence”.*

The paragraphs above have indicated the range of terminologies and perspectives. Whichever is accepted, another key question arises as to whether disclosures should be voluntary or in compliance with mandatory or quasi-legal requirements, or whether disclosure must be quantitative or financial to be regarded as part of the accounting process (Mathews, 1997).

The concept of corporate social responsibility has not always been upheld. Some forty years ago, Friedman (1962) contended that the main purpose of business is to maximise profits for the owners of a business (p. 133):

*“There is one and only one social responsibility of business [that is] to use its resources and engage in activities designed to increase its profit, as long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud...Few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their shareholders as possible”.*

This is in total contradiction with later opinions. Ramanathan (1976) argued that the purpose of social accounting is to help evaluate the fulfilment of a firm’s social contract by providing visibility as regards the impact of the firm upon communities. The notion of social contract assists in the formulation of a firm’s roles, which are (1) to deliver socially useful goods and services, and (2) to distribute economic, social or political rewards to the social groups from which it derives its

power. Hence, Ramanathan (p. 519) views social accounting as:

*“the process of selecting firm-level social performance variables, measures, and measurement procedures; systematically developing information useful for evaluating the firm’s social performance; and communicating such information to concerned social groups, both within and outside the firm”.*

Gray *et al.* (1987, p. ix) suggested that traditional accounting should expand to incorporate social and environmental issues, reflected in their definition of SEA as:

*“...the process of communicating the social and environmental effects of organisations’ economic actions to particular interest groups within society and to society at large. As such it involves extending the accountability of organisations (particularly companies), beyond the traditional role of providing a financial account to the owners of capital, in particular, shareholders. Such an extension is predicated upon an assumption that companies have wider responsibilities than simply to make money for their shareholders”.*

Mathews (1993, p. 64) states that social responsibility accounting (SRA) applies to private-sector entities and produces different types of information, the majority of which is non-monetary, and is important to a wide range of stakeholders, including shareholders, creditors, employees, and the general public. He defines SRA as:

*“Voluntary disclosures of information, both qualitative and quantitative, made by organisations to inform or influence a range of audiences. The quantitative disclosures may be in financial or non-financial terms”.*

It can be seen from the previous two definitions by Gray *et al.* (1987)

and Mathews (1993) that the emphasis is on the disclosure of information but the process of producing such information through accounting procedures is not mentioned. On the other hand, the definition by Gray *et al.* (1993, p. 6) seems to be broader, to include all areas of accounting that may be influenced by a business's response to the environmental agenda. They define environmental accounting in the following terms:

*"...it can be taken as covering all areas of accounting that may be affected by the business response to environmental issues, including new areas of eco-accounting"*.

The definition provided by Mathews and Perera (1996, p. 364) offers a broader definition, with dimensions which encompass the extension of traditional accounting to include external considerations:

*"At the very least, social accounting means an extension of disclosure into non-traditional areas such as providing information about employees, products, community service and the prevention or reduction of pollution. However, the term 'social accounting' is also used to describe a comprehensive form of accounting which takes into account externalities...Public sector organisations may also be evaluated in this way, although most writers on the subject of social accounting appear to be concerned with private sector organisations"*.

The theme of non-traditional disclosure and change is also referred to by Gray (2002, p. 698) who states:

*"If social accounting is anything, it is the opening up of new spaces, of new accountings, not simply reacting to old ones. The project seeks engagement and the changing of practice"*.

The two preceding definitions call for the widening of the scope of traditional accounting to incorporate social and environmental issues.

Bebbington *et al.* (1999) believe that modern accounting disclosure must begin with a concern about social injustice, and then look for ways in which to either expose corporate excesses and accounting and finance's possible complicity. Social and environmental accounting is not about starting with cost accounting and GAAP and searching for ways in which fashionable environmental issues can be inserted into the system. In apparent agreement with this, Gray *et al.* (1996, pp.3, 11) define social accounting as:

*“...some combination of: (a) accounting for different things (i.e. other than accounting strictly for economic events); (b) accounting in different media (i.e. other than accounting in strictly financial terms); (c) accounting to different individuals or groups (i.e. not necessarily only accounting to the providers of finance); and (d), accounting for different purposes (i.e. not necessarily accounting only to enable the making of decisions whose success will be judged in financial or even only cash flow terms)”*.

The definitions by Gray *et al.* (1996) and more recently by Gray (2002) broadly cover accounting for non-economic events (such as environmental events), in non-financial terms, for groups other than the company's finance providers, and for purposes other than financial decision making. A similar broad definition was provided by the FEE's Environmental Task Force (FEE, 2000, p. 10), which defines the objective of external environmental reporting as:

*“the provision of information about the*

*environmental impact and operational performance of an entity that is useful to relevant stakeholders in assessing their relationship with the reporting entity”.*

This definition stresses the importance of environmental performance information to various stakeholders and not only to the owners. It also signals that such information should be useful to these stakeholders and serve their needs.

Jones (1996) used the term ‘accounting for biodiversity’ to refer to accounting for “wildlife habitats (land or water), flora and fauna” (p. 289) (see also, Jones and Matthews, 2000 and more recently Jones, 2003).

### **3.2.2 Limitations of the Traditional Accounting Framework**

Glautier and Underdown (2000, p. 3) point out that the environment in which accounting operates is rapidly changing and accounting is responding to these changes. They comment :

*“Accounting is moving away from its traditional procedural base, encompassing record keeping and such related work as the preparation of budgets and financial accounts, towards a role that emphasises its social importance”.*

Accounting researchers have realised that accounting is not only a technical phenomenon that deals with the assessment of individual economic magnitudes, but it also has social roots and consequences (Burchell *et al.*, 1985 and Hopwood, 1987). Glautier and Underdown (2000) take the view that the purpose of accounting is to provide useful information for economic decision makers as well as enhancing social

welfare through the improved allocation of scarce resources. Meanwhile, Chua (1986) states that accounting analysis has to deal with social phenomena that are value-based and determined by cultural norms, and therefore cannot be regarded simply as the analysis of closed statistical/technical data.

Specific limitations of the traditional accounting framework are noted by researchers, such as Gray and Bebbington (2001) and Fortes and Åkerfeldt (1999), for example, concentration on the internal economic activities of an entity while ignoring its external effects, such as on the natural environment. Fortes and Åkerfeldt (1999) summarised the limitations that traditional accounting suffers from in dealing with environmental issues<sup>1</sup> as follows:

- Accounting is only concerned with the inherent limits to economic activity.
- Accounting deals only with legislated social costs and does not account for air, water or land as costs of production.
- The accounting entity is limited to the firm itself, but natural capital is not owned by the entity. If environmental laws are in place then ownership and green profits will be equal.
- Accounting places residual profit before environmental issues, whereas there is a strong case for these to be recognised before residual profit is calculated.
- Accounting records the costs of environmental investments as production costs, a fact which penalises, rather than encourages

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<sup>1</sup> See also Gray (1993 and 2001), and Jones (2003).



those companies that use environmental accounting. There is no vehicle for recording “green assets”.

- Environmental accounting requires a long term view, but traditional accounting is essentially concerned with the short to medium term (p. 8).

Gray and Bebbington (2001 p. 14), follow up Bebbington *et al.*'s (1999) point that, if one seeks to deal with environmental issues in general or the relationship between business and the environment in particular, accounting is obviously not the first place from which to start. They also suggest that accountants, as members of the organisation's management team, can significantly help their organisation become more environmentally sensitive. They identified some of the areas where traditional accounting and finance frameworks are potentially in conflict with environmental initiatives, which include:

- Investment appraisal criteria
- Performance appraisal criteria
- Budgeting constraints
- Share price performance
- Reported earnings per share
- Priorities in the annual report
- Design costs
- Creation of new information systems
- Forecasting
- Assessing environmental costs
- Costs of sustainability

Fortes and Åkerfeldt (1999) provide further notes on the problem, such as:

- accounting sending incomplete signals to corporate decision-makers by ignoring certain salient elements;
- the need for a better way to measure and account for environmental obligations through a change in the current rules on contingent liabilities (although there is no agreement on how this can be done);
- the need to show full costs, including the costs of natural capital, in accounts. It is clear that social costs can become corporate costs if there is sufficient pressure from the public and a method to enforce legal liability under legislation;
- the development of estimating techniques, with statistical methods used to estimate actuarial liabilities for pensions being modified to estimate a range of potential clean up costs (p. 8).

Fortes and Åkerfeldt (1999) then classified the options available for management to react to stakeholders' increasing environmental awareness, which a company must consider (or risk losing its market share). One option is that companies can be reactive by simply complying with environmental regulations. Such an approach may affect the financial viability of the business, with continued increases in the cost of compliance, added to the ever-present risk of litigation. Another strategy a company can adopt is to be proactive by using its natural resources effectively and efficiently, which may result in added value. A third approach is to be innovative by using R&D to develop new technologies, which may minimise the business's environmental resource use and impact, and move the business towards competitive

advantage (Fortes and Åkerfeldt, 1999, p. 11). Boyd (1998) highlighted the importance of environmental accounting in the private sector and pointed out that improved environmental accounting is viewed by both corporate managers and environmental advocates as an important ingredient in the environmental decision-making process.

Therefore, the recognition of accounting as a social phenomenon suggests change in accounting practice in terms of its content and form, its relation to wider social factors, including perspectives concerned with the welfare of labour, consumers, the public at large, and preservation of the environment. Accounting and reporting in respect of the environment has become increasingly relevant to enterprises, as pollution of the environment has become a more prominent economic, social and political problem throughout the world. How an enterprise's environmental performance affects its financial health is becoming of increasing concern to investors, creditors, governments, and the public at large (UNCTAD, 1998, p.4).

Empirical evidence supports the above arguments. For instance, Environics International (1999) conducted a study to determine global public opinion on the role of companies. Samples of approximately 1,000 nationals in each of 23 countries across six different continents were interviewed, resulting in a total of 25,247 interviews. The countries surveyed were Argentina, Uruguay, Venezuela, the Dominican Republic, Mexico, the US, Canada, Great Britain, Spain, Germany, Italy, Poland, Russia, Kazakhstan, Turkey, Nigeria, South

Africa, India, Malaysia, Indonesia, China, Japan, and Australia. Respondents were asked to rate the extent to which companies should be held responsible for 11 different aspects of corporate behaviour on a three-point scale ranging from 'completely responsible', 'partially responsible', to 'not at all responsible'. Among other findings, the study found that about seven in ten of the respondents across all countries thought that large companies should be held completely responsible for protecting the health and safety of workers, treating all employees and job applicants fairly, not participating in bribery or corruption and not harming the environment.

Tilt (1994) argues that non-governmental organisations (NGOs) represent the views of a broader cross-section of the community; hence organisations need to consider the views of such groups. NGOs are defined by Yamamoto (1995, p.1) as:

*"...those non-profit organisations and non-governmental organisations that are active in the field of development issues in third world countries, such as rural development, alleviation of poverty, nutrition and health, reproductive biology, and education; and global issues such as the environment, human rights, refugees, and the population crisis".*

Enderle and Peters (1998) surveyed 133 NGOs in 36 countries across South America, North America, Europe, Africa and the Middle East, the Indian subcontinent, and East Asia (including Japan). The survey aimed to examine the attitudes of NGOs towards transnational corporations (TNCs) with regard to global competition, work, the

environment, and other criteria. The study indicated that NGOs have strong expectations about environmental standards, whether these standards are general, such as promoting sustainable development, or more specific, such as recycling waste material, environmental improvement of production processes, and improving energy efficiency (for more details, see Enderle and Peters, 1998, table 10.1, p. 38) .

The above provides evidence that public opinion expects companies to be held accountable for their environmental impacts, and that local as well as multinational companies are expected to take the necessary steps to ensure the protection and improvement of the environment. These studies suggest the introduction of legislation to govern relations between corporations and the environment in which they operate, such as the introduction of mandatory environmental disclosures.

Because EAD is a growing practice among companies (see, for example Gray *et al.*, 1995b), many researchers have tried to identify points in the traditional accounting framework that might present difficulties when adopting it, and presented some suggestions to overcome such difficulties. For instance, Adams *et al.* (1999) claim that environmental reporting has become a mainstream element of corporate reporting. They refer to the "underlying assumptions" and "qualitative characteristics" included in the building blocks of the IASC conceptual framework and differentiated between the two terms. With regard to underlying assumptions, Adams *et al.* (1999) suggest that they have a more direct and significant effect on the absolute numbers reported,

while the qualitative characteristics tend to concentrate more on non-financial, evidential issues, which is not to reduce the importance of the IASC's building blocks. They point to the need for urgent improvements in the conceptual underpinning, which will lead to improvement in the quality of external environmental reporting. Adams *et al.* (1999) discussed accounting's underlying assumptions and their relationship with EAD based on FEE (2000, pp. 14, 17). The main points are presented below.

**The entity assumption:** management should define the boundaries of the reporting entity and report these explicitly in any public statement. Therefore, it is essential to identify the extent to which the entity is disclosing the significance of its activities that might have environmental impact (FEE, 2000, pp. 14, 15). Adams *et al.* (1999) also recommended that environmental reporting standards - when developed - should include the legal (or administrative) scope of the reporting entity and the completeness of disclosure *vis-à-vis* significant environmental aspects.

**The accruals basis of accounting:** in order to report EI promptly, full recognition of ultimate impact on the environment will require an accruals approach based on the point of production, if not earlier, to appropriately relate production activities, emissions, and waste from an activity perspective. This link between event and environmental impact might be difficult because, in some cases, the environmental impact of an event might not appear until some years have elapsed; or an

environmental impact might be due to a cause that can never be identified (FEE, 2000, pp. 15,16).

**The going concern assumption:** “a going concern” categorised enterprise is generally expected to continue operations for the foreseeable future; hence environmental liabilities (such as land remediation) will need to be recognised in the financial statement as long as a legal or constructive obligation is present. Reporting such potential environmental liabilities is essential, because this will provide a clear indication of whether the enterprise is capable of funding liabilities or not (FEE, 2000, p. 16).

**The precautionary principle:** in the view of stakeholders, pollution prevention is always a preferred alternative to post-contamination remediation or clean-up. This requires environmental reporting policies to inform users as to whether or not the precautionary principle is embedded in the environmental policies, programmes and decision-making processes of the reporting entity (FEE, 2000, pp. 16,17).

**The materiality principle:** financial information materiality means that information is only relevant to a user if it is material in financial terms. In other words, the presence or absence of such information influences the user's decision. Due to the complexity of the application of the materiality concept in environmental reporting, this issue should be addressed from an empirically researched and scientifically supportable environmental impact/user driven perspective (FEE, 2000,

p. 17).

**Verifiability:** independent verifiability of the reported information increases its credibility in the eyes of a user. Similar to the verification of financial information included in the financial statements, EI needs to be independently verified to give it credibility. In order for the verifiers to fulfil the needs of the information users, it is important that they identify these users and clearly identify the scope of their examination and the standards applied to inform them (FEE, 2000, pp. 20, 21). The paragraphs below identify the various groups of EI users and their needs according to Adams *et al.* (1999) and FEE (2000), who developed definitions according to several categories, namely governments and their agencies, investors, lenders, suppliers and other trade creditors, employees, customers and the public.

From the point of view of governments and their agencies, they are responsible for the assurance of good environmental management in regulatory and policy decisions, and regulatory compliance. Concerns about environmental expenditures may affect the level and cost of monitoring and inspection. Environmental reporting should reflect the response and pace of progress of entities operating at the micro level.

Investors are affected by a range of issues of concern, namely liabilities, contingencies, expenditures, risk exposures and financial implications, going concern status, environmental and ethical probity and sustainability of the company. Lenders have direct financial



implications or risks associated with environmental issues, such as the quality of an entity's assets, its environmental management systems, its compliance record, its technological status, and its market-place positioning.

Suppliers and other trade creditors must understand the environmental concerns and requirements of major customers. Employees may be concerned about the impact of business activities on local non-renewable elements of the environment. They may therefore seek information on the enterprise's environmental status, and look at whether the employer is seen by local community groups/wider stakeholder groups as a responsible company.

Customers may wish to verify whether their supplier has fulfilled environmental liabilities and regulatory compliance issues. There may be links with suppliers in terms of the environmental life-cycle, and accreditation to a recognised Environmental Management System (e.g. EMAS or ISO 14001).

Last but not least, members of the local community may have plural roles, as customers, employees, or shareholders. As such, they are concerned to know whether enterprises are behaving compliantly and in respect of longer-term sustainability. Environmental performance may also affect longer-term viability. Is the enterprise making a contribution to the local economy?

### 3.2.3 Theories of EAD

Researchers have various perspectives on companies' EAD practices, comprising agency theory, legitimacy theory, the political economy accounting theory, and stakeholder theory (see, for example, Belkaoui and Karpik, 1989; Deegan *et al.*, 2002; Deegan, 2002; Dierkes and Antal, 1985; Gray *et al.*, 1993; Gray and Bebbington, 2001; Guthrie and Parker, 1989; Hackston and Milne, 1996; Lemon and Cahan, 1997; Meznar and Nigh, 1993; Milne and Chan, 1999; Milne and Patten, 2002; Newson and Deegan, 2002; Roberts, 1992; Watts and Zimmerman, 1978; Wilmshurst and Frost, 2000; and Woodward *et al.*, 1996).

In their review, Gray *et al.* (1995b) classified the corporate social reporting (CSR) literature into three groups: decision usefulness studies, economic theory studies, and social and political theory studies. These three groups rely on different theoretical arguments and imply different motives for disclosure of social and environmental information.

The decision usefulness group bases its arguments on the idea that companies release social and environmental information because they think that such information might be helpful to users when making decisions (see, for example, Belkaoui, 1980 and Belkaoui, 1984; Belkaoui and Karpik, 1989; Dierkes and Antal, 1985; Milne and Chan, 1999; and Spicer, 1978). This approach has been criticised by pro-social writers (such as Gray *et al.*, 1995b; Gray *et al.*, 1996; and Owen

*et al.*, 1987) on the basis that it has limitations of scope and capacity (Gray *et al.* (1995b). See section 3.2.3.1 below for more details.

Economic theory studies have led to the emergence of “economic agency theory” and “positive accounting theory”. The application of economic theory in accounting has been criticised as having little to offer (Gray *et al.*, 1995b, p. 51). The agency theory will be discussed in more detail in section 3.2.3.3.

Gray *et al.* (1995b) point out that social and political theory includes stakeholder theory, legitimacy theory, and political economy theory. Researchers who base their studies on social and political theory regard these three theories neither as separate nor as competing; in fact, they view stakeholder theory and legitimacy theory as overlapping perspectives within the framework of political economy assumptions. Social and political theory seeks to explain the organisation-society relationship, including social disclosure, from a perspective different from that of economic theory. Researchers in this group rely on the argument that companies make social disclosures not just for their economic self-interest, but because they are pressured to show their employees, customers, suppliers, the government, the general public, and other social activist groups that they are fulfilling their social responsibilities. Such disclosure might be seen as a medium for managing, negotiating or manipulating stakeholders, without whose support and approval the organisation could no longer exist (Roberts, 1992). Patten (1991) and Patten (1992) views CSR as a means of

establishing or protecting the legitimacy of an organisation by influencing public opinion and the public policy process.

Hackston and Milne (1996) raised serious doubts as to whether the empirical evidence available to date is enough to establish the superiority of one theory over another. Similarly, Wolk *et al.* (1992) claim that there is no “right” or “wrong” theory; instead, they suggested that the theories are partial descriptions of the workings and interrelationships of firms and their constituent participants. They also suggest that various competing theories and viewpoints may give important insights to accountants, auditors, users, and standard-setters. No individual approach should be deemed superior, for important contributions may come from “any and all sources” (p. 42). According to Gray *et al.* (1995b), there has been a failure to theorise the dialogue between organisations and the general public.

In the following sub-sections, discussions of theories and concepts underlying CSR will be provided. The main characteristics of decision-usefulness and accountability will be presented, followed by discussions of agency theory, legitimacy theory, political economy theory, and stakeholders’ theory. A comparative and contrastive summary will conclude.

### **3.2.3.1 Decision usefulness**

The central idea of the decision-usefulness argument is that traditional user groups (investors) find CSR useful for their investment decision

making and firms fulfil these decision needs (Milne and Chan, 1999). For example, Deegan and Rankin (1999) stress the importance of environmental information to the decision-making process of various user groups, stating that environmental information could be used to determine a number of issues, such as whether to invest or lend funds to an organisation, whether to consume an organisation's products, whether to use an organisation's products in the production process, and whether to supply labour or other resources to the entity. Environmental information may also be important in determining whether local communities will support the continued operation of a particular local organization.

The most common method of assessing the validity of the above has been surveys of investor needs and stock market reaction studies (see, for example, Booth et al., 1987; Dierkes and Antal, 1985; Freedman and Jaggi, 1986; Mahapatra, 1984; and Shane and Spicer, 1983). These surveys provide evidence of the demand for social and environmental information. Deegan and Rankin (1997), for example, asked respondents to consider whether a different decision would be made, were the [social] information known, compared to when the [social] information is unknown. They found that the majority of respondents believe that environmental information is material to their decisions, and they demand the disclosure of such information in corporate annual reports.

Although asking users about their perceptions is a useful starting point

in assessing social information usefulness, Dierkes and Antal (1985, p. 30) suggest that: 'The ultimate test for the usefulness of social reporting information is its impact on decision-making'. Booth *et al.* (1987) also claimed that the problem with stock market reaction studies, which measure actual decision-making behaviour, is the degree to which behavioural changes can be confidently associated with the social information disclosure. An experiment to capture the changes in investor behaviour is an alternative to the stock market reaction approach (Dierkes and Antal, 1985).

Experimental surveys on market reaction to CSR elicited different results. Belkaoui (1976) and Shane and Spicer (1983), for example, found positive reaction to the disclosure of financially quantified pollution control expenditures in annual reports. On the other hand, Mahapatra (1984) found a negative market reaction to such disclosure. In addition, Freedman and Jaggi (1986) compared the reaction to financially quantified pollution disclosures and that for descriptive pollution disclosures and did not find any preference for one form over the other. Harte *et al.* (1991) and Rockness and Williams (1988) both obtained strong perceptions of the usefulness of social information from an investor's point of view. Their findings also suggest that some social items are as important as the disclosure of financial items. Epstein and Freedman (1994) examined the attitudes of corporate shareholders towards the usefulness of social information disclosure in annual reports. The results, in general, are consistent with other studies

dealing with the reaction of the stock market to the disclosure of social and environmental information. They indicated that shareholders would like companies to include certain [social] information in annual reports. The authors also stressed the importance of regulating the disclosure of social and environmental information; otherwise, ‘...there is no guarantee that what is supplied is any more than propaganda. It has often been speculated that this has been the case with respect to social information’ (pp. 98-99).

### 3.2.3.2 Accountability

According to Gray and Jenkins (1993), the concept of accountability is very old, and can even be considered as old as civilization itself. The literature provides many definitions of the concept; for example Gray and Jenkins (1993, p. 55) defines accountability as:

*“...an obligation to present an account of and an answer for the execution of responsibilities to those who entrusted those responsibilities. On this obligation depends the allocation of praise and blame, reward or sanction, so often seen as the hallmarks of accountability in action. At the heart of this relationship is stewardship. Stewardship involves two manifest parties: first the steward or accountor, i.e. the party to whom the responsibility is entrusted and who is obliged to present and answer to an account of its execution, and, second, the principal or accountee, i.e. the party entrusting the responsibility and to whom the account is presented”.*

A similar definition was proposed by Mulgan (2000, p. 87), who states:

*“[Accountability] will be taken to refer to certain obligations that arise within a relationship of responsibility, where one person or body is responsible to another for the performance of particular services. The obligations in*

*question are, first, to account for the performance of their duties and, second, to accept sanction and redirection”*

Further, according to Gray *et al.* (1987, p. 2), accountability means:

*“the onus, requirement, or responsibility to provide an account (by no means necessarily a financial account) or reckoning of the actions for which one is held responsible.*

In a common law contract, not necessarily written, the principal party...

*“gives instructions to the agent on what actions are expected of him ... [as well as] power over resources for ... [which the agent must be accountable]”.*

From such definitions, it is possible to understand that, behind the concept of accountability, lays the responsibility for actions in the name and/or in the interest of another party. Accountability stems from responsibility; from a managerial point of view, it necessitates autonomy and decisional power, together with availability of resources. Democratically, whoever possesses powers has to be accountable for their use.

Accountability connects with the idea of corporate social responsibility; firms have to face responsibility concerning the environmental and social effects of their activities, and they also have to be accountable to stakeholders for their decisions (see, for example, Adams, 2002; Carroll and Buchholtz, 1999; Cormier and Gordon, 2001; Gray *et al.*, 1995b; Gray *et al.*, 1987; and Gray *et al.*, 1988).

Accountability implies the necessity for communication between the



accountor and the accountee, in all its dimensions. Corporate social reporting also connects with legitimacy theory, where corporate disclosure depends on political, economic and social factors and disclosure is a means of legitimacy (see, for example, Guthrie and Parker, 1989; and Hogner, 1982; Lindblom, 1994; Parker and Gould, 1999; and Patten, 1991). However, some empirical evidence suggests the relationship is lacking, or weak (Guthrie and Parker, 1989).

In the remainder of this section, CSR theories are discussed, namely agency theory, legitimacy theory, political economy theory, and stakeholder theory. The purpose of this discussion is to explain what these theories are about and to describe some of the studies that attempted to employ the theories.

### 3.2.3.3 Agency theory

Agency theory looks at real world factors and does not look at the hypothetical world; hence, it has its logical base in positive accounting theory. In a 'positive' approach, one seeks to answer or explain questions, such as '*what is it?*' or '*what is being done?*'; in a 'normative' approach, one intends to make recommendations or answer questions like '*what should it be?*' (see, for example, Christenson, 1983; Gray *et al.*, 1996; Gray, 2002; Solomon and Solomon, 2004; Tinker, 1980; Tinker, 1985; Tinker and Neimark, 1987; Tinker and Okcabol, 1991; Tinker and Puxty, 1995; Watts and Zimmerman, 1978; and Woodward *et al.*, 1996). Christenson (1983, p. 3) noted that "the most obvious difference between the two...

[approaches] is that each question on the 'normative' list contains the word 'should' and each ... [statement] on the 'positive' list contains the words 'why,' 'what, or 'how'."

The relationship between the agent (for example, manager) and the principal (for example, owner) is the main concern of agency theory. The principal(s) appoint(s) agent(s) for the purpose of authorising responsibilities.

The main assumption of the agency theory is that people act in their own self-interest. Accordingly, in an agency relationship between the principal(s) and agent(s), each party chooses its actions optimally according to its self-determined goals. Hence, the theory is concerned with individual behaviour within an organisation. According to Noreen, (1988), p. 359, the theory recognises that a contract exists between the principal(s) and agent(s) and that 'both parties to a contract often do not have the same information', ('asymmetric information'). Agency theory research, therefore, focuses on the contractual relationships among the related parties, where each party is driven by self-interest. Contracts can be formal, legally defined, or communal or informal (morally defined) (Gray *et al.*, 1995b and Laughlin, 1990). Agency theory then introduces the concept of corporate accountability (see section 3.2.3.2 above), which provides a way forward in the analysis of the implicit responsibilities organisations (as agents) have towards the various interest groups (principals) with whom they interact. It is postulated that a principal-agent relationship may be assumed to exist

even in the more fluid state of communal accountability, and without the need to specify either the precise nature of the relationship, or how the relevant accountability might be evidenced (Gray *et al.*, 1995b and Woodward *et al.*, 1996). According to agency theory, managers tend to disclose information, including social and environmental information, to external parties, if benefits may accrue (Ness and Mirza, 1991 and Noreen, 1988). In this regard, agency theory does not make any distinction between mandatory and voluntary disclosure.

Agency theory is a one-sided approach for a financial purpose, using one component of economics in the process. According to Gray *et al.* (1995b), all actions are motivated in the form of short-term self interest. In this context, it is suggested that managers may disclose social and environmental information in order to affect share price movements and gain financial benefits (see section 3.2.3.1 above). On the other hand, socially-oriented theories, such as legitimacy theory and stakeholder theory, suggest that overall benefit should be for the long term and for a large number of people (see, for example, Gray *et al.*, 1995b; Gray *et al.*, 1996; Mathews, 1987; Owen *et al.*, 1987; and Owen, 1992). The distinction between the two approaches may also be found in the differences between altruistic and utilitarian behaviour. Agency theory indicates self-interested ethical behaviour, which is not acceptable from a pro-social perspective. This point is clearly indicated by Gray *et al.* (1995b), who describes agency theory as having ‘little or nothing to offer as a basis for the development of CSR’ (p. 51). This is

because it avoids ‘any concern with what should be, and it ‘defers all wisdom to (allegedly) free markets...’; ‘all actions are motivated by morally degenerated forms of short-term interest’ (pp. 51-52). In addition, Noreen (1988) suggests that ‘altruistic behaviour is motivated...by a fundamental concern for the welfare of others and by the desire to feel good by helping others’ (p. 360). However, Gray *et al.* (1995b) argue that agency theory is based on utilitarian behaviour and warn that ‘...the economic domain cannot be studied in isolation from the political, social and institutional framework within which the economic takes place’ (p. 52). Finally, Tinker and Okcabol (1991) argue that if the concept of ‘social value’ is absent in accounting theory it has nothing to offer. Therefore, agency theory fails sufficiently to explain CSR practices.

Naess (1993) examined the existence of a relationship between environmental disclosure and the oil industry in the UK. He reviewed the annual reports of 131 companies in 1984. He found a positive relationship between the oil industry and environmental disclosure. He concluded that the result was consistent with agency theory, because managers of oil companies seemed to place emphasis on environmental disclosure, aiming to benefit shareholders, as well as themselves. On the other hand, Belkaoui (1976), Belkaoui and Karpik (1989) and Spicer (1978) failed to find a meaningful relationship between share price movements and CSR practice.

#### 3.2.3.4 Legitimacy theory

According to Patten (1992), social disclosure can influence public policy directly, by deliberately addressing public and/or legislative concerns, or indirectly, by projecting an image of the company as being socially aware. Guthrie and Parker (1989) argued that legitimacy theory is based upon the notion that a business operates according to a social contract, by which it agrees to perform various socially desired actions in return for approval of its objectives. In this context, corporate disclosures are made as a reaction to external economic, political, social, and environmental factors in order to legitimise corporate actions. In order to become a good corporate citizen, corporations need to disclose enough social and environmental information. In legitimising its actions via disclosure, the corporation hopes to justify its continued existence (see also O'Donovan, 2002). The legitimacy perspective has been taken by some writers to observe whether organisations can use certain social disclosures to legitimise their existence (see, for example, Deegan and Gordon, 1996; Dowling and Pfeffer, 1975; Mathews, 1993; Milne and Patten, 2002; O'Donovan, 2002; and Ullmann, 1976).

Lindblom, 1994 makes the distinction between 'legitimacy' and 'legitimation'. The first is a status or condition and the second is the process underlying that state (see also O'Donovan, 2002). Lindblom (p.

2) defines legitimacy as:

*“a condition of status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity’s legitimacy”*

Legitimacy theory, as explained by Shocker and Sethi (1973, p. 97) is based on the concept of social contract, which they described as follows:

*“Any social institution ... operates in society via a social contract, expressed or implied, whereby its survival and growth are based on: (1) the delivery of some socially desirable ends to society in general, and (2) the distribution of economic, social, or political benefits to groups from which it derives its power”*

The ‘power’ held by an institution, as mentioned above, is not permanent, nor are the needs for the products and services provided by the institution.

*“Therefore, an institution must constantly meet the twin tests of legitimacy and relevancy by demonstrating that society requires it and that the groups benefiting from its rewards have society’s approval”* (Shocker and Sethi, 1973, p. 97).

Lindblom (1994) proposes four strategies for what an organisation might do to legitimise its actions. An organisation may:

1. educate and inform its ‘relevant publics’ about changes in the organisation’s performance and activities.
2. change the perceptions of the relevant publics – but not change its actual behaviour.

3. manipulate perception by deflecting attention from the issues of concern to other related issues through an appeal to, for example, emotive symbols.
4. change external expectations of its performance (see also Gray *et al.*, 1995b).

Social disclosure can be employed in each of these four strategies. Gray *et al.* (1995b, p. 54) suggest that the first strategy can be used in response to a recognition that a 'legitimacy gap' arose from an actual failure in performance. The second strategy can be chosen when the organisation sees that the legitimacy gap has arisen through misperceptions on the part of the public. The third strategy can be adopted when a company with a legitimacy gap regarding its pollution performance diverts attention to its involvement with environmental charities. Finally, the fourth strategy can be chosen when the organisation considers that the public has unrealistic or incorrect expectations of its responsibilities.

According to Suchman (1995), the organisation may employ different strategies on public disclosure depending on whether it aims to gain, maintain or repair legitimacy. O'Donovan (2002) claims that a large proportion of empirical research dealing with legitimacy theory is concerned with reactions to publicised issues and events which have put the related industry or organisation into the public spotlight.

Gray *et al.* (1996) notes that legitimacy theory has two variants. The first is concerned with the legitimacy of individual organisations and the second is concerned with the legitimacy of the system as a

whole. According to the first viewpoint, CSR can be used to fulfil what Lindblom, 1994 calls the 'legitimacy gap'. An individual organisation can report, for example, its clean-up process, if it is involved in a major oil spill, to legitimise its action. According to the second viewpoint, which takes a wider perspective, CSR can be used by an organisation to explain, for example, a particular case of changing the organisation-employee relationship. The change may initially be interpreted according to Gray *et al.* (1996) first variant, whereby an organisation is trying to legitimise its actions by reporting, for example, employee-related activities to fill the 'legitimacy gap'. On the other hand, employee-related reporting may also be interpreted from the wider perspective (according to Gray *et al.*'s. (1996) second variant) that the organisation is trying to soften relationships with trade unions.

Guthrie and Parker (1989) studied social disclosure in one Australian company's annual reports (Broken Hill Property (BHP)) over one hundred years up to 1985; however, their study failed to explain CSR disclosure activities in relation to legitimacy theory. They noted that: '...this historical case study has failed to confirm legitimacy theory as an explanation of BHP's CSR over time' (p.350). They were unable to explain energy issues, community issues, and human resource issues disclosure by legitimacy theory. The reasons, as they noted (p. 351), may be:

*"Disclosures observed did not on the whole appear to be made as consistent reaction to economic, social or political conditions or events. Indeed the company's tendency towards little or*



*no reporting at some times is inconsistent with a legitimacy theory of management reporting information in an attempt to legitimise its actions in the perceptions of employees, government and the publics”.*

On the other hand, in a later examination of the same company’s annual reports for the fifteen year period 1983-1997 Deegan *et al.* (2002) found significant positive correlation between community concern for particular social and environmental issues and disclosure about these issues in annual reports. Such results lend support to legitimation motives for a company’s social and environmental disclosures.

Another study by Patten (1992) examined the effect that the Exxon Valdez oil spill had on the annual report environmental disclosure of petroleum firms other than Exxon. Aad found evidence to support legitimacy theory’s view that any threat to an organisation’s legitimacy triggers it to disclose a greater amount of socially responsible information, at least environmental disclosure, in its annual reports. However, the study was limited to only one industry and one event.

Later, Deegan and Rankin (1996) studied the environmental reporting practices of a sample of twenty Australian companies, which had been prosecuted by regulators during 1990-1993. The purpose of their study was to find out ‘whether, at a time when the social performance and integrity of the firm may be under scrutiny ... the firm will provide information to the users of the accounts to justify, or legitimise, the firm’s continued operation within that society’ (p. 53). Deegan and Rankin found a significant increase in environmental reporting around

the time of prosecution and, in addition to other conclusions, they found that the reporting was consistent with a legitimization movement.

More recently, O'Donovan (2002) used a quasi-experimental method involving semi-structured interviews with senior management in three large Australian public companies, in an attempt to extend the applicability and predictive power of legitimacy theory. O'Donovan's findings supported the legitimacy theory as a predictor for environmental disclosures.

In summary, legitimacy theory states that CSR is responsive to environmental pressures involving social, political, and economic forces. Accordingly, organisations look for a balance between their actions and how they are perceived by outsiders, in terms of their CSR practices, and what is thought to be appropriate. The propositions offered by legitimacy theory appear to be stronger, compared to agency theory, because it involves not only economic factors but also social, environmental, and political factors. Although the studies reviewed above indicate that there is some evidence to support legitimacy theory (for example, Deegan and Rankin, 1996 and O'Donovan, 2002), the studies do not provide solid evidence of the existence of a real relationship.

### **3.2.3.5 Political economy theory**

Political economy theory has been applied in various areas of the accounting literature (see, for example, Adams *et al.*, 1995; Bryer,

1995; Gray *et al.*, 1995b; Ogden and Bougen, 1985; Cooper, 1980; Cooper and Sherer, 1984; Tinker, 1980; and Tinker and Neimark, 1987) This theory was applied, as an alternative approach to accounting, by Tinker (1980). Cooper (1980) and Cooper and Sherer (1984) also discussed the implications of Tinker's paper. Tinker and Neimark (1987, p. 72) argued that political economy accounting is concerned with the ways used by the 'social protagonists' of accounting information and corporate reporting to mediate, suppress, mystify and transform social conflict and 'the effect of accounting information and corporate reporting on the distribution of income, wealth and power'.

The main theme of political economy is the interaction of economic with political, social, and institutional factors. Social disclosure by organisations can be studied in the same way. That is, as part of an economic system, an organisation's social disclosure can be explained by political economy. Jackson (1982, p. 74) defined political economy theory as:

*"the interplay of power, the goals of power wielders and the productive exchange system. As a framework, political economy does not concentrate exclusively on market exchanges. Rather it, first of all, analyzes exchanges in whatever institutional framework they occur and, second, analyzes the relationships between social institutions such as government law and property rights, each fortified by power and the economy, that is the system of producing and exchanging goods and services."*

Gray *et al.* (1995b) evaluated Jackson's definition and stated that the essential point seems to be is that the economic domain cannot be

studied in isolation from the political, the social and the institutional framework, but within a blended perspective of those elements. For Cooper and Sherer (1984), the theory recognises firstly, that there is power and conflict in society, secondly, society operates in the specific and institutional environment, and finally, people change and reflect differing interests and concerns. Some other characteristics of the theory are that it is normative, descriptive and critical.

Similar to Tinker and Neimark (1987), Guthrie and Parker (1989, p. 351) see reporting in political economy theory as the:

*“... potential for management to tell its own story or refrain from doing so, according to its own self-interest”*

In evaluating Guthrie and Parker’s view of political economy theory, Adams *et al.* (1995, p. 103) claimed that it ‘offers better explanation of the level of disclosure...since it is based on the themes, meanings and motivations implicit in social disclosure’

Some of the studies which have adopted political economy theory in the context of CSR, suggest that it may be used for an explanation of CSR practices, as reported below. For example, Tinker and Neimark (1987) adopted political economy theory in their analysis focusing on General Motors’ corporate annual reports. They explained, for example, how corporate annual reports by the company were used as ideological weapons in the pursuit of corporate profitability.

Guthrie and Parker (1990) compared the CSR practices of UK, US and

Australian companies from a political economy theory perspective. They concluded that accounting reports are used by organisations to provide information which serves the corporate social, political, and economic goals of the organisations. However, this conclusion was interpreted by Epstein and Freedman (1994, p. 95) as follows: 'Social disclosures can be seen as furthering the self-interest of the corporation' and they warned that one of the problems of political economy theory is that:

*"it does not explain why a company, for example, may make disclosures about pollution and not about worker safety. One would expect that there would be an overall disclosure policy if user utility or interest group pressure were not a factor"*

Gray *et al.* (1995b) studied CSR practices in UK annual reports over a period of thirteen years (1979-1991), using the political economy theory as the principal explanatory power. They concluded that CSR behaviour during that period could be explained by legitimacy theory and stakeholder theory as well, which they considered to have 'overlapping perspectives' (p. 52).

Williams (1999) used content analysis to examine the annual reports of 356 listed companies in seven Asia-Pacific nations in terms of voluntary environmental and social accounting disclosures (VESAD). In their conclusion, they argued that the socio-political and economic system of a nation interacts to shape the perceptions of organisations in the need to release VESAD to meet social expectations as well as to

avoid government regulations (to preserve their own self-interest).

### 3.2.3.6 Stakeholder theory

The relationship between an organisation and its stakeholders is the main concern of stakeholder theory. According to Freeman (1984), a stakeholder is any individual or group who can affect or is affected by the actions, policies, practice, or goals of the organisation. An organisation's stakeholders include its shareholders, governmental agencies, suppliers, customers, employees, political and environmental groups, and the general public (see also, Solomon and Solomon, 2004, pp. 23-26).

Hofer *et al.* (1980) offered a technique called 'enterprise strategy,' which recognises the relationship between the organisation and the community. Enterprise strategy is concerned with the moral or ethical and/or social-environmental component to general strategic management (see also, Freeman, 1984).

Freeman (1984, p. 91) proposed a three-level process to formulate enterprise strategy, namely: Stakeholder Analysis, Value Analysis, and Societal Issue Analysis (the current discussion is concerned with the first process). In enterprise strategy formulation, stakeholder analysis starts with the identification of stakeholders, goes on to determine their stakes (e.g., 'economic', 'political', and 'social', pp. 93, 95); and finishes with observations of the effects of these stakes.

According to Dierkes and Antal (1985), one of the ways to

communicate with various stakeholder groups is through information disclosure, because adopting a communicative approach can benefit organisations and may lead to better stakeholder understanding and stakeholder management. Disclosing information publicly can also provide a basis for dialogue with various business constituencies (see also Roberts, 1992). For that, organisations are recommended to create communication channels to receive reactions from stakeholder groups to the organisations' environmental performance (International Institute for Sustainable Development (IISD), 1992).

Stakeholder theory implies that industries and companies show differences, particularly at the specific stakeholder level (see, for example, Cowen *et al.*, 1987; Dierkes and Preston, 1977; Gray *et al.*, 1995b; Gray *et al.*, 1996; Hackston and Milne, 1996; Singh and Ahuja, 1983; Zeghal and Ahmed, 1990). Therefore, it may be expected that stakeholder groups differ from one company or industry to another. For example, if a company operates in a high environmental risk industry, that company may be considered as actually or potentially harming the environment more than another company which, for example, operates in the service industry. Dierkes and Preston (1977) argued that companies operating in extractive industries are more likely to disclose information about their environmental activities than companies operating in other industries. Therefore, these two different industries are expected to have different types of stakeholder groups.

It is logical then to infer that the stakes of different stakeholders differ

from one to another. Some stakeholders are more important than others. For instance, Gray *et al.* (1996, p. 46) noted that stakeholders differ in their importance to the organisation, and suggest:

*“The more important the stakeholder to the organisation, the more effort will be exerted in managing the relationship. Information – whether financial accounting or CSR - is a major element that can be employed by the organisation to manage (or manipulate) the stakeholder in order to gain their support and approval, or distract their opposition and disapproval”.*

Freeman (1984) also suggested that in order for an organisation to be able to manage its stakeholders, it should:

1. design and implement communication processes with multiple stakeholders;
2. explicitly negotiate with stakeholders on critical issues, and seek voluntary agreements;
3. generalise the marketing approach to serve multiple stakeholders;
4. integrate boundary tools into strategy formulation processes in the organisation;
5. be proactive, anticipating stakeholder concerns while trying to influence the stakeholder environment;
6. allocate resources in a manner consistent with stakeholder concerns; and
7. have managers with high stakeholder management capability thinking in ‘stakeholder-serving’ terms (pp. 78-80).

In reality, stakeholder groups change over time, and their stakes change depending on the strategic issue under consideration. The last point was also noted by Gray *et al.* (1995b), who suggested that as new issues





arise, disclosure on older ones declines.

The importance of a stakeholder group may be related with, and be, therefore, based on company characteristics, such as size, type of industry operated in, and type of products produced. The most important distinguishing factor of a stakeholder group's importance is the size of the company. Many studies have taken the largest companies in their analysis (see, for example, Andrew *et al.*, 1989; Belkaoui and Karpik, 1989; Deegan and Gordon, 1996; Cowen *et al.*, 1987; Gray *et al.*, 1995b; Hackston and Milne, 1996; Holland and Foo, 2003; Singh and Ahuja, 1983; Spicer, 1978; Trotman and Bradley, 1981; Watts and Zimmerman, 1978; and Zeghal and Ahmed, 1990). In light of these studies, it may be suggested that the larger the company is (e.g. in terms of total assets, sales, and number of employees) the more it would be expected to interact with its stakeholder groups and, therefore, disclose more information for, and about its stakeholder groups, than would a smaller company.

The above discussion, suggests that organisations have stakeholders and the stakeholder approach is about groups and individuals who can affect and are affected by the achievement of an organisation's mission. The concept prescribes actions for management. It suggests that, if organisational managers want to manage effectively, then they must take their stakeholders into account in a systematic way. Theoretically, a stakeholder approach must be able to take account of at least some groups and individuals, even though the analysis may ignore certain

others, who may have little or no impact on the organisation at this point in time. Therefore, if the concept is to have practical significance, it must be capable of yielding concrete actions for specific groups and individuals. To gain this result (capability of action), the concept must be managed effectively.

### **3.2.3.7 Summary**

Agency theory depicts a social structure in which behaviour is constructed by self-interest (see, for example, Tinker and Okcabol, 1991) and by 'unconstrained opportunism' (see, for example, Noreen, 1988). The theory describes the contracts between individuals and interprets the relationships between them from the point of view that where the relationships are constructed on self-interest using asymmetric information (see, for example, Noreen, 1988). Stakeholder theory is also primarily concerned with the interactions between groups and individuals, and, at a corporate level, it is concerned with the interactions between an organisation and its stakeholder groups (see also, Solomon and Solomon, 2004, pp. 26-29). Legitimacy theory is concerned with the contract between an organisation and the community, while the contract of concern in agency theory is between individuals, namely between managers (agents) and owners (principals). It may also be suggested that it would be more likely that, according to agency theory, the contract between a manager and an owner would be in written form, therefore more explicit. On the other hand, according to legitimacy theory, the contract between a company

and the community would not be in written form and would be expected to be more implicit. In this context, stakeholder theory is closer to legitimacy theory than agency theory. This brings the discussion to whether there are behavioural differences between disclosure theories. It may be suggested that agency theory induces utilitarian behaviour (see, for example, Noreen, 1988), while stakeholder theory, legitimacy theory and political economy theory are concerned more with altruistic behaviour.

Some similarities can be found between stakeholder theory and legitimacy theory, as both theories recommend influencing the external environment. However, the ways to do this vary according to the theory (Gray *et al.*, 1995b). Proactive or reactive distinctions between legitimacy theory and stakeholder theory can also be seen in Lindblom's (1994) four strategies, which were reported earlier in section 3.2.3.4. CSR can be used in these four strategies. For example, according to Gray *et al.* (1995b), the first strategy can be chosen when a gap in an organisation's legitimacy has arisen. In employing Lindblom's first strategy, the organisation needs to identify or admit that there has been a legitimacy gap in its actual performance. When there are misperceptions by relevant members of 'relevant publics', the second strategy can be chosen. This may suggest that the organisation needs to recognise that there has been a misperception by the relevant publics. For the organisation to be able to adopt the third strategy, the organisation needs to know the relevant publics' perceptions. Finally,

to be able to adopt the fourth strategy, the organisation needs to identify that the relevant publics have unrealistic or incorrect expectations of the organisation's responsibilities. These strategies make legitimacy theory totally reactive. Therefore, an organisation initially observes the external environment, recognises the relevant publics' perceptions and then adopts the relevant strategy. However, stakeholder theory proposes proactive actions, as mentioned earlier in section 3.2.3.6.

According to Cooper and Sherer (1984), Ogden and Bougen (1985), and Gray *et al.* (1996), political economy theory is concerned with power and conflict within society. This power, according to stakeholder theory, can only be enforced by groups and individuals. In relation to social and environmental reporting, these groups and individuals pressurise organisations into disclosure, and they attempt to exert more control on organisations - a control made possible by, and reflected in, published information like social and environmental disclosure (Gray *et al.*, 1996). On the other hand, organisations seem to want to be left alone by pressure groups, and, therefore, use social and environmental information disclosure as a tool to legitimise their actions to pre-empt pressure group action and to control their stakeholder groups.

### **3.3 EMPIRICAL STUDIES**

Empirical studies are the subject of this part of the chapter. For the sake of simplicity, the researcher divides the review into three sub-sections. The first, 'EAD, an International Perspective', reviews studies relating

to more than one country, including developed and developing countries. The second, 'EAD in Developed Countries' includes studies relating to developed countries. The third, 'EAD in Developing Countries' reviews studies relating to developing countries, such as South Africa, Jordan, Lebanon, Bangladesh, Malaysia, Singapore, Hong Kong, China and Fiji.

### 3.3.1 EAD, an International Perspective

According to Guthrie and Parker (1989), previous attempts to explain the motivation behind any given level of corporate social information disclosure have not proceeded very far, being restricted to a limited foray into the area of organisational legitimacy. Adams *et al.* (1999) indicate that in the early 1990s, environmental disclosure was practised by very few companies operating in the 'heavier polluting' industries. Recent surveys, however, indicate growth both in the number of companies reporting and in the sectorial coverage of such reporting. The majority of the surveys used content analysis (see, for example, Abbott and Monsen, 1979; Adams *et al.*, 1998; Alnajjar, 2000; Campbell, 2000; Chiu *et al.*, 2002; Ernst and Ernst, 1972-78; Wiseman, 1982; and Zeghal and Ahmed, 1990).

Abbott and Monsen (1979, p. 504) defined content analysis as:

*“a technique for gathering data that consists of codifying qualitative information in anecdotal and literary form into categories in order to derive quantitative scales of varying levels of complexity”.*

Weber (1990) indicates that content analysis uses a set of procedures to make valid inferences from messages. He also claims that “the most useful unit of content analysis is the theme, because it leads to much more detailed and sophisticated comparisons” (p.22). Wiseman (1982) criticises such an approach, because it only reports what exists without looking at what practice should be. It lacks a theoretical basis, and provides indirect support for disclosures which are concerned mainly with improving the image of the organisation.

The scope and accuracy of environmental disclosure in the annual reports of 168 companies in six different industries from 18 countries were examined by Fekrat *et al.* (1996). The countries included in the study were Chile, the U. S., Canada, the UK, Spain, France, Belgium, the Netherlands, Norway, Sweden, Finland, Denmark, Germany, Austria, Switzerland, Italy, Japan and New Zealand. The results of the study showed significant variations in environmental disclosure, lack of clear support for the voluntary disclosure hypothesis, and a lack of association between disclosure and environmental performance. The amount of disclosure differed between industries, with forestry scoring the highest and the motor industry the lowest. Canadian companies scored the highest for disclosure, while Japanese companies scored the lowest. Also, the study found that what companies disclosed did not seem to correlate with their environmental performance. The authors concluded that very little change had occurred since Wiseman’s study had been published over a decade previously.

Adams *et al.* (1998) analysed the contents of 150 companies' annual reports to determine factors influencing CSR practices in six Western European countries, namely France, Germany, the Netherlands, Sweden, Switzerland, and the UK. The study found company size, industrial grouping, and country of domicile were the main factors influencing CSR practices. The study also indicated that the larger the company, the more likely it would be to disclose all types of corporate social information. The study reported that industry membership was influential in the reporting of environmental and employee information, but not influential in the disclosures of ethical issues. In spite of the presence of significant variations among the countries in terms of size and industry membership, these two factors were important in explaining CSR practices. Legitimacy theory might offer explanations for some of the reasons for simple differences in CSR practices related to company size and industry in the six countries. On the other hand, reasons for other complex differences might require further research.

The contents of annual reports of 356 listed companies in Asia-Pacific countries were surveyed by Williams (1999) to determine factors significant in influencing the quantity of voluntary environmental and social accounting disclosures (VESAD). Companies from Australia, Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, and Thailand were included in the study. The study used the number of sentences of relevant disclosure as the dependent variable. The study found national, political, and civil systems, uncertainty avoidance, and

masculinity were significant determinants of quantities of VESAD, while the legal system and the equity market were not influential factors. Williams (1999) concluded that the socio-political and economic system interact to lead organisations to perceive the need to meet social expectations and avoid government regulation, by means of VESAD which is argued to be consistent with bourgeois political economy theory.

Jones (2000) conducted one of the most comprehensive studies on the disclosure of EI. Some detailed results of the study are presented in order to compare them ( in chapters 5, 6 and 7) with the results of the present study. Jones (2000) analysed 69 reports from companies based in the EU, outside the EU but operating in the EU, based or operating outside the EU but offering best practice example, and producing an environmental report. The participating companies were from 14 countries worldwide (the U.S., Canada, Denmark, Finland, the UK, France, Belgium, the Netherlands, Norway, Sweden, Germany, Switzerland, Italy and Japan). In addition to content analysis of the annual reports, a questionnaire was utilised to extract additional information from the participating companies (which included 18 expert organisations and 11 report user organisations).

With regard to the disclosure of EI in Annual Reports (excluding separate environmental sections or subsections), Jones (2000) found that 45 companies disclosed EI in the review of operations/business units section of their annual report. Thirty-four companies disclosed EI



relating to their products and processes, 13 companies released environmental financial information, 10 companies released information regarding their environmental legislation and compliance, and 8 companies released information about their pursuit of EMS and standards. A general statement of corporate environmental commitment was disclosed by 16 companies.

With regard to the disclosure of EI in annual reports, the study found that 50 of the companies analysed provided a separate environmental section or subsection within their annual reports, the number evenly split between the two categories (see table 3-1 for overall results).

The level of disclosure in financial reports was much lower but more complex than disclosure in annual reports. Thirty-two companies made environmental disclosures in the director's report. The potential financial impact of future environmental matters, i.e. environmental contingent liabilities, was the most frequently disclosed topic (13 companies), followed by environmental contingent liabilities within forward-looking or cautionary statements (5 companies). As regards EI quantification, 10, 8 and 3 companies quantified provisions for environmental liabilities, environmental expenditure and recoveries from third parties, including insurance claims, respectively. Nine and three companies presented information about environmental legislation and compliance, and guidelines or standards relating to the presentation of environmental financial information in corporate accounts,

respectively (pp. 32-34).

**Table 3-1: Companies disclosing EI in annual reports**

Section Item	Company Description	Highlights	Chairman/CEO review	About the Industry	Review of Operations/Business Units	Environmental Section	Research and Technology	Corporate Development	Human Resources Development	Financial Review	Corporate Citizenship	Shareholder Value
Reference to Environmental Report	4%	1%	9%		4%	50%						10%
EMS/standards	1%	1%	4%		12%	38%			1%			
Environmental policy	1%		4%		1%	26%				1%		
Environmental legislation	1%		4%		15%	19%		1%		1%		
Environmental T&Os		3%	9%	1%		31%						
Environmental audit/study					1%	21%						
Environmental organisation/ affiliations		4%	3%			19%						
Environmental sponsorship	3%	1%			1%	13%					1%	
Environmental training	1%					12%			1%		1%	
LCA			1%		1%	9%						
Environmental organisation/ structure	1%		1%		3%	7%		1%	3%			
Supplier chain			1%		3%	6%						
Environmental guidelines						4%			1%	1%		
Environmental R &D			1%		4%	3%	3%		1%			
Environmental risk					1%	4%				3%		1%
External awards recognition	1%	3%	1%		1%	24%						
Internal environmental award			1%		1%	3%						1%
Corporate commitment	9%		23%					3%				
Emissions		1%	7%		7%	40%					1%	
Energy efficiency					4%	16%	1%				1%	
Recycling/reuse					1%	21%				1%		
Waste			3%		1%	19%	1%					
Environmental products and processes	10%	1%	16%		49%	38%	4%			1%	1%	
Environmental financial information	1%	1%	4%		19%	24%				15%		
Biodiversity/wildlife conservation					3%	4%						
Environmental remediation			1%			7%				3%		
Environmental incident/accident		1%			3%	4%						

Source: Jones (2000), table 4.1, p. 19

The potential financial impact of future environmental liabilities was disclosed by 12 companies in disclaimer statements while environmental contingent liabilities affected by environmental laws and

regulations were stated by 10 companies. Nine companies quantified environmental provisions in their unassigned notes to the accounts (pp. 37-38). Table 3-2 presents an overview of the environmental disclosures made in the financial report.

**Table 3-2: Companies disclosing EI in financial reports**

	Director's Report	Accounting policies/principles	Income statement and notes to the income statement	Balance sheet and notes to the balance sheet	Other unassigned notes to the accounts	Director's responsibility
Statement about environmental legislation effects.	13%			1%	15%	
Mention of involvement in legal proceedings.	9%			6%	10%	
Mention of being named as PRP *.	9%			6%	7%	
Mention of sharing responsibility.	6%			3%	4%	
Quantified provisions for environmental liabilities.	15%	1%	1%	16%	13%	
Amount of environmental provisions cancelled that year.				6%	1%	
Amount added to environmental accrual that year.	6%			4%	1%	
Statement of when environmental provisions made.	12%	22%		6%	1%	
Statement of what environmental provisions cover.				7%	1%	
Statement of how the level of environmental provisions is determined.	4%	10%		1%	1%	
Statement of how environmental provisions are accounted for.		1%			4%	
Statement that there are uncertainties which could affect costs and therefore environmental provisions.	7%	4%		4%	8%	
Quantified environmental expenditure.	12%		1%			
Statement of how environmental expenditure dealt with in accounts.		16%		1%		
Environmental contingent liabilities.	19%			6%	18%	
Recoveries from third parties, including insurance claims.	4%	10%		4%	7%	
Accounting standards/Guidelines used.	4%	4%	1%			
Differences in GAAPs.		1%			1%	
Reference to other sections in annual/financial report.	4%				3%	

\*Potentially Responsible Parties

Source: adapted from Jones (2000), table 4.2, p. 20.

Just over half of companies surveyed (55%) indicated their voluntary EI was disclosed primarily for publicity reasons. Report users agreed. Others stated that environmental disclosures improved company image or reputation, or demonstrated compliance with environmental

regulations and management of environmental impacts.

One third of companies pointed to a variety of other reasons. For example, two companies thought EI was disclosed due to tradition or long-standing practice, while one company stated it fitted in with their objective of corporate citizenship (*ibid* p. 40). Table 3-3 highlights the main types of EI disclosed by companies in this study in their annual/financial reports and the views of expert organisations and report user groups towards these items.

**Table 3-3: Disclosure of EI in Annual/financial reports**

Type of information	% of companies currently disclosing (n=69)	% of expert organisations recommending disclosure (n=18)	% of report user organisations recommending disclosure (n=11)
Environmental policy	45%	100%	75%
Record of compliance with environmental regulations	38%	80%	100%
Environmental investments	48%	80%	75%
Current environmental expenditures	48%	100%	75%
Environmental fines and/or sanctions	34%	100%	100%
Compensation to third parties	21%	100%	100%
Environmental provisions	48%	60%	100%
Environmental contingent liabilities	48%	80%	100%
Environmental performance indicators	52%	60%	100%

Source: Jones (2000), table 7.2, p. 43.

Some of the most important reasons preventing companies from disclosing certain EI were that environmental expenditures are impossible to define, compensation to third parties is not applicable, or not disclosed unless a legal statement is issued, environmental provisions and environmental contingent liabilities are aggregated with other provisions, and there is no harmonised international definition of infringement, thus no international record. EI companies usually

disclosed in their annual/financial report environmental principles and strategies, highlights of the year/main achievements, environmental awards, health and safety information, environmental product advancements, examples of continual improvement.

Jones (2000) concluded that current environmental disclosures are difficult to compare across companies as they all disclose different environmental topics and present these topics in different ways. She suggested that standardisation should make it easier to compare and contrast environmental activities or performance, in the annual/financial report (much debated), while a separate environmental report could allow for more innovative and creative disclosures.

The main recommendations of Jones' (2000) study are:

- EI should be equally disclosed with other strategic issues, and should be quantitative, where possible.
- EI should be published in both the annual/financial report and a stand-alone environmental report.
- The reporting cycle of the stand-alone environmental report should be synchronous with that of the annual/financial report.
- Environmental disclosures should be presented in a more standardised manner to increase comparability both within and across companies.
- EI should be included in the financial report to ensure reliability throughout auditing.
- Provisions for environmental liabilities and environmental expenditures should be quantified, where material (pp. 60-121).

### **3.3.1.1 KPMG studies**

Since 1993, KPMG's Global Sustainability Services have conducted corporate environmental reporting (CER) surveys every three years. The latest survey was conducted in 2002 to examine CER practices in the top 250 companies of the Global Fortune 500 companies (GFT250), and the top 100 companies in 19 countries (Top 100). The GFT250 was based on the Global Fortune 500 list published in July 2001 (ranked by revenue). The GFT250 list included companies from Latin American countries, Canada and the U.S., the UK, the Netherlands, Belgium, France, Germany, Italy, Spain, Scandinavian countries, Switzerland, India, China, South Korea and Japan. The Top 100 survey was based on nationally published lists of the largest companies in Australia, Canada and the U. S. the UK, Spain, France, Belgium, the Netherlands, Norway, Denmark, Sweden, Finland, Germany, Italy, Hungary, Slovenia, Greece, South Africa and Japan (KPMG, 2002). In the following section, the major findings of the survey will be highlighted.

#### ***A. GFT250 Results***

Of the GFT250, 73% produced Health, Safety and Environment (HSE) Reports, 14% produced Sustainability Reports, 10% produced Environmental and Social Reports, and 3% produced Social reports. Reporting in the financial sector increased from 15% in 1999 to 24% in 2002. This rate of reporting was relatively low compared to other sectors, such as mining, forestry, pulp & paper, and chemicals & synthetics (100% each), followed by the pharmaceuticals (86%),

electronics & computers (84%), and automotive (73%) sectors. The middle sectors were oil & gas (58%), utilities (58%), communication & media (41%), and metals, engineering & other manufacturing (40%).

In terms of the proportion of reporting companies within each country, companies from the Netherlands came top (86%) followed by Switzerland (83%), then the UK with 73%. The most noticeable increase in the number of reporting companies in 2002 occurred in Japan (7 companies), four companies each in the US and France, and three companies in the UK.

### ***B. Top 100 Companies' Results***

Of the 1,900 companies representing the Top 100 companies across 19 countries, 440 companies (23%) produced corporate HSE, social or sustainability reports. Of these companies, 65% produced HSE reports, 12% produced sustainability reports, 11% produced environmental and social reports, and 12% produced social reports (*ibid* p. 12, figure 6).

In terms of sector, half of the companies in the utilities sector (the highest proportion) produced corporate reports. The communication and media sector followed with 46%, then the chemicals & synthetics sector with 45%, and the forestry, pulp & paper sector with 43%. The percentage of reporting companies in the oil & gas, transport, mining, pharmaceuticals, and automotive sectors were 38%, 37%, 33%, 30%, and 28%, respectively. A quarter of companies in the electronics & computers and food & beverage sectors produced corporate reports,

followed by 24% in the metals, engineering & other manufacturing sectors. The percentages of companies operating in the trade & retail, finance, securities & insurance, and construction & building materials sectors producing corporate reports were 15%, 12%, and 9%, respectively. Only 6% of the 144 companies operating in other sectors produced corporate reports. The results confirmed that sectors with more established reporting practices were continuing to lead, after comparing the results of earlier studies conducted by KPMG (p. 13).

The study compared, where possible, the reporting practices in terms of country in 1996, 1999, and 2002. Eight countries not covered by the two earliest surveys were Canada, South Africa, Greece, Hungary, Spain, Italy, Slovenia and Japan. Japanese companies outperformed companies from other countries in 2002, with 72% of them producing corporate reports. UK companies followed with 49%. Companies producing corporate reports in the US, Netherlands, Finland, and Germany in 2002 ranged between 30%-40%. The reporting practices in emerging economies, including Greece, Hungary, Slovenia, and South Africa were low (8% or lower) (p. 14). The UK, Finland, and France showed notable increases in reporting practices in comparison with 1999 levels. On the other hand, the reporting practices of companies operating in Sweden, Belgium, Denmark, Germany, Norway, and Australia had decreased (p. 15). With regard to the inclusion of HSE and social or sustainability information in financial reports, 89% of UK companies, 81% of Norwegian companies, 76% of Australian



companies, and 67% of South African companies included such information in their financial reports.

In terms of the publication of separate corporate HSE, social and sustainability reports, 72% of Japanese companies, 49% of UK companies, 36% of US companies, and 32% of German and Finnish companies produced stand-alone reports. The lowest percentage of stand-alone reports was associated with Hungary (8%), Slovenia (5%), Greece (2%), and South Africa (1%) (p. 16). The usefulness of this information depends on its reliability and credibility. KPMG (2002) reflects this by showing a significant increase in the number of companies who had had their reports verified by third parties. Of the GFT250T, 29% had had their reports verified in 2002 compared to 19% in 1999. With regard to the Top 100 companies in 19 countries, 27% of companies had had their reports independently verified in 2002, while 18% had done so in 1999 (p.18).

The study noted that reporting practices were expected to change due to the expected endorsements of new regulations that would mandate certain companies to produce reports about their environmental and social performance. For example, French companies listed on the stock exchange would be mandated to report on their environmental and social performance with effect from 2002. The introduction of socially responsible investment indexes, such as the Dow Jones Sustainability Group Index and the FTSE4 Good Index, was also seen as a

contributory factor (p. 15).

According to KPMG (2002), the main drivers which engage businesses in reporting environmental and social information include:

- Enhancement and maintenance of reputation;
- Risk reduction;
- Establishing the company as an employer of choice;
- Helping a company to sustain business by reducing costs, creating new opportunities, generating additional revenue, and building valuable relationships;
- Speed to market (new product/process development);
- Creating business partnerships with a range of organisations that share the standards and expectations of the company;
- Increasing market capitalisation (p. 26).

More recently, Newson and Deegan (2002) have examined why large multinational corporations respond to 'global expectations' rather than simply to the expectations of those people residing in the corporation's 'home' country. The researchers used the results of two large international surveys (Enderle and Peters, 1998 and Environics International, 1999), presented in section 3.2.2 above, to determine global expectations. They analysed the annual reports of fifty of the largest companies in Australia, South Korea, and Singapore, ranked according to market capitalisation as the size variable. Regarding the first question of Newson and Deegan (2002): 'To what extent does voluntary CSD provided by large multinational organisations align with the expectations of a global society?' the results indicated

little alignment. As regards the second question: ‘If the voluntary CSD made by multinational corporations from different countries shows significant dissimilarity, does country of origin or industry of operation appear to be a significant influence?’ the results suggested country of origin was significant, at the .01 level, for explaining differences in total voluntary CSD provided by high-profile companies. Country of origin was also significant, at the .05 level, for explaining variation in total voluntary CSD for the low-profile companies sampled.

### **3.3.2 EAD In Developed Countries**

Mathews (2000) found that the overwhelming majority of research in the area of EAD was conducted in the context of developed countries and concentrated on the disclosure of EI practices. The next section will shed light on some of these studies in the context of some developed countries and will present only studies reported in English.

#### **3.3.2.1 EAD in Australia**

In his review of the literature, Mathews (1997) noted that Australian studies were quite advanced during the late 1970s. Trotman's (1979) study showed increased incidence of social disclosure by the largest corporations listed on the Sydney Stock Exchange. (Disclosures were analysed by category and quantified.) Mathews also reported that Anderson (1980) had surveyed Australian accountants to determine their attitudes towards voluntary disclosure of social responsibility data in annual reports. In general, there was support (Mathews, 1997, p. 485). Research relating to EAD in Australia has continued to grow, as

evidenced by the number of studies focusing on Australian organisations. The following are the main empirical studies relating to Australia.

Deegan *et al.* (1995) examined the attitudes of eighty Australian accountants with regard to environmental accounting. The study findings indicated lack of consensus among Australian accountants on environmental issues. There was limited support for the views that accounting currently addresses social or environmental issues, and accounting standards should address environmental issues. Also, there were disagreements concerning the inclusion of EI within financial statements. The authors inferred from respondents' perspectives that, in general, current environmental disclosure practices are deficient.

Similar results were obtained by Frost and Wilmshurst (1996) from chief financial officers of companies listed on the Australian Stock Exchange in 1994-95. The results of the survey did not show very strong support for the extension of the traditional accounting framework to incorporate environmental accounting and reporting. Less than half of respondents (46%) opposed the introduction of mandatory regulations for disclosure of EI in the annual reports. About two-fifths (39%) of respondents agreed that environmental issues are outside the role of accountants, and a lesser percentage (36%) agreed that accountants should play a role in environmental management within a firm. With regard to the perceived usefulness of EI, 43% of respondents

agreed that such information is useful to the users of annual reports.

Deegan and Gordon (1996) reported the results of three separate but related investigations. They examined the change in corporate disclosure practice during the period 1980 to 1991, reviewed environmental disclosure in the annual reports of a sample of Australian companies for 1991, and investigated the role of environmental lobby groups. With regard to the first task, they found a significant increase in environmental disclosure over the period 1980-1991. The authors linked this increase to the increased social awareness of environmental issues. With regard to the second task, they found that sample companies produced self-laudatory environmental disclosures, promoting positive aspects of their environmental performance and failing to disclose negative aspects. Finally, the results regarding the role of environmental lobby groups indicated a positive correlation between both environmental sensitivity (from the environmental lobby groups' viewpoint), size of company and level of disclosure.

The effect of being prosecuted by the Australian Environmental Protection Authority on environmental disclosure patterns was analysed by Deegan and Rankin (1996). The authors examined disclosure practice in the annual reports of 20 Australian companies based on legitimacy theory. The results of the analysis indicated that companies that were successfully prosecuted disclosed qualitative positive EI willingly after prosecution and avoided disclosing any negative news. The authors noted that these results were consistent with previous

findings. They also perceived that the main reason for such disclosure was to improve the image of the prosecuted company.

Brown and Deegan (1998) empirically examined the argument that media attention might drive public concern about an organisation's environmental performance, which in turn might lead that particular organisation to increase its environmental disclosure statement. The sampled organisations were drawn from nine Australian industries over the period 1981-1994. The results of the study showed significant association between level of media attention and level of environmental disclosure in the annual reports of the investigated organisations in five of the nine industries. The results of the study confirmed the notion that legitimacy theory is a predictor of environmental disclosures in annual reports.

Deegan and Rankin (1999) explored the existence of a gap between users' demand and preparers' supply of EI. The study sample included senior executives of the 462 largest Australian companies and 474 individuals from different categories of report users. The results of the study showed that 67.8% of users wanted EI to be included in annual reports. On the other hand, current environmental disclosure seemed to be low, with the disclosure of information relating to environmental contingent liabilities scoring the highest percentage (19.8%). There was a significant proportion of users who supported the disclosure of EI in a separate section of the annual report (69%). The study also concluded that an expectation gap seemed to exist. The authors suggested that the

awareness of members of professional accounting bodies should be increased as well as the development of environmental reporting standards, in order to close the gap.

The reaction of corporations to major social incidents in terms of social and environmental disclosure was examined by Deegan *et al.* (2000). The authors used a quasi-experimental design, which took the form of a pre-test and post-test of companies' annual reports. A sample of companies was selected in relation to five incidents (Union Carbide, 1984; Exxon Valdez, 1989; the Kirki Oil Spill, 1991; the Moura Mine Incident, 1994; and the Iron Baron Oil Spill, 1995). The authors argued that if an environmental incident occurs, public awareness of the incident can spread fast through media coverage, threatening the legitimacy of the corporation if it does not take corrective action. Corporate management's perception of the significance of the incident in the public's eyes and its effects on the corporation's image or survival will determine whether management will respond to the incident or not. The study results showed that the total disclosure of environmentally related information increased within the two years following a specific incident, compared to two years prior to the incident. The results also indicated that, in general, the sample firms began to disclose more EI after four out of the five incidents. The authors concluded that the results emphasised the strategic nature of voluntary social disclosure, and companies used it to reduce the unfavourable effects of social incidents on their image. The findings

were consistent with legitimacy theory, because the sampled companies did appear to change their disclosure behaviours around the time of major socially related company and industry incidents. The study concluded by highlighting the importance of the introduction of mandatory social and environmental disclosure requirements to ensure that users' 'right to know' is fulfilled.

### 3.3.2.2 EAD in Canada

In a comprehensive examination of Canadian publicly listed companies' reports between 1982 and 1991, Neu *et al.* (1998) attempted to discover the influence of external pressure on companies to disclose EI, to compare the characteristics of environmental disclosures with other social disclosures, and to test whether there was an association between environmental disclosure and actual performance. The results of this examination suggested that Canadian companies operating in mineral extraction, forestry, oil & gas, and chemical industries provided additional evidence that "environmental disclosure in annual reports provides organisations with an effective method of managing external impressions" (p. 269). The study also identified the 'relevant publics' of corporate entities as including stakeholders (primary) and environmentalist groups (secondary). The latter group includes environmental regulatory bodies. The authors suggested carrying out further research to uncover the relationships between environmental disclosure and environmental performance.

Cormier and Gordon (2001) investigated investors' observations over



the period 1986-1991 in a sample of 154 firms drawn from three major Canadian industries to find out how they assessed the firms' financial position relating to environmental performance. Environmental performance was measured by comparison with pollution measurement. The authors based their comparison on the hypothesis that the larger the pollution measured, the greater the magnitude of investors' implicit environmental liability, which they used to reduce their valuation of the company's stock. In the views of investors, the implicit environmental liabilities reflect costs relating to the environment and losses expected to occur which have not been accounted for in the financial statements. The study results indicated differences in investors' evaluation behaviours in relation to each industry. In the case of pulp & paper, chemical and oil refining industries, where the pollution measure was the highest, the study reported positive correlation with the assessment of implicit environmental liabilities. Weaker correlation was found for firms working in the steel, metal and mining industries.

### **3.3.2.3 EAD in Finland**

Niskala and Pretes (1995) analysed the annual reports of seventy-five companies in the most environmentally sensitive industries from 1987 and 1992, using content analysis. The study's main aim was to analyse changes in corporate environmental reporting practices among large Finnish firms during these five years. The results indicated marked changes in environmental reporting practices. In 1987, just over one quarter (26.7%) of the firms analysed disclosed EI in their annual

reports, while in 1992 this number had risen to nearly one half (48%) of firms. Most of this disclosure was in a qualitative rather than a quantitative or financial form. The results were consistent with earlier studies demonstrating that environmental reporting was a feature of firms in certain industrial sectors. The authors concluded that environmentalism influenced the practices of corporate environmental disclosure, environmental policy, and the accounting practices of Finnish corporations.

#### **3.3.2.4 EAD in New Zealand**

Hackston and Milne (1996) reported the results of a study on social and environmental disclosure practices in the annual reports of the 50 largest companies listed on the New Zealand Stock Exchange up to the end of 1992. The study aimed to provide an up-to-date description of such practices, place them in an international context, and examine some of their potential determinants. The results were consistent with previous findings, that company size, industry, systematic risk, and managerial decision horizons explain social and environmental disclosure, whereas profitability (both current and lagged) do not. For a comparison of the results of Hackston and Milne's study and previous studies, see table 3-4, below. The authors concluded: "In addition to size and industry relationships, this study also provides some tentative evidence that dual and multiple overseas listings may be associated with greater social disclosure" (p. 102).

**Table 3-4: International comparison of social disclosure**

	USA		UK			Australia		New Zealand		
	Ernst & Ernst 1977	Guthrie and Parker 1983	Guthrie and Parker 1983	Gray <i>et al.</i> 1983	Gray <i>et al.</i> 1991	Guthrie and Parker 1983	Guthrie and Parker 1980	Davey 1982	Ng 1985	Hackstone & Milne 1992
Sample	500	50	50	100	100	50	50	32	32	50
Incidence <sup>a</sup>	90	85	98 <sub>56</sub> <sup>b</sup>	72	100	56	56	84	100	83
Amount <sup>c</sup>	N/A	1.26	0.89	0.5	2.0	0.7	0.68	270 <sup>d</sup>	300 <sup>d</sup>	0.75
Theme <sup>e</sup> :										
Environment	57	53	14	7	75	21	17	6	13	23
Human resources	47	75	98	65	100	93	34	66	88	79
Products	33	35	10	4	10	0	4	3	28	40
Energy	59	43	2	1	15	4	7	0	3	6
Community	33	63	96	10	62	29	11	16	19	30
General/other	24	0	0	5	15	18	6	13	3	19

Notes: (a) Percentage of total sample of companies that made at least one social disclosure

(b) Guthrie and Parker's 98% incidence rate included both mandatory and voluntary disclosures. When voluntary disclosures only were considered, the UK incidence rate was 56%

(c) Average amount of disclosure to the nearest 100th of an annual report page for those companies making at least one social disclosure

(d) Average number of words

(e) Percentage of companies making at least one disclosure in that theme of the total sample of companies

Source: Hackston and Milne (1996), table I, p. 79.

### 3.3.2.5 EAD in Spain

Moneva and Llena (2000) analysed the environmental disclosures included in the annual reports of 70 large Spanish companies during the period 1992-1994 on the basis of stakeholder theory. The authors studied the type and location of disclosure, environmental policies and projects, environmental protection activities, and the inclusion of EI in the annual accounts.

They also examined whether the company listed on the stock market had a foreign based parent company, or whether the company belonged to a regulated sector had any effect on the disclosure of EI practice. In

general, the study found that, although there had been an increase in financial EI, the narrative EI still represented the most widely used form of disclosure. The authors suggested that the increase in the use of a financial form to disclose EI reflected a progressive increase in the degree of involvement by companies. The results did not indicate any correlation between the volume of environmental disclosure and the fact that the company was listed or not, or whether the company was Spanish or foreign in origin. However, the origin of the company seemed to influence the form of the disclosure, because companies with a foreign parent provided more quantitative financial EI.

#### **3.3.2.6 EAD in Sweden**

Fortes and Åkerfeldt (1999) surveyed general trends in environmental reporting in 205 Swedish companies listed on the Stockholm Stock Exchange. They utilised a postal survey, and undertook content analysis of annual reports and, where applicable, their stand-alone environmental report. Personal interviews were conducted with environmental managers and executive officers. The main findings of the study were as follows:

- A growing trend towards greater disclosure of environmental performance was revealed, particularly among Swedish public companies in the chemical, oil, gas, utilities and forestry industries.
- Maintaining or improving competitiveness in the business environment was the most important driver for environmental reporting.

- Moreover, such reporting demonstrates openness about company activities.
- Main target groups for disclosure were customers/consumers and shareholders/investors.
- Considerable variation in the form of disclosure between companies existed, with most disclosing such information only in their annual reports.
- Legislation was considered necessary to promote greater openness and consistency in the presentation of information.
- Most companies had implemented, or were in the process of implementing EMSs, with ISO 14001 the most widespread standard.
- The main drivers for adopting EMSs were the need to respond to customer needs, to assist management, meet customer/supplier selection criteria, and to comply with legislation.
- Valuation methods and accounting for environmental issues lacked consistency, and very little expenditure detail was provided in the reports.
- There was scant evidence of systems recognising environmental costs or revenue.
- A quarter and one-fifth of companies had satisfactory internal tracking systems for liabilities and for investment, respectively.
- Verification of environmental disclosures relating to financial information and ecological aspects differ significantly. Whereas half of the companies reporting had financial aspects verified by their auditors, most did not provide any verification of the ecological information disclosed (p. 2).

The study recommended development of a consistent framework for reporting to speed up the move to environmental accounting and the

provision of useful information. Also, it stressed the need for further legislation to provide an added impetus.

### 3.3.2.7 EAD in the UK

Hall and Jones (1991) examined social responsibility accounting practices (SRA) by the top thirty UK companies between 1975 and 1985. They used content analysis of annual reports and a follow-up questionnaire to determine the extent and nature of SRA and to assess the extent to which firms perceived the effects of social factors on their decision-making. The results of the survey showed that the percentage of companies disclosing EI was low, and information relating to energy conservation was the most popular item disclosed, which the authors attributed to the worldwide oil crisis that was unfolding at the time. The study also found that all of the respondents indicated that social/environmental issues were considered before corporate decisions were made, 64% stated their willingness to consider alternative procedures to reduce water pollution, and 45% to reduce air and land pollution. All companies agreed that they could benefit from being socially aware through the improvement of their relations with the public, while 73% of firms supported the introduction of obligatory social statements. Finally, the authors reported that environment/ecology issues came sixth in terms of importance among the twelve issues covered by the study.

Gray *et al.* (1995b) conducted a longitudinal study of CSR, covering the period 1979 to 1991. The study used content analysis to examine

trends in CSR practices in the UK. The study sample for the period 1979-1987 included a wide range of companies by size, whereas the sample for the period 1988-1991 only included the largest 100 UK companies. The survey indicated a rise in both the proportion of companies disclosing and the range of that disclosure. The authors importantly concluded that CSR in the UK changes over time, and the size of companies appears to be an influential factor for voluntary CSR.

The assistance that accountants might provide within their organisations in terms of environmental management was examined by Wycherley (1997). The author interviewed 30 environmental managers with UK companies to elicit their perceptions about the role that accountants might play in environmental matters. Wycherley argued that, despite limits to the use of environmental accounting techniques, the increased interaction between environmental management and accounting could result in cost savings and provide chances for more ethical policies. Interview results indicated that environmental managers experienced different responses from accountants with regard to their involvement in environmental issues. Some accountants showed support by providing information about the cost of environmentally related items, while others were doubtful about the role of accounting in environmental matters and indicated resistance to change. As regards environmental managers, some thought the the cost of collecting accounting information in many cases outweighed the value of such information. Moreover, there seemed to be some

resistance on the part of environmental managers towards accountants' attempts to play a major role in this area, which they considered their preserve. Despite these observations, the author concluded that organisations could benefit from accountants in terms of the quantification of the cost savings associated with improved environmental performance, which he linked to the provision of environmental training to all involved parties in an organisation.

Campbell (2000) examined the annual reports of a major UK retailer corporation over the period 1969-1997, to determine whether the change in voluntary CSR practices could be explained by either legitimacy or political economy accounting theories. The two explanations are used widely in the literature to explain voluntary CSR, and both are consistent with a stakeholder understanding of the organisation-society relationship. The author found a notable upward trend in CSR. Further, he observed that the variability in CSR practices in the company appeared to be driven by the chairman in office at the time; hence he argued that the marginal variability in CSR practice could be explained by the varying perceptions of reality of successive holders of the chairman's office.

Solomon (2000) surveyed the perceptions of three groups, a normative group, an interested party group, and a company group, towards the possibility of developing a conceptual framework that would allow CER to shadow financial reporting in the UK. Solomon included a number of aspects in relation to users, namely qualitative



characteristics, verification, bearing the cost, and time period and communication in his survey. He acknowledged the existence of differences between CER and financial reporting, but concluded that such differences should not discourage the shadowing of CER and financial reporting, which he believed would enhance the quality and increase the quantity of CER in the UK. He also suggested that CER shadowing of financial reporting could be adapted in other countries to Anglo-American accounting systems in terms of an implicit conceptual framework in relation to users.

Stray and Ballantine (2000) surveyed 277 UK companies in the automobile, banking, electronic, energy, food & drink, and water industries to examine whether or not a company disclosed, or intended to disclose EI in the future. They mailed questionnaires to finance or environmental managers to assess the nature and extent of their companies' environmental disclosures. The survey found that just over one third (34.4%) of companies currently disclosed EI. All companies in the water sector, 93.8% in the energy sector, 43.8% in the automobile sector, 28.3% in the food and drink sector, 18.8% in the electronics sector, and 15.4% in the banking sector were currently disclosing EI. Moreover, 97% of companies not currently disclosing stated that they were planning to disclose EI within the coming five years. The results indicated a positive association between company size, in terms of turnover, and the disclosure of EI. With regard to environmental policy (EP), 42% of companies had written EPs; of

these, 68% disclosed EI of some sort. It was surprising to the authors that almost one third (32%) of companies that had written EPs did not disclose any EI. With regard to the medium of disclosure, more than half of the companies (52%) used annual reports and accounts, and (51%) used stand-alone environmental reports (ERs) to disclose EI. Less than half of the companies (44%) disclosed EI through press releases, 33% through exhibitions, 20% through videos, and 12% various other means. It is worth noting that 75% of the disclosing companies used more than one medium to disclose EI. The authors paid particular attention to the disclosure of EI in a stand-alone ER, and found, contrary to previous research, no indication of any relationship between the size of the company and the production of an ER. Further, 53% of companies that had produced an ER claimed that they had had their ER independently verified. In terms of sector, there seemed to be substantial differences in disclosure practice. The authors concluded by praising the ACCA's efforts to establish environmental reporting awards, but cautioned that environmental reporting in the UK has a long way to go.

#### **3.3.2.8 EAD in the US**

One of the earliest empirical studies was carried out by the Ernst and Ernst accounting firm. It examined the contents of the annual reports of Fortune 500 companies between 1971 and 1977, and produced a series of analyses. In general, the analyses revealed an increase in the rate of disclosure of socially-oriented information towards the end of the

series. About 90% of the annual reports included social information, averaging about half a page.

The relationship between company characteristics and the nature and frequency of corporate social responsibility disclosures was investigated by Cowen *et al.* (1987). Their study analysed the annual reports of 134 US companies to determine the effects of four variables (company size, profitability, industry, and the existence of a corporate social responsibility committee) on the quality and quantity of disclosures. The types of disclosures were environmental, energy-related, fair employment practice, involvement in the community, human resources, product-related, and other disclosure. The study found both corporate size and industry correlated with certain types of disclosures. Corporate profitability was an insignificant factor on social disclosure. The existence of a corporate social responsibility committee appeared to correlate with disclosures relating to human resources.

Gamble *et al.* (1995) carried out an investigation into the quality of environmental disclosures in the annual reports of 234 American companies between 1986 and 1991. In general, there was a significant increase in environmental disclosure in 1989 compared to previous years, and again from 1989 to 1991. The overall quality of disclosure was low, and there was also a lack of guidance from regulatory bodies.

The (US) Fortune 500 companies were the subject of a further environmental disclosure study by Kreuze *et al.* (1996), who surveyed

the annual reports of those companies. The findings of the study indicated that the majority of the sampled companies did not include any information about EPs, and only 27% of the reports contained some disclosure of environmental issues. Similar to other studies, this study found variations in disclosure practice among industries, with companies in industries such as energy, steel, chemicals, and pulp & paper providing higher levels of disclosure than companies in other sectors (50% and 21%, respectively). The authors concluded that, overall, environmental disclosures were general and limited.

The changes in the level of environmental disclosures following the Exxon Valdez oil spill (off Alaska in 1989) were investigated by Walden and Schwartz (1997). The EI disclosures practices for 1988, 1989, and 1990 of 53 companies from four industries were examined for both quantity and quality of information. Significant positive differences in terms of both the quantity and quality of the environmental disclosures during the period under study were found. The authors inferred from the results that environmental disclosures in these industries were made in the self interest of the firm. These disclosures were time or event specific, following perceived public policy pressure.

Alnajjar (2000) investigated the patterns of social responsibility disclosures (SRDs) by the Fortune 500 firms. He analysed the contents of the sampled companies' annual reports to measure the extent of narrative, quantitative, and monetary disclosure in the areas of

community, human resources, environment, and product safety. He tested the existence of any relation between disclosure practice and corporate profitability and size. The study found evidence that profitability significantly influenced the total SRDs, contradicting the findings of Cowen *et al.* (1987), with total disclosure a function of corporate size. Size was also found to correlate with major areas and types of disclosures. According to the author, the findings have direct implications for accounting and financial reporting policy and for future research on SRDs.

### **3.3.3 EAD In Developing Countries**

Focusing on developing countries, Samuels (1990) asserts that conventional accounting models are unable to serve the present needs of developing countries. He argues that, because their socio-economic development needs differ from those of developed countries, their accounting needs and reporting mechanisms may also diverge. Further, he observes that there is enormous pressure on developing countries to over-exploit their natural resources in their drive towards advancement of the socio-economic living conditions of their peoples. There needs to be pressure to convince policy makers in developing nations of the need to introduce mandatory regulations for corporate entities to report on the social and environmental impact of their operations (pp. 68-72). The following sections present some examples of the empirical studies conducted in the context of developing nations.

### **3.3.3.1 EAD in Bangladesh**

In an exploratory study Belal (2000) analysed the contents of 30 annual reports of Bangladeshi companies relating to the year 1996. Twenty of these were private sector listed companies (six of which were multinationals) and ten were public sector companies (eight of which were listed companies). Belal concentrated on studying the annual reports on the basis that annual reports are the most common and popular documents regularly produced by Bangladeshi companies in the absence of separate stand-alone environmental reports. The results of the study indicated that very limited environmental disclosure had been made. Although 90% of companies had made some environmental disclosures, the percentage of companies disclosing EI came down to only 20, if disclosure related to expenditure on energy usage, which is mandatory in Bangladesh according to the Bangladeshi Company Act of 1994 and the Securities and Exchange Rules of 1987, were excluded. The study revealed that three of the companies studied (one multinational private sector company, one listed and one unlisted public sector company) did not even disclose mandatory energy usage expenditure. In general, the quantity and quality of disclosures appeared inadequate and poor when compared to environmental disclosures in developed countries. The study also suggested that corporate image was the main reason for voluntary disclosure.

### 3.3.3.2 EAD in China

Rowe and Wehrmeyer (2001) applied institutional theory to explain the gap between the environmental attitudes of Chinese business leaders and actual practice in their companies. The researchers conducted several interviews (in 1999) with chief executives and accountants in Shanghai. The results of the study revealed that Chinese business leaders hold positive beliefs and values about environmental practice but they were not able to act on their personal beliefs due to institutional constraints. Specifically, the study indicated that ‘short-term economic prosperity prevailed over long-term sustainable environmental concerns’ (p. 12). The study also identified six inhibitors of disclosure, namely:

1. the absence of legal requirement;
2. costs outweighing benefits;
3. doubt about the advantages that the company could gain from disclosure of environmental information;
4. competitors not disclosing environmental information;
5. existing reputation for good environmental and safety performance; and
6. secrecy.

The authors claimed that the factors that hinder transparency are similar to those identified by Gray *et al.* (1993, p. 211) and by SustainAbility/UNEP (1998, p. 9).

### 3.3.3.3 EAD in Fiji

Lodhia (2003) examined the perceptions of Fijian accountants towards their role in the environmental management accounting practice of organisations and the reporting of environmental information in corporate annual reports or other communication media. The author concluded that present environmental accounting practice in Fiji is unsatisfactory, basically because it is currently voluntary and unable to provide sufficient guidance to accountants. Despite this, the author was optimistic about the future of environmental accounting if strict measures are put in place. He suggested that: the introduction of enforcement mechanisms, environmental legislation, accounting standards and an educational process could “provide an impetus to Fiji accountants to be involved in environmental management accounting and reporting in organisations” (p. 734). He claimed that environmental information is no less important than information about profitability, and called for a collaboration of efforts between the Fiji Institute of Accountants (FIA), the corporate sector, academics and the government, to encourage members of the Fiji accounting profession to engage in mechanisms that would assist in protecting the fragility of the biodiversity in the South Pacific. He concluded that there is an urgent need for improved environmental legislation and regulatory intervention in developing nations such as Fiji, and recommended that Fiji practitioners and researchers be heavily involved in the development of such legislation, because they are in a better position to understand the specific context in which the mechanism operates and to



identify impediments to its progress.

#### 3.3.3.4 EAD in Hong Kong

Lynn (1992) examined the extent of CSD practice in Hong Kong, analysing a sample of 264 companies' annual reports in terms of topic and page counts. The results revealed that only 17 companies (6.5% of the sample) made some kind of CSD in their annual reports, a significant proportion of them being manufacturing companies. The themes of disclosure made in the annual reports tended to be conventional ones, like staff development and community relations. The author noted that four companies devoted between 1-3 pages to CSD, nine almost one page in English, and another 4 companies between 0.25-1 page. CSD was located in different parts of the annual report, with some companies publishing separate CSD reports and others including it in their Chairman's report or in the review of operations section. Lynn concluded that Hong Kong scored a very low level of CSD compared to the literature.

Chiu *et al.* (2002) made an in-depth assessment of the state of environmental, social and sustainability performance reporting in Hong Kong. The key findings of the content analysis and regarding corporate and stakeholder attitudes to environmental issues were as follows. The majority of public sector companies' reports (85%) included an EP. In contrast, only 59% of private sector companies' reports included an EP. Only 6% of private sector reports provided comprehensive information on environmental accounting policies and no public sector reports did

so. Only 7% of public sector reports and 18% of private sector reports were verified by an independent professional accountant.

The study identified several conditions and recommended fulfilling them in order to increase the quantity and quality of environmental and social reporting in Hong Kong and to keep pace with international trends, such as the GRI. These conditions included:

- Establishing mandatory reporting requirements beyond the existing requirements for public sector environmental reporting
- Meeting increased demands for EI from stakeholders, particularly shareholders, investors and clients/customers
- Fostering a culture for reporting through enhanced awareness, information sharing, and support, and
- Establishing a prominent and substantive awards scheme for reporting, including separate categories for first-time public, private and small and medium reporters, adding sector-specific categories as reporting becomes more widespread.

#### **3.3.3.5 EAD in India**

Singh and Ahuja (1983) examined the annual reports of 40 Indian public sector companies in 1975/1976 to determine the extent of CSD. They analysed the relationship between a firm's attributes (such as age, total assets, net sales, rate of return, profitability and type of industry) and the practice of CSD. The results indicated that about 40% of the surveyed companies made more than 30% of the total desired CSD. They observed that CSD was made in different parts of the annual report. They also noted that while company size did significantly

influence the extent of CSD, company age, net sales and rate of return did not. Further, they found that manufacturing companies made more CSD than did the services companies, which indicates that industry type highly influenced the extent of CSD.

#### **3.3.3.6 EAD in Jordan**

In the Jordanian context, Naser and Abu Baker (1999) examined the possibility of introducing CSR into Jordanian companies' annual reports. Their study sought to answer nine research questions relating to the perceptions of various users of financial information; the questions were about the purpose(s) of CSR, the main reasons motivating and inhibiting CSR practice, the identification of groups of audiences that have rights to be informed, subjects of CSR, methods of CSR, locations of CSR, the perceptions of responsibilities of Jordanian shareholding companies, and the perceptions of proposed methods for establishing the responsibilities of these companies. They used a questionnaire to elicit the views of four groups, namely financial managers of Jordanian shareholding companies, public accountants, accounting academics, and governmental and non-governmental bodies.

The results of the study suggest that high ranking was given to stewardship and decision-usefulness as the reason for the provision of information over accountability. This high ranking indicates that the purpose of information provision is to fulfil the needs of users who have purely financial interest and involvement in companies. This indicates that Jordanian companies do not consider themselves

accountable to the Jordanian public, especially those with indirect interests and involvement in the companies. With regard to the main reasons for not making CSR disclosure, the lack of legal requirements and the absence of guidelines from the International Accounting Standards (IAS) on CSR disclosure (mean score 3.9 and 3.8, respectively) were stated (p. 212). The authors inferred from these results that the respondents emphasised the importance of the introduction of legal and professional requirements for CSR disclosure. Insufficiency of demand for CSR, lack of know how on producing CSR, and sensitivity and confidentiality of CSR information were regarded as having medium importance as impediments to disclosing CSR information. The costliness of producing and disclosing CSR was ranked as the least important impediment to Jordanian companies disclosing CSR. On the other hand, 84% of the respondents believed that large companies had more responsibility (beyond making profit for their owners). In general, between 80% and 90% of the respondents agreed with the suggestion that various stakeholders have the right to be informed, including consumers, employees, creditors, shareholders and investors, local communities, governmental departments and agencies, and the public at large. Perceptions of possible methods (forms) of CSR disclosure were that the vast majority of respondents would accept disclosure in any form possible (i.e. descriptive, statistical, and monetary). This indicates that the respondents would like to see CSR disclosure both in financial and non-financial forms (percentages of agreement ranged from 66% to 86%). As for the

possible locations of CSR disclosure, the disclosure of CSR as a separate section entitled 'responsibility or equivalent' in the annual report gained the strongest support (73%), as a separate booklet accompanying the annual report (50%), within the director's report (55%), and within the other sections of annual report (43%).

The authors proposed some recommendations (pp. 223-225), including:

- The social role of accounting and CSR reporting and disclosure in Jordan should be emphasised, since it can be seen as relevant to the country's economic, social and political problems.
- The Jordanian Auditors Society should undertake responsibility for providing practitioners with the necessary materials and procedures to enable them to be aware of, and be prepared for, the social role of accounting and CSR reporting and disclosure in Jordan.
- The Jordanian Company Act, or other legislation that organises business in Jordan, should include requirements to ensure the disclosure of CSR information by Jordanian shareholding companies.
- The Amman Financial Market should demand the disclosure of CSR information items as one of its listing requirements.

Abu Baker and Naser (2000) further investigated the extent of CSR in the annual reports of 143 Jordanian listed companies. They employed the method of Guthrie and Mathews (1985) to test four dimensions, namely: (1) Theme: including issues relating to environment, energy, human resources, products, community involvement and others; (2) Evidence: presented in monetary, non-monetary, declarative, and other

forms; (3) Amount of space devoted for disclosure measured by page, and (4) Location of the disclosure in the report (whether it was included in the chairman's review, in separate sections, in other sections or in a separate booklet).

Although the findings of the study indicated that 100% of the sampled companies disclosed some sort of social information, only a limited number of companies included environmental information in their annual reports. The authors suggested that one reason for the low level of disclosure may be due to the fact that the industrial sector is still in its infancy. Hence, the Jordanian companies feel that environmental issues are not of major concern to them. Another reason may be the lack of consumer and environmental pressure groups. Furthermore, managers of Jordanian companies may choose to concentrate on short-term survival strategies and delay dealing with environmental issues due to political instability in the region (Arab-Israeli conflict).

As for the form of disclosure, the results indicated that 98% of the companies used the financial form for the disclosure of information. 65% of the companies adopted a declarative (narrative) form of disclosure, while less than half of the companies (45%) used a mixture of monetary and non-monetary form.

CSR was included in other sections of the annual reports of the vast majority of companies (99%). The inclusion of social information in the director's report was chosen by 69% of the companies. The authors

suggested that the disclosure of social information by a significant number of companies may be explained by the fact that the disclosure of social information on the community involvement of Jordanian companies is required by law.

With regard to the amount of space devoted for disclosure, the average amount of disclosure in the banking sector was only 0.64 pages. Manufacturing companies used 0.52 pages on average to disclose social information. Companies operating in the service and insurance industries devoted about 0.20 pages for social information. The results of the study indicated that large companies tend to disclose more social information than small companies because they are monitored more closely by potential investors, which may need to utilise social information in their investment decisions. Disclosure may increase the disclosing company's ability to attract more sources of finance and maintain the value of their shares.

In general, the findings of the study suggest that the current state of CSR in Jordanian companies serves a limited set of stakeholders, namely shareholders and potential investors and creditors, and strictly in the economic domain. The authors also indicated that they do not expect the disclosure of social information to a wider range of stakeholders, including government, local communities, employees, environmentalists, consumers and the public at large, to occur on a large scale, for many reasons, in particular the absence of pressure

groups (NGOs).

#### **3.3.3.7 EAD in Lebanon**

Mezher and Zreik (2000) investigated current environmental management practices in the Lebanese manufacturing sector. They collected data through questionnaires and personal interviews with three groups, namely personnel in the industrial sector, the higher education sector, and the training sector. The results of the study indicate that only a minority of Lebanese companies are striving towards improving their environmental performance, in spite of personal environmental awareness among top management. The authors warned that the current environmental situation of the country is not expected to improve unless new environmental laws are introduced and continuously monitored for compliance. Moreover, they suggested that education should play its role in providing the private sector with the skills and knowledge essential for sustainable development. Both the government and the private sector should provide the educational sector with the funds needed for research.

#### **3.3.3.8 EAD in Malaysia**

Teoh and Thong (1984) surveyed a sample of predominantly foreign-owned companies, which were marginally in the lead compared to Malaysian-owned companies. The results of the study show that CSD is more concerned with improving human resources and products/services to customers than alleviating environmental deterioration.

More recently, a more comprehensive survey was



carried out by ACCA (2002) to examine the current status of environmental reporting practice, and to identify drivers for environmental reporting among corporations in Malaysia. The study examined the annual reports and stand-alone environmental reports (if any) of companies listed on the Kuala Lumpur Stock Exchange (KLSE) during the period 1999-2001. The numbers of listed companies during the three years were 474, 498 and 520, respectively.

The main study findings were:

- The number of companies engaged in some form of environmental reporting had increased from 25 (5.3% of KLSE listed companies) in 1999 to 35 (7%) and 40 (7.7 %) in 2000 and 2001, respectively.
- Industrial production was the largest sector engaged in environmental reporting (23% and 28% of reporting companies in 1999 and 2001, respectively).
- One company only published a stand-alone Sustainable Development Report in 1999 and 2000.
- The length of disclosure had increased in terms of number of pages.
- Only four companies provided environmental financial information within their annual reports primarily related to expenditure on environmental management, but that did not include information on environmental costs.
- One third (13) of the reporting companies had ISO 14001 certification, but only three included an EP statement within their annual reports.
- EI included in reports was not verified by a third party.

In addition to the above major findings, the study identified the key drivers which had led some KLSE main board listed companies to engage in public environmental reporting. The study noted that environmental reporting in Malaysia is in its early stages; hence prioritisation of key drivers in order of significance was difficult. The key drivers identified by the study were the following:

- The introduction of the Malaysian Code on Corporate Governance (MCCG) requiring companies to show greater transparency in all business areas.
- Various stakeholder groups' increased demand for corporate governance and accountability (i.e. regulators, investors, the media, and the public).
- Environmental reporting used as a marketing strategy by Malaysian companies planning to operate internationally or to penetrate new markets with greater environmental pressures and standards.
- Companies in sectors that have more visible environmental impacts driven to voluntarily disclose EI in order to portray a positive image to regulators, the media, and the general public.
- As a result of the increasing level of interest in environmental issues, customers demand increasingly higher environmental standards of their suppliers.
- The National Corporate Reporting Awards (NACRA) launched in 2000 positively encouraged companies to disclose EI and improve the quality of reporting content.
- Companies need to assure their various stakeholders that they are continuously operating in a socially and environmentally responsible manner in order to strengthen stakeholder

relationships.

In general, the study concluded that “low growth in the uptake of environmental reporting, as well as the lack of breadth and depth of information provided by the reporting companies, indicated a general low level of willingness to disclose EI. Considering that this is a new trend, even for developed countries, Malaysian companies are generally still uncertain about the benefits of environmental reporting. The use of EI for performance benchmarking and business decision making has not been widely recognised by companies or by the financial community” (ACCA, 2002 p. 60).

#### **3.3.3.9 EAD in South Africa**

Savage (1994) investigated the 1992/1993 annual reports of 54 large publicly listed companies in South Africa to determine the extent of CSD practice. The results of the study showed that relatively little attention was given to the environment in CSD while most attention was directed towards human resources and community involvement. Descriptive CSD was the predominant form of disclosure. Only half a page was devoted to environmental information, while the average number of pages devoted to human resources and community involvement was 2.6 and 0.8, respectively.

de Villiers (1998) examined the practice of environmental disclosure in South Africa to establish its status quo, to determine its future direction, and to provide some recommendations for future change. The 1995 and 1996 annual reports of 596 and 606 companies listed on the

Johannesburg Stock Exchange were analysed. The study found that environmental reporting is generally low and does not answer users' requirements. The main reason for disclosure was to emphasise good environmental news or to justify bad environmental news. The author argued that new environmental legislation could help in the rehabilitation of natural habitats and the creation of other infra-structure for the promotion of eco-tourism. He also suggested offering some incentives for environmental disclosure, such as tax relief packages.

#### **3.3.3.10 EAD in Singapore**

A sample of 119 listed companies' annual reports in 1983 in Malaysia and Singapore was investigated by Andrew *et al.* (1989) in terms of their CSD practice. The surveyed companies mainly operated in the manufacturing and commercial industries. The contents of the annual reports were analysed for themes, methods, extent of CSD and the relationship between type of disclosure and industry grouping. The findings show that CSD is not extensive in Malaysia and Singapore (only 26%, a large majority of which made CSD on a human resources theme only). Most of the disclosures were in the annual reports, with at least 20% of disclosure containing some form of quantified (monetary and non-monetary) information. The survey also showed that CSD varied between companies. Fourteen small and medium-sized companies disclosed less than a quarter of a page, while seven large companies disclosed more than one page.

Perry and Sheng (1999) reviewed the 1995/96 and 1996/97 annual

reports of 264 Singaporean companies and sent a postal survey to 252 of them to accomplish two objectives. The first objective was to compare environmental disclosures in Singapore with disclosure practice in Western countries, through a comparison of disclosures presented in the annual reports. The second objective was to assess the level of disclosure and reasons for disclosure or non-disclosure. The survey revealed lower levels of environmental disclosure by Singaporean companies than by Western companies. Reasons identified for this low level of disclosure include the perception that the company does not have a significant impact on the environment (68%), lack of EI disclosures by other companies and competitors (53%), lack of resources to report on matters that are not legally required (41%), and lack of shareholders' or potential investors' interest in environmental matters. The authors concluded by stressing the importance of raising environmental consciousness among Singaporeans and newly industrialising economies' stakeholder groups. They also pointed to the need for compulsory environmental disclosure and the importance of educational initiatives for both investors and consumers.

More recently, Fun (2002) examined 173 annual reports between 1998 and 2001 in selected Singaporean companies to assess the current state of external environment reporting. The core findings of the study were as follows:

- The length of environmental disclosure ranged between one line to a maximum of two pages, discussing environmental protection

efforts but not providing any quantitative evidence.

- Most reporting companies were either from industries impacting on the environment, such as construction, energy and transport, or from industries with high profiles in terms of social responsibility, such as banks, breweries and hotels.
- None of the companies published a stand-alone environmental report.
- Information relating to ISO14000 certification, EP statements, the environmental benefits of products and processes, and activities organised to create awareness of environmental protection constituted the most popular environmental disclosure categories.
- Companies' disclosure of EI was positive in nature. There was no evidence of negative information disclosure in annual reports.

In general, the results indicated that environmental reporting in Singapore is at a very early stage and that the quantity and quality of reporting appears low. In spite of the fact that some companies possessed formal EP statements, they neglected mentioning them in their annual reports. The study also found that some companies produced EI for internal use or for submission to the Ministry of Environment, but ignored publishing the information in their annual reports. The study suggests that such information might lead to greater levels of transparency and environmental awareness if included in annual reports.

### **3.3.4 Mandatory Environmental Reporting**

Some countries have adopted mandatory environmental reporting. For

example, in New Zealand some material environmental transactions have been identified with specific events in a number of accounting exposure drafts (Frost, 2001).

According to Bebbington (1999), the Danish government in 1999 undertook a review of the effectiveness of legislation that required certain Danish companies to publish EI in the form of a “green account”. In addition to the analysis of 550 green accounts, the review included interviews with managers responsible for green accounts, personnel with a background or interest in green accounts, the EPA, neighbours of polluting enterprises, and consumers. Bebbington concluded that evidence from the review of Danish law “points towards this form of environmental accounting as having significant benefits” (p. 4).

Kolk (1999) noted that in Norway if a firm has a significant environmental impact, it must mention it in the annual report, with explanation of measures undertaken by the firm. Kolk also indicated that similar requirements exist in Sweden. Those firms that require an environmental permit have to include some EI within their annual report as of the 1999 fiscal year. In the Netherlands, a new reporting programme was introduced in 1999 which requires approximately 300 companies to produce two environmental reports, one to provide information to the public, and the other to give account of compliance, intended for Dutch government agencies.

Elkington *et al.* (1998) also reported that Japan's National Environmental Agency has begun to explore environmental reporting.

### 3.3.5 Adoption of Environmental Management Systems

The recent adoption of Environmental Management Systems (EMSs) by companies was examined by Rivera-Camino (2001), who claimed that growing world concern about the impact of industrial activities on the environment had motivated companies to adopt them. Rivera-Camino argued that despite the trend, very little has been written about the variables associated with the implementation of this type of management tool. His study explored the individual, strategic and organisational variables that a sample of European firms used to determine whether to adopt EMSs. The study sample was composed of 3,051 firms operating in 14 different industries in 11 European countries. The countries included Austria, Belgium, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland. The study compared the results of a questionnaire according to company size, as determined by the number of employees. The results of the study indicated that the anticipated benefits from EMSs included the improvement of corporate image (83.6% fully agreed), owners' and top management's satisfaction (64.1% fully agreed), improvement of product image (62.9% fully agreed), long-term profits (55.9% fully agreed), competitiveness (35.1% fully agreed), productivity increase (25.2% fully agreed), and short-term profits (18.7% fully agreed). About four-fifths (80.6%) of the directors



fully agreed that environmental problems are among the most important challenges facing public life. Only 24.3% of directors thought that customers would be willing to pay slightly more for environmentally sound products, which might explain why directors seldom consider the influence of the market when they make decisions about EMSs. With regard to factors impeding the implementation of EMSs, cost was viewed as the most influential factor, followed by unclear regulation. Lack of competitive advantage that might be gained from adopting such systems and the low demand for green products came third. Lack of skill and lack of management support came fourth and fifth, respectively, in terms of importance. Finally, the results indicated that more directors preferred the ISO series (74.6%) than the EC's EMAS standard (25.4%) when it came to choosing between EMSs.

### **3.3.6 Environmental Reporting on the Internet**

Jones *et al.* (1999) claim that the Internet provides greater opportunities for stakeholders to research the activities of corporations, who increasingly find themselves operating in a 'global goldfish bowl'. They analysed the effectiveness and the accessibility of the environmental reporting websites of 275 companies from 21 countries in 21 sectors. These websites were analysed for content and design criteria. In addition, information from 100 environmental managers was gathered with regard to the management of these websites. The findings of the analysis indicated that Internet reporting is in its early stages. Most of the reporting companies had not fully comprehended the idea

that the Internet is global. The authors concluded that much needs to be done, especially in relation to span, cost, opportunities, policing, and evaluation. Also, the low level of flexibility of current (hard-copy) environmental reporting does not allow for Internet environmental reporting; thus a new methodology needs to be developed.

The effects of the Internet on the reporting of corporate information were discussed by Wheeler and Elkington (2001). They reviewed the history of environmental and social disclosure practices and highlighted the challenges facing paper-based and new web-based communication vehicles. They pointed to the potential for the development of truly interactive 'cybernetic' corporate sustainability reports and other corporate communications via the Internet to address the challenges and to create significant value for corporations and their stakeholders.

The information released via the Internet in four Asia-Pacific region countries was examined by Williams and Pei (1999). One hundred and seventy-two listed companies were examined in order to compare and contrast their corporate social disclosure practices in web sites and annual reports in terms of three factors: the number of firms reporting, the amount of information released, and the country of origin. The study found that Malaysia and Hong Kong showed no significant differences in terms of the amount of disclosure between websites and annual reports. On the other hand, Australian and Singaporean firms provided significantly more corporate social disclosure through websites than annual reports. All organisations in the sampled countries

appeared to provide more narrative information on websites than in annual reports, with greater concentration on information related to products and consumers.

### 3.4 SUMMARY

The majority of the EAD literature tends to focus on the developed countries, i.e. Australia, European countries, and the US<sup>2</sup>. A smaller proportion of research on EAD has been conducted in developing countries (see, for example, Abu Baker and Naser, 2000; ACCA, 2002; Belal, 2000; Chiu *et al.*, 2002; Fun, 2002; Naser and Abu Baker, 1999; and Perry and Sheng, 1999). Some of the studies concentrated only on environmental themes, while others included other themes (social, ethical, health and safety, and employment). There are also examples where social and environmental issues have been examined from a global perspective (see, for example, Adams *et al.*, 1998; Enderle and Peters, 1998; Environics International, 1999; Fekrat *et al.*, 1996; Jones, 2000; KPMG, 2002; Newson and Deegan, 2002; Tilt, 1994; and Williams, 1999). Using the Internet to disclose environmental information has also been investigated by researchers (such as Jones *et al.*, 1999; Wheeler and Elkington, 2001; and Williams and Pei, 1999).

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<sup>2</sup> See, for example, Brown and Deegan, 1998; Campbell, 2000; Cormier and Gordon, 2001; Cowen *et al.*, 1987; Deegan *et al.*, 2000; Fortes and Åkerfeldt, 1999; Frost and Wilmshurst, 1996; Gray *et al.*, 1995a and 1995b; Hackston and Milne, 1996; Hall and Jones, 1991; Milne and Chan, 1999; Niskala and Pretes, 1995; Stray and Ballantine, 2000; Wilmshurst and Frost, 2000; and Zeghal and Ahmed, 1990.

Most of the studies examining current disclosure practice have been purely descriptive, while others have sought to identify the motivations for disclosure or ascertain relationships between disclosure practice and some of the characteristics of organisations, such as size, industry, and country of origin (for example Adams *et al.*, 1998; Alnajjar, 2000; Cowen *et al.*, 1987; Deegan and Gordon, 1996; Gray *et al.*, 1995a; Hackston and Milne, 1996; and Stray and Ballantine, 2000). More recently, the disclosure of EI has been examined with regard to legitimacy theory (see, for example Brown and Deegan, 1998; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Gray *et al.*, 1995b; Patten, 1991; and Wilmshurst and Frost, 2000). In general, the results of the studies reviewed suggest that EAD practice is increasing over time (Gray *et al.*, 1995a). The disclosure of EI is influenced by factors such as size of organisation, and the industry to which it belongs (Cowen *et al.*, 1987; Deegan and Gordon, 1996; Fun 2002; and Hackston and Milne, 1996), negative media attention (Brown and Deegan, 1998), the occurrence of a major social or environmental incident (Deegan *et al.*, 2000), concerns of lobby groups and NGOs (Enderle and Peters, 1998), or the fact that a company has been successfully prosecuted by the environmental authorities (Deegan and Rankin, 1996). Studies indicate that common drivers for EI disclosure include improvement of corporate image, taking the lead, showing the organisation's commitment to the environment, reduction in costs, risk reduction, responding to the occurrence of major environmental incidents, responding to pressures from NGOs, and responding to local or

international legislation or recommendations (see, for example, ACCA, 2002; Belal, 2000 Deegan and Rankin, 1996 Deegan *et al.*, 2000; Fortes and Åkerfeldt, 1999; Jones, 2000; KPMG, 2002; Neu *et al.*, 1998; Roberts, 1992 and Wiseman, 1982). Disclosures are dominated by the qualitative form, with very little evidence of disclosure in quantitative or monetary forms. This makes comparison of companies' environmental performance difficult. Some studies indicate that the disclosed EI is positive in nature, with most organisations failing to disclose negative information (see, for example ACCA, 2002; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Fun, 2002; Moneva and Llena, 2000; and Niskala and Pretes, 1995). In addition, some studies (such as Jones, 2000; and Stray and Ballantine, 2000) reveal the incorporation of EI in annual reports or in stand-alone environmental reports. While the majority of companies currently disclose EI voluntarily, a good proportion of the studies point to the need to introduce mandatory disclosure requirements and independent verification of the disclosed information (see, for example Deegan *et al.*, 2000; Enderle and Peters, 1998; Fortes and Åkerfeldt, 1999; Frost and Wilmshurst, 1996; Jones, 2000; and Perry and Sheng, 1999). Based on the above review, the next chapter establishes a methodology for a study of EAD practice in Saudi Arabia, which in turn will lead to recommendations regarding the future for EAD in that country, based in particular on the perceptions of key groups.

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**CHAPTER FOUR:  
RESEARCH METHODOLOGY**

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## **CHAPTER 4: RESEARCH METHODOLOGY**

### **4.1 INTRODUCTION**

Social research, including accounting research, attempts to answer questions of interest using research design that may involve imaginative and creative elements, but certainly requires planning, in terms of data collection, analysis and interpretation. In order to achieve its objectives, this study utilises two methods of data collection, namely, a postal questionnaire and semi-structured interviews. The use of more than one method gains an advantage and may overcome any deficiencies in a single method. Section 4.2 of this chapter discusses the research design. In section 4.3, the process of data collection, the advantages and disadvantages of both methods utilised in data collection, and the benefits of using more than one method are further detailed. The population, sample of the study, and sample characteristics are discussed in section 4.4. The development, piloting, and implementation of the questionnaire instrument, the response rate attained, the reliability and validity assessment of the measures utilised, and the statistical techniques used to test the research questions are presented in section 4.5. The second data collection instrument, the semi-structured interview, is described in section 4.6, while section 4.7 provides a summary of the chapter.

## 4.2 RESEARCH DESIGN

Social research involves a series of steps and judgements that involve the application of certain techniques. Social research scientists (such as Babbie, 2001; Bailey, 1994; Bryman, 2001; Churchill, 1991; Easterby-Smith *et al.*, 1991; Hakim, 2000; Kinnear and Taylor, 1991; Saunders *et al.*, 2003; Sekaran, 1992; and Zikmund, 2000) indicate that research design should comprise imaginative, creative elements, and that design steps are the beginning of any stage of any research process.

The research design can be conceived as the framework or plan for a study that is used as a guide for the collection, analysis and interpretation of data (Churchill and Iacobucci, 2002, p. 90). The research design choice is of great importance in empirical research since it influences not only subsequent results but the extent to which the study is viewed as complete (Kinnear and Taylor, 1991). The social sciences literature distinguishes between three broad types of research design: exploratory, descriptive, and causal (for more details, see Churchill and Iacobucci, 2002, p. 91; Saunders *et al.*, 2003, pp. 96-98; and Zikmund, 2000 p. 50).

Exploratory research is concerned with providing insights into a research problem about which relatively little is known. A problem can be formulated for more precise investigation, developing hypotheses, establishing priorities for further research, gathering information about the practical problems of carrying out research, or increasing the



researcher's familiarity with the problem and clarifying concepts (Churchill and Iacobucci, 2002, p.93 and Saunders *et al.*, 2003, pp. 96-97).

Descriptive research involves determining the frequency of occurrence of a certain phenomenon or the nature of the relationship between two variables (Williams and May, 1996, p. 8), describing the features of certain groups, estimating the proportion of a population with certain behavioural characteristics, or generating specific predictions (Churchill and Iacobucci, 2002, p. 107 and Saunders *et al.*, 2003, p. 97). Descriptive studies can be of two types, cross sectional and longitudinal. Cross-sectional studies gather data from an entire population, or a sample from a population, at one point in time, whereas longitudinal studies gather data from a population at a number of different points in time (Zikmund, 2000, p. 178).

In causal research, the key task is to isolate causes and judge to what extent such causes are related to effects. The investigator attempts to manipulate one or more independent variable(s) in order to observe the consequences on the dependent variable(s), while controlling for the effects of extraneous influences (Churchill and Iacobucci, 2002, pp. 130-131). Causal studies can be either laboratory experiments, where

the setting is artificially created by the researcher, or field experiments, where the setting is natural (Churchill and Iacobucci, 2002, p. 138)<sup>3</sup>.

Selecting the most suitable research design is crucial to the overall research process. It should be stressed that research methods are more or less rigid in relation to the particular research issue at hand, but are not so in relation to each other (Churchill and Iacobucci, 2002, p. 91). Accordingly, the choice of the most appropriate research design for the present study will depend on the objectives of the study, the nature of the study questions, and the setting within which the study will be conducted.

According to Sekaran (2003, p. 119),

*“Studies may be either exploratory in nature or descriptive, or may be conducted to test hypotheses... The nature of the study - whether it is exploratory, descriptive, or hypothesis testing - depends on the stage to which knowledge about the research topic has advanced... An exploratory study is undertaken when not much is known about the situation at hand, or no information is available on how similar problems or research issues have been solved in the past”*

The scarcity of knowledge, understanding, and evidence relating to EAD practices in Saudi Arabia tends to suggest the need for exploratory research, as also indicated by Zikmund (2000, p. 50). Due to the lack of a cohesive body of knowledge in a research area, exploratory research designs can serve as an initial step or guide for

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<sup>3</sup> See also Belkaoui, 1994; Robson, 2002; Saunders *et al.*, 2003; Wolk *et al.*, 1992 and Zikmund, 2000.

more descriptive or causal designs. It therefore appears that the nature of the present study and the time and budget constraints under which it is to be conducted favour the use of a combined exploratory and descriptive cross-sectional design, so that a more profound understanding of the nature and applicability of EAD in Saudi Arabia can be gained (see Churchill and Iacobucci, 2002, pp. 110, 117; and Sekaran, 2003, p. 119).

### **4.3 METHODS OF DATA COLLECTION**

The credibility of the outcomes of the research depends on the investigation being conducted in a systematic way. The data sources are primary (generated specifically for the research) and secondary (data already collected for some purpose other than the current research inquiry) (Zikmund, 2000, p. 58). Social researchers collect either quantitative or qualitative data, or both, by means of surveys, field observations, interviews, and the use of secondary data. However, the method chosen depends on the resources available and the nature and time-scale of the subject of the study (Williams and May, 1996, pp. 7-8).

Primary data collection methods can be through communication and observation. Communication refers to gathering data through the questioning of respondents using some kind of research instrument. By contrast, observation techniques involve obtaining data by recording the facts, actions and behaviour relevant to the research issue as they occur,

without any interaction between the respondent and the observer (Churchill and Iacobucci, 2002, pp. 267-269). Given the limitations associated with the observation approach (e.g. limitations in scope, less accuracy, inability to measure attitudes or opinions, low support for generalisability of results, and lack of informed consent of the observed individual), the observation data collection approach was excluded from further consideration in this research and a communication route to data generation was deemed most appropriate.

Traditionally, there are two principal types of communicative data collection methods: postal surveys and interviews (Bryman, 2001, p. 64). Each technique has its own merits and shortcomings. Thus, an evaluation was needed to select one, or a combination of the aforementioned approaches, on the basis of their strengths and weaknesses.

#### **4.3.1 Advantages and Disadvantages of Questionnaire Surveys**

The questionnaire survey is a commonly used research technique as it has numerous advantages. They are an economical method of enquiry, compared to interviews. Researchers can issue a large number of questionnaires to respondents simultaneously, enabling wider coverage and a substantial return of information in a relatively short time. Respondents can complete the questionnaires at their convenience, and with assurance of anonymity. They require low levels of administration, because the researcher's role during the data collection stage is only limited to sending out the questionnaires and simply follow up those

who do not respond. The use of standardised wording in the questionnaire generates a stable, consistent and uniform tool of measurement. Questionnaires offer less chance of interviewer bias, because the interviewer is not present during the completion of the questionnaire. They also assure higher levels of objectivity, because respondents can take their time to think about the questions and consult documents if they need to. The postal survey is consequently viewed as an essential tool for academic researchers seeking to gather information from various respondent groups.

Nevertheless, postal questionnaires are not without limitations. They are often associated with low response rates. The researcher's lack of control over the completion process may result in partial response (respondents' failure to complete questionnaire form). Questionnaires may fail to motivate respondents due to lack of direct contact between the researcher and the respondent. In the absence of the researcher, respondents may answer questions wrongly through lack of understanding or clarification. Without the possibility to probe, opportunities to collect further information are missed, and the researcher has no chance to make observations. The researcher cannot be sure whether the respondent has actually answered the questions as intended, or whether the right order of questions has been followed. The wording of the questions needs to be concise, but that may limit the length and scope of each question. Finally, there is a lack of flexibility in questionnaire surveys if questions are written in standardised format

(see Bailey, 1994, pp. 148-151; Robson, 2002, pp. 230-235; Sarantakos, 1998, pp. 224-225; and Zikmund, 2000, pp. 201-207).

Table 4-1 summarises the advantages and disadvantages of postal questionnaire surveys.

<b>Table 4-1: Advantages and disadvantages of postal surveys</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Considerably cheaper than interviews.</li> <li>• Data collected in a relatively shorter period.</li> <li>• Questionnaire completed by respondent at his/her convenience.</li> <li>• Greater assurance of anonymity.</li> <li>• Standardised wording of questions used in the questionnaire.</li> <li>• No interviewer bias.</li> <li>• More accurate response as respondents are able to consult records.</li> <li>• Geographically spread respondents can be contacted.</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for respondents not to understand the questions.</li> <li>• Non-verbal behaviour cannot be recorded.</li> <li>• Low response rates.</li> <li>• No control over the environment in which the questionnaire is completed.</li> <li>• No control over the order in which questions are answered.</li> <li>• Respondents may not answer all questions.</li> <li>• Respondents may omit some questions.</li> <li>• Questionnaire format has to remain simple.</li> <li>• Potential for biased sample.</li> <li>• Lack of flexibility.</li> <li>• No control over the time in which the questionnaire is completed and returned.</li> </ul>

Source: compiled by the researcher from Bailey, 1994, pp. 148-151; Robson, 2002, pp. 230-235; Sarantakos, 1998, pp. 224-225; Zikmund, 2000, pp. 201-207; and Wallace and Mellor, 1988, p.132.

**4.3.2 Advantages and Disadvantages of Interviews**

As with questionnaires, interviews have many advantages and disadvantages. Interviews have a better response rate than questionnaires, because the interviewer meets or contacts the respondent directly, creating a better chance of convincing the respondent to participate in the survey. Secondly, interviews permit a greater complexity and range of questions. They enable the researcher to develop questions that respondents might perceive as difficult to understand or answer. They allow flexibility and control, with the

interviewer able to change direction whenever needed. Interviews can generate more detailed information compared to questionnaires, and allow for observation of non-verbal behaviour, which may enrich the data collected. Interviews are more practical in cases where respondents have impairment to reading. A very important advantage of interviews is the ability of the interviewer to correct and clarify any misunderstanding or vagueness on either side. The interview may be recorded, allowing the researcher to review the records whenever needed. Finally, the interviewer has the ability to confirm the identity of the respondent and has control over the setting in which the questions are answered.

Compared to questionnaires, interviews are costly because they may require the interviewer to travel to meet the respondents. Travel, accommodation and other costs are associated with this method of data collection. Time is needed to conduct, transcribe and analyse the interviews. In some cases, it is difficult to gain access to the respondents. In addition, interviews demand a high level of administrative support; they offer less assurance of anonymity to the respondents, which could affect the way they answer. Further, interviews may occasion a substantial degree of respondent inconvenience, and they may be reluctant to answer questions about sensitive issues. In addition, interviews may provide more opportunity for interviewer bias and misinterpretation. Finally, the interviewee may not be able to consult his/her records for information; hence, the

researcher may not obtain precise information, which may affect the results of the study. (See, for example, Bailey, 1994, pp. 174-176; Robson, 2002, pp. 230-235; Sarantakos, 1998, pp. 266-267; and Zikmund, 2000, pp. 191-197). Table 4-2 summarises the advantages and disadvantages of interviews.

**Table 4-2: Advantages and disadvantages of interviews**

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• High flexibility, in that the interviewer can probe and repeat questions if the response indicates that the respondent misunderstood.</li> <li>• Better response rate compared to questionnaires.</li> <li>• Ability to observe nonverbal behaviour.</li> <li>• Control over the interview environment.</li> <li>• Control over the order of asking questions.</li> <li>• Spontaneous answers can be recorded.</li> <li>• Respondents may be observed as they provide their answers, unlike the case of a questionnaire where someone else might even complete it on the respondent's behalf.</li> <li>• All questions can be asked by the interviewer.</li> <li>• The questions can be more complex.</li> <li>• Complete knowledge of the time of the interview and its duration.</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews are expensive.</li> <li>• Interviews are very time consuming.</li> <li>• Potential interviewer bias and misinterpretation.</li> <li>• The time of the interview might be inconvenient for the interviewee.</li> <li>• Comparably less anonymity.</li> <li>• Less standardisation of wording, leading to difficulties in response comparability.</li> <li>• Difficulty in access to respondents.</li> <li>• No opportunity for the interviewee to consult his/her records.</li> </ul>

Source: compiled by the researcher from Bailey, 1994, pp. 174-176; Robson, 2002, pp. 230-235; Sarantakos, 1998, pp. 266-267; and Zikmund, 2000, pp. 191-197.

### 4.3.3 Mixed Methods

Researchers use qualitative or quantitative methods or both, according to the level of confidence in the results that they expect. According to Bryman (2001, pp. 444-456), social researchers use both, as the shortcomings of one are compensated for by the strengths of the other. The dual approach might help gain a better understanding of the subject under study. Greater flexibility is obtained, enabling the researcher to alter direction once data collection has started and re-assess the appropriateness of the set of originally selected objectives.



Churchill (1991, p. 342) states:

*“Each method of data collection ... has its uses, and none is superior in all situations. The problem as finally defined will often suggest one approach over the others, but the researcher should recognise that the approaches often can be used most productively in combination”.*

Mason (2002) stressed that qualitative and quantitative methods do not belong in distinctive fields, and may indeed be complementary.

Easterby-Smith *et al.* (1991) support the idea that the use of both approaches allows for better study of a phenomenon and more robust findings.

In terms of differences between quantitative and qualitative approaches, Sarantakos (1998) gives an account of some alternate perceptions. In general, researchers in qualitative research are involved in the process of data collection and are more aware of the flow of the process. In contrast, quantitative researchers assume a ‘passive’ role during the data collection stage. Quantitative researchers are interested in exploration and in making analytical or conceptual generalisations of the research findings, whereas qualitative researchers are typically interested in inductive generalisations.

The previous discussion suggests that a combination of quantitative and qualitative methods may be justified by the nature of the research subject. The act of combining both research methods to study the same problem is referred to as methodological triangulation. Saunders *et al.* (2003, p. 99) claim that there are two major advantages to employing a

multi-strategy methodology in the same study. First, it may help the researcher to get a feel for the key issues, using the first method before embarking on the other, and second, it enables triangulation.

Triangulation methods are subdivided into simultaneous or sequential. Simultaneous triangulation is the use of qualitative and quantitative methods at the same time. In this case, there is limited interaction, but the findings of one complement the other at the end of the study. Sequential triangulation is used if the results of one method are essential for planning the next. The quantitative method may be completed before the qualitative method is implemented or vice versa (see Bryman, 2001, pp. 209, 274, and 447; and Saunders *et al.*, 2003, p. 99). In the current study the results of the postal survey are used as a basis for the interview questions. The postal survey will help to determine which respondents are willing to be interviewed.

In light of the nature of the present research and the relative strengths and weaknesses of the alternative methods of data collection, the choice of more than one method of data generation was considered appropriate. The decision was made to utilise a postal survey and semi-structured interviews in order to answer the study questions. A postal survey was sent to the selected sample in the first phase of data collection and several semi-structured interviews were conducted in the subsequent phase of data collection.

#### 4.4 POPULATION AND SAMPLE OF THE STUDY

After defining the research problem, developing an appropriate research design, and choosing suitable data collection instruments, the researcher selects a potential population (Churchill and Iacobucci, 2002, p. 448). Sekaran (2003, p. 265) defines a population as a group of persons, events, or matters of interest, and their study is termed a 'census'. According to Williams and May (1996, p. 8), conducting a census may provide researchers with all that they wish to know, though deficiencies may still be present. Saunders *et al.* (2003, p. 150-152) argue that in many cases it is impossible to include all the elements of a specific population in a study because of many obstacles, such as time, cost, and access restrictions. Sampling techniques are the alternative to a census. Comparably, they are more practical, cheaper, less time consuming, and faster in providing results. Although sampling techniques might not result in total generalisability of findings, as in the case of a census, a 'well-planned sample survey' may provide highly generalisable findings.

Due to the difficulties associated with collecting data from all the members of a population (a census), it is usually necessary for researchers to select and study a sample of the total population. Then, on the basis of this sample, the researcher can generalise the findings from the sample to the population from which elements of the sample were drawn (Churchill and Iacobucci, 2002).

#### 4.4.1 Population and Sampling Frame

According to Zikmund (2000), a sampling frame is a list of elements from which a sample may be drawn, also called the ‘working population’. The target population for the current study involves three different groups (namely, financial managers, accounting academics, and certified public accountants). These three groups were chosen because their respective members are likely to hold different views on current and potential EAD issues.

Babbie (2001, p.194) described the sampling frame as ‘the list or quasi list of elements from which a probability sample is selected’. However Nachmias and Nachmias (1996, p. 181) stress that:

*“The researcher should ensure that there is a high degree of correspondence between a sampling frame and the sampling population [because] the accuracy of a sample depends, first and foremost, on the sampling frame. Indeed, every aspect of the sample design - the population covered, the stages of sampling and the actual selection process - is influenced by the sampling frame”.*

It has been previously stated that the main objective of this study is to explore views and perceptions of EAD practice in Saudi Arabia. This implies that many groups in the country should be included as survey subjects, such as preparers of information and various users of the information, including shareholders, current and potential investors, governmental officials, employees, consumers, suppliers, the media and so on. However, due mainly to the highly technical and professional nature of the questions included in the questionnaire, and also due to cost and time factors, the population for this study was defined as those

who may be involved in some way in EAD in Saudi Arabia, and those who may help to bring about change (i.e. the accounting community). Therefore, the sampling frame of this study comprised three groups. The first group comprised financial managers in the Top 100 Saudi companies, as compiled by Arab News (2002). The second group consisted of accounting academics working in Saudi universities, while the third group was made up of licensed CPAs according to SOCPA (2001a), as of 5/6/2001.

Several previous survey studies have included such groups in their samples. For instance, Anderson (1980) examined the attitudes of chartered accountants to social responsibility disclosure in Australia. Wallace (1988) selected six groups, including chartered accountants and other professionals, to elicit their opinions on different aspects relating to Nigerian corporate annual reports. Al-Amari (1989) included a panel of experts consisting of academics in the accounting field, public accountants, and chief financial managers in governmental agencies, industry and banking in his study, investigating accounting and corporate reporting developments in Saudi Arabia. Deegan *et al.* (1995) surveyed the attitudes of eighty accountants to environmental accounting in Australia.

#### **4.4.1.1 Financial managers**

The reason for including the financial managers' group is that it can provide specific information about current EAD practice and perceptions of EAD, as both preparers of information and practitioners

of accounting. They also have the capacity to judge and adopt new accounting methods, if they think that they are appropriate for their company. The Top 100 Saudi companies were chosen to represent companies operating in Saudi Arabia for many reasons. For example, Cowen *et al.* (1987) argue that larger companies undertake a wider range of activities, make a greater impact on public life, and have more shareholders concerned with social programmes undertaken by the company. Gray *et al.* (1995a) also used large companies as a study sample in preference to medium or small companies. Following their example, the present study focuses on large companies for the additional reasons cited below:

- Large companies are more likely than medium or small companies to provide examples of corporate social reporting (CSR) in particular, innovative ways. Thus, this study will be more able to identify trends and the current state of the art of CSR (Gray *et al.*, 1995a, p. 80).
- Findings derived from a sample of the largest companies can be more easily compared with other studies, the majority of which have also used the largest companies as samples (e.g. KPMG, 2002; and Gray *et al.*, 1995a).
- The Top 100 companies' list includes companies from all sectors, e.g. industrial, cement, service, electricity, and agriculture sectors according to the SSM classification. This coverage of sectors is expected to produce a comprehensive evaluation of EAD practices in Saudi Arabia.

- The Top 100 companies' list includes listed companies on the SSM as well as unlisted ones which will allow for the testing of the effects of listed and unlisted companies on EAD practices.
- Further, the list includes all types of company of various legal statuses according to the Saudi Company Act classification. This will also allow testing of the effect of type of ownership on EAD practices.

#### **4.4.1.2 Auditors**

Auditors are those individuals who express an opinion on whether a company's accounts show a true and fair view of the company's operations and whether the procedures followed to produce such accounts are performed in compliance with acceptable accounting standards and company law. Auditors influence considerably the assessment of a company's internal control systems, provide constructive advice, detect fraud and irregularities, and affect the company's disclosure decisions (Fierth, 1978 and Pinckard and Venter, 2002).

The auditor group is included to ascertain their views as expert practitioners in accounting and validators of published information. In addition, they may provide consultation services to companies or use EI as inputs for their decisions as consumers or investors. Thus, their views on EAD are important.

#### **4.4.1.3 Accounting academics**

Academics were chosen for inclusion in the population of the study for many reasons. They may influence accounting and corporate reporting

and disclosure practice through many channels, such as accounting research, accounting education, and participation in accounting and auditing standard-setting processes. They are perceived to be the most likely parties to possess theoretical accounting knowledge, may act as consultants for companies, and may be information users as researchers, investors or consumers (Al-Amari, 1989; Deegan and Rankin, 1999; and Wallace, 1988). It is this perception of the importance of accounting academics that necessitated their inclusion as subjects in this study.

#### **4.4.2 Sample Selection**

According to Zikmund (2000, p. 350), there are two sampling techniques, namely the probability and non-probability techniques. Probability sampling is a technique that gives every element of the population an equal opportunity of being included in the sample. In the non-probability technique, elements of the sample are selected on the basis of personal judgement or convenience. In this study, the non-probability sampling technique was used with the financial managers' group, because the list of the Top 100 Saudi companies had already been compiled by *Arab News*. The random (probability) sampling technique was used with the auditor and academic groups.

##### **4.4.2.1 Sample size**

Roscoe (1975) suggested that sample sizes larger than 30 and less than 500 are appropriate for most research and that a minimum sample size of 30 is necessary where samples are to be broken into sub samples. It



was decided to use the Sekaran (1992, p.253) table to determine sample sizes for the auditor and accounting academic groups (see Table 4-3).

<b>Table 4-3: Sample Size for a Given Population Size</b>	
Total population ( <i>N</i> )	Sample size ( <i>S</i> )
110	86
120	92
130	97
140	103
Source: compiled by the researcher from Sekaran (1992, p. 253).	

The researcher decided to use the formula presented below to calculate the sample sizes for the two groups (auditors and academics). The sample size, denoted by  $\hat{S}$ , is determined by the following formula:

$$\hat{S} = S \times \frac{\hat{N}}{N}$$

Where:

$N$  is the size of a given population according to Sekaran (1992).

$S$  is the sample size in relation to  $N$ .

$\hat{N}$  is the actual population of the specified group.

#### 4.4.2.1.1 Auditor sample size calculation

As mentioned above, the SOCPA's list of licensed auditors was used for sample selection. The total number of licensed auditors at the time of distributing the questionnaire was 137 ( $\hat{N} = 137$ ). According to

Sekaran (1992), if the total population is 130, then the sample size should be 97. Thus the auditor sample size is calculated as follows:

$$97 \times \frac{137}{130} = \sim 102 \text{ auditors}$$

#### 4.4.2.1.2 Academic group sample size calculation

Similarly, the accounting academics sample size calculation was based on the actual number of academics ( $\hat{N}$  is 116) obtained from heads of business departments in Saudi universities. The calculation is:

$$86 \times \frac{116}{110} = \sim 91 \text{ academics}$$

Table 4-4 below presents population and sample size and response rate.

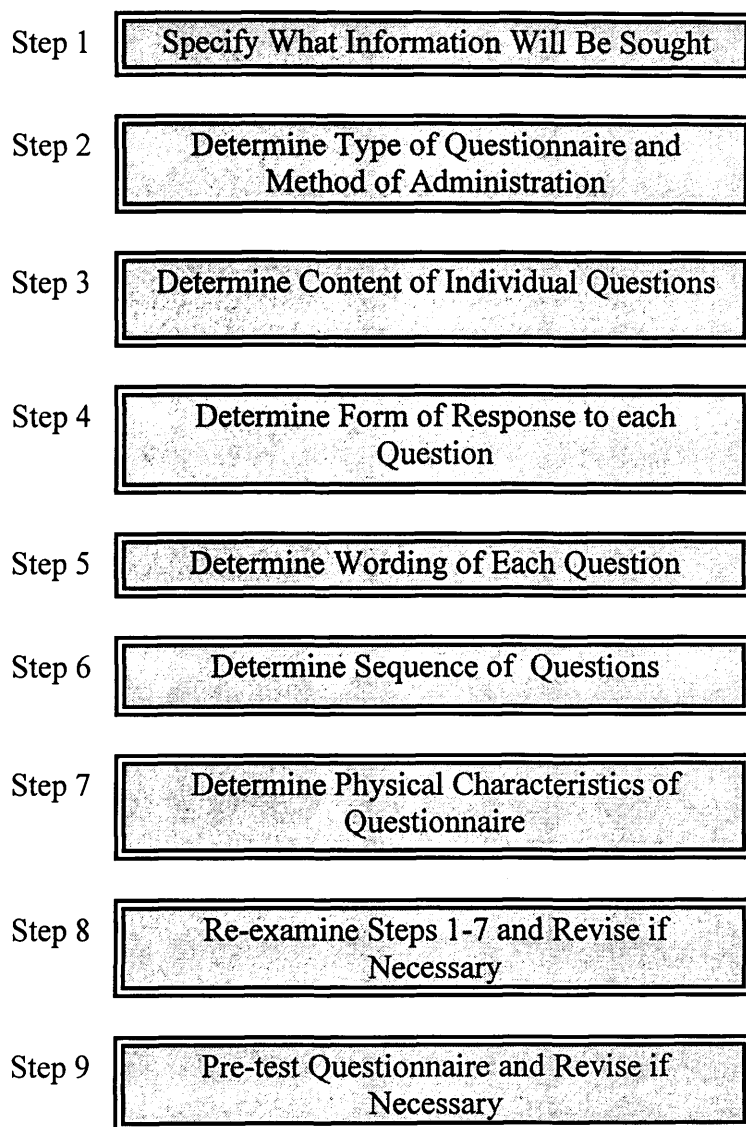
## 4.5 POSTAL SURVEY

Given that the postal survey was the initial data generation instrument for the study, it was crucial for the accomplishment of the research objectives to ensure that it was appropriately designed.

### 4.5.1 Questionnaire Design And Structure

Questionnaire development has received considerable attention from Churchill (1991) and more recently Churchill and Iacobucci (2002), who provide a sequence of clear and concise step-by-step guidelines to assist researchers in formulating a coherent questionnaire device. The questionnaire development process proposed by Churchill (1991) and Churchill and Iacobucci (2002) is illustrated in Figure 4-1.

**Figure 4-1: Procedure for developing a questionnaire**



Source: Churchill (1991, p.360) and Churchill and Iacobucci (2002, p. 315).

The aim of the study is to examine current and perceived EAD practice in Saudi Arabia. The questionnaire was divided into two main parts, see Figure 4.2 below. The first included questions about current EAD policy and practice, and was directed to financial managers in the Top

100 Saudi companies only. It was sub-divided into two sections, section A on current environmental accounting policy and practice and section B on current disclosure practice.

The second main part of the questionnaire (section C) sought to examine the perceptions of members of all three groups included in the study (financial managers, auditors, and academics). This part included seventeen questions eliciting respondents' perceptions relating to EAD practices. A further question asked respondents about their willingness to participate in an interview (see Figure 4-2). This question was useful because respondents willing to be interviewed were identified early and arrangements to conduct interviews were easily made. The nineteenth question asked if respondents wished to receive a copy of the results of the study. Demographic information was elicited in the twentieth question. Respondents were given the opportunity to provide their comments and suggestions in the space provided on the inner back cover of the questionnaire.

In developing a questionnaire, questions should be clearly worded and response options clearly identified. The researcher should pay particular attention to the presentation and layout of the questionnaire form (see sub-section 4.5.3 below). The questionnaire was designed to ensure maximum comparability of responses across all the three groups of survey participants. Closed questions (Yes/no answers) and the five-point Likert scale were utilized, where 1 represented Never, 2 Rarely, 3 Sometimes, 4 Usually, and 5 Always (in the case of current practice) or

1 represented Strongly disagree, 2 Disagree, 3 Uncertain, 4 Agree, and 5 Strongly agree (in the case of perceptions of EAD). A Likert scale is not considered to be an interval scale and no conclusions can be drawn about the interval between each scale position (Moser and Kalton, 1985). For this reason, all statistical analyses were undertaken using tests which did not require the assumption that the data be of an interval nature, i.e. non-parametric tests (for more details, see sub-section 4.5.7 below).

#### **4.5.2 Questionnaire Content Assessment**

As mentioned earlier, different sources were utilised to compile the questions included in the questionnaire. First, an extensive search of the relevant literature resulted in the generation of an extensive list of items falling into the domain of EAD. Comments from fellow PhD students at the Cardiff Business School were considered at this stage. Then, a group of eight academics at the Cardiff Business School were approached as experts to evaluate the validity of the items selected. Items which appeared to have minimal relevance were eliminated or substituted. The comments and suggestions of this group were taken into account before translating the first draft of the questionnaire into Arabic. The content of the first draft of the Arabic version of the questionnaire was also evaluated by representative members of the three groups included in the study. Two academics at Imam University, four at King Saud University (three holding a PhD in accounting from the UK), four auditors (all partners of major national and international

auditing firms operating in Saudi Arabia), and three financial managers in three companies of the Top 100 Saudi companies evaluated the Arabic version of the first draft of the questionnaire. Two meetings were held with a professor specialising in statistics at KSU to elicit his views as a statistician on the questionnaire's content. He provided valuable suggestions for coding and analysing the questionnaire survey data using SPSS. The resulting questionnaire was subsequently subjected to extensive pre-testing and refinement through personal interviews with members of the sampled population in order to confirm content validity to arrive at the final form. Each of the measures (themes) utilised in the study are briefly discussed below. Note that discussion of the themes does not have to follow the same order as that on the questionnaires.

**Environmental Policy (EP):** The first two questions in the first section (QA-1 and QA-2) asked financial managers whether their companies had an EP of some form or other. If the respondent's answer was in the affirmative, then the second question (QA-2) asked the respondent to indicate the commitments included in that EP. However, if the respondent answered "No", "EP is currently under development", or "My organisation plans to develop an EP in the future," he<sup>4</sup> was directed to skip the second question (QA-2) and go directly to answer the third question (QA-3).

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<sup>4</sup> All respondents were male.

These questions are followed up in section C, addressed to all groups. Question (QC-3-1) included an enquired about the level of agreement with, among other items, the adoption of an EP. Question (QC-4) elicited respondents' agreement with ten commitments suggested for inclusion in an EP.

In order to allow respondents the freedom to add commitments other than the ones listed in the question, extra space was provided at the end of the question (see, for example, Jones, 2000 pp. 122-124; and Ditz and Ranganathan, 1997).

**Environmental Information System (EIS):** The third question in section A (addressed to financial managers) (QA-3) asked whether the organisation had an environmental information system (EIS) or was developing or planning to develop one in the future. Question (QC-3) also enquired about respondents' level of agreement with, among other items, the necessity for an organisation to have an EIS (see, for example, Jones, 2000 p. 127; and Solomon, 1998).

**Measurement of Environmental Impact (in financial and non-financial terms) and environmental costs:** Question (QA-4) asked about the extent to which organisations currently measure environmental impact, i.e. whether it is measured to the extent needed by the management of the organisation, to the extent required by the law, or to the extent that would allow the organisation to publish its information. Question QC-6 elicited respondents' perceptions about this. The fifth question, QA-5, sought to elicit the frequency of

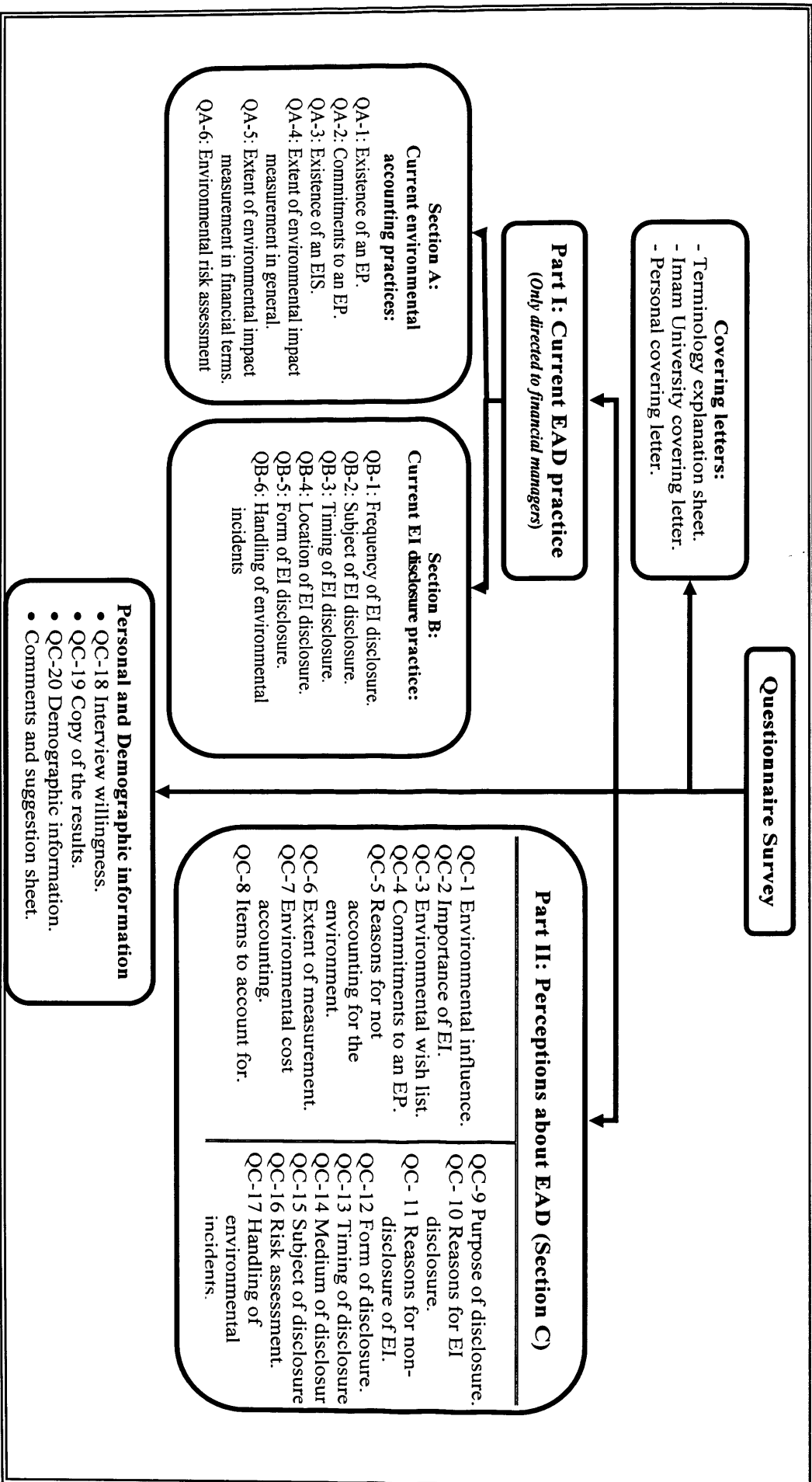
financial measurements of the cost of environmentally related items, including raw materials, energy and water consumption, product life-cycle assessment (LCA), environmental liabilities, etc. QC-8 asked respondents to indicate how often they thought an organisation should financially account for the environmental costs of these items. Question QC-7 asked about respondents' perceptions regarding financially measuring the incurred (historical) or expected (forward looking) environmental costs or both (see, for example, Ditz and Ranganathan, 1997; Gray *et al.*, 1993; Jones, 2000; and Solomon, 1998).

**Influence of environmental issues on activities of organisations:**

Question QC-1 asked respondents to indicate the level of influence they thought the environment might have on several issues related to the organisation (such as profitability, long-term survival, competitiveness and image) and on various decision types (i.e. strategic, non-strategic and expansion decisions) (see, for example, Ditz and Ranganathan, 1997; and Gray *et al.*, 1993).



**Figure 4-2: Questionnaire Content**



**Target, importance, and purpose of EI disclosure:** Questions QB-1 QC-2 and QC-9 asked about the frequency of disclosure of EI to interested parties, the importance of such information, and the purpose of producing such information. The response options included current and potential investors, customers, suppliers, lenders, governmental agencies, etc. (See Ditz and Ranganathan, 1997; and Solomon, 1998). Question QB-1 concerned the frequency of disclosure of EI by the Top 100 Saudi Companies to interested parties, including investors, customers, suppliers, money lenders, governmental agencies, insurance companies, employees and the media. Question QC-2 asked participants to indicate their views on the importance of EI to the same set of potential EI users. Both questions offered respondents the opportunity to add other parties and indicate the frequency of disclosure and the importance of EI to them (see Solomon, 1998). Question QC-9 asked about the purpose of producing EI. This question sought to examine respondents' support level for the production of EI, which might be for either internal or external use exclusively, or for either internal or external use mainly, or for internal and external use equally.

**Obstacles to and drivers for EAD:** Questions QC-5, QC-10, and QC-11 sought reasons for driving or preventing organisations from adopting EAD. QC-5 sought respondents' level of agreement with four cited reasons for organisations not accounting for the environment, namely (1) organisations are unsure of the benefits of environmental accounting; (2) accounting for the environment is too complex; (3)

accounting for the environment is too expensive; and (4) environmental issues, in general, are not a primary concern for organisations. Space was also provided for respondents to add other reasons. QC-10 presented seven reasons or drivers that might lead an organisation to disclose EI. These reasons included adherence to both local and international environmental laws, the desire to attract investors, improvement in the organisation's image, meeting stakeholders' demands for EI, the desire to market the organisation's products, and the organisation's awareness of its social responsibility. Likely reasons for organisations not disclosing EI were presented for evaluation by respondents in QC-11 and included: a lack of regulations requiring organisations to disclose EI; a lack of demand for such information from stakeholders; the cost of disclosure outweighing the benefits; the sensitivity of such information; the lack of expertise in producing and disclosing such information; and the management's belief that such information is not important for stakeholders. Respondents were similarly given the opportunity to add more reasons in the space at the end of QC-5, QC-10, and QC-11 (see, for example, Jones, 2000; and Solomon, 1998).

**Environmental wish list:** Question QC-3 elicited respondents' level of agreement with each of eight items included in a wish list. The listed items included having an EP, being held accountable for environmental impact, accounting for the environment regardless of activity, size, and legal status, having an EIS, having a system to disclose EI in place, and

having a full cost accounting system for all environmental impacts (See, for example, Ditz and Ranganathan, 1997; Gray *et al.*, 1993; Jones, 2000; and Solomon, 1998).

**Subject of disclosure of EI:** Respondents were asked how often their organisations disclosed EI on thirteen listed items (QB-2) and their level of agreement with the disclosure of each of the thirteen items (QC-15). The thirteen items were (1) air, (2) water and (3) land pollution; (4) waste disposal; (5) energy usage; (6) recycling; (7) cost of environmental remediation; (8) LCA; (9) environmental costs/budget, (10) impact assessment; (11) preservation; (12) performance; and (13) compliance with environmental laws. Respondents were given the opportunity to specify other items in both questions.

**Form of disclosure of EI:** Questions QB-5 and QC-12 focused on the form organisations used to disclose EI. QB-5 elicited the frequency of using the following four kinds of forms to disclose EI: qualitative, quantitative, financial and non-financial or any combination of them. QC-12 asked the respondents to indicate their level of agreement with disclosing information in such a way using each form. (See, for example, Ditz and Ranganathan, 1997; Gray *et al.*, 1993; Jones, 2000; and Solomon, 1998).

**Timing of disclosure of EI:** The timing of EI disclosure was examined in questions QB-3 and QC-13. In QB-3, respondents were asked to select the frequency option they usually used. This question presented five possible time options for disclosure, which included regular and *ad*

*hoc* timings. Disclosing EI through annual reports represented the regular basis, while the disclosure of information at the discretion of the organisation's management or upon demand from stakeholders, or when there was good or bad environmental news represented the *ad hoc* basis. QC-13 elicited respondents' views on the timing of disclosure similar to those presented in QB-3 (with the addition of disclosure in interim reports on a consistent basis) (see, for example, Ditz and Ranganathan, 1997; Gray *et al.*, 1993; Jones, 2000; and Solomon, 1998).

**Medium of disclosure of EI:** EI can be disclosed using different media. These include press releases, board of directors' announcements, annual financial reports, interim financial reports, annual environmental reports, and interim environmental reports. Questions QB-4 and QC-14 asked respondents about the medium of information disclosure. QB-4 asked financial managers what media they currently used for disclosure, while QC-14 elicited respondents' agreement level with the use of each medium cited EI. Both questions gave respondents the opportunity to add other media.

**Evaluation of and reporting about environmental incidents:**

Questions QB-6 and QC-17 asked about who should be in charge of assessing and reporting the impact of environmental incidents, if and when they occur. These two questions inquired as to whether a department from the organisation in question or an external party should be in charge of the evaluation and reporting task. QB-6

evaluated current practice while QC-17 elicited perceptions about who should be in charge. These questions offered five options: no one; organisational department; independent consultants who are constantly in charge of this task on a contractual basis; independent consultants constantly in charge of this task on an *ad hoc* basis; and the governmental agency who is in charge of environmental issues.

**Environmental Risk Assessment:** current practices and perceptions with regard to the risks associated with the environment were the subject of questions QA-6 and QC-16, respectively. These included risks associated with non-compliance with local and environmental laws and risks associated with incurring environmental liabilities (see Jones, 2000 p. 127; and Solomon, 1998).

#### 4.5.3 Physical Appearance of the Questionnaire

Sudman and Bradburn (1982) argued that the physical appearance of a questionnaire can have a significant effect upon both the quantity and quality of data obtained. The quantity of data is a function of the response rate. Ill-designed questionnaires can give an impression of complexity, be confusing and too time consuming. Data quality can also be affected by the physical appearance of the questionnaire, unnecessarily confusing layouts making it more difficult for respondents to answer questions accurately. Thus, attention to just a few basic details can be extremely advantageous (pp. 243-244). The use of a booklet, instead of loose or stapled sheets of paper, makes it easier for the respondent to proceed through the document, and fewer pages

will be lost (pp. 242-243). Using different colour paper can help in the administration of questionnaires, when several types of respondents are included within a single survey (as in this case financial managers, academics and auditors) (p. 245). As a general rule, it is best for a questionnaire to be as short as possible. A long questionnaire may lead to boredom on the part of respondents and thus poorly considered, hurried answers (p. 208). In the present study the questionnaire was designed as a booklet with different coloured covers to distinguish between each group (green for financial managers, blue for auditors, and pink for academics), to give a professional look, and to make it easier to handle as compared to loose papers.

The front cover of the questionnaire included the Cardiff University logo, the title of the research, the name of the researcher, the school and the university the researcher belongs to, and the names of the supervisors. The inner cover included definitions of some expressions that were thought might be unclear to some respondents. According to Dillman (1978), covering letters can help to motivate respondents to reply to postal questionnaires. Two covering letters were included in the questionnaire, one bearing the Imam University logo. This covering letter was directed from the Dean of Arabic and Social Sciences to each member of the three study groups, introducing the researcher and urging their participation in filling in the questionnaire. The second covering letter was from the researcher. In this covering letter, the researcher introduced himself and presented the objectives of his

research. He ended his letter by urging the respondent to complete and return the questionnaire using the pre-paid envelope provided. Also, the researcher assured respondents of the complete confidentiality of their responses. This covering letter also included the Cardiff University logo.

#### 4.5.4 Piloting the Questionnaire

Mouly (1978, p. 191) argues that:

*“The help of outside consultants is essential. Outsiders, being generally more objective, can recognise flaws that the investigator is unable to see because she/he is too close to see the same”.*

In the early stages of the questionnaire design, comments and feedback from seven PhD student colleagues (four of whom were Arabic speaking) and a panel of eight faculty members at the Cardiff Business School were consulted in an endeavour to ensure that the questions included in the survey were relevant, clear and precise. Reference was also made to other relevant surveys that had been conducted earlier (such as Deegan *et al.*, 1995; Jones, 2000; and Solomon, 1998).

Until a questionnaire has actually been used with respondents, it is very difficult to say whether it has the potential to achieve the desired results. For this reason it is necessary to pre-test a questionnaire before it is used in a full-scale survey, to identify any mistakes that need correcting. Many writers (such as Churchill and Iacobucci, 2002; Mouly, 1978; Sudman and Bradburn, 1982; and Zikmund, 2000) view the purpose of pre-testing the questionnaire as determining whether the



questions as they are worded will achieve the desired results, whether the questions have been placed in the best order, whether the questions are understood by all classes of respondent, whether additional or specifying questions are needed or whether some questions should be combined or eliminated.

Usually a small number of respondents are selected for the pre-testing of the questionnaire. The respondents selected for the pilot survey should be broadly representative of the type of respondent to be surveyed in the main survey. If the questionnaire has been subject to a thorough pilot test, all that remains to be done is the mechanical process of laying out and setting up the questionnaire in its final form. This will involve grouping and sequencing questions in an appropriate order, and numbering the questions (Sudman and Bradburn, 1982, pp. 282-285).

During the summer of 2001, the Arabic version of the questionnaire was refined through conducting face-to-face interviews with four auditors, seven academics from KSU and Imam universities (one interview was conducted over the phone), and three financial managers in the Top 100 Saudi companies for 2001<sup>5</sup>. During these interviews, discussions about the content and form of the questionnaire raised some suggestions for modifications to the wording as well as the sequence and content of the questions. A common comment by most

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<sup>5</sup> This list was available at the time of designing the questionnaire, however, the Top 100 Saudi Companies for 2002 list was used for the study because it was published on 19/1/2002, hence was deemed the most up-to-date list.

interviewees was the lengthiness of the questionnaire. Some of the most repeated suggestions by interviewees were considered, resulting in the re-wording of some questions and the merging or deleting of others to make the length of the questionnaire acceptable. As a result, the total number of pages, excluding covering letters, was ten.

The piloting of the final draft of the questionnaire commenced in mid January, 2002, and extended to mid February, 2002. This stage involved distributing the Arabic version of the questionnaire among a small sample of respondents in all three groups. Their responses were entered onto SPSS in order to test for reliability.

#### 4.5.4.1 Reliability and validity

Reliability concerns whether consistent results can be obtained on repeated occasions. According to De Vaus (2002) and Saunders *et al.* (2003) one test used to test reliability is called '*Cronbach's Alpha*' or '*Alpha*' whose values range between 0 and 1. The higher the value the more reliable the scale used. As a rule of thumb, the minimum scale considered reliable is 0.7. The value of the Alpha Coefficient for the questionnaire was 0.9374, which is above the minimum (0.7) and close to 1.0, indicating a high reliability level.

Validity concerns whether a test or a measure measures what it intends to test or measure (De Vaus, 2002 and Saunders *et al.*, 2003). In this study, the validity of the measures was ensured through the design and piloting of the questionnaire among several experienced academics and practising professionals, as discussed earlier in this chapter.

#### **4.5.5 Translating The Questionnaire**

The translation of the questionnaire was carried out twice during the various developmental stages. The questionnaire was translated from English to Arabic by the researcher prior to the initial testing of the questionnaire on Arabic speaking participants (during the summer of 2001). This Arabic version of the questionnaire was then passed to four Arabic speaking colleagues who were undertaking their PhD research in accounting at Cardiff Business School. Their comments and suggestions were incorporated into the first draft of the Arabic version of the questionnaire. The researcher was careful that translating the questionnaire from English to Arabic did not change its original content. The second translation of the questionnaire took place prior to the distribution of the final version. The revised English version of the questionnaire was translated by the researcher and then was passed, along with the English version, to two academics who were members of the English Studies Department at Imam University. Their comments and suggestions, although minor, were considered, before passing the revised Arabic version of the questionnaire to an academic who was a member of the Arabic Language Studies Department at Imam University. His suggestions of minor changes to the wording of a few questions were incorporated in developing the final draft of the questionnaire. This stage was followed by the production of the questionnaire in its final version in an adequate quantity for distribution to respondents (See appendices A and B).

#### 4.5.6 Questionnaire Administration and Response Issues

The distribution of the questionnaire commenced after final refinement, as a result of piloting the questionnaire. Distribution and collection of the questionnaire occurred between early March, 2002 and late May, 2002.

A low response rate is one of the drawbacks of the questionnaire survey; hence, many steps were taken by the researcher to increase the response rate. In order to maximise the response rate, the researcher performed many tasks. Phone calls were made to each of the Top 100 companies to identify financial managers. The switchboard number of each company was obtained from the Top 100 list, which helped in obtaining the phone number of the financial manager of the company. A brief phone call was then made to each of the financial managers to initiate contact and give advance notice of the questionnaire. In some instances, financial managers were not available to take the call, so the assistant financial manager or the public relations' department was contacted and notified of the questionnaire. A questionnaire form was addressed by name to each financial manager to increase the likelihood of their response to the questionnaire.

For the academic group, heads of accounting or business departments in Saudi universities were contacted, as they are the gatekeepers, to obtain the number of accounting academics in accounting departments and to establish contact for subsequent distribution and follow up of the questionnaire. The heads of accounting departments showed evident

interest in the subject and offered their support and commitment to encouraging their fellow staff members to complete and return the questionnaire. The result of this interest and encouragement was observed in the higher response rate from academics compared to the other two groups.

The list of licensed auditors in Saudi Arabia obtained from the SOCPA was utilised to identify auditors. A personally addressed questionnaire and a stamped addressed envelope were sent to each licensed auditor at the address of their respective firms. Phone calls were also made to each accounting firm to confirm receipt of the questionnaire. Another phone call was made four weeks after sending the questionnaire to remind auditors who had not responded and to offer to send them a questionnaire if they indicated that they had not received one.

In addition, the researcher made use of the accounting conference that was held at KSU on the 2<sup>nd</sup> and 3<sup>rd</sup> of April 2002 to remind and encourage members of all three groups to complete and return the questionnaire if they had not done so. The questionnaire forms that were sent to financial managers and auditors were marked on the back, with the rank number of the corresponding company, and a sequence number for auditors, in order to be able to track the companies and auditors that had responded and to assist in the follow-up procedure.

Table 4-4 presents the sample size and the response rate.

<b>Group</b>	<b>Population</b>	<b>Sample</b>	<b>Returned questionnaires</b>	<b>Response rate</b>
Financial managers	100	100	56	56.00%
Auditors	137	102	68	66.67%
Academics	116	91	71	78.02%
Total	353	293	195	66.55%

It is worth noting that three questionnaires were returned from financial managers marked “not applicable” and were therefore excluded from the analysis and from the calculation of the response rate. Also, some of the questions were not answered by some respondents in each group and hence considered missing values, but those questionnaires were not excluded from the analysis.

#### **4.5.7 Statistical Tests**

After receiving the questionnaires, data was entered and processed beginning with generation of frequency tables in order to gain a broad understanding of the results (using SPSS). This stage was followed by performing several statistical tests to examine relationships and statistical significance between the responses of the three groups of respondents. Some questions in the questionnaire utilised a five-point Likert scale, where five represented the highest and one represented the lowest value. The Likert scale is not considered an interval scale and no conclusions can be drawn about the interval between each scale position (Moser and Kalton, 1985). All statistical analyses were undertaken using non-parametric tests which do not require the assumption that the data is of an interval nature. It was also appropriate

to analyse the responses in terms of their means (for more details, see Sekaran, 1992; Siegel and Castellan, 1988; and Silver, 1997). The mean value of responses to each item included in the questionnaire, excluding questions with Yes/No answers, represented the underscore value of respondents' behaviour with regard to that particular item. The mean of responses was ranked in many cases to indicate strength level in terms of frequency of occurrence and agreement. For example, the reasons for disclosing EI (QC-10) were ranked according to mean response to indicate the importance of each reason in relation to other reasons. The ranking order of responses was particularly important for this study because it indicated respondents' opinion in terms of their perception of the importance of a specific item or issue in question.

The researcher carried out non-parametric statistical tests, namely the Kruskal-Wallis Test for three or more groups and the Mann-Whitney Test for two groups, to test for differences between independent samples. According to Siegel and Castellan (1988), the Kruskal-Wallis Test is a non-parametric statistical technique that requires ordinal scale measurement of the variable, and the calculation of the average ranks (H), degrees of freedom and the corresponding critical value at the desired significance level (i.e. 0.05). On the other hand, the Mann-Whitney Test was carried out to test for significant differences between two groups. The results of these two tests would indicate whether or not one of the groups included in the study differed from the other(s) (see, for example, Siegel and Castellan, 1988 and Silver, 1997).

## 4.6 SEMI-STRUCTURED INTERVIEWS

According to Saunders *et al.* (2003, p. 245) 'an interview is a purposeful discussion between two or more people'. The manner in which the interview is conducted varies. Interviews have been categorised using various, overlapping typologies, and the most frequently referred to are the structured, semi-structured, and unstructured interviews.

Structured interviews are based on standardised questionnaire formats, in which the interviewer asks questions in exactly the same order to each interviewee in an attempt to reduce any potential interview bias.

Semi-structured and unstructured interviews are non-standardised. In the case of the semi-structured interview, the interviewer addresses a list of themes and/or questions, not necessarily in the same order, to each respondent. Additional questions may be asked if the interviewer wishes to explore a particular topic or area considered to be relevant to the research question(s). The interviewer may record data by tape recording the content of the conversation, or writing notes during or possibly immediately following the interview. The unstructured interview is used to explore in some depth a general area of research of interest to the researcher. The interviewer has no pre-determined list of questions; instead, he/she will have the themes that he/she wishes to explore. The interviewee is given the opportunity to express his/her views freely on aspects relevant to the overall research area (Saunders *et al.*, 2003, pp. 246-247). Because the purpose of the interview is to



gain more understanding of the results and to probe key issues raised by responses to the postal survey, the researcher chose to use the semi-structured interview in the present research. Some of the interview questions were derived from the literature review and others were raised by the results of the questionnaire survey. The aim of these questions was to explore issues relating to EAD in more depth (See appendix C for more details).

This stage of the data collection took place between early February and late March, 2003. The interviewees had indicated their agreement to be interviewed when responding to question QC-18 on the questionnaire. They then provided their contact details (name, phone number, postal and e-mail address). Fifty-eight respondents agreed to be interviewed (29.74% of total respondents), comprising thirteen financial managers, twenty-six academics, and nineteen auditors, representing 23.21%, 36.62%, and 27.94% of each group, respectively.

Potential interviewees were contacted by phone to arrange interviews. The phone conversations were begun by thanking respondents for completing the questionnaires and indicating how helpful their cooperation was to the research endeavour. Then, the researcher indicated that, after analysing the data, some issues had emerged that needed to be discussed with them, and he reminded them that they had indicated their willingness to be interviewed. He asked them to suggest a suitable time for interview. Noticeably, the financial manager and auditor groups were very busy at the time of conducting the interviews,

because it was the end of the fiscal year, which meant they had a lot to do to close and audit their accounts. One auditor agreed to be interviewed, but kept changing the interview time, and in the end, that interview did not take place at all. Nine financial managers, ten auditors, and eleven academics were ultimately interviewed.

Before the interviews, the following points were stressed to the interviewees: the interview is strictly anonymous, and no one other than the researcher will know who took part; the interviewee should try to be as open and honest as possible; there are no right or wrong answers to the questions; the interviewee should indicate any question they are not happy about answering, and it would be skipped; and the interviewee should feel free to halt the interview at any time. The interviews commenced with introducing the researcher and providing a brief introduction to the research subject. The importance of the interview and the enhancement it would bring to the current research were emphasised. Interviews were conducted in private in a meeting room, especially the auditors, or in the interviewee's office. The length of interviews varied between a half and one and a half hours. All interviews were conducted and transcribed in Arabic and then analysed (see sub-section 4.6.2 below).

#### **4.6.1 Taping and Transcribing The Interviews**

At the beginning of each interview, the researcher asked the interviewee if he was willing for the interview to be recorded. Some interviewees were reluctant to have their interviews taped, especially

the financial managers, but the researcher explained that recording would enable more focused analysis. Interviewees were assured their identities or responses would not be revealed to, or heard by any third party. The researcher also assured them that if they were still not comfortable about the taping of the interview, the tape would be surrendered to them. This assurance made them readier to have their interviews taped, and hence the researcher was able to tape all the interviews. During the interviews, the researcher was careful not to ask any threatening questions which might cause the interviewee to feel uncomfortable. No interviewee asked for the interview tape to be surrendered to them, indicating their satisfaction with the way the interviews were conducted.

#### 4.6.2 Analysing the Interview Data

Qualitative researchers present and justify their results in different terms to those used by quantitative researchers. As Denzin and Lincoln (1998, p. 9) state:

*“Although many qualitative researchers in the post positivist tradition use statistical measures, methods and documents as way of locating a group of subjects within a larger population, they seldom report their findings in terms of the kind of complex statistical measures or methods to which quantitative researchers are drawn”*

There are many different kinds of qualitative data analysis, such as discourse analysis, narrative analysis, and grounded theory. Most qualitative data analysis methods tend to share some similar analytical processes. These processes are typically of what is called thematic

analysis. This is a kind of generic qualitative approach to data analysis. Coding is a process shared by some qualitative methods. It involves the researcher going through the data, reading it and annotating it, identifying particular objects of interest (Bauer and Gaskell, 2000). As codes are accumulated, the researcher will begin to sort them into themes. This represents a movement from the particular to the general. Similarly, the accounts of the themes that emerge represent a movement from the descriptive to the interpretive (Strauss and Corbin, 1990).

In this study, data generated from the semi-structured interviews was analysed using a grounded approach or grounded theory. Grounded theory is a method that has been used extensively across a variety of social science disciplines, including accounting and management. In this respect, Parker and Roffey (1997) argue that rigorous grounded theory research can offer the accounting and management literature a unique understanding to provide additional perspectives to those already being offered by major schools of thought. They contend:

*“Grounded theory has gained increasing attention in the realm of qualitative field research and presents one distinct methodology for generating theories that offer the prospect of reflecting some of the complexity and richness of the environments within which accounting and management are practised”*

Grounded theory is defined by two of its major proponents, Strauss and Corbin (1990, p.23) as:

*“one that is inductively derived from the study of the phenomenon it represents. That is, it is discovered, developed, and provisionally verified*

*through systematic data collection and analysis of data pertaining to that phenomenon. Therefore, data collection, analysis, and theory stand in reciprocal relationship with each other. One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge."*

It can be understood from the above definition that this approach is principally an inductive approach, which does not start with a defined theoretical framework. Instead, theory emerges from the process of data collection and analysis. Hence, the purpose of the procedures related to a grounded approach is to develop an explanation or a theory and not to test existing theory (Parker and Roffey, 1997).

Grounded theory aims to be rigorous, by providing detailed and systematic procedures for data collection, analysis and theorizing, but it is also concerned with the quality of emergent theory. Strauss and Corbin (1990) provide four central criteria for good grounded theory. First, it should fit the phenomena, provided it has been carefully derived from diverse data and is faithful to the everyday reality of the area. Secondly, it should provide understanding, and be comprehensible to both the persons studied and others involved in the area. Thirdly, it should provide generality, given that the data are comprehensive, the interpretation conceptual and broad, and the theory includes extensive variation and is abstract enough to be applicable to a wide variety of contexts in the area. Fourthly, it should provide control, in the sense of stating the conditions under which the theory applies and provide a basis for action in the area (see also, Parker and Roffey, 1997).

Data collection, analysis and theory formulation are regarded as reciprocally related, and the approach incorporates explicit procedures to guide this. According to Becker (1993), grounded theory requires that theory is emergent from the data. Research questions are open and general rather than formed as specific hypotheses, and the emergent theory should account for a phenomenon which is relevant, or an area that might be problematic for those involved.

Data analysis in grounded theory involves three stages, namely open coding, axial coding, and selective coding. In open coding, data is broken down to identify relevant categories. In axial coding these categories are refined, developed and related, while in selective coding, "core categories," which tie all other categories in the theory together are identified and related to other categories (Strauss and Corbin, 1990 and Parker and Roffey, 1997).

In this study, all the interviews were transcribed into Arabic in full. This process was painstaking and time consuming. Each interview was given a code to distinguish it from other interviews. Interviews with financial managers were assigned the codes FM1 to FM9, interviews with auditors were assigned the codes AU1 to AU10, and interviews with academics were assigned the codes AC1 to AC11. This coding helped in linking the idea or the theme to the related interview.

After all the semi-structured interviews had been transcribed, analysis took place. Each interview transcript was thoroughly examined in order to get a feel for what the respondents were saying, whether there was

agreement or disagreement with the question, and whether new issues were being raised which might lead to the emergence of new themes.

In order to simplify the analysis of the interview data, a classification of themes was created in a matrix that helped to display the interview data in condensed form. Each response was coded against the themes of the interview checklist. This way it was easy to extract the main points from each interview and see if there were any common strands to be noted as focal points across the interviews. The researcher's memos and notes were included, where applicable, in order to assist in uncovering recurring themes and patterns. The relevant sections from the separate transcripts were combined to produce documents containing all the responses to a particular question. If a new theme emerged, it would be added to the list of themes and linked to the interview that it had emerged from. Hence, the number of themes is not limited to the themes of the interview list and the chance for new themes to appear is left open.

The matrix design was flexible enough to allow for the inclusion of selected quotations from the interviews that were considered pertinent to a particular question. Quotes from some of the interviews were selected to present the range of responses. These quotes were translated into English in order to include them in the discussion of the related theme in the thesis.

## 4.7 SUMMARY

This chapter started by discussing the research design, focusing on combined exploratory and descriptive cross-sectional research design. Two methods for data collection were selected accordingly (namely, postal questionnaire and semi-structured interviews). The design stages of the questionnaire in terms of development, content, piloting, and administration were described. Also, the population and the sample for the study were identified. The population consisted of financial managers of the Top 100 Saudi companies, certified auditors in Saudi Arabia, and accounting academics in Saudi universities. The sample selection in terms of the method utilised and sample size were explained. The statistical tests used to analyse the data were briefly discussed. The second method of data collection, semi-structured interviews, was also discussed, explaining how interviewees were identified and how interviews were conducted. Finally, the method used to analyse the interview data was presented in section 4.6.2



**CHAPTER FIVE:**  
**POSTAL SURVEY DATA ANALYSIS**

## **CHAPTER 5: POSTAL SURVEY DATA ANALYSIS**

### **5.1 INTRODUCTION**

This chapter analyses the data collected from respondents via the postal survey. As discussed in the previous chapter, respondents were divided into three groups: Financial Managers of the Top 100 Saudi Companies for 2001, Auditors, and Accounting Academics in Saudi universities. Section 5.2 describes the data collected in general for the purpose of exploring and gaining initial understanding of the various background characteristics of the respondents. Section 5.3 analyses responses from financial managers regarding their companies' current EAD practices. This section is divided into two subsections. The first subsection describes financial managers' responses in relation to current environmental accounting practice, while the second presents their responses in respect to current EI disclosure practice. Section 5.4 analyses the perceptions of financial managers, auditors and academics with regard to various aspects of EAD. Sections 5.3 and 5.4 present statistical tests performed to determine if there are significant statistical differences between respondents' background characteristics and their responses. Finally, a summary of the chapter is presented in section 5.5.

### **5.2 DESCRIPTIVE STATISTICS**

The primary objective of descriptive statistics is to explore the data collected. The descriptive findings are presented in tables containing

response frequencies, percentages, means and ranks of means. The researcher will also examine whether there are any significant statistical differences between respondents' responses in terms of their companies' characteristics, such as size and sector, and between respondents in terms of their background characteristics, such as their respondent group, years of experience, and their level of education.

### **5.2.1 Company Background Characteristics**

The current EAD practices of fifty-six companies will be analysed in terms of selected characteristics (namely size, activity and legal status). These characteristics have been chosen because the EAD literature suggests that these characteristics might influence companies' EAD practices. Furthermore, the characteristics might interact to create differing influences (see sub-section 5.2.1.3).

#### **5.2.1.1 Size**

Researchers use various variables to determine the size of a company in the private sector. They use the number of employees, capital, profits, expenditure and turnover, etc. to classify the companies. Some studies indicate an association between size and corporate social disclosure (including environmental disclosure) (such as Belkaoui and Karpik, 1989; Cowen *et al.*, 1987; Patten, 1991 and 1992; and Trotman and Bradley, 1981). In addition, agency theory and legitimacy theory contain arguments for relationships between size of company and disclosure of social and environmental information (Hackston and Milne, 1996). However, Roberts (1992) found no association between size of company

and social and environmental information disclosure practices. Many studies have used the number of employees as the size indicator for the company (see, for example, Abdeldayem, 2003; Baylis *et al.*, 1998b; Deegan and Rankin, 1999; and Karbhari, 1997). In this study, the number of employees is used to determine the size of the companies that will be analysed.

The number of employees in the responding companies varied significantly in size, ranging from 297 to 40,111 employees. Of these, five had higher than normal scores ( $\geq 6,000$  employees). The mean could be used to determine the central point in employee distribution, but the value in this case might be distorted by the small number of high values.

Cramer (1998, p. 25) states that:

*“...complications arise when the data contain a few extreme scores (sometimes called outliers) since the mean is more strongly affected by such scores than either the mode or the median...In such situations, it might be more appropriate to use the median than the mean”.*

Because of the existence of some high scores, the median was used to determine the best descriptor of distribution for this background characteristic. According to Silver (1997, p 53), the median is a measure of central tendency that is not sensitive to extreme scores (outliers). The value of the median “is the value of the middle observation when all observations are ranked in order of magnitude”. The value of the median was 1,434 employees. It should be noted that the companies included in this study represented the top 100 Saudi companies, which might

therefore be expected to have large numbers of employees compared with SMEs. The companies are classified into three categories, small, medium and large, corresponding to less than 1,000 up to two thousand and over two thousand employees, respectively. The median in this study therefore fell into the middle category (see Table 5-1).

Table 5-1 indicates that 18 companies employed up to 1,000 and were therefore classified as small. The same number of companies employing more than 1,000 and less than 2,000 employees came under the medium size category. Twenty companies with 2,000 or more employees represented the large company category.

**Table 5-1: Analysis Showing the Size by Number of Employees of the Top 100 Saudi Companies**

Size by Number of Employees	No. of Companies	Percentage
Small $\leq$ 999 employees	18	32.1%
Medium 1,000-2,000 employees	18	32.1%
Large $\geq$ 2,000 employees	20	35.7%
<b>Total</b>	<b>56</b>	<b>100%</b>

#### 5.2.1.2 Legal Status

The Top 100 Saudi Companies were classified in terms of their legal status into six categories (i.e. Joint Stock, Limited Liability, Partnership, Holding, Limited Partnership, and Sole Partnership). Since no completed questionnaires were returned by any Limited Partnership company, this type of company was excluded from further analysis. It should be noted that this type of company represented only 3% of the Top 100 Saudi Companies for 2001, so the effect on the overall analysis would not be

significant.

As stated in the second chapter of this study, only Joint Stock Companies are required to disclose their financial information in interim and annual financial reports. The stocks of these companies are listed in the Saudi Stock Market (SSM). The other types of companies are not required to disclose their financial information and their stocks are not traded in the SSM. Wallace *et al.* (1994) state that there were variations between listed and unlisted Spanish firms. Therefore, the responding companies were divided into two groups, listed and unlisted companies. The inclusion of all types of legal status in the analysis aimed to determine whether or not there was any effect of the company being mandated to disclose financial information on its EAD practices.

Table 5-2 below shows the legal status of responding companies. Twenty-six (46.4%) of the responding companies were listed companies, while thirty companies (53.6%) were unlisted.

**Table 5-2: Analysis Showing the Legal Status of the Top 100 Saudi Companies (Listed & Unlisted)**

	Listed	Unlisted				Total
	Joint Stock	Limited Liability	Partnership	Holding	Sole Partnership	
<b>Number of Companies</b>	26	25	2	1	2	<b>56</b>
<b>Percentage</b>	46.4%	44.6%	3.6%	1.8%	3.6%	<b>100%</b>

From Table 5-2 it is clear that companies were mainly Joint Stock or Limited Liability companies (46.4% and 44.6%, respectively). These

categories represented 91% of the responding companies.

### 5.2.1.3 Main Activity

Similar to company size, the industry a company relates to has been identified as a factor that affects its social and environmental information disclosure practices (see, for example, Adams *et al.*, 1998; Baylis *et al.*, 1998a; Cowen *et al.*, 1987; Deegan and Gordon, 1996; Hackston and Milne, 1996; Patten, 1991; and Roberts, 1992). For instance, Cowen *et al.* (1987) concluded that consumer-oriented companies can be expected to demonstrate their social responsibility by disclosing information relating to social and environmental issues to the community in order to enhance their corporate image and influence sales. Patten (1991) and Roberts (1992) both found a positive association between high profile industries and the amount of corporate social responsibility disclosure.

It is clear from the literature that different types of entities' activities have different levels of effect on the environment, some studies having suggested that industrial companies have a greater effect on the environment than non-industrial companies (see, for example, Abu Baker and Naser, 2000; Adams *et al.*, 1998; Cowen *et al.*, 1987; Deegan and Gordon, 1996; Fun, 2002; Hackston and Milne, 1996; Kreuze *et al.*, 1996; Neu *et al.*, 1998; Niskala and Pretes, 1995; Singh and Ahuja, 1983). This assertion was tested in the present study.

Some researchers may argue that EAD studies should be conducted on companies operating in the industrial sector, because they assume that such companies will have the highest effects on the

environment. These researchers might not see a very strong relationship between companies operating in sectors such as the banking services sector and the environment; hence they would argue that such companies should not be included in the samples of research relating to EAD. Other researchers (such as ACCA, 2002; Fun, 2002; Gamble *et al.*, 1995; KPMG, 1999 and 2002; Stray and Ballantine, 2000) include the more visible sectors in the environmental context (e.g. energy and water), less well visible (e.g. automobile production and food and drink) and those viewed to have the least effects on the environment (e.g. banking). Wallace *et al.* (1994) argue that firms operating in different sectors might pursue different disclosure practices, which might have led to differences in the comprehensiveness of information disclosed by Spanish companies.

In this study, the main activities of the responding companies were divided into industrial and non-industrial, according to the SSM classification, in order to ascertain whether different types of activity had any effect on the company's EAD practices. By coincidence, half of the responding companies were engaged in industrial and half in non-industrial activities. With twenty-eight of the fifty-six companies in each category, statistical analysis was conducted with confidence.

Table 5-3 shows the companies' activities. Of note, companies categorised as conducting 'diversified' activities may have performed industrial activities, but this type of activity was not the company's main activity. The same applies to companies conducting agriculture and



construction work.

**Table 5-3: Analysis Showing the Activities of the Top 100 Saudi Companies**

	Industrial (n = 28)	Non-Industrial (n = 28)						Total
		Construction	Agriculture	Diversified	Services	Trading	Banking	
Number of companies	28	2	4	14	2	1	5	56
Percentage	50%	3.6%	7.1%	25%	3.6%	1.8%	8.9%	100%

In terms of size, as Table 5-4 illustrates, eight of the eighteen small companies were listed companies and ten were unlisted. Eleven of the eighteen medium size companies were listed and seven were unlisted. Thirteen of the large companies were unlisted and seven were listed. In terms of main activity, thirteen small, nine medium and six large companies were engaged in industrial activities whereas five small, nine medium and fourteen large companies' main activities were non-industrial.

**Table 5-4: Analysis Showing the Background Characteristics for the Top 100 Saudi Companies**

Background Characteristics		Size			Activity		Legal Status	
		%Small (n=18)	%Medium (n=18)	%Large (n=20)	%Industrial (n=28)	%Non-industrial (n=28)	%Listed (n=26)	%Unlisted (n=30)
Legal Status	Listed	44.4	61.1	35.0	53.6	39.3	100	
	Unlisted	55.6	38.9	65.0	46.4	60.7		100
Activity	Industrial	72.2	50.0	30.0	100		57.7	43.3
	Non-industrial	27.8	50.0	70.0		100	42.3	56.7
Size	Small	100			46.42	17.9	30.8	33.3
	Medium		100		32.14	32.1	42.3	23.3
	Large			100	21.44	50.0	26.9	43.4

Further, in terms of legal status, fifteen and eleven of the twenty-six listed companies' main activity was industrial and non-industrial,

respectively. Of the thirty companies that were unlisted, thirteen mainly conducted industrial activity and seventeen were engaged primarily in non-industrial activity.

### **5.3 CURRENT EAD PRACTICES**

This section discusses financial managers' responses concerning their companies' current EAD practices, while section 5.4 will later analyse perceptions on these practices. The section is divided into two subsections. Sub-section 5.3.1 discusses responses regarding current environmental accounting practices, while sub-section 5.3.2 discusses responses pertaining to current environmental disclosure practices.

#### **5.3.1 Current Environmental Accounting Practices**

This sub-section analyses the responses of the financial managers of the Top 100 Saudi Companies to six questions focusing on their companies' current environmental accounting practices.

The first question in this section (QA-1) required the respondent to state whether or not his company currently had an environmental policy (EP), and, if not, whether the company was developing an EP or planned to develop an EP in the future. If the company had an EP, then the second question (QA-2) sought to elicit which commitments relating to the environment were explicitly referred to in the EP. The third question (QA-3) required the respondent to state whether or not his company had an EI system (EIS), and, if not, whether the company was currently developing an EIS or planning to develop one in the future. The

fourth question (QA-4) required the respondent to state to what extent his company measured and recorded the environmental impact of its activity. The frequency of financial measuring and recording of the cost of some of the environment related items was the subject of the fifth question (QA-5). The sixth question (QA-6) required the respondent to specify the frequency of environmental risk assessment.

#### **5.3.1.1 Environmental Policy (EP) and Environmental Information System (EIS)**

With regard to EP and the commitments included in it (QA-1 & 2, respectively), five (8.9%) financial managers indicated that their companies had an EP of some sort, while 51 financial managers (91.1%) reported their companies did not have such a policy. The latter response meant that not one of these companies was developing nor planning to develop an EP in the future. Jones (2000) and Stray and Ballantine (2000) found that 23% of European and 42% of UK companies had EPs. In Hong Kong, Chiu *et al.* (2002) found that 85% of public sector companies and 59% of private sector companies had EPs. All companies which claimed they had an EP reported their policy included reference to compliance with appropriate laws, regulations and agreements. In addition, all the companies claimed they were committed to the reduction of the use of renewable and non-renewable natural resources and to the prevention/reduction of incidents and accidents. Three of these companies also mentioned their compliance with the industry's voluntary codes of best practice and the reduction of environmental impacts caused by production/service processes in their EP. Two companies indicated

they were committed to the reduction of environmental impacts arising from the use and disposal of their products. One company had incorporated the commitments of continuous environmental improvement, education of employees and dialogue with the organisation's stakeholders in its EP. However, no company indicated a commitment to either the reporting of EI or the pursuit of ISO 14000 in its EP.

Only two of the five companies which indicated having an EP reported having an EIS when responding to question (QA-3), thus representing only 3.6% of total responding companies. The remaining responding companies (96.4%) reported that they currently did not have an EIS or were planning to develop such a system in the future.

However, table 5-5 shows that, with regard to having an EP in place, medium sized companies were ranked top (16.7%), followed by small (5.6%) then large companies (5.0%). Non-industrial companies topped industrial ones (10.7% and 7.1%, respectively). Comparing listed and unlisted companies, listed companies were ahead of their unlisted counterparts with reference to EP implementation, 11.5% and 6.7%, respectively.

In terms of whether the company had an EIS or not, Table 5-5 indicates that medium sized companies led (5.6%), followed by large companies (5.0%), then small companies (3.6%). No non-industrial company claimed to have an EIS in place whereas 7.1% of industrial companies

they were committed to the reduction of environmental impacts arising from the use and disposal of their products. One company had incorporated the commitments of continuous environmental improvement, education of employees and dialogue with the organisation's stakeholders in its EP. However, no company indicated a commitment to either the reporting of EI or the pursuit of ISO 14000 in its EP.

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did. Again, listed companies came top with regard to having an EIS (7.7%). On the other hand, none of the unlisted companies claimed to have an EIS.

A Chi-Square statistical test ( $\chi^2$ ) covering size, legal status, and activity revealed no significant differences among the responding companies with regard to the adoption of an EP or EIS, as shown in Table 5-5 below.

		n	<i>Have an EP</i>			<i>Have an EIS</i>		
			% Yes	% No	Sig.	% Yes	% No	Sig.
<b>Overall Analysis</b>		56	8.9	91.1	---	3.6	96.4	---
<b>Size</b>	Small	18	5.6	94.4	.376	--	100	.609
	Medium	18	16.7	83.3		5.6	94.4	
	Large	20	5.0	95.0		5.0	95.0	
<b>Activity</b>	Industrial	28	7.1	92.9	.639	7.1	92.9	.150
	Non-industrial	28	10.7	89.3		0.0	100	
<b>Legal Status</b>	Listed	26	11.5	88.5	.524	7.7	92.3	.122
	Unlisted	30	6.7	93.3		0.0	100	

These results may indicate that the management of Saudi companies are not concerned about environmental issues and they are not aware of the effect of their companies on the environment. Also, mandatory requirements for the disclosure of EI which may drive managements to adopt EPs do not exist.

### 5.3.1.2 Measurement of Environmentally Related Items

When the financial managers of the Top 100 Saudi Companies were asked to what extent they measured the impacts of their companies' activities on the environment (QA-4), 85.7% of respondents reported their companies did not carry out any measurement, whereas 10.7% did

so according to the extent required by company management. The remaining 3.6% measured the impacts to the extent demanded by mandatory requirements.

Table 5-6 indicates that over four-fifths of companies (regardless of size, activity and legal status) did not perform any measurement of the impacts of their activities on the environment. Between 7.1% and 14.3% of companies reported that they measured the impacts to the extent required by management. The measurement of the impacts to the extent demanded by mandatory requirement was carried out by 5.6% or less of companies, with the exception of small companies, who did not perform this task at all.

**Table 5-6: Analysis Showing the Extent of Environmental Impact Measurement**

Control Variable	n	No Measurement	To the extent required by management	To the extent demanded by mandatory requirements	Sig.
		%	%	%	
<b>Overall Analysis</b>	56	85.7	10.7	3.6	---
<b>Size</b>	Small	18	88.9	11.1	--
	Medium	18	83.3	11.1	5.6
	Large	20	85.0	10.0	5.0
<b>Activity</b>	Industrial	28	89.3	7.1	3.6
	Non-industrial	28	82.1	14.3	3.6
<b>Legal Status</b>	Listed	26	84.6	11.5	3.8
	Unlisted	30	86.7	10.0	3.3

Again, no statistical significance was found when measuring environmental impacts according to size, activity and legal status combined. The low level of measurement of environmental impact may be due to the lack of adoption of EP by the management of Saudi

companies, which may be associated with non requirement by the SOCPA and the low level of environmental awareness amongst managements.

With regard to financially accounting for the costs of some items relating to the environment (QA-5), results indicate that 57% always financially accounted for energy consumption, half of the companies always accounted for water consumption, and 39.3% of responding companies always financially accounted for raw material use. These high scores may have been because the three costs (i.e. raw material, energy, and water) are currently accounted for in the traditional accounting system. However, only 12.5% of companies financially accounted for costs of environmental prevention. Further, an overwhelming majority (over 89%) of companies did not financially account for product life-cycle design and assessment, waste disposal/treatment, clean up/remediation, environmental liabilities, emission control, licences, regulation compliance, environmental depreciation and environmental R&D.

As indicated in Table 5-7, the Kruskal-Wallis Tests revealed no significant differences between companies as regards size. Also, the Mann-Whitney tests did not indicate any significant differences between companies as regards activity. There was no indication of significant differences between respondents as regards company's legal status using the Mann-Whitney Test.



**Table 5-7: Analysis Showing Ranking of Items that are Financially Accounted for**

Item	Overall		Size (mean)					Activity (mean)			Legal status (mean)		
	Mean	Rank	Small	Medium	Large	sig.	Industrial	Non-industrial	Sig.	Listed	Unlisted	Sig.	
Energy consumption	3.64	1	3.39	3.67	3.85	.729	3.29	4.00	.437	3.96	3.37	.221	
Water consumption	3.32	2	3.17	3.22	3.55	.666	3.14	3.50	.842	3.65	3.03	.236	
Raw material use	2.86	3	3.06	2.44	3.05	.495	2.75	2.96	.744	2.85	2.87	.956	
Environmental prevention	1.59	4	1.44	1.89	1.45	.617	1.29	1.89	.081	1.73	1.47	.537	
Waste disposal/treatment	1.20	5	1.17	1.28	1.15	.712	1.11	1.29	.376	1.27	1.13	.305	
Product LCA	1.18	6	1.39	1.00	1.15	.359	1.21	1.14	.971	1.12	1.23	.941	
Regulation compliance	1.18	6	1.11	1.39	1.05	.725	1.18	1.18	.667	1.35	1.03	.111	
Licences	1.14	7	1.06	1.22	1.15	.995	1.18	1.11	.557	1.15	1.13	.674	
Clean up/remediation	1.13	8	1.11	1.11	1.15	.999	1.07	1.18	.543	1.08	1.17	.628	
Emission control	1.11	9	1.00	1.22	1.10	.613	1.14	1.07	.980	1.15	1.07	.898	
Environmental liabilities	1.11	9	1.00	1.22	1.10	.613	1.14	1.07	.980	1.15	1.07	.898	
Environmental R&D.	1.05	10	1.11	1.00	1.05	.613	1.00	1.11	.154	1.00	1.10	.184	
Environmental depreciation	1.02	11	1.00	1.00	1.05	.407	1.00	1.04	.317	1.00	1.03	.352	

### 3.1.3 Environmental Risk Assessments

Only 5.4% of responding companies sometimes carried out risk assessment for non-compliance with local and international environmental laws and for environmental liabilities. The same percentage of companies reported that they always carried out risk assessment for environmental liabilities.

No significant differences were apparent between companies in terms of size, activity and legal status, obviously, because over 94% of companies reported they never carried out any environmentally related risk assessment.

### 3.2 Current EI Disclosure Practices

In this section financial managers' responses relating to current EI disclosure practice are analysed. Respondents were asked the following: to whom companies disclosed EI (QB-1), the subject of EI disclosure (QB-2), how often companies disclosed EI about certain items associated with the environment (QB-3), and what was the medium (QB-4) and the form of disclosure (QB-5). Finally, respondent companies were asked to state who would immediately assess and/or report the impact of an environmental incident (QB-6).

#### 3.2.1 Parties to Whom EI is Disclosed

In terms of parties to whom EI is disclosed (QB-1), Table 5-8 shows that over 90% of companies did not disclose EI to their current investors nor did they disclose such information to potential investors, customers, suppliers, and lenders. Only 5.4% of companies claimed that they sometimes disclosed EI to

their customers. This result is low, compared to the findings of Fortes and Åkerfeldt (1999), who found that 33% and 50% of Swedish companies disclose EI to shareholders/investors and customers/consumers, respectively. With regards to disclosing EI to governmental agencies, only 3.6% sometimes disclosed such information. A similar percentage did the same but more often. Companies who claimed they sometimes disclosed such information to insurance companies accounted for 7.1%. Slightly over double this percentage (14.3%) disclosed such information to the media. The possible reasons for the low level of EI disclosure by Saudi companies may be a lack of regulations mandating such disclosure and a lack of demand for EI from company stakeholders.

**Table 5-8: Analysis Showing the Ranking of Parties to Whom EI is Disclosed**

Party	Response % (n=56)				Mean
	Never	Rarely	Sometimes	Usually	
Media	75.0	8.9	14.3	1.8	1.43
Insurance companies	83.9	7.1	7.1	1.8	1.27
Governmental agencies	87.5	5.4	3.6	3.6	1.23
Employees	87.5	7.1	1.8	1.8	1.16
Customers	94.6	0.0	5.4	0.0	1.11
Current investors	92.9	5.4	1.8	0.0	1.09
Suppliers	98.2	0.0	1.8	0.0	1.04
Potential investors	98.2	1.8	0.0	0.0	1.02
Lenders	100	0.0	0.0	0.0	1.00

### 5.3.2.2 Subjects of EI Disclosure

With regard to asking companies about the subjects of EI disclosure (QB-2), Table 5-9 indicates that 90% and over of companies never or rarely disclosed any EI about the specified items. Between 3.6% and 7.1% of companies stated that they sometimes disclosed EI about land pollution, waste disposal, energy use and recycling. In addition, 3.6% of companies claimed that they usually disclosed information about environmental sustainability. This clearly indicates a low level of EI disclosure about environmentally related items, possibly due to the non-requirement for listed companies to disclose such items according to SOCPA's accounting standards, and to the fact that over half of the responding companies (57.7%) are unlisted companies, which are not mandated to publicly disclose any information.

**Table 5-9: Analysis Showing the Ranking of the Subjects of EI Disclosure**

Item	Response % (n = 56)				Mean
	Never	Rarely	Sometimes	Usually	
Energy use	89.3	5.4	3.6	1.8	1.18
Recycling	89.3	3.6	7.1	0.0	1.18
Environmental sustainability	91.1	3.6	0.0	3.6	1.15
Waste disposal	92.9	1.8	5.4	0.0	1.13
Water pollution	91.1	7.1	1.8	0.0	1.11
Land pollution	92.9	3.6	3.6	0.0	1.11
Air pollution	92.9	7.1	0.0	0.0	1.07
Compliance with environmental laws	92.9	7.1	0.0	0.0	1.07
Environmental remediation	96.4	1.8	1.8	0.0	1.05
Environmental cost/budgeting	96.4	1.8	1.8	0.0	1.05
Product life-cycle analysis	96.4	3.6	0.0	0.0	1.04
Environmental impact assessment	96.4	3.6	0.0	0.0	1.04
Environmental performance	96.4	3.6	0.0	0.0	1.04

There were no significant differences between companies in terms of

size, activity and legal status regarding the disclosure of the specified environmental items.

### **5.3.2.3 Timing of EI Disclosure**

Table 5-10 indicates that the timing of the disclosure varied. Only 12.5% of companies claimed that they sometimes disclosed EI at company management's discretion and when there was positive/good environmental news. Only 5.4% and 7.1% always disclosed EI at the discretion of their management and in their annual reports, respectively. The overwhelming majority of companies did not disclose any EI when there was negative/bad environmental news (96.4%). Further, at least 80.3% of companies never or rarely disclosed EI at any of the timing options presented. There were no significant statistical differences between companies with regard to timing of disclosure. The disclosure of positive/good environmental news and the non-disclosure of negative/bad news is common practice by companies in developed and developing countries as indicated by many studies (for example, Deegan and Gordon, 1996; Deegan and Rankin, 1996; and Fun, 2002).

### **5.3.2.4 The Medium of EI Disclosure**

The medium of EI disclosure was the subject of question QB-4. As seen from Table 5-11, slightly over 14% of companies claimed that they more frequently released their EI through the media. This reliance on the media as a vehicle to disclose EI might indicate that companies disclose such information to improve their image, because of the media's wider reach. This conforms to the results of studies relating to both developed

and developing countries (ACCA, 2002; Belal, 2000; Deegan and Rankin, 1996; Hall and Jones, 1991; Jones, 2000; KPMG, 2002; Walden and Schwartz, 1997). Only 7.1% of companies disclosed EI through their annual financial reports and 5.4 % through their board of directors' reports. Comparably, Jones (2000) found that 50 (72%) out of the 69 companies included in her study disclosed EI in their annual reports, while Niskala and Pretes (1995) found that the percentage of Finnish companies that disclosed EI in their annual reports had risen from 26.7% to 48% between 1987 and 1992. In addition, Stray and Ballantine (2000) found that 52% of UK companies used annual reports to disclose EI. As far as developing countries are concerned, almost all Jordanian companies (99%) placed their CSR in annual reports, according to Abu Baker and Naser (2000). Andrew *et al.* (1989) also concluded that most EI disclosure by Malaysian and Singaporean companies was within annual reports.

On the other hand, none of the companies used interim financial reports, annual environmental reports or interim environmental reports to disclose any EI. Stray and Ballantine (2000) found that 51% of UK companies used stand-alone environmental reports. On the other hand, Abu Baker and Naser (2000) and Fun (2002) found that none of the companies included in their studies published a stand-alone environmental report. More than 85% of the companies never or rarely used any of the specified media to disclose any EI. Testing the data with regard to the medium used to disclose EI did not reveal any significant differences.

**Table 5-10: Analysis Showing the Ranking of Timing of EI Disclosure**

Timing	Industrial (n = 28)						Non-industrial (n = 28)						Sig.
	Overall	Never	Rarely	Sometimes	Usually	Always	Never	Rarely	Sometimes	Usually	Always		
At discretion of the management	Mean 1.70	78.6	10.7	0.0	10.7	0.0	67.9	3.6	3.6	14.3	10.7	0.242	
When there is positive/good news to disclose	1.52	89.3	0.0	3.6	7.1	0.0	67.9	7.1	7.1	17.9	0.0	0.062	
In annual reports	1.32	92.9	0.0	0.0	0.0	7.1	89.3	0.0	3.6	0.0	7.1	0.667	
Upon the request of stakeholders	1.14	92.9	0.0	3.6	3.6	0.0	89.3	10.7	0.0	0.0	0.0	0.715	
When there is negative/bad news to disclose	1.04	96.4	3.6	0.0	0.0	0.0	96.4	3.6	0.0	0.0	0.0	1.0	

**Table 5-11: Analysis Showing the Ranking of Medium of EI Disclosure**

Medium	Industrial (n = 28)						Non-industrial (n = 28)						Sig.
	Overall	Never	Rarely	Sometimes	Usually	Always	Never	Rarely	Sometimes	Usually	Always		
In press releases	Mean 1.54	78.6	14.3	0.0	7.1	0.0	78.6	0.0	0.0	14.3	7.1	0.749	
In the annual financial report	1.32	92.9	0.0	0.0	0.0	7.1	89.3	0.0	3.6	0.0	7.1	0.667	
In the board of directors' report	1.27	92.9	3.6	0.0	3.6	0.0	78.6	10.7	3.6	7.1	0.0	0.135	
In the interim financial report	1.00	100	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	1.000	
In a special annual environmental report	1.00	100	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	1.000	
In an interim environmental report	1.00	100.	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	1.000	

### **5.3.2.5 Forms of EI Disclosure**

The form used to disclose EI may be qualitative, quantitative, financial, non-financial or a mixture of some or all of these forms. When financial managers were asked how their companies disclosed their EI (QB-5), only 14.3% stated that their companies usually disclosed the information qualitatively, 7.1% rarely used this form, and the rest never used either quantitative, financial or a mixture of qualitative-quantitative forms of disclosure. Further, at least 91% of companies never used the financial form of disclosure or a mixture of all forms to disclose EI. The practice of disclosing environmental information in a financial form is considered low compared to the situation in Jordanian companies, as evidenced by the findings of Abu Baker and Naser (2000), who found that 98% of Jordanian companies used the financial form of disclosure, which they attributed to the requirement by Jordanian law to disclose information on the community involvement of companies. In addition, 45% of the companies used a mixture of financial and non-financial forms for disclosure. Testing for the effect of company size, legal status and activity on the form of EI disclosure resulted in no significant differences between companies, as indicated in Table 5-12.

### **5.3.2.6 Who is in Charge of Assessing/Reporting Environmental Incidents?**

Table 5-13 shows that eighteen (32.1%) of companies had designated an organisational department to deal with environmental incidents internally. Three companies (5.4%) had hired independent consultants to deal with such incidents. However, thirty-five (62.5%) of companies had



not considered assigning the assessment/reporting of environmental incidents to any internal or external party.

**Table 5-12: Analysis Showing the Ranking of the Form of EI Disclosure**

Form	Overall (n = 56)		Sig.		
	Mean	SD	Size	Legal status	Activity
Only qualitative (descriptive/narrative).	1.50	1.062	0.986	0.335	0.783
A mixture of all forms.	1.11	0.366	0.082	0.740	0.679
Qualitative and financial.	1.05	0.297	0.160	0.939	0.980
Quantitative and financial.	1.05	0.297	0.160	0.184	0.980
Only quantitative (non-monetary).	1.00	0.000	1.000	1.000	1.000
Only financial (monetary).	1.00	0.000	1.000	1.000	1.000
Qualitative and quantitative.	1.00	0.000	1.000	1.000	1.000

**Table 5-13: Analysis Showing Who is in Charge of Assessing/Reporting Environmental Incidents**

Party	Overall (n = 56)	
	Frequency	%
None	35	62.5
Organisational department.	18	32.1
Independent consultant constantly in charge of environmental issues.	3	5.4
Independent consultant who is in charge on an ad hoc basis.	0	0.0
<b>Total</b>	<b>56</b>	<b>100</b>

## **5.4 PERCEPTIONS OF EAD PRACTICES**

This section analyses the respondent groups' perceptions of the main aspects of EAD. Respondents were presented with seventeen items related to EAD and asked to state the level of their agreement-disagreement with their importance by circling a number on a scale ranging from one to five (1 = strongly disagree and 5 = strongly agree).

### **5.4.1 Background Characteristics of Respondents**

As discussed in the previous chapter, the study sample consisted of three main groups, i.e. financial managers of the Top 100 Saudi Companies, auditors and academics. Members of these three groups were reclassified in terms of their years of experience and their level of education, to facilitate statistical tests.

It can be seen from table 5-14 that financial managers and auditors were in almost reverse proportion compared to academics in terms of educational qualifications, with all but one of them having a PhD, while no financial manager had a PhD. Auditors had slightly more Master's Degrees than financial managers and slightly less Bachelor's Degrees. The proportionate years of experience was fairly evenly spread.

**Table 5-14: Analysis Showing the Background Characteristics for Financial Managers, Auditors and Academics**

Background Characteristics	Respondent group			Experience				Educational Qualification		
	% Financial manager (n = 56)	% Auditor (n = 68)	% Academics (n = 71)	% Under 10 years (n = 67)	% 10 – 16 years (n = 63)	% Over 16 years (n = 65)	% Bachelor (n = 98)	% Master (n = 26)	% PhD (n=71)	
Educational Qualification	Bachelor	82.1	76.5	0.0	52.2	57.1	41.5	100		
	Master	17.9	22.1	1.4	11.9	11.1	17.0		100	
	PhD	0.0	1.5	98.6	35.8	31.8	41.5			100
Experience	Under 10 years	32.1	36.8	33.8	100			35.7	30.8	33.8
	10 – 16 years	35.7	32.4	29.6		100		36.7	26.9	28.2
	Over 16 years	32.1	30.9	36.6			100	27.6	42.3	38.0
Respondent group	Financial manager	100			26.9	31.7	27.7	46.9	38.5	0.0
	Auditor		100		37.3	34.9	32.3	53.1	57.7	1.4
	Academics			100	35.8	33.3	40.0	0.0	3.8	98.6

#### **5.4.2 Influence of Environmental Matters on the Organisation**

The first question in this section, QC-1, asked respondents to indicate the level of influence they thought the environment might have on profitability, long-term survival, competitive level, image, strategic decisions, major but non-strategic decisions, expansion or new project decisions, and operational (day-to-day) decisions.

Table 5-15 illustrates that responses, in general, and with regard to all the aspects of this question, tended towards agreement, with some differences in the strength of agreement. This finding was supported by the means of the responses, which ranged from 3.34 to 4.01. Analysing the responses showed that long-term survival was thought to be most influenced by environmental matters (mean = 4.01) followed by the image of the organisation with a mean of 3.99. This is perhaps because there is a growing trend globally for concern with environmental issues, and company image might be damaged in the long-term if it is seen not to conform with such a positive trend. Expansion decisions came third with a mean of 3.98, then profitability with a mean of 3.90. A brief consideration of history suggests that environmental concerns have had an increasing influence (it may be suggested negative in this case) on expansion and hence profitability. Strategic decisions and major but non-strategic decisions came in fifth and sixth positions, with means of 3.87 and 3.78, respectively, as they would take into account environmental considerations more than immediate operational decisions, which occupied the seventh position (mean = 3.74). It seems somewhat strange

that the competitiveness of the organisation comes in final position with a mean of 3.34, as it could link with long-term survival, although respondents may have been thinking of the more practical aspects of competitive forces, such as market position.

Comparing the responses of each group, auditors most strongly agreed that environmental matters influenced long-term survival (mean = 4.13), expansion decisions (mean = 4.09), image (mean = 4.07) and profitability (mean = 4.04). Academics, on the other hand, most strongly agreed that environmental matters influenced the image of the organisation (mean = 4.11), long-term survival (mean = 4.10), expansion decisions (mean = 3.92) and profitability (mean = 3.89). Finally, financial managers most strongly agreed that environmental matters influenced the expansion decisions of an organisation (mean = 3.93), strategic decisions (mean = 3.91), Major non-strategic decisions (mean = 3.80) and image (mean = 3.75). Hall and Jones (1991) found that all of the respondents in their study indicated that social/environmental issues were considered before corporate decisions were made.

Testing between the three groups resulted in three significant differences in terms of long-term survival ( $p < 0.05$ ), image ( $p < 0.05$ ) and operational decisions ( $p < 0.05$ ). The mean values for each group (ranging from 3.19 to 4.13) indicated that the differences were in the levels of agreement and not in the levels of disagreement. The general trend is that auditors and academics showed stronger levels of agreement, while financial managers have a much more even spread of responses scoring lower

levels of agreement. This may suggest that auditor and academic groups might have a more global perspective of all environmental issues, based on the sum of their individual capabilities, interests and responsibilities. However, further investigation would be required before this could be asserted. With regard to the other two control variables, namely respondents' years of experience and level of education, there were no significant differences.

**Table 5-15: Analysis Showing the Ranking of Influence of Environmental Matters**

Item	Overall (n = 195)		Respondent Group (mean)			Sig.
	Mean	SD	FM (n = 65)	Auditors (n = 68)	Academics (n = 71)	
Long-term survival	4.01	0.902	3.75	4.13	4.10	0.041**
Image	3.99	1.067	3.75	4.07	4.11	0.030**
Expansion decisions	3.98	0.861	3.93	4.09	3.92	0.416
Profitability	3.90	0.753	3.73	4.04	3.89	0.062
Strategic decisions	3.87	1.139	3.91	3.84	3.86	0.872
Major non-strategic decisions	3.78	0.994	3.80	3.66	3.87	0.428
Operational decisions	3.74	1.088	3.50	3.81	3.86	0.025**
Competitiveness	3.34	1.117	3.29	3.54	3.19	0.198

\*\* indicates that the distribution between the three groups is significantly different at the 5% using the Kruskal-Wallis Test  
FM = Financial Managers.

### 5.4.3 Importance of EI

This question, QC-2, asked respondents for their perceptions regarding the importance of EI on some categories to EI users. These categories included current investors, potential investors, customers, suppliers, banks and lenders, governmental agencies, insurance organisations, employees, and the media. Naser and Abu Baker (1999) concluded that Jordanian companies provided social and environmental information

mainly to fulfil the needs of users who have purely financial interests in companies, such as shareholders and potential investors.

Analysis of the findings indicated that all three groups agreed that such information was important to all categories of information users named in the question. However, the level of agreement varied, as indicated by the means of responses. Financial managers showed stronger levels of agreement than the other two groups with regard to five out of the nine user groups, i.e. potential investors, suppliers, banks and other lenders, insurance agencies and employees. This may be because financial managers considered that companies are more concerned with parties that have financial interests in companies, which confirms Naser and Abu Baker's (1999) findings. Academics showed a stronger level of agreement with regard to three of the user groups, namely customers, government agencies, and the media. This may indicate that academics believed that companies have wider responsibilities beyond parties with purely financial interests in the company. Auditors showed the strongest level of agreement in respect of current investors, with a mean of 4.00, possibly because auditors are influenced by the contractual nature of their work with companies, which necessitates provision of audited reports to company investors.

Table 5-16 indicates that there was complete agreement between all respondents that EI is significantly important to governmental agencies. This was supported by the ranking of the means, which positioned governmental agencies in first position overall and in group-by-group

analysis.

In descriptive analysis of this table (5-16), there are some minor, unsurprising observations. When comparing the means of the three groups with the overall mean, financial managers put higher value on suppliers and employees, auditors put less value on the media, while the academics rate the media even higher than potential investors, prefer employees to insurance organisations, and give higher value to customers than the other two groups.

**Table 5-16: Analysis Showing the Ranking of Importance of EI**

Group	Overall (n = 195)		FM		Auditors		Academics		Sig.
	Mean	SD	Mean	Rank	Mean	Rank	Mean	Rank	
Governmental agencies	4.16	0.947	4.16	1	4.03	J1	4.28	1	0.299
Potential investors	4.03	1.074	4.05	J2	4.03	J1	4.01	3	0.997
Media	3.90	1.030	4.04	J3	3.54	4	4.13	2	0.001***
Current investors	3.88	1.063	3.86	5	4.00	2	3.77	6	0.434
Insurance organisations	3.82	1.125	4.04	J3	3.63	J3	3.82	5	0.149
Employees	3.75	1.031	3.93	4	3.49	5	3.87	4	0.109
Suppliers	3.72	1.033	4.05	J2	3.47	6	3.70	7	0.007***
Banks and other lenders	3.59	1.183	3.85	6	3.63	J3	3.34	9	0.038**
Customers	3.43	1.124	3.42	7	3.32	7	3.55	8	0.545

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test  
 FM = Financial Managers.

As indicated in Table 5-16, Kruskal-Wallis Test resulted in significant differences between the three groups with regard to the media, suppliers and banks and other lenders. However, these significant differences should not be viewed as indicating the presence of diversity in agreement-disagreement responses; rather the diversity should be understood as a result of the differences in the proportions of respondents who selected either agree or strongly agree in their response concerning



the EI users. This is supported by the means of responses, which in no case dropped below 3.32.

It can be seen from the mean scores that the academic group showed a stronger level of support to the disclosure of EI to the media (mean = 4.13) probably because they thought the media could play a major role in the promotion of environmental awareness. Financial managers scored the second highest level of support to the disclosure of EI to the media (mean = 4.04), topping the auditor group, perhaps because they thought that their companies could benefit from using the media to portray a positive image by showing their environmental friendliness. With regards to the disclosing EI to the suppliers and banks and other lenders, financial managers scored the highest levels of agreement (mean = 4.05 and 3.85, respectively). This finding is probably because financial managers consider these two groups of greatest importance among the groups suggested in the question since their companies depend on the provision of finance from these two groups.

#### **5.4.4 Environmental Wish List (What an Organisation should do...)**

Respondents were asked about their agreement level with a wish list that might make the organisation environmentally aware (QC-3). This wish list included the adoption of an environmental policy and an organisation being held accountable for the effects of its activity on the environment. It also included the suggestion that the organisation should account for the environment regardless of its activity, size and legal status. In addition, the organisation should have an EI system, a system to disclose

EI, and a full cost accounting system for all environmental impacts.

As Table 5-17 indicates, the means of the overall responses to this question ranged from 3.59 to 4.73, with agreement on all the eight items suggested in the question. The strongest overall agreement level was with an EIS, with a mean of 4.73, while the lowest overall level of agreement was associated with the proposal that an organisation should account for the environment regardless of its legal status, indicated by a mean of 3.59. Although the Kruskal-Wallis Test showed significant differences using the three control variables, the lowest value of the mean of the responses for each of the three groups never fell below 3.38. In general, an EIS was ranked as the most wished for item in the wish list in each group. Its strongest support came from financial managers. Overall, academics expressed stronger levels of support than the other two groups for all of the eight items suggested. This may reflect the fact that academics believe more strongly that there is an urgent need to account for the environment compared with the other two groups. Auditors had weaker levels of agreement than financial managers in all but two items.

Further, when respondents were asked to express their perceptions regarding accounting for the environment according to company activity, size, and legal status, the strongest agreement level was associated with size followed by activity, then by legal status. Empirical evidence relating to developed and developing countries supports the differences in disclosure practices between companies in terms of their size and industry membership (See, for example, Abu Baker and Naser, 2000;

Adams *et al.*, 1998; Alnajjar, 2000; Andrew *et al.*, 1989; Cowen *et al.*, 1987; Deegan and Gordon, 1996; Fun, 2002; Gray *et al.*, 1995b; Hackston and Milne, 1996; Kreuze *et al.*, 1996; Moneva and Llana, 2000; Neu *et al.*, 1998; Niskala and Pretes, 1995; Singh and Ahuja, 1983; and Stray and Ballantine, 2000).

**5.4.5 Commitments to be Stated in the Environmental Policy**

Commitments that should be expressly referred to in an organisation's EP were the subject of question QC-4. Respondents were asked to specify the level of their agreement-disagreement with commitments that should be included in an organisation's EP. These commitments were continuous environmental improvement, compliance with appropriate laws and regulations, voluntary codes of best industry practice, the reduction of environmental impacts caused by production, impacts arising from the use and disposal of final product, and reduction of the use of renewable and non-renewable natural resources. They also included the prevention/reduction of accidents, the reporting of EI, the continuous education of employees and continuous dialogue with stakeholders.

**Table 5-17: Environmental Wish List**

An organisation should....	Overall		Respondent group (mean)				Experience (mean)				Education (mean)			
	Mean	Rank	FM	Auditors	Academics	Sig.	Under 10 years	10-16 years	Over 16 years	Sig.	Bachelor	Master	PhD	Sig.
Have an EIS.	4.73	1	4.80	4.62	4.77	.038**	4.85	4.68	4.65	.019**	4.70	4.73	4.76	.718
Account for the environment regardless of size	4.41	2	4.54	4.12	4.59	.000***	4.60	4.30	4.32	.006***	4.37	4.19	4.55	.014**
Be held accountable for the effects of its activities on the environment	4.26	3	4.27	4.15	4.35	.210	4.33	4.25	4.18	.736	4.26	4.12	4.13	.302
Have a system to disclose its EI.	4.19	4	4.00	4.10	4.44	.003***	4.19	4.22	4.17	.992	4.09	3.96	4.42	.004***
Have a full cost accounting system for environmental impacts	4.15	5	3.87	4.07	4.44	.001***	4.27	4.02	4.15	.096	4.06	3.73	4.42	.000***
Account for the environment regardless of activity type	3.93	6	4.04	3.53	4.23	.001***	3.90	3.84	4.05	.453	3.77	3.85	4.18	.049**
Have an EP.	3.83	7	3.77	3.71	4.00	.233	3.97	3.68	3.83	.170	3.74	3.81	3.96	.479
Account for the environment regardless of legal status	3.59	8	3.65	3.38	3.73	.155	3.55	3.58	3.63	.952	3.47	3.73	3.69	.557

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test  
 FM = Financial Managers.

Interestingly, as shown in Table 5-18, this last commitment elicited the highest level of agreement among respondents. This was followed by the seventh commitment, the prevention/reduction of accidents. On the other hand, the first commitment on the list, continuous environmental improvement, was ranked ninth in terms of level of agreement, while the second on the list, compliance with laws, was ranked tenth. However, if we refer back to the previous question, it may be noted that an EP was not given a high position on the wish list; in fact it came in seventh position, suggesting that respondents did not view the adoption of an EP as the most important step to be taken by organisations to become more environmentally friendly. Their responses to QC-4 may suggest that the organisation should first open channels of dialogue with stakeholders, to identify public environmental concerns and needs, then deal with other issues, such as adopting an informed EP and identifying the commitments to be included in it.

Again, the Kruskal-Wallis Test revealed significant differences when controlling for respondent group and level of education variables. However, these differences were not due to differences in diversity between agreement/disagreement but differences in the strength of agreement level. This can be seen from Table 5-18, which shows that response means to all commitments, regardless of control variable, are no lower than 3.90 (see Table 5-18), signifying high agreement compared to other questions analysed so far, while the highest mean (4.55) reflects a very strong agreement.

**Table 5-18: Analysis Showing the Ranking of Commitments to be Referred to in an Organisation's EP**

Commitment	Overall		Respondent group (mean)				Experience (mean)				Education (mean)			
	Mean	Rank	FM	Auditors	Academics	Sig.	Under 10 years	10-16 years	Over 16 years	Sig.	Bachelor	Master	PhD	Sig.
Continuous dialogue with the organisation's stakeholders	4.42	1	4.30	4.37	4.55	.028**	4.37	4.40	4.48	.379	4.34	4.38	4.54	.059
Prevention/reduction of accidents	4.36	2	4.43	4.26	4.41	.577	4.31	4.37	4.42	.802	4.36	4.35	4.38	.904
Reporting of EI	4.25	3	4.12	4.13	4.45	.003***	4.30	4.21	4.23	.624	4.16	4.12	4.41	.014**
Compliance with industry best practices	4.22	4	4.23	4.10	4.31	.164	4.25	4.17	4.22	.649	4.21	4.08	4.27	.358
Reduction of environmental impacts arising from the use and disposal of the final product	4.18	5	4.14	4.24	4.17	.443	4.19	4.14	4.22	.751	4.17	4.31	4.15	.283
Continuous education of employees	4.16	6	3.95	4.19	4.30	.008***	4.24	4.08	4.15	.153	4.07	4.15	4.28	.194
Reduction of the use of renewable & non-renewable natural resources	4.12	7	4.16	4.04	4.17	.221	4.12	4.11	4.14	.912	4.11	4.04	4.17	.849
Reduction of environmental impacts caused by production	4.10	8	4.13	4.07	4.11	.769	4.12	4.06	4.12	.977	4.11	4.15	4.07	.826
Continuous environmental improvement	4.06	9	4.04	4.01	4.11	.225	4.09	4.02	4.06	.288	4.04	3.96	4.11	.099
Compliance with laws & regulations	3.97	10	3.91	3.90	4.09	.146	4.06	3.90	3.94	.151	3.91	3.92	4.07	.288

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test. FM = Financial Managers.

Controlling for the respondent group variable resulted in significant differences regarding three commitments, namely continuous dialogue with the organisation's stakeholders, reporting of EI and Continuous education of employees. Academics scored the highest levels of agreement with these three commitments, followed by auditors. This may signify the importance placed by these two groups on the three commitments in order to promote EAD practices. On the other hand, financial managers may have considered the costs and efforts associated with fulfilling these commitments.

#### **5.4.6 Reasons Preventing Organisations from Adopting Environmental Accounting**

The most likely reasons or obstacles preventing organisations from adopting environmental accounting were included in the fifth question (QC-5). In general, and as shown in Table 5-19, respondents indicated that environmental issues were not of primary concern to the organisation. This reason for organisations not adopting environmental accounting elicited the strongest level of agreement from respondents. The doubtfulness of the benefits to be gained from adopting environmental accounting elicited the next strongest level of agreement from them, followed by the complexity of environmental accounting and, finally, the expens of environmental accounting.

The Kruskal-Wallis test did not indicate diversity between agreement and disagreement but rather diversity in the level of agreement as supported by mean values. These values, as indicated in Table 5-9, illustrate that financial managers expressed stronger agreement than the other two

groups that the complexity and cost are among the reasons preventing the adoption of environmental accounting. This may indicate that financial managers thought about the cost and the effort that might be associated with carrying out such a task. Or in other words they thought about 'what could be done'. In contrast, the academics and the auditors may have thought about 'what should be done'.

**Table 5-19: Analysis Showing the Ranking of Reasons Preventing Organisations from Adopting Environmental Accounting**

Reason	Overall		FM (mean)		Auditors (mean)		Academics (mean)		Sig.
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	
Environmental Issues are not of primary concern	3.98	1	3.98	1	4.03	1	3.94	2	.927
Organisation unsure of the benefits	3.85	2	3.80	2	3.76	2	3.96	1	.462
Accounting for the environment is too complex	2.95	3	3.39	3	2.85	3	2.69	3	.005***
Accounting for the environment is too expensive	2.68	4	2.98	4	2.74	4	2.39	4	.006***

\*\*\* indicates that the distribution between the three groups is significantly different at the 1% level using the Kruskal-Wallis Test  
 FM = Financial Managers.

#### 5.4.7 Environmental Impact Measurement

This question (QC-6) asked respondents to specify their agreement-disagreement with the extent to which an organisation should measure the environmental impact of its activities in general. The suggested levels of measurements were: to the extent that fulfils the needs of the organisation's management; to the extent that is required by laws and regulations; to the extent that would allow the organisation to disclose EI;



and, finally, to the extent that will allow an external (independent) auditor to audit it.

The majority of respondents indicated that measurement of environmental impacts to the extent required by law was their first choice (mean = 3.89); the extent that would allow auditing of the produced EI by an independent auditor was their second choice (mean = 3.76); the extent that would allow the produced information to be disclosed was the third choice (mean = 3.74), while measurement to the extent that would fulfil the needs of the organisation's management was their last choice (mean = 2.48).

The academic group showed the highest levels of agreement with the second, third and fourth choices, while auditors expressed strongest agreement with the first choice. Further, PhD holders expressed higher levels of agreement with all four choices compared with Master and Bachelor degree holders.

#### 5.4.8 Environmental Cost Accounting

Two questions (QC-7 and QC-8) were asked about environmental cost accounting. QC-7 concerned types of costs to be accounted for: whether to account for the incurred costs or the expected costs or both. QC-8 focused on accounting for the costs of raw material use, energy consumption, water consumption, environmental prevention (health and safety), product LCA, waste disposal/treatment, clean up/remediation, compensation, emission control, licences, regulation compliance,

environmental depreciation, and the cost of research and development.

In general, all respondents expressed the view that all environmental costs (incurred and expected) should be accounted for; good agreement was indicated by the mean of 4.07. The result was similar across respondent groups. Much lower scores were obtained for accounting for only incurred environmental costs or for only expected environmental costs (means 2.29 and 2.62, respectively). Auditors had slightly higher scores for the latter options (means were 3.31 and 2.99, respectively), while academics showed the least support for these two items (means of 2.44 and 2.27, respectively). Financial managers were closer to the overall means for both items (2.61 for both items).

**Table 5-20: Analysis Showing the Ranking of Types of Environmental Costs Accounting**

Type of cost	Overall (mean)	Respondent Group (mean)		
		Financial managers	Auditors	Academics
All incurred & expected costs	4.07	4.16	4.19	3.89
Incurred costs only	2.79	2.61	3.31	2.44
Expected costs only	2.62	2.61	2.99	2.27

With regards to accounting only for incurred environmental costs, Table 5-20 displays that the practitioners, auditors and financial managers, seem to agree more than the academics perhaps because incurred costs are easily determined and accounted for than the expected ones. Academics lower support for these two items maybe attributed to their view that all incurred and expected costs should be accounted for

regardless of the difficulties associated with determining and calculating them.

With regard to what environmentally related items to account for, Table 5-21 illustrates that respondents agreed with all the items listed in the question. The overall means of responses never dropped below 4.04. The analysis showed that only one financial manager strongly disagreed with any of the items listed in the question. The highest disagreement percentage was recorded for the financial managers' group (10.9% of respondents) and was associated with accounting for environmental depreciation. In contrast, the highest agreement percentage with the same item was recorded for auditors (86.8% of respondents). The overall results may indicate that all respondents associate very high levels of importance to identifying and measuring the costs of environmentally related items, which may subsequently facilitate the disclosure of information relating to these items.

**Table 5-21: Analysis Showing Cost Accounting for Environmental Items**

Item	Overall (mean)	Respondent Group (mean)		
		Financial managers	Auditors	Academics
Environmental prevention	4.39	4.20	4.41	4.52
Waste disposal/treatment	4.39	4.23	4.31	4.61
Cleanup/ remediation	4.36	4.25	4.24	4.58
Emission control	4.35	4.32	4.22	4.49
Water consumption	4.29	4.11	4.35	4.37
Environmental liabilities	4.28	4.16	4.13	4.52
Raw material use	4.26	4.13	4.29	4.32
Energy consumption	4.26	4.09	4.29	4.37
Product LCA	4.17	4.04	4.09	4.37
Environmental R&D	4.16	4.04	4.13	4.30
Regulation compliance	4.15	4.05	4.09	4.30
Licences	4.06	3.95	4.07	4.14
Environmental depreciation	4.04	3.89	3.94	4.24

#### **5.4.9 The Purpose of the Production of EI**

The purpose of the production of EI was inquired about in the ninth question (QC-9). Analysis was made of the support level among respondents for the production of EI exclusively for internal or external use, mainly for internal use and secondarily for external use, mainly for external use and secondarily for internal use, and for internal and external use equally.

The overwhelming majority of respondents favoured the production of EI for external and internal use equally, with a mean of 4.19. Among the different groups, academics, PhD holders and respondents with more than sixteen years' experience were the strongest supporters of the production of EI for external and internal use equally among the different groups. Producing EI mainly for internal use and secondarily for external use was ranked in second position, with a mean of 2.89; the opposite choice was ranked in third position with a mean of 2.50. Producing information solely for internal use was fourth choice with a mean of 2.42, and producing information solely for external use was the last choice, with a mean of 2.28.

#### **5.4.10 To Disclose or Not to Disclose**

This section will analyse reasons for the disclosure and non-disclosure of EI. Respondents' perceptions of likely reasons that might drive organisations to disclose EI were tested in the tenth question (QC-10). The likely reasons preventing disclosure were evaluated in the eleventh

question (QC-11).

#### **5.4.10.1 Reasons for Disclosure**

In general, improving the organisation's social image was thought to be the most influential reason behind the disclosure of EI, while awareness of the organisation's social responsibility was thought to be the least influential reason. This was supported by the results of the Kruskal-Wallis Test which showed no significant differences between the responses across respondent groups, years of experience, and level of education variables. Many previous studies have found that the desire to improve an organisation's image is a significant driver for the disclosure of EI in both developed and developing countries (see, for example, ACCA, 2002; Belal, 2000; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Hall and Jones, 1991; Jones, 2000; KPMG, 2002; and Walden and Schwartz, 1997). Compliance with local laws and regulations was ranked second in terms of level of influence, closely following the first item. This result is in line with the findings of Abu Baker and Naser (2000), who concluded that the high uptake of CSR was due to the requirements of Jordanian law. The desire of organisations to market their products was ranked third. Compliance with international laws and guidelines and the intention to attract investors were ranked fifth and sixth, respectively. Financial managers, academics, respondents with between 10-16 years' experience, Masters degree and PhD holders considered compliance with local laws and regulations to be the most influential factor motivating EI disclosure. Auditors and holders of Bachelor Degrees ranked this item as

the third most influential reason. Meeting stakeholders' demands for EI was ranked the third most influential item by financial managers, academics, respondents with between 10-16 years' experience and PhD holders. The same item was ranked fourth by auditors, respondents with less than ten years' experience, respondents with more than sixteen years of experience and respondents with a Masters degree. In addition to the means and mean ranks of these variables, the ranks of the means for each group under each control variable are presented in Table 5-22.

The Kruskal-Wallis Test results indicated the existence of significant differences between respondents in terms of three out of the suggested seven reasons. Academics agreed more than auditors and financial managers that compliance with local laws and meeting the demands of stakeholders for EI influences companies to disclose such information. This finding may be due to academics believing that companies must show that they adhere to local laws and fulfil stakeholders' 'right to know' by disclosing EI. On the other hand, financial managers agreed more with the compliance with international laws probably because they thought such laws have to be complied with in order for their companies to be able to export their products to countries that have such laws in place. PhD holders showed stronger support for compliance with local laws. This positive correlation between level of education and level of agreement could be explained by the assumption that the higher degree a person may hold, the more knowledge he/she possesses, which in turn may make him/her sensitive to compliance with laws.

**Table 5-22: Analysis Showing the Ranking of Reasons for EI Disclosure**

Reason for Disclosure	Overall		Respondent group (mean)					Experience (mean)				Education (mean)			
	Mean	Rank	Financial Managers	Auditors	Academics	Sig.	Under 10 years	10-16 years	Over 16 years	Sig.	Bachelor	Master	PhD	Sig.	
To improve the organisation's social image	4.06	1	3.93	4.03	4.20	0.126	4.04	4.03	4.11	0.602	4.02	3.96	4.15	0.487	
To comply with local laws & regulations	4.05	2	4.16	3.76	4.24	0.001***	3.99	4.08	4.09	0.735	3.91	4.12	4.23	0.041**	
To market the organisation's products	3.97	3	3.89	3.90	4.11	0.111	3.87	3.98	4.08	0.076	3.95	3.69	4.11	0.056	
To meet stakeholders' demand for EI	3.93	4	3.93	3.68	4.17	0.021**	3.72	4.02	4.06	0.143	3.81	3.85	4.13	0.075	
To comply with international laws & guidelines	3.78	5	4.07	3.63	3.69	0.029**	3.67	3.83	3.85	0.447	3.81	3.92	3.69	0.525	
To attract investors	3.74	6	3.91	3.57	3.76	0.144	3.61	3.83	3.78	0.239	3.79	3.62	3.72	0.741	
As a result of the awareness of the organisation's social responsibility	3.54	7	3.75	3.37	3.55	0.259	3.42	3.43	3.78	0.068	3.52	3.62	3.55	0.920	

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test.

#### 5.4.10.2 Reasons for Non-disclosure

The non requirement of EI disclosure in environmental laws was the reason most commonly given for non EI disclosure by respondents in general. This was followed by non requirement by Saudi accounting standards. Similar to these findings, Rowe and Wehrmeyer (2001) found that the absence of legal requirements for disclosure was the main reason for the non-disclosure of EI by Chinese companies. Naser and Abu Baker (1999) also found that the lack of legal requirements and the absence of guidelines from the IAS are the main reasons for not making CSR disclosure by Jordanian companies. The lack of demand for such information from stakeholders was ranked third, which is similar to the findings of Naser and Abu Baker (1999) and Perry and Sheng (1999). The organisation's assumption that EI was not important for the organisation's stakeholders followed in fourth position. Similarly, Perry and Sheng (1999) found that the lack of shareholders' or potential investors' interest in environmental matters is among the most important reasons behind the non-disclosure of EI. The lack of expertise for the production and disclosure of EI was ranked fifth amongst barriers to EI disclosure. This result contradicts earlier studies, which indicated that lack of expertise has more influence on non-disclosure (see, for example, Naser and Abu Baker, 1999; and Jones, 2000). The sensitivity and cost inefficiency of EI were ranked sixth and seventh, respectively. These results support the findings of Naser and Abu Baker (1999) who found that the sensitivity and confidentiality of CSR information were regarded as having medium importance as impediments to disclosing CSR



information, and that the costliness of producing and disclosing CSR was ranked as the least important impediment to Jordanian companies. Rowe and Wehrmeyer (2001) identified the costliness of producing EI and the secrecy of information among reasons preventing the disclosure by Chinese companies. In an earlier study, Wycherley (1997) found that, in the case of UK companies, the cost of collecting EI in many cases outweighed its value.

The Kruskal-Wallis Test revealed significant differences when controlling for the respondent group variable with regard to the non requirement of disclosure by environmental laws, the sensitivity of EI, the lack of expertise, and the assumption that EI is not important for an organisation's stakeholders. The results did not represent a significant scattering of responses in terms of agreement/disagreement but represented variance in agreement level, as some respondents agreed more strongly with some of the items than others, as indicated by the mean averages. Financial managers demonstrated higher levels of agreement than the other respondents with the non requirement by environmental laws, the non importance of EI to stakeholders, the lack of expertise to produce and disclose EI and the sensitivity of such information. Likely reasons for this could be that financial managers believe if the law does not require the disclosure of EI and if it is not important for stakeholders, then there is no need to incur costs to disclose such information. They may have also thought that the disclosure of such information could create problems for them with the government.

**Table 5-23: Analysis Showing the Ranking of Reasons Preventing EI Disclosure**

Reason for Non-disclosure	Overall		Respondent group (mean)				Experience (mean)				Education (mean)			
	Mean	Rank	Financial Managers	Auditors	Academics	Sig.	Under 10 years	10-16 years	Over 16 years	Sig.	Bachelor	Master	PhD	Sig.
Not required by environmental laws	4.13	1	4.43	3.94	4.08	.000***	4.25	4.17	3.97	.308	4.18	4.08	4.08	.945
Not required by Saudi accounting standards	4.10	2	4.11	3.97	4.21	.446	4.16	4.03	4.09	.095	4.05	3.96	4.21	.645
No demand for such information from stakeholders	3.82	3	3.80	3.96	3.69	.289	4.00	3.76	3.68	.084	3.89	3.88	3.69	.404
Organisations think such information is not important for stakeholders	3.38	4	3.86	3.41	3.13	.024**	3.57	3.32	3.26	.261	3.55	3.46	3.13	.044**
Lack of expertise to produce & disclose such information	3.27	5	3.70	3.35	2.85	.000***	3.31	3.19	3.29	.813	3.55	3.35	2.85	.001***
Such information is sensitive	2.90	6	3.55	2.66	2.61	.000***	2.66	3.08	2.97	.097	3.08	3.00	2.61	.036**
Cost outweighs benefits	2.64	7	2.46	2.72	2.69	.534	2.57	2.71	2.63	.704	2.60	2.62	2.69	.934

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test.

There were also significant differences with regard to some of the listed reasons when controlling for level of education, but again these were mostly in terms of the level of agreement. PhD holders were the lowest supporters of the lack of importance of EI for stakeholder, the lack of expertise to produce it and the sensitivity to produce such information. This could be justified by the perception that PhD holders may be more environmentally aware than holders of lower degrees because of their more in-depth knowledge and experience. It should be noted that the Kruskal-Wallis Test for determining statistical differences among the background characteristics did not yield any significant differences in terms of the years of experience variable.

From the above analysis, it is possible to infer that the existence or non-existence of local and international environmental laws requiring Saudi companies to disclose EI has a major influence on disclosure practices. Meeting the demands of organisations' stakeholders for EI also seems to have some influence on disclosure and non-disclosure practices, as indicated by responses, the item being in third and fourth position for reasons for non-disclosure and reasons for disclosure, respectively. For more details, see Tables 5-22 and 5-23.

#### **5.4.11 The Form of EI Disclosure**

The preferred form of EI disclosure was the combination of qualitative, quantitative and financial forms, as indicated by the mean of the responses (4.15). All categories of respondents, regardless of their background characteristics, indicated that EI disclosure should take this

form. The second preferred form was a combination of qualitative and financial forms followed by a combination of quantitative and financial forms. The combination of qualitative and quantitative forms was ranked fourth and financial forms was ranked fifth. The sixth position was shared by both qualitative and quantitative forms. The selection of a mixture of forms seems to suggest that respondents supported the disclosure of EI in any form available rather than adhering to a specific form. This may have been because the EI available is sometimes of a narrative nature, which cannot be translated into a financial or quantitative format. This finding is in line with the findings of Naser and Abu Baker (1999), who indicated that the vast majority of respondents in their study would accept disclosure in any form possible (descriptive, statistical and monetary forms). A mixture of qualitative and financial forms was the next preferred choice, possibly because respondents thought that such forms combined the preciseness of financial information and the flexibility of narrative information. The third preferred choice was a combination of quantitative and financial information, which may be more precise than descriptive information, but the problem lies in the availability of information in such forms. Adhering only to one of the three forms was the least preferred option, probably because this might limit the disclosure to its minimum or prevent it entirely. One might infer from this low ranking of the separate forms that each form alone is perceived as inadequate to show the real state of environmental performance, and will not fulfil the needs of

information users.

A summary of the results of the statistical analyses are presented in Table 5-24. The table contains the means and results from the Kruskal-Wallis Test, controlling for respondent group, years of experience and level of education variables. The results of the Kruskal-Wallis Test when controlling for respondent group and level of education variables indicated significant differences regarding the disclosure of EI in a combination of qualitative, quantitative and financial forms ( $p < 0.01$ ), and with regard to disclosing EI in a quantitative form ( $p < 0.05$ ). The academics showed the strongest support among respondents probably because they believe that the disclosure of EI in all form available will be beneficial for all users regardless of their accounting knowledge. Conversely, financial managers reported the lowest support levels for the disclosure of EI in a mixed form. This may indicate their reluctance to produce and disclose information other than that required by the Saudi Company Act which may mean that their companies may incur needless costs. These two justifications are supported by the reverse order of support to the disclosure of EI in quantitative form only where financial managers scored the high means and the academics scored the lowest. In terms of the respondents' education level, a positive correlation appears between the level of education and the support for the disclosure of EI in a mixture form, and a negative correlation for the disclosure of EI in a quantitative form only. PhD holders showed the strongest support for the former and the lowest support for the latter.

**Table 5-24: Analysis Showing the Ranking of the Preferred Form of EI Disclosure**

Form	Overall (mean)	Respondent Group (mean)					Experience (mean)				Education (mean)			
		FM	Auditors	Academics	Sig.		Under 10 years	10-16 years	Over 16 years	Sig.	Bachelor	Master	PhD	Sig.
Qualitative, quantitative and financial	4.15	3.93	4.04	4.42	.000***	4.27	4.00	4.17	.162	3.97	4.12	4.41	.000***	
Qualitative and financial	3.01	3.16	3.10	2.80	.106	3.10	2.84	3.08	.277	3.14	3.08	2.80	.110	
Quantitative and financial	2.88	3.05	2.84	2.79	.262	2.94	2.73	2.97	.339	2.92	3.00	2.79	.566	
Qualitative and quantitative	2.78	2.86	2.79	2.72	.732	2.75	2.60	3.00	.094	2.86	2.77	2.69	.611	
Only financial	2.76	2.84	2.69	2.77	.746	2.75	2.70	2.85	.715	2.77	2.65	2.80	.851	
Only qualitative	2.37	2.48	2.44	2.21	.139	2.24	2.37	2.57	.171	2.47	2.35	2.24	.215	
Only quantitative	2.37	2.70	2.34	2.15	.014**	2.30	2.30	2.46	.577	2.51	2.46	2.15	.048**	

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test  
 FM = Financial Managers.

Employing the same concept suggested earlier, PhD. holders may be more experienced and knowledgeable than the holders of Master and Bachelor degrees. Hence, they may be more aware of the value of the disclosure of any information available to users regardless of its form. The mean score associated with the disclosure of EI in a quantitative form only supports this view because the assumed least experience least knowledgeable respondents, i.e. Bachelor holders, showed the strongest support for the disclosure in such form. Controlling for years of experience did not reveal any significant difference.

#### **5.4.12 The Timing of EI Disclosure**

The strongest opponents of the release of EI at the discretion of management were academics, followed by auditors, then financial managers and Master degree holders, PhD holders and respondents with less than ten years' experience. All respondents put the disclosure of EI when there is bad news to disclose at the top of the timing options, regardless of their background characteristics. Overall, disclosing EI annually in annual reports was ranked second, although academics and PhD holders ranked it third.

This may indicate that respondents prefer the disclosure of EI on a regular basis, similar to the disclosure of financial information (see section 5.3.2.4 for comparison with the findings of Abu Baker and Naser, 2000; Andrew *et al.*, 1989; Jones, 2000; Niskala and Pretes, 1995; and Stray and Ballantine, 2000). Disclosing EI in interim reports was ranked third, although, again, academics and PhD holders ranked it second.

Timing disclosure upon stakeholders' requests was ranked fourth by all respondents. The disclosure of EI when there is good news to disclose and the disclosure of EI at the discretion of the organisation's management were ranked fifth and sixth, respectively.

As shown in Table 5-25, the results indicated strongest support for the timing of EI disclosure when there is bad environmental news, inferring that organisations might tend to hide bad news and disclose only good news. This finding was supported by respondents assigning disclosure at times when there is bad news a higher position and assigning disclosure at times when there is good news or at the discretion of the organisation's management lower positions. Empirical evidence from previous studies supports this claim. For instance, Deegan and Gordon (1996), Deegan and Rankin (1996), and Fun (2002) concluded that Australian and Singaporean companies disclosed EI that promoted positive aspects of their environmental performance and failed to disclose negative ones.

#### **5.4.13 The Medium of EI Disclosure**

The instrument of EI disclosure was the subject of the fourteenth question (QC-14). The preferred instruments for disclosing EI included the board of directors' report, annual financial reports, interim financial reports, annual environmental reports, and interim environmental reports.

Respondents' preferred medium of disclosure was the interim environmental report, ranked number one by all respondents, regardless of background. The annual environmental report was ranked second; implying that respondents felt a need for more frequent EI



disclosure in environmentally designated reports. A possible reason for these preferences may be that the respondents prefer a more regular disclosure of EI and in stand-alone reports. The disclosure of EI through interim financial reports was the least preferred instrument (for results of earlier studies, see section 5.3.2.4). Auditors ranked the interim financial report in fourth place and the board of directors' report in fifth place. The disclosure of EI through the annual financial report was ranked third, suggesting that if an organisation cannot disclose through environmentally designated reports, it should use the annual financial report to disclose EI. Table 5-26 below shows the overall results in terms of respondent group, years of experience and level of education variables.

**Table 5-25: Analysis Showing the Ranking of Timing of EI Disclosure**

Timing	Overall		Respondent group (mean)			Experience (mean)			Education (mean)		
	Mean	Rank	Financial Managers	Auditors	Academics	Under 10 years	10-16 years	Over 16 years	Bachelor	Master	PhD
When there is bad news	4.07	1	4.18	4.01	4.04	4.27	4.08	3.86	4.11	4.12	4.00
In annual reports	3.86	2	3.71	3.99	3.85	3.82	3.90	3.85	3.88	3.85	3.83
In interim reports	3.75	3	3.63	3.60	3.99	3.63	3.79	3.83	3.63	3.62	3.96
Upon stakeholders' request	2.70	4	2.66	2.71	2.72	2.55	2.97	2.58	2.63	2.96	2.69
When there is good news	2.10	5	2.00	2.25	2.04	2.01	2.30	2.00	2.08	2.46	2.00
At management's discretion	2.08	6	2.14	2.15	1.96	1.88	2.32	2.05	2.12	2.31	1.93

**Table 5-26: Analysis Showing the Ranking of Medium of EI Disclosure**

Medium	Overall		Respondent group (mean)			Experience (mean)			Education (mean)		
	Mean	Rank	Financial Managers	Auditors	Academics	Under 10 years	10-16 years	Over 16 years	Bachelor	Master	PhD
In interim environmental reports	4.16	1	4.23	4.07	4.18	4.01	4.12	4.18	4.15	4.12	4.18
In an annual environmental report	3.94	2	3.96	3.96	3.90	4.07	3.96	3.90	3.96	3.96	3.90
In the annual financial report	3.90	3	4.05	3.84	3.83	3.87	3.96	3.80	3.95	3.96	3.80
In the board of directors' report	3.08	4	2.96	3.09	3.17	3.06	2.81	3.17	3.09	2.81	3.17
In the interim financial report	2.97	5	2.70	3.13	3.03	3.297	3.08	3.00	2.92	3.08	3.00

#### **5.4.14 Subjects of EI Disclosure**

With regard to subjects of EI disclosure, the fifteenth question (QC-15) included thirteen items thought to be environmentally related. All thirteen items gained respondents' approval, with mean values ranging from 4.06 to 4.35. Information about the organisation's compliance with environmental laws secured the first position, followed by information about water pollution. Information about air pollution and information about energy consumption secured joint third position. Information about the organisation's environmental performance came fourth, followed by information about waste disposal. Information about recycling and environmental remediation was ranked sixth and seventh, respectively. Information about land pollution and information about environmental cost/budgeting were ranked eighth and ninth, respectively. Environmental impact assessment was ranked tenth, followed by product LCA. The disclosure of information about the organisation's environmental sustainability was ranked in last position. The low ranking of these two may be due to the perception that companies operating in Saudi Arabia in general do not invent or develop products themselves, but instead either import finished products or import the parts and assemble them.

In terms of level of education, respondents with PhDs expressed the strongest agreement levels with all thirteen items. Academics showed the strongest support for eleven out of the thirteen items among respondent groups. In terms of experience, respondents with the longest years of

experience expressed the highest levels of agreement with eight items.

#### **5.4.15 Environmental Risk Assessment**

Carrying out risk assessment for some environmentally related matters was the subject of the sixteenth question. These environmental matters included non-compliance with local environmental laws, non-compliance with international laws, and environmental liabilities relating to environmental disaster or contamination.

Table 5-28 indicates that risk assessment associated with non-compliance with local environmental laws attracted strongest support from respondents (mean = 4.23), regardless of their background characteristics. Non-compliance with international laws and environmental liabilities relating to environmental disaster or contamination shared second position, with mean values of 4.15 each.

The Kruskal-Wallis Test when controlling for the respondent group variable showed statistical significance at a 99% Confidence Interval ( $p < 0.01$ ) only with regard to non-compliance with local environmental laws. Academics showed the strongest support (mean = 4.45), while financial managers showed the lowest support (mean = 4.16), perhaps because academics may be more aware of the consequences associated with violating environmental laws than financial managers.

**Table 5-27: Analysis Showing the Ranking of Subjects of EI Disclosure**

Item	Overall		Respondent group (mean)			Experience (mean)			Education (mean)		
	Mean	Rank	Financial Managers	Auditors	Academics	Under 10 years	10-16 years	Over 16 years	Bachelor	Master	PhD
Compliance with environmental laws	4.35	1	4.32	4.15	4.56	4.48	4.10	4.46	4.23	4.23	4.55
Water pollution	4.34	2	4.30	4.29	4.41	4.37	4.32	4.32	4.28	4.38	4.41
Air pollution	4.27	J3	4.21	4.15	4.44	4.25	4.19	4.37	4.16	4.27	4.42
Energy use	4.27	J3	4.16	4.19	4.44	4.27	4.22	4.32	4.16	4.27	4.42
Environmental performance	4.24	4	4.38	3.99	4.37	4.33	4.05	4.32	4.17	4.12	4.37
Waste disposal	4.21	5	4.23	4.13	4.27	4.16	4.17	4.29	4.17	4.23	4.25
Recycling	4.19	6	4.20	4.10	4.27	4.24	4.13	4.20	4.16	4.08	4.27
Environmental remediation	4.16	7	4.16	4.01	4.30	4.21	4.02	4.25	4.12	3.92	4.30
Land pollution	4.15	8	4.16	4.07	4.21	4.12	4.08	4.25	4.10	4.15	4.21
Environmental cost/budgeting	4.14	9	4.18	4.04	4.20	4.12	4.02	4.28	4.12	4.04	4.20
Environmental impact assessment	4.12	10	4.20	3.99	4.20	4.22	3.92	4.22	4.11	3.96	4.20
Product LCA	4.07	11	4.05	3.93	4.21	4.10	3.90	4.18	4.01	3.92	4.20
Environmental sustainability	4.06	12	4.20	3.90	4.11	4.22	3.83	4.12	4.07	3.92	4.10

**Table 5-28: Analysis of the Environmental Risk Assessment**

Item	Overall		Respondent group (mean)			
	Mean	Rank	Financial Managers	Auditors	Academics	Sig.
Non-compliance with local environmental laws	4.23	1	4.16	4.31	4.45	.007***
Non-compliance with international environmental laws	4.15	J2	4.13	4.09	4.23	.477
Environmental liabilities	4.15	J2	4.09	4.09	4.25	.149

\*\*\* indicates that the distribution between the three groups is significantly different at the 1% level, using the Kruskal-Wallis Test.

#### 5.4.16 Who Should Immediately Assess and/or Report the Impact of an Environmental Incident Involving an Organisation?

The seventeenth question (QC-17) enquired about whether an internal party or an external party should be in charge of assessing/reporting environmental incidents. In general, respondents gave strongest support for the appointment of an independent consultant, who would be constantly in charge of environmental incidents on a contractual basis, followed by a governmental agency, then an independent consultant who would be appointed on an *ad hoc* basis. Handling environmental incidents by an organisational department was the least supported option.

Table 5-29 shows that the Kruskal-Wallis Test identified significant statistical differences between respondent groups with regard to all four options, with academics showing the strongest agreement levels with the first three options. It is worth noting that financial managers did not follow the general trend of most strongly supporting an independent consultant on a permanent basis; instead they preferred a consultant who would be appointed on an *ad hoc* basis. A likely reason for this is that due to their position they would be most concerned about the cost of appointing an independent consultant on a permanent basis. The perceived low occurrence of environmental incidents may make a permanent appointment seem unfeasible.

**Table 5-29: Analysis Showing the Ranking of Who Should be in Charge of Assessing/Reporting Environmental Incidents**

Party	Overall		Respondent group (mean)			
	Mean	Rank	Financial Managers	Auditors	Academics	Sig.
Independent consultant constantly in charge	4.00	1	3.77	3.96	4.23	.001***
Governmental agency	3.73	2	3.39	3.84	3.89	.014**
Independent consultant on an <i>ad hoc</i> basis	2.98	3	3.16	3.22	4.62	.002***
Organisational department	2.91	4	3.57	2.59	2.69	.000***

\*\*\*, \*\* indicates that the distribution between the three groups is significantly different at the 1% and 5% levels, respectively, using the Kruskal-Wallis Test.

## 5.5 SUMMARY

This chapter has presented the results of the postal survey data analysis. In general, the analysis of responses regarding current EAD practice show that the responding companies currently rarely practise EAD. This was evidenced by the skewness of the responses to almost all the questions towards the low frequency side of the scale. The responding companies were classified in terms of size, activity and legal status to facilitate certain statistical tests, such as the Mann-Whitney Test and the Kruskal-Wallis Test, to check if background characteristics had any effects on EAD practice. Several of the test results indicated some significant statistical differences between the responding companies, according to their type, the differences mainly attributed to differences in the frequency of choosing either *never* or *rarely* in responses to questions.

With regard to respondents' perceptions of EAD practices, the analyses showed some significant differences among the groups in terms of their background characteristics. Most of the differences were not in terms of agreement/disagreement but in terms levels of agreement.

The means of responses indicated that the environment might have some influence on a number of items. Respondents thought environmental matters might have the strongest influence on the long-term survival of organisations, whereas competitiveness was the least influenced item.



Respondents considered EI far more important to governmental agencies than to any other EI user. On the other hand, they thought EI least important for customers. The former might be due to the fact that the Saudi government is currently in charge of planning and implementation of a significant proportion of the economic development of the country and that the private sector is still not fully involved in this respect. Respondents may have thought that the current level of environmental awareness among Saudi customers is low; hence they do not depend on EI in their decisions.

With regard to the environmental wish list, respondents placed the strongest emphasis on an EIS, and accounting for the environment regardless of the size of the organisation. Accounting for the environment regardless of the organisation's legal status was the least preferred item on the wish list. Continuous dialogue with the organisation's stakeholders attracted strongest support among the commitments that should be included in an organisation's EP. Compliance with environmental laws gained the least supported.

In general, respondents indicated that organisations' ignorance of environmental issues was the primary reason for their failure to adopt environmental accounting. The expensiveness of environmental accounting was considered the least influential reason. The latter finding may have been due to the fact that environmental accounting is not widely practised, hence little is known about this relatively recent phenomenon. Thus, costs associated with its implementation are

unknown and cannot be accurately evaluated. An overwhelming majority of respondents supported the measurement of environmental impacts to the extent that would fulfil the legal requirements above other levels of measurement, whereas carrying out measurements to the extent that would fulfil the needs of the organisation's management was the least supported choice.

Accounting for incurred and expected environmental costs was the most preferred choice in general. Respondents agreed with the importance of accounting for the environmental costs of all thirteen items listed. The majority of respondents favoured the production of EI for external and internal use equally. The majority thought the organisation's desire to improve its social image was the driving force behind the disclosure of EI. The non-requirement of EI disclosure in environmental laws, on the other hand, was thought to be the reason most to blame for non-disclosure.

A mixture of qualitative, quantitative and financial EI was the preferred form of disclosure. Disclosing EI when there is bad news was the most supported timing option, while the disclosure of EI when there is good news was the least supported option. Disclosing information through a designated interim EI report gained the most support, while disclosing EI in the interim financial report elicited the lowest support. Disclosing EI about the organisation's compliance with environmental laws topped the list of items to disclose information about, followed by the disclosure of information about water pollution. Environmental

sustainability was assigned the least level of importance by respondents in general.

Risk assessment associated with non-compliance with local environmental laws attracted strongest support from respondents.

Appointing an independent consultant to handle the assessing/reporting of environmental incidents on a contractual basis was the preferred choice. Handling these incidents by an internal department was the least preferred choice.

The results of testing for the existence of significant statistical differences showed that academics are generally in favour of any action that they expect would help to promote the adoption of EAD. This could be because academics may be more aware of the consequences that might be associated with harming the environment than other groups in society. They may also have considered the information needs of various stakeholders. On the other hand, financial managers seemed generally less enthusiastic towards the introduction of any EAD activity that might require them to make more effort in the area of the environment or cause their companies to incur additional costs.

The next chapter follows up these findings with the results from the semi-structured interviews.

**CHAPTER SIX:  
INTERVIEW DATA ANALYSIS**

## CHAPTER 6: INTERVIEW DATA ANALYSIS

### 6.1 INTRODUCTION

The last chapter's results showed that Saudi companies infrequently practise EAD. This was evidenced by the skewness of most of the responses towards the low frequency side of the scale (1= never and 5= always). These results necessitated further exploration of the subject. Thus the researcher conducted thirty interviews, with the aim of exploring in more depth some of the issues relating to EAD practice in Saudi Arabia. In section 6.2, the perceptions of the influence that environmental issues might have on various aspects, such as long-term survival, decision making processes, image, profitability and the competitiveness of the company are explored. Section 6.3 discusses the perceived importance of EI to different groups of users, including perceived reasons for the low level of practising EAD. It also discusses issues relating to EPs, EISs, and the importance of EI to various information users, such as governmental agencies, investors, money lenders, customers and the media. The perceptions relating to the production and disclosure of EI are discussed in section 6.4, including the perceptions of interviewees about the form, timing, the medium and subjects of EI disclosure. Analysis relating to perceptions of the inhibitors of EAD practice is presented in section 6.5. The perceived enablers of EAD practices are presented in section 6.6. Factors concerning the adoption of EP, the role that governmental agencies,

SOCPA, the media, the educational system, NGOs and incentives might play in promoting EAD are discussed in sub-sections 6.6.1 to 6.6.7, respectively. A summary of the findings is presented in section 6.7.

## **6.2 PERCEPTIONS ABOUT THE INFLUENCE OF ENVIRONMENTAL ISSUES**

Environmental issues might have some influence on some matters relating to companies, such as long-term survival, decision making processes, image, profitability and competitiveness. The interview results pertaining to the influence of environmental issues on each of the above mentioned topics are discussed below.

Currently there are no comprehensive environmental regulations in Saudi Arabia that require organisations to account and/or disclose any EI. In spite of this lack of requirement, and according to environmental laws (see section 2.4.5), any organisation causing damage to the environment may be financially penalised by the government or face closure or suspension of operations. Customers might also boycott organisations that damage the environment. Most interviewees (about 77%) believed that environmental issues may influence the long-term survival of a company. For instance, auditor AU4 said:

*“...a company involved in any environmental disaster may not get away with it. The government might shut down its operations or customers might stop dealing with such a company because of this type of behaviour. So, companies should be*

*careful about environmental matters, because they might face severe consequences if they cause damage to the environment.”*

Another issue is that the image of a company might be affected by its environmental performance. For instance, if a company is known to be harming the environment, its image might be negatively affected. This may result in non-favourable consequences, such as legal action, which may be taken against it by the government, or negative public reaction, such as a boycott. Academic AC8 indicated this as follows:

*“An organisation that might have a history of polluting the environment might be seen by the public as a bad organisation; hence it might be subject to a boycott or even suspension of licence to operate by the government.”*

The above indicates that accountability is in the minds of the respondents. This may mean that the nature of an organisation's environmental performance could affect its legitimacy or the continuation of its licence to operate (see Deegan, 2002; Gray *et al.*, 1987; Gray *et al.*, 1988; Gray *et al.*, 1995b; Gray *et al.*, 1996; Naser and Abu Baker, 1999; O'Donovan, 2002; O'Dwyer, 2002; Wilmshurst and Frost, 2000).

The long-term profitability of organisations is also expected to be affected by their environmental performance, because stakeholders' awareness of environmental issues is increasing noticeably. Customers are increasingly taking environmental issues into account when deciding which products to buy. Some companies are responding by gradually adopting new environmentally friendly procedures.

Academic AC10 pointed this out:

*“I can see some companies now are starting to show their concern about the environment and consumers are starting to become environmentally aware, and these trends are rising; so the profitability of the non-environmentally friendly companies might be at stake if consumers start to favour environmentally friendly products over non-environmentally friendly ones.”*

This is true because, for example, dairy product companies and soft drinks companies are displaying signs on their products’ packaging encouraging consumers to recycle the package after use. It seems that more and more Saudi companies are becoming environmentally aware.

With regard to decision making processes, most interviewees (70%) agreed that management Saudi Arabian organisations should consider environmental issues when taking all kinds of decisions, whether strategic, non-strategic or routine decisions, to avoid harming the environment and jeopardising stakeholders’ interests. If an organisation harms the environment, it might face boycott from customers and/or suppliers which may result in losing market share or an inability to conduct operations, which in turn may lead to reduced profits or increased losses. This view was expressed by academic AC4 who stated:

*“Management consider economic issues in all types of decisions to maximise the company’s profit. Nowadays, environmental issues are gaining interest from the public and this might affect the profitability of companies just like economic issues; hence decision makers should consider environmental issues in their decisions as well.”*



The majority of interviewees (about 87%) believed that all companies planning to expand their operations by expanding their existing plant or building new plant should take environmental issues into account. This view was represented by academic AC3, who commented:

*“I think the future will see an increase in attention and new environmental regulations will emerge. Companies should take environmental issues into account and not ignore them or delay them until the new regulations have been introduced. So plans for new and expansion projects should incorporate environmental matters when decisions are made.”*

This view may indicate that some of the respondents expect new comprehensive environmental regulations to be introduced and that companies should consider preparing themselves for the new regulations by being proactive and not reactive. Also, there is an indication that environmental awareness is starting to emerge among consumers, which may have led some Saudi companies to adopt new strategies. For instance, some companies show that they are environmentally friendly using different methods. They may use packaging to convey environmentally related messages to their consumers, such as in the cases of dairy product and soft drink companies. They may also sponsor environmental campaigns, such as in the case of one dairy product company which carries out an annual campaign to clean picnic parks after the spring break with the participation of primary school students. They may do that for propaganda purposes, thus hitting two birds with one stone, i.e. improving their image and doing good to the environment. This may

give them a competitive advantage over those companies which do not take environmental issues into account, especially among environmentally aware consumers. This was explained by an auditor who works for a multinational accounting firm (AU8), who said:

*“I see a new trend which is the showing of environmental awareness by companies through, for example, their product packaging or the sponsoring of environmental campaigns. This indicates that the public’s environmental awareness levels are on the rise and that some companies are responding to this by taking the leading position in the field to gain the support of environmentally aware customers. This will increase their market share at the expense of companies which do not respond to the public’s raising level of environmental awareness.”*

It is apparent that interviewees believe that environmental issues can influence the long-term survival, decision making processes, image, profitability and competitiveness. Hence, Saudi companies should start to consider embedding environmental issues in all their activities. Because environmental regulations may require companies to adopt EAD in the future, following increased interest in environmental issues by the Saudi government (see section 2.2.3.2.2.1), Saudi companies may be better off starting to be proactive and not reactive to regulations. This would give them enough time to design, implement and improve the procedures that would allow them to be ready for such regulations. It may also reduce the cost of adopting and implementing such procedures.

## **6.3 IMPORTANCE OF EI**

The following section discusses interviewees' responses regarding the importance of EI to different user groups, including governmental agencies, investors, money lenders, customers and the media.

### **6.3.1 Governmental Agencies**

As can be seen from the material presented in chapter 2, Saudi governmental agencies are involved in the planning and creation of national policy for the country and the protection of the interests of the whole nation. Therefore, Saudi governmental agencies have the power to develop environmental laws and standards, monitoring their implementation, seeking to discover any violation of these laws and deciding the appropriate penalties for these violations. Academic AC5 suggested that the government is the most capable party to introduce and implement environmental laws:

*“Environmental matters should be left to the government to deal with because it has the power and the capacity to initiate, implement and monitor adherence by the related parties.”*

Although there have been increased calls for the establishment of NGOs with regard to the environment in Saudi Arabia, such as the call for the creation of Friends of the Environment type of organisations, such organisations have not yet been established. In Saudi Arabia such organisations are not allowed to be established unless licensed by the government; hence it may take a long time before such organisations are established. For this reason, the overwhelming majority of

interviewees (about 93%) view the government as the major player in the development and implementation of environmental laws, as indicated by the following comment from academic AC9:

*“Who else is there to be in charge of protecting the environment? There are no non-governmental organisations representing public opinion; so we should leave it to the government to develop and implement environmental laws.”*

Governmental agencies, as EI users, topped the list of EI users, according to the results of the questionnaire survey, as indicated by the highest mean value (4.16) in Table 5-16. In general, the finding of the interviews supported the questionnaire survey findings. Twenty-eight of the interviewees (about 93%) expressed the thought that Saudi governmental agencies may be the main users of EI, especially in the near future. For example, financial manager FM7 explained:

*“The government is the protector of the whole society, the planner, the legislator, and the monitor of legislations’ implementation. Because of this, I believe it would be the most interested user of EI”*

Auditor AU10 indicated a similar perception and said:

*“The government has the power to introduce and implement environmental laws and will be on the top of the list of EI users”*

As interviewees regarded the government as the legislator, planner, and implementation monitor, they thought that it would also be the main user of EI in the future, when the government decides to introduce and implement environmental laws (especially in the absence of NGOs).

As to the perceived future role of governmental intervention in environmental regulations, some interviewees thought that public interest in environmental issues was increasing, and accordingly the government's role would increase in response to public needs. It seems that this view is idealistic, because the communication channels that could be used to convey the public's concerns are very limited and inefficient. In the absence of organisations that could convey public concerns, the only avenues are either through the Consultative Council, Regional Councils or individual suggestions. Academic AC7 commented on the role of the government by saying:

*"I think the government's role will increase gradually because environmental issues are witnessing an increase in attention from the local as well as international public and becoming the subject of debate among researchers in various aspects of life including accounting."*

Three interviewees referred to the discussion of environmental issues in the Seventh Five-year Development Plan (MOP, 2000) (see section 2.2.3.2.2.1), and thought it indicated that the government's attention to the environment was growing, as well as its keenness to introduce new environmental regulations. This was expressed by academic AC9 who stated:

*"The intention of the government to increase its role in environmental issues is clearly stated in the Seventh Five-year Development Plan which has designated a whole chapter to discussing the environmental issues."*

Some viewed the recent upgrading of the MEPA to a Presidency as a

sign of the government's increased attention towards environmental issues as suggested by financial manager FM5:

*"I believe that the government upgrading the MEPA to a presidency gives it a more vital role in the protection and maintenance of the environment. I expect its role to expand to cover a wider range of activities and areas."*

Further, seven interviewees thought that Saudi Arabia's intention to join the World Trade Organisation Agreement might drive the government to adopt new environmental regulations in line with international directions in this respect. An example was voiced by academic AC8 who said:

*"The country is interested in joining the World Trade Organisation Agreement, which might require adherence to some international environmental laws or guidelines. This, certainly, requires the development and introduction and implementation of local environmental regulations."*

Saudi planners showed great interest in environmental issues, as indicated by the Seventh Five-year Development Plan, and by the upgrading of MEPA to a Presidency. For this reason, it might be fair to conclude that Saudi governmental agencies are expected to be on top of the list of EI user groups because they are the main players in the process of developing, implementing and monitoring any potential environmental regulations. In this case, the Saudi planners will need EI as input for all stages of their planning and implementation processes.

### 6.3.2 Investors

All investors need financial information to make rational investment decisions. Investors (current & potential) may have either short-term or long-term vision with regard to their investments. Because environmental issues are more likely to have long-term implications (Adams *et al.*, 1999), investors with a long-term vision might be more interested in the company's environmental performance and with the environmental contingent liabilities or compensations that might materialise in the future. On the other hand, investors with short-term visions might focus on short-term profits and not be concerned with a company's environmental performance. Financial manager FM6 summed up these views in the following manner:

*"Some of the current and potential investors of certain companies which are environmentally sensitive might need EI to make informed decisions, especially investors with long-term investment plans."*

About 57% of the interviewees expected that investors with long-term views may need EI more than investors with short-term views, especially when new environmental regulations may require that Saudi organisations account for environmental contingent liabilities.

### 6.3.3 Money Lenders

Money lenders are interested in knowing about the environmental risks associated with the borrowing company, such as the materialisation of environmental contingent liabilities, because these risks might influence the borrowers' ability to pay back the money they borrow.

This concept makes money lenders one of several EI users and one of the most influential groups as far as the adoption and implementation of environmental practice is concerned, as suggested by auditor AU6:

*“I think money lenders will be concerned about the borrowers’ ability to pay back their money and needing any information relating to the borrower, including economic information as well as EI. I believe if they applied some pressure on borrowing companies, they would make companies produce EI.”*

The government-established lending funds (SCIs) mentioned in section 2.3.3.3 may also need EI relating to organisations seeking funding from those specialised institutions. This enables lending funds to exercise pressure on borrowing organisations to produce and disclose EI.

#### **6.3.4 Customers and Suppliers**

Customers may be concerned about the products they consume and about their effects on the environment; hence they may request their suppliers to meet specific environmental standards (see Cameron and Mackenzie, 1997). In this study, about 83% of the interviewees indicated that they prefer products that are not harmful to the environment when asked about their preferences as consumers. As financial manager FM1 commented:

*“At the present time, the number of environmentally aware consumers is growing. They distinguish between products in terms of their friendliness to the environment. They are interested to know how these products might affect the environment; so they search for EI about the products they buy and consume and about the companies producing them.”*



40% of the interviewees also indicated that they were willing to pay slightly higher prices to buy goods that are less harmful to the environment (environmentally friendly products). This may indicate that some consumers are willing to make some financial sacrifices to help protect the environment.

On the other hand, suppliers who might be interested in protecting the environment and who might have adopted environmentally friendly procedures in their production would want their customers (whether the final consumers of the goods or the intermediate users) to appreciate and continue using the products in ways that are not harmful to the environment. Otherwise, the efforts of these suppliers would be wasted and their goal, which is the protection of the environment, would not be accomplished (also, see Gray and Bebbington, 2001, pp. 109-112). This idea was explained by financial manager FM2 as follows:

*“Logically, suppliers of intermediate products who have adopted environmental measures in their production procedures want these measures to succeed in accomplishing their goals. Thus, you might find suppliers who request their customer to adopt environmental procedures that will allow the product to be environmentally friendly in all its life cycle or as they say [from the cradle to the grave].”*

An auditor (AU7) expressed similar thoughts about the relation between suppliers and customers, stating:

*“Environmentally aware producers want their products to be environmentally friendly all the way; hence they might request their customers to consider the environment when using their products, otherwise their efforts in protecting the*

*environment will go down the drain.”*

Through collaborative efforts by customers and suppliers in environmental issues, both sides can build stronger links between themselves and gain more savings from resource sustainability.

### **6.3.5 The Media**

The perceived role of the media is that it reflects public opinion with regard to the environment, broadening environmental awareness, constantly monitoring organisations' implementation, exposing violators of environmental laws, encouraging and supporting organisations who were the best environmentally friendly performers and innovators, providing feedback to the government and promoting the exploration of new environmental innovation opportunities (See, for example, Brown and Deegan, 1998; Collison, 2001; and Lehman, 1998). Some Saudi magazines and newspapers occasionally designate pages or columns to discussing environmental issues. Also, from time to time, Saudi TV broadcasts environmental programmes shed light on environmental issues and wildlife and offer some suggestions and solutions for environmental problems. The media seems to be one of the most frequent users of EI, possibly because EI disclosure by companies is currently voluntary and companies use the media for their disclosure because of the ability to reach a wider audience (see Brown and Deegan, 1998 and Collison, 2001). An academic (AC3) explained:

*“Environmental information is voluntary at this time and disclosed at the discretion of the company's management through the media. Also, the media discusses environmental matters*

*relating to companies every now and then; so I think the media is currently the main user of EI."*

In spite of this, some interviewees thought that the current media effort is not enough; they expected more from the media with regard to the environment. Auditor AU1 suggested:

*"The media could play a major role in promoting environmental awareness, encouraging the good environmental performers, and exposing violators of environmental laws."*

Academic AC11 commented:

*"The discussions of environmental issues could be carried out through the media; this might lead to new ideas and improvements to the environmental laws and regulations, and increase the level of environmental awareness as well."*

On the other hand, because EI disclosure is currently voluntary, the media might be unable to obtain adequate EI from companies. If the government launches environmental regulations that include mandatory EI disclosure, the media could be very helpful in explaining the new regulations and monitoring their implementation. Auditor AU3 indicated:

*"The role of the media would be secondary or supportive to the role of the government if the government introduces new environmental laws."*

As can be inferred from the questionnaire (see Table 5-8) and interview survey results, environmental disclosure is voluntary, and used mainly for propaganda purposes and for the improvement of companies' image; hence they use the media to disclose EI.

## 6.4 PRODUCTION AND DISCLOSURE OF EI

Information is the backbone of management decisions in any company; this makes EI very important (Frost and Wilmshurst, 1996; Lodhia, 2003; Naser and Abu Baker, 1999), and in turn necessitates the development of EISs to produce EI. The importance of the creation of EISs was stressed by academic AC5 who stated:

*“Undoubtedly, information is very important for decision taking, EI is no exception. Thus there should be a system to produce this type of information.”*

The same academic stressed that the benefit of producing EI would not be limited to company management's use, but could be accessed by all stakeholders, such as investors, customers, governmental agencies, researchers and the media:

*“...the produced EI could be used internally by the company's management and could also be utilised through external disclosure for use by external users such as investors, customers, governmental agencies, researchers and the media.”*

External and internal information users may have different needs. Decisions taken by the management of the company may differ from decisions taken by external parties; hence information needs or types of information may also differ, as pointed out by academic AC7 who said:

*“Without doubt, the information needed for internal decision taking differs from information needed for external decision taking; so EI needs are different. This difference should be taken into consideration when creating an EI system.”*

The needs of the decision maker, whether internal or external or both, should be taken into account when developing an EIS. Interviewees were divided into two groups on this issue. The first group (19 interviewees, about 63.33%) thought that EI produced for internal use might be useful for external use without too many modifications. Thus, they believe that EI produced for the use of the organisation's management could be disclosed to external users without the need for major modifications. This may reduce the costs associated with external disclosure of EI. This group viewed the needs of internal and external information users as differing; hence they suggested taking both groups' needs into account when developing an EIS. Academic AC3 argued that it was important to develop EISs with internal and external users' needs in mind because the organisation's environmental performance is of interest to both groups. He noted:

*“Producing EI for internal and external use is important because management of the company as well as external parties have an interest in EI; this makes it essential for companies to develop environmental information systems to serve both internal and external users.”*

This view was supported by auditor AU5 who contended that the costs of modifying EI produced for internal users for use by external users would be minimal. He stated:

*“I think EI produced for the use of the company's management could be disclosed to external users with little or no modifications to them. I believe the cost of modifying such information to make it suitable for external use would be minimal.”*

The second group's point of view was expressed by financial manager FM9 who pointed out that if there is no demand for EI at this time, then companies do not need to consider external users' needs when producing such information:

*"If the disclosure of EI is not required at this time, EI should be produced for the sole purpose of serving the company's management."*

Producing EI for external use would be more useful because it would allow all stakeholders to monitor the organisation's environmental performance, enable them to take informed decisions, and make the organisation aware of its social responsibility. Academic AC6 suggested that:

*"The environmental information system should be able to produce EI for external parties to allow them to obtain the information they need in order for them to take informed decisions and enable them to monitor the companies' activities."*

From the discussions above and from the results of the questionnaire survey (mean value = 4.19, see section 5.4.9), it can be concluded that EI should be produced with internal and external users in mind, especially if the costs associated with the modifications are minor. Referring to the shortage of environmental data and information, which negatively affects the performance efficiency of agencies responsible for protecting and maintaining environmental standards, as indicated in the Seventh Five-year Development Plan (see section 2.2.3.2.2.1 and MOP, 2000b, pp. 107, 363), the supply of appropriate EI to all related agencies becomes essential. This means that the Saudi planners could

benefit from whatever EI they can get from organisations, especially under the current situation where the disclosure of EI is not mandatory.

#### 6.4.1 Form of EI Disclosure

Abu Baker and Naser (2000) found that 34% of Jordanian companies used a purely financial form of disclosure. An additional 45% of companies used a mixture of monetary and non-monetary forms for disclosure, which was attributed to the requirement of Jordanian law to disclose information on the community involvement of companies. The interviewees, in general, supported the disclosure of any available EI, regardless of its form, corroborating the questionnaire survey finding that a mixture of all forms is the preferred option, as indicated by the mean of responses (4.15) (see Table 5.24, section 5.4.11). Some interviewees thought that companies usually used a qualitative form to disclose EI, because there are no mandatory requirements specifying a certain form for disclosure. The qualitative form of disclosure allows organisations the freedom to choose and use the most appropriate words and expressions to enhance their image.

Academic AC7 suggested that companies should disclose whatever EI they have, in whatever form they choose as a first step, since improvements in disclosure practice may occur over time. He said:

*“Companies should start disclosing whatever information they have now; they can improve their disclosures over time.”*

Financial manager FM5 shared the previous academic's view

commenting:

*“In order to start disclosing EI, we should disclose the available information first and then we can improve it little by little until we reach the desired form.”*

This idea is in line with the findings of Naser and Abu Baker (1999), which indicated that the vast majority of respondents would accept disclosure in any form possible (i.e. descriptive, statistical, and monetary forms). Another financial manager (FM4) complained about the lack of EI disclosure guidelines to assist accountants with disclosure procedures. He complained:

*“No guidelines for EI disclosure are available at present; so companies are free to disclose what they want whenever they want.”*

Academic AC11 alleged that qualitative information has the lowest level of preciseness among the three forms (qualitative, quantitative non financial, and quantitative financial) and is difficult to compare. It differs from one organisation to another and from one preparation to another. He expressed his view that:

*“Everyone can say what he wants the way he wants; also people can describe the same thing differently and perceive the same words differently.”*

Although financial information is comparably more precise, easier to understand and include in financial statements, easier to compare and can be independently verified by an external auditor, some interviewees, especially financial managers, pointed to current difficulties associated with converting EI to financial



information. Financial manager FM8 questioned:

*“Don’t you think it is difficult enough at this time to identify environmental items or costs associated with the environment let alone convert them to monetary units?”*

Quantitative non-financial information is more precise but less comparable between companies, especially those companies working in different industries. Academic AC8 expressed the aforementioned opinion by saying:

*“I believe that, in general, quantitative information is more precise than qualitative information, as they say ‘numbers don’t lie’ but the problem is how to quantify the information.”*

It seems that the interviewees support the disclosure of EI in any form because there is no mandatory disclosure standard specifying the form(s) of disclosure. Although the disclosure of EI in a quantitative form may seem more appropriate for its preciseness and comparability, the difficulty of converting EI to quantitative form at present may justify the disclosure of such information in any form available, including qualitative form. It might also be helpful to introduce disclosure awards or other incentives to promote the disclosure of social and environmental information. For instance, the government may introduce an annual competition between companies to determine the best disclosing company, as has occurred in the UK and Malaysia (ACCA, 2002 and ACCA, 2003). Awards have given positive results and encouraged disclosure in Malaysia, as claimed by ACCA (2002) who stated: “Since its introduction in 2000, the award has received an

encouraging response” (p. 57). In the case of Saudi Arabia, the government may have the capacity to influence Saudi companies to disclose EI by requiring the disclosure of EI from companies seeking funding from SCIs (see section 2.2.3.3).

#### 6.4.2 Timing of EI Disclosure

As already stated, disclosure of EI can be regular or on an *ad hoc* basis. When on an *ad hoc* basis, it depends on the discretion of company’s management. Management could choose to disclose EI at times deemed useful for their companies, such as when there is good environmental news to disclose or when there is a demand for EI by interested parties, such as governmental agencies and creditors.

When asked whether EI should be disclosed regularly or on an *ad hoc* basis, about 76.66% of interviewees preferred disclosure on a regular basis. About 13.33% of interviewees thought that additional disclosure on an *ad hoc* basis is important too, because there are some cases that necessitate instant disclosure, such as environmental accidents that might affect the community near the accident site. Disclosing EI late might cause increased harm to the public, whereas disclosing the information instantly would lessen the negative effects on the stakeholders and the public at large and help minimise the blame laid on the organisation.

One group of interviewees who supported the disclosure of EI on a regular basis thought that it should be disclosed annually through

annual financial statements, because they viewed these statements as the main sources of information about the disclosing company (see, for example, Abu Baker and Naser, 2000; Gray *et al.*, 1995a, b; Guthrie and Parker, 1990; Lynn, 1992; and Zeghal and Ahmed, 1990). This opinion was expressed by academic AC10 as follows:

*“Because the annual financial statements are the most used source of information, I believe EI should be included with the financial statement.”*

Another group of interviewees who supported the disclosure of EI on a regular basis thought that the disclosure should be more frequent than annually. In their view, disclosure should not only be made annually but also on an interim basis in separate environmental reports. Academic AC5 commented on this as follows:

*“I think we should aim to disclose EI in separate environmental reports on an interim basis.”*

Auditor AU5 echoed this opinion and stressed the importance of regular disclosure by saying:

*“Disclosure should be made on a regular basis, the more regular the better. If it could be made with annual and interim environmental reports, this would help provide users with timely information.”*

Even though the majority of interviewees valued regular disclosure, they stressed that the disclosure of EI on an *ad hoc* basis is also essential, as indicated by academic AC9:

*“Although it is better if the EI is disclosed on a regular basis in general, disclosing EI on an ad hoc basis might be useful too, such as in the case of an environmental accident. Immediate*

*release of necessary information in such a case would allow the public to be prepared and at the same time would protect the company from being accused of hiding critical information from the public."*

As indicated earlier (see section 5.4.10.1, and Table 5.22), the majority of respondents thought that disclosing companies currently disclose only good news for the purpose of improving the image of the company and for propaganda purposes (mean = 4.06), perhaps because there are no regulations or standards requesting the disclosure of EI at a certain point in time. Disclosing EI when there is good news was seen as the logical choice for companies in the absence of disclosure regulations. This idea was explained by financial manager FM4, who stated that:

*"I don't expect any company to be willing or to volunteer to disclose bad news about its environmental performance or tell the public it has done harmful things to the environment."*

Companies are currently disclosing only good/positive news. Some interviewees consider this acceptable as long as companies also disclose bad/negative news. Disclosing good/positive environmental performance indicators might also have a positive side to it, such as that it might lead to an increase in environmental awareness among competitors and the public as well. Also, the disclosing company should receive credit for its good behaviour. These ideas were put forward by academic AC5 who said:

*"Good environmental performers should be given credit for their good behaviour and should be allowed to disclose good environmental news, but also must be required to disclose bad environmental news as well. In this way, the*

*competition in terms of environmental awareness and performance could be promoted and encouraged among companies.”*

Furthermore, disclosure of EI was regarded by some interviewees as a method for preventing environmental accidents such as oil spills, as expressed by academic AC9:

*“I believe disclosing information about the environmental performance of companies will help in preventing environmental accidents from occurring.”*

The provision of EI on demand was also mentioned by some interviewees. They thought that EI should be provided on demand by interested parties, such as governmental agencies and creditors, and not withheld until publication in annual reports. Auditor AU6 commented as follows:

*“Until we reach a satisfactory level of disclosure, I think companies should be ready to produce EI on demand by users such as governmental agencies and creditors.”*

The preparedness of a company to fulfil differing EI requirements could be very helpful to Saudi governmental agencies, especially those involved in planning and monitoring the environment, because the Seventh Five-year Development Plan called for greater coordination between government and the private sector through improved quality and dissemination of reliable information (including information about the environmental performance of private sector entities) (see section 2.2.3.2.2.1).

As to disclosure timing, 24 interviewees (80%) thought the

timing of disclosure should be regulated by the SOCPA. Financial manager FM7 stressed this by saying:

*“It is vitally important that the SOCPA or another governmental agency set up the regulations for the timing of disclosure to force companies to disclose EI in a timely manner.”*

To make disclosure requirements easy to implement, AC3 suggested gradually implementing EI disclosure until reaching interim disclosure in specially designated reports for EI. He also added that the requirements should be reasonable, practical and easy to implement, and should distinguish between organisations in terms of size and activities.

It could be concluded that the majority of interviewees supported the disclosure of EI on a regular basis in annual and interim reports, with the ultimate aim of using environmentally designated reports for EI disclosure. It seems also that the disclosure of EI on an *ad hoc* basis is as necessary as that on a regular basis, especially in cases where the delay of disclosure may increase potential harm to the public, such as in the case of environmental accidents. Further, they suggested the development of a standard for EI disclosure, and recommended that such a standard be realistic and take into consideration the size and industry of the disclosing organisation. They suggested that SOCPA should be in charge of such regulation.

#### **6.4.3 Medium of EI Disclosure**

As mentioned earlier (see section 6.4.3), most interviewees preferred

the disclosure of EI through annual and interim environmental reports. Although they thought this to be far off in the future, they recommended the gradual implementation of disclosure requirements, starting with what could be accomplished at this early stage (i.e. disclosing available EI in any form available) and then increasing the requirements gradually until reaching the desired amount and quality.

AC6 expressed this ambition:

*“The ultimate goal of EI disclosure is through environmental interim reports, but it is too early for this.”*

Some interviewees suggested that the first step in the EI disclosure effort might be that companies start to include available EI with their annual and interim financial reports. Then the amount of EI should be increased gradually until reaching the level at which EI can be separated from financial reports and disclosed in designated annual and interim environmental reports. This latter idea was expressed by many interviewees such as financial manager FM1, who explained:

*“...when we reach the level at which EI is sufficient to be published separately, we can disclose it in separate environmental annual or even interim reports.”*

As regards disclosing EI in annual reports or in stand alone regular environmental reports, interviewees were divided. Supporters of the disclosure of EI in annual financial reports argue that these are the most used reports (see Abu Baker and Naser, 2000; Gray *et al.*, 1995a, b; Guthrie and Parker, 1990; Lynn, 1992; and Zeghal and Ahmed, 1990);

hence it would be of most benefit to users if EI were included within these annual reports. This opinion was expressed by academic AC8 who said:

*“Most information users usually use the annual and interim financial reports as their sources for information; thus I’m convinced that it is more useful for the users to include the EI in the annual and interim financial reports.”*

The importance of financial statements as sources of information was also highlighted by academic AC10 who stated:

*“I think financial statements are the best places to show environmentally associated costs, because financial statements are the main source for information about a company and are currently the mostly utilised medium for information by users.”*

Financial manager FM6 explained that some environmental items are, in a sense, accounted for in the financial statement, but never separately shown as environmental items, such as water and energy costs.

*“We currently account for some items that are environmentally related, such as the costs of raw material, water consumption, and energy use, but we don’t disclose them separately from other expenses or designate them as environmental items.”*

Therefore, he suggested that the disclosure of environmentally related items in a separate section in financial statements would be more useful and maximise the benefits to the information users. He also added that a financial statement in which the costs of environmental related items are disclosed separately, may expand the number of parties utilising the statements; but he cautioned that if the information is given within



the financial statements, it has to be audited, to give it credibility.

The interviewees who preferred disclosure in separate environmental annual reports argued that these reports would be easier to use and more useful for users; and if a user needed any EI, he/she would know exactly where to find it, more so than if it were spread throughout the financial statements. These interviewees also claimed that, if such reports included financial, non-financial and qualitative EI, this might be more useful for users. Academic AC5 commented as follows:

*“Environmental information is different in terms of content and form from information included in the financial reports; so it is not a good idea to mix them together in one report.”*

Interviewees who preferred disclosure in separate environmental interim reports argued that environmental issues are equally influential on the performance of an organisation as economic issues. In their views, EI is as important as financial information; hence it should be disclosed as regularly as the financial information.

#### **6.4.4 Subjects of EI Disclosure**

Almost all interviewees supported the disclosure of information related to all environmental items. As indicated in section 2.4.6, Saudi Arabia has no water bodies like rivers and lakes; its only water sources are underground water reserves and desalinated water from the Red Sea and the Arabian Gulf. The water issue is the most important environmental issue for Saudi Arabia. This was stressed by financial

manager FM8 who said:

*“I believe that the water issue is the most important environmental issue to be concentrated on at this time.”*

Some interviewees pointed to the dangers to the underground water reserves as a result of dumping hazardous liquid materials that might contaminate the reserves. Financial manager FM7 stated:

*“People are not aware of the harmful things they dump such as used car oil; they don’t know how harmful it might be for the underground water!”*

Therefore, it seems vitally important to gather all information related to water usage for home as well as businesses. This would help Saudi planners to gather the needed information about water consumption, which in turn would allow them to develop informed water strategies.

There seems to be many possible reasons as to the current lack of disclosure of information about environmentally related items. For example, because Saudi Arabia is not an industrial country, and the majority of products are designed in other countries, there is little carrying out of product LCA and disclosure. Recycling is in its earliest stages, and only carried out in major Saudi cities, such as Riyadh, Jeddah and Dammam. SABIC buys scrap metal to recycle it into steel. Aluminium cans and dead car batteries are also recycled on a limited scale.

## 6.5 INHIBITORS OF EAD

This section discusses the reasons underlying the lack of EAD practice. The number of responding companies considering environmental issues was only five (8.93%), as indicated by adoption of an EP of any sort (see section 5.3.1.1). This raises questions about the reasons for the low level of environmental interest. Various possible reasons were presented in the questionnaire survey for evaluation by respondents. The analysis of findings indicated that respondents thought that some reasons had more influence than others, as indicated by the ranking of the reasons presented. The lack of requirement by environmental law was ranked first, with a mean value of 4.13, while the lack of requirement by Saudi accounting standards was second in terms of importance, with a mean value of 4.10. The non demand of stakeholders was ranked third in terms of importance, with a mean value of 3.82. The lack of awareness of the importance of environmental issues on the part of management was ranked fourth (mean = 3.38) and lack of expertise was ranked fifth (mean = 3.27). Sensitivity and costliness were ranked sixth and seventh with mean values of 2.90 and 2.64, respectively.

The following sub-section develop interviewees' views concerning the reasons underlying the lack of EAD practice, starting with the most influential reason and ending with the least influential one.

### 6.5.1 Lack of Regulations

Rowe and Wehrmeyer (2001) found that the main reason for the non-disclosure of EI by Chinese companies was the absence of legal requirements for disclosure. Similarly, Naser and Abu Baker (1999) found that lack of legal requirements is the main reason for Jordanian companies not to make CSR disclosure. Although a new environmental law was introduced in 2001 (Um al Qura, 2001), it seems that company accountability does not currently prevail. This was indicated by the responses of the overwhelming majority (about 93%) of interviewees who pointed to the lack of comprehensive laws that hold organisations accountable for their effects on the community and the environment as the most important reason behind the lack of EAD practice. This lack of accountability results in companies ignoring all social and environmental issues. Academic AC11 commented in this regard as follows:

*“We have not heard of any legal actions against any company. Companies have to be held accountable for their damage to the environment and not get away with their bad conduct...”*

Twenty-eight interviewees believed that the most important reason for the lack of environmental accounting and disclosure was the absence of comprehensive regulations relating to the environment in general and regulations relating to EAD in particular, as indicated by auditor AU1:

*“Even though some governmental agencies have some environmental laws, I think they are not adequate at this time; we need more comprehensive laws to cover all environmental*

*aspects...*”

The lack of comprehensive laws gives organisations the freedom to decide whether or not to account for the environment and disclose EI.

The lack of local laws or accounting standards requiring organisations to disclose EI suggests to companies that there is no need for accounting to produce such information for external use. Slightly less than one third (9 out of 30) interviewees thought that the logical choice in this case was to do nothing, inferring that they believed that accounting for the environment and disclosing EI would cause the organisation to incur needless costs. Some examples of what interviewees had to say about the lack of requirements and its effect on EAD practices are presented below:

Financial manager FM4 simply and plainly said:

*“If it is not required, then why do it?”*

Another financial manager (FM8) said the same:

*“Why do something that is not required?”*

A third financial manager (FM6) questioned the rationale behind doing something that would incur needless costs:

*“Why incur unnecessary cost?”*

The lack of an accounting standard dedicated to EAD by the SOCPA and no mention in any existing accounting standard such as the GPDS (see section 2.3.5) makes organisations reluctant to engage in EI

disclosure. Auditor AU9 described this issue as follows:

*“Current accounting and auditing standards issued by the SOCPA do not mention anything about social or environmental disclosure.”*

In addition, the majority of companies (64) in the top 100 list are not listed companies, and are not therefore required by the Company Act to publicly disclose financial information, let alone EI. Academic AC1 pointed out that if these companies are not required to disclose financial information then we should not expect them to disclose EI:

*“Most of the largest companies not listed in the stock market are family owned and not required by the Company Act to disclose financial information to the public; logically then they will not disclose other information such as EI. Unless the regulations change to require these companies to disclose financial information, such companies should not be expected to disclose EI.”*

It is important to note that many of the large companies operating in Saudi Arabia, whether they are included in the top 100 list or not, are family owned and are not joint stock companies. Their capital represents a significant proportion of the wealth of the Saudi economy. In spite of this, they are not required by law to disclose financial information publicly. This lack of requirement makes Saudi companies reluctant to adopt EAD practices and the production and disclosure of EI unlikely.

It can be concluded that, as long as there are no mandatory requirements, then voluntary disclosure will be seen to bear some costs for no strong business reason, except perhaps in theory.

Standards for disclosure were suggested by some interviewees as one means of overcoming this lack of EAD uptake. Academic AC1 stressed the importance of introducing mandatory EI disclosure regulations. He contended that:

*“Companies will not adopt any practice that is not related to making more profits unless they are forced to do so.”*

With regard to the expected reaction to the introduction and implementation of new environmental regulations requiring EI disclosure, about 57% of the interviewees expected that there would be a high level of compliance with such regulations. Hence, the disclosure of EI is expected to increase noticeably if such laws include mandatory disclosure requirements.

### **6.5.2 The Public’s Low Level of Environmental Awareness**

The second most influential reason for the lack of EAD, as perceived by interviewees, was the public’s low level of environmental awareness. This is probably in parallel with the public’s ignorance of the harm inflicted by companies on the environment, as pointed out by academic AC9 who said:

*“People here are not aware what companies are doing to the environment and therefore they do not question their activities and whether they are harmful to the environment or not...”*

The perception that environmental disasters occur in other countries and these disasters have no effect on Saudi Arabia is also evidence of the public’s lack of environmental awareness. This idea was expressed

by financial manager FM4 who stated:

*“We have never heard of any environmental disasters in our country, we only see them happen in other industrialised countries such as the US and European countries, I mean industrial countries. So, why bother ourselves with something that only happens somewhere else.”*

This perception may be shared by other individuals, who think that only industrial companies negatively influence the environment. They may also think that if a product is produced in another area or region or in another country, its environmental effects should not be the concern of the local consumer. These views were suggested by auditor AU6. He stated:

*“Saudi Arabia imports most of its consumer goods from outside; so environmental effects are born by the manufacturing country, hence no interest in the environment appears from the public.”*

Although it was not a general trend among interviewees, a minority (about 13%) viewed new ideas originating in the West with suspicion. For instance, financial manager FM4 regarded environmental accounting as an invention by the West to impose or to create barriers to keep developing countries behind them in the line of competition. He sceptically commented:

*“I frankly think that environmental accounting is another barrier created by the West to prevent developing nations from reaching higher levels of competition and making use of the cheap labour and the availability of raw materials to gain advanced positions in industry markets.”*

This kind of negative thinking may reflect the low level of



environmental awareness among the Saudi public. Matters such as the environment should be thought of and dealt with in the most appropriate way, with a departure from narrow, limited thinking. Because environmental disasters, such as Chernobyl and Exxon Valdez, are borderless, all nations in the world are “in the same boat” in terms of environmental issues. If there is a good idea that would benefit the public or the environment, it should be considered, regardless of its origin.

Investors as members of the Saudi public share the same low level of environmental awareness; hence, organisations do not disclose EI to investors. Financial manager FM9 supported this view when he said:

*“I think most of the investors at this time do not consider the environment when they make investment decisions because most of them are not environmentally aware.”*

It seems that most of today’s investors look for short-term returns on their investments and do not care about long-term consequences, such as environmental ones; nor do they consider environmentally related contingent liabilities and compensations. Another financial manager (FM1) stated:

*“Investors are looking for short-term returns and are not concerned about long-term issues such as environmental issues.”*

Many writers attribute the raising of environmental awareness to the dissatisfaction of the public in industrialised countries with the environmental performances of the businesses operating in their

countries (See, for example, Abu Baker and Naser, 2000; Adams *et al.*, 1998; Andrew *et al.*, 1989; Deegan and Gordon, 1996; Gray *et al.*, 1995b; and Stray and Ballantine, 2000). One can assume from this that public environmental awareness, inspired by pressure groups and the media, plays a major role in the adoption of environmental measures by businesses. In the case of Saudi Arabia, the public can exert some indirect pressure on companies to disclose EI by raising the issue of the environment with the government, which may respond by developing new environmental regulations requiring companies to adopt EAD practices. Pressure groups and NGOs do not exist in Saudi Arabia, hence it is not expected that companies would react to public pressure in a prompt way, unless the government force them to do so by introducing strict regulations. The implementation of such regulations is also expected to take a very long time to develop, because of governmental bureaucracy. However it should not be a surprise if environmental regulations suddenly appear due to this or that reason.

### **6.5.3 Lack of Attention from Management**

Campbell (2000) found that CSR practices in UK companies appeared to be driven by the chairman in office at the time. Twenty-one (70%) of interviewees attributed the lack of EAD practice in Saudi Arabia to the lack of attention by management to environmental issues. This could be true especially in the absence of mandatory regulation requiring companies to consider environmental issues. This situation is not likely to change in the near future, perhaps due to the reason mentioned

earlier (governmental bureaucracy). Many interviewees thought that company management was concerned primarily with the maximisation of company profits and not with environmental performance, as indicated by auditor AU10, who stated:

*“Environmental issues are not the priority of companies at this time. There may be some companies that want to be ahead of time in terms of showing they are caring for the environment but their number is less than a handful. I believe most companies’ managers are concerned with maximising profits for their companies and not with the effects of their companies’ activities on the environment.”*

It seems that the emphasis by company management is mostly on short-term profitability, whereas environmental performance has long-term implications which may discourage management from improving their companies’ environmental performance. According to academic AC9:

*“Management of companies do not care about anything except the short-term profits that will enhance their reputations and make them appear very efficient for their companies. Managers think that the adoption of environmental accounting will require the spending of unnecessary costs which in turn may result in reducing the profits of the company. In this case, the management will be blamed for the reduction in profits; so they ignore environmental issues.”*

Additionally, management’s lack of awareness of its social role could be among the reasons preventing the adoption of EAD, as indicated by academic AC1:

*“Companies are only concerned about profit and do not care at all about the consequences of their operations on the society or on the environment in which they operate.”*

A similar thought was expressed by auditor AU3, who also suggested that only companies with strong governmental ties or majority government ownership will care about social and environmental issues:

*“Very few companies give social issues attention, just the very large ones which have strong relations with the government such as ARAMCO and the SABIC.”*

Also, there may be some resistance to change from middle level management, even when there is a strong commitment from top level management to adopt EAD. This was suggested by financial manager FM7 as a reason for resistance to change and non-adoption of EAD. Some middle management staff are unwilling to accept changes made by top management, as they necessitate additional effort on their part. He stated:

*“I think introducing environmental accounting would require changing the accounting procedures, which, in turn, would require more effort from staff. This might initiate resistance to change by companies’ middle management because they do not like any change that might require to them make more effort.”*

In some cases, even if management had positive attitudes towards the environment, it may not be able to act on personal beliefs due to institutional constraints. For instance, Rowe and Wehrmeyer (2001) found that, in China, short-term economic prosperity prevailed over long-term sustainable environmental concerns, even though Chinese business leaders held positive beliefs and values about the environment.

Because the public’s low level of environmental awareness,

management do not feel any urgency to consider environmental issues. Saudi company managers are also members of the public, and may share in the overall lack of awareness.

#### 6.5.4 Saudi Arabia as a Developing Country

Saudi Arabia is a developing country and not advanced in industry; hence environmental concerns associated with negative industrial impacts on the environment are clearly not yet apparent. It has also to be taken into consideration that a densely populated country, such as England, with its small geographical area, has been impacted by heavy industrial development more than may be the case in a developing country, such as Saudi Arabia, with its vast territory, dispersed population and later development. Thus, while awareness is good and necessary, full conscience and urgency may take some more time to achieve.

Academic AC11 admitted this fact and questioned the environmental awareness of Saudi parties, including governmental agencies, company managements, and the public at large:

*“Yes, our country is not an industrialised country like the US or any of the European countries or even the Asian Tigers; so can you expect companies or the government or the public to think about the environment?”*

As just suggested, this may take time. Environmental issues do not seem to be at the top of the legislators' priority agenda, other matters, such as unemployment, being considered far more important than

environmental issues. Financial manager FM8 expressed his view on this as follows:

*“You know our country is a developing country and not as advanced as the Western countries, so we have different issues on our development agenda. I’m sure that environmental issues are not at the top of this list.”*

Since the level of environmental awareness is low, some interviewees thought that the awareness level should be raised and environmentally friendly practices should be adopted by companies now rather than later to minimise the cost of adoption, if new mandatory environmental regulations are to be introduced in the future. This initiative was suggested by academic AC10 who stated:

*“There is no doubt in my mind that environmental regulations are coming. So, I believe that companies should start from now to think about adopting environmentally friendly procedures in order to have enough time to develop such procedures and train their workers to avoid costs that might be associated with adopting such procedures in such short notice.”*

This view seems to be too optimistic, especially when one sees that other major problems, such as unemployment, are not solved, although they have been present for a considerable time. What may complicate matters more is the fact that the majority of private companies are family owned and that the current Company Act does not cover them; hence it may be very difficult to force them to disclose financial or environmental information.

Although Saudi Arabia is considered a developing country, this should

not deter it from adopting measures that will help protect and improve the natural environment. The country has witnessed rapid development in all areas, such as petrochemical production, construction and mining which may pose potential harm to Saudi Arabia's natural environment. The Seventh Five-year Development plan stressed the importance of protecting and developing the environment as one of its objectives (see chapter 2, section 2.2.6.2.2).

#### **6.5.5 The Lack of NGOs in Saudi Arabia**

Tilt (1994) argues that companies need to consider the views of NGOs, because they represent the views of a broader cross-section of the community. Deegan and Gordon (1996) found a positive correlation between environmental sensitivity (fuelled by environmental lobby groups) and the level of disclosure by Australian companies. On the other hand, Abu Baker and Naser (2000) concluded that a lack of consumer and environmental pressure groups could be one of the important reasons preventing Jordanian companies from disclosing information on the environmental impact of their activities. In Saudi Arabia, there are no NGOs to show or express the public's opinions or concerns about environmental issues; thus governmental regulatory bodies are not aware of their concerns, and therefore will not issue new regulations concerning the environment, or the issuance of such regulations may take a very long time. Auditor AU1 pointed to the importance of NGOs' role in directing the attention of regulators to environmental matters by saying:

*“How do you think regulators will come to know about the citizens’ concerns about the environment if there is nobody to reveal these concerns? Yes, the regulators might discover that the country needs to protect the environment and needs to take the necessary measures to accomplish this, but the question is when will this happen?”*

The concern about the time required to introduce regulation is well founded, if one sees how slowly other major problems in the country are dealt with. Academic AC2 echoed the above idea when he said:

*“No organisations are exponents of public opinion; thus the regulators are not aware of these opinions or may take a very long time to embrace them.”*

Financial manager FM3 was unsure about the government introducing new environmental regulations in the near future, and therefore stressed the need for a driving force to introduce environmental laws. He expressed his opinion as follows:

*“The government might be interested in protecting the environment and be willing to introduce environmental regulations, but I think it will take a long time before these laws see the light, and an even longer time to implement them unless there is a strong demand from the public. But without a vehicle the public can use to express its needs, how will these needs reach the government?”*

It seems that the absence of NGOs in Saudi Arabia contributes to the lack of environmental regulations in general and regulations pertaining to EAD in particular. Respondents expressed their doubt about the government’s move to implement environmental regulations that would require the practice of EAD in the near future, if there is no pressure



from the public. Further, they stressed the importance of the role of NGOs in exposing the public's concerns about environmental issues (see also Tilt, 1994).

#### 6.5.6 No Attention from the Media

The media play a major role in directing the attention of the public in general towards different issues, including environmental issues. For instance, Brown and Deegan (1998) found significant association between level of media attention and level of environmental disclosure in the annual reports of the investigated Australian organisations in five of the nine industries. The majority of interviewees in the present study thought that the Saudi media was not giving environmental issues sufficient attention. In general, they believed that the media should try to promote environmental issues and increase the public's environmental awareness. Some interviewees thought that the media should expose companies with bad environmental performance. This was summed up by auditor AU10 as follows:

*“The role currently played by the media in the promotion of environmental awareness is not enough; I think the media should play a greater role by concentrating on environmental issues more regularly and comprehensively. Not only that, but it also should expose the environmental polluters.”*

An academic (AC6) also criticised the low level of media attention directed towards the environment and pointed to the need for more regular and continued discussion of environmental issues in the media

by saying:

*“There are no published magazines or newspapers or regular TV programmes focusing on the environment; the only effort paid by the media is through random and infrequent publication of articles relating to the environment.”*

The role of the media in the promotion of environmental issues was viewed to be important. Interviewees thought that the media should help in promoting environmental awareness by increasing the space and time devoted to educating the public and discussing the environment, encouraging the monitoring of companies' environmental performance and behaviour, and exposing polluters.

#### **6.5.7 Lack of Incentives**

Stray and Ballantine (2000) praised the ACCA's efforts in establishing environmental reporting awards, and expected it to promote EI disclosure practice in the UK. Chiu *et al.* (2002) suggested that establishing a prominent and substantive awards scheme for reporting, including separate categories for first-time public, private and small and medium reporters, may help reporting become more widespread among companies. Similarly, de Villiers (1998) suggested offering some incentives for South African companies, such as tax relief packages, in order to encourage them to engage in EI disclosure. Currently, EAD practices are voluntary in Saudi Arabia and the only driver behind them is internal motivation. In Saudi Arabia there are no such incentives. The absence of incentives to promote good environmental practice is seen

as one of the contributors to the lack of EAD practice in Saudi Arabia.

Financial manager FM5 pointed to this issue saying:

*“I don’t think that companies will adopt something new that they will not benefit from such as environmental information disclosure unless there are some incentives such as awards or credit incentives, etc.”*

As indicated earlier, the issuance of awards has proven to be useful in promoting environmental issues, as in the case of ACCA’s UK and Hong Kong Awards for Sustainability Reporting and the Malaysian NACRA award (see, for example, ACCA, 2002). The Saudi authorities should consider such incentives to promote EI disclosure practice. They can also influence EI disclosure practice by considering environmental issues when providing private sector enterprises with loans from the SCIs. This might be accomplished by requesting or imposing regulations, such as environmental regulations, through the incorporation of requirements as conditions for the granting of loans and/or by giving enterprises credit or allowances if they accomplish certain levels of environmental performance (see, for example, Al Jadaan and Mercer, 2001).

#### **6.5.8 Complexity**

Gamble *et al.* (1995) concluded that the lack of guidance from regulatory bodies was a significant factor influencing CSR in the US. Naser and Abu Baker (1999) found the same in Jordan, where helpful materials and procedures from professional accounting bodies are lacking. Lack of expertise coupled with lack of guidance from

professional accounting bodies and accounting academic institutions in Saudi Arabia make it difficult for company accountants to account for the environment and to disclose EI. For example, financial manager FM1 expressed his interest in accounting for the environment but questioned the role of the profession and academics in explaining EAD procedures. He expressed his concern in the following manner:

*“We would like to account for the environment but how to do it? How to disclose environmental information? We need answers to such questions. Who is going to answer them? Is it academia, the SOCPA? Or both?”*

Another financial manager (FM7) agreed that protection of the environment is important and that EAD could play a major role in the environmental protection effort. But he was concerned about the lack of information associated specifically with environmental items, such as information about environmental costs and liabilities and the difficulty in quantifying or monetising this type of information (see, for example Jones, 2000) . He expressed his opinion as follows:

*“Yes, the protection of the environment is important and companies should account for it but the question is how? How to identify the items associated with the environment? How to convert them to monetary units? How much will this cost? And how to incorporate them into the accounting system? There are no guidelines or any other information to help companies account for the environment or disclose information about it.”*

From the above two quotes and from discussions with other interviewees, one could assume that the willingness on the part of some accountants to account for the environment is there, but at the same

time a lack of knowledge as to how they should do it also exists. These accountants thought that accounting academics should search for suitable methods for practising EAD. And when convinced these methods could be implemented, the professional accounting body (the SOCPA) should adopt them and develop standard/s based on them, following the same procedures it usually follows when developing a standard. The ways of meeting these standards should be explained in detail to accountants to help and encourage them to adopt them.

#### **6.5.9 Costliness**

Wycherley (1997) and Rowe and Wehrmeyer (2001) found that the cost of collecting EI in many cases outweighed its value and this discouraged UK and Chinese companies. However, Naser and Abu Baker (1999) concluded that the costliness of producing and disclosing CSR was ranked as the least important impediment to Jordanian companies disclosing CSR. Most interviewees (about 77%) thought that the cost of producing EI was not a major contributor to the lack of EAD, especially for large companies. Financial manager FM9 commented as follows:

*“I don’t think the cost is the issue here, especially for large companies, who might be the first to be requested to produce and disclose EI.”*

This is consistent with the postal survey results, which pointed to expensiveness as the least influential issue (mean = 2.64, Table 5-23) deterring environmental accounting practice (see chapter 5, section

5.4.6).

## **6.6 ENABLERS OF EAD**

Some steps were suggested by interviewees concerning the promotion of EAD practices by relevant parties. The focus was mostly on the government's and SOCPA's roles. The views expressed by interviewees are presented discussed below.

### **6.6.1 The Adoption of Environmental Policy**

As illustrated earlier, EP is a blueprint or chart that guides accountants and other members of the organisation's staff when they carry out their tasks. It sets the guiding principles which demonstrate the organisation's commitment to environmental improvement. Both Jones (2000) and Stray and Ballantine (2000) found that 23% of European and 42% of UK companies have EPs in place. Interestingly, Chiu *et al.* (2002) found even higher percentages in Hong Kong's public and private sector companies (85% and 59%, respectively). Academic AC5 emphasised the importance of EP for Saudi companies, saying:

*“... it is important for companies to have EPs in place to aid their employees to achieve their objectives and to define their responsibilities with regard to the environment. Hence, I believe if there is no policy, there will be no implementation.”*

Another academic (AC7) advised taking stakeholders' needs into account when developing EP. He stressed:

*“When developing the EP, the interested parties’*

*needs and concerns should be taken into account."*

He also suggested that an EP will encourage employees to consider environmental issues when performing all their tasks:

*"A well developed, defined and implemented EP will enable every employee to get used to considering environmental issues in all his/her tasks which in turn will make the whole organisation environmentally aware."*

All interviewees supported the development of an EP, especially in large companies that are potential environmental polluters. Academic AC10 explained that companies vary in their effects on the environment. He stressed the importance of adopting an EP that fits the significance of each company's effect on the environment. The adoption of a complicated and detailed EP is good, but not necessary for all companies, large or small. Also, it is important for companies that are large enough to bear the costs of developing and implementing EPs to adopt sophisticated ones. Small companies, on the other hand, might adopt simpler EPs that fit their abilities and resources.

These results also corroborate the results of the questionnaire survey as indicated by the mean of responses (3.83) in Table 5.17. The results advocate the adoption on an EP by every organisation. At the same time they suggest that the size and activity of the concerned organisation should be taken into account when developing and implementing an EP.

With regard to commitments to be included in the EP, the majority of

interviewees (about 87%) recommended that all commitments that might help in the protection and improvement of the environment should be included. These commitments include compliance with environmental laws, prevention of any accidents or incidents that might harm the environment, compliance with industry best practice, and sustainability in general.

### **6.6.2 The Governmental Role**

The Seventh Five-year Development Plan indicated the government's commitment to introducing new environmental regulations in the near future (MOP, 2000). As indicated in chapter 2, the Saudi government exercises a very significant influence on both public and private sectors. The Saudi government provides private enterprises with interest-free loans through SCIs. It is also in charge of developing most of the regulations, including accounting regulations. For instance, the chairman of the SOCPA's board of directors is the Minister of Commerce and three of its permanent members are from state agencies, which indicates the state's overall control of the accounting profession (see section 2.3.4 and 2.3.5). Therefore, it could use its power and develop and implement new regulations, including regulations directed towards promoting EAD practices, to protect and improve the environment. Interviewees thought that the Saudi governmental bodies should play a vital role in the promotion of environmental awareness in general and EAD in particular. Many interviewees thought that more governmental intervention in the field of EI disclosure through the



development, implementation, and monitoring of new regulations was needed. Academic AC8 pointed to the government's capacity to develop new regulations by stating that:

*"The government should develop new environmental regulations because it has the power to develop, implement and monitor the adherence of companies to these regulations."*

Another academic (AC11) expressed his extreme concern about the lack of governmental intervention in environmental matters and argued that leaving such matters in the hands of companies would lead to disaster. He warned:

*"...If these matters are left to companies' resolve, it will be a disaster. The government should do something soon and should not wait until an environmental catastrophe occurs to intervene."*

An auditor (AU7) with an international accounting firm was more optimistic that environmental regulations are on the horizon, because he had noted the government's increased attention towards the environment. He expressed his optimism by saying:

*"New environmental regulations certainly are coming, I have no doubt about that, the government is paying more attention to the protection of the environment and is expected to adopt new laws to accomplish this."*

He also added that the desire to introduce environmental regulations should not turn attention away from making them realistic:

*"...I don't think that there is a regulation set that fits all companies; so there should be some kind of classification that takes the type of activity and the size of a company into account when deciding on*

*the environmental requirements.”*

It is important to classify companies in terms of their activities and the extent of the effects of these activities on the environment. Financial manager FM1 emphasised that small companies might have less influence on the environment than large companies; thus regulatory requirements should take these two factors into consideration when specifying requirements.

It is also vitally important that governmental planners should give attention to the environment when planning to establish new industrial zones or new factories. This issue was mentioned by many interviewees, such as financial manager FM6 who commented:

*“Industries and workshops are spread among residential areas in some cities which make them hazardous to the public in terms of safety and pollution. I think this is wrong; I think it is the planner’s responsibility to choose suitable locations for industrial plants or zones far away from populated areas to minimise their potential danger to the public.”*

From the above discussion, it seems that interviewees expected the Saudi government to play a major role in protecting the environment by regulating companies’ environmentally related activities and by directing the expansion and establishment of new factories and industrial zones.

### 6.6.3 SOCPA’s Role

The SOCPA is the body responsible for the review, development and approval of accounting and auditing standards and other regulations in

Saudi Arabia (see sections 2.3.4 and 2.3.5). The SOCPA could play a major role in the promotion of EAD practice. It could provide guidance to accountants working with Saudi companies on how to account for and disclose information relating to the environment. Studies such as Gamble *et al.* (1995) and Naser and Abu Baker (1999) concluded that guidance from regulatory bodies was a significant factor influencing the CSR in the US and Jordan, respectively. Also, the SOCPA could either develop a new standard or modify existing standards, such as the GPDS, to accommodate EI needs. In this context, academic AC4 said:

*“The SOCPA should take the lead in setting an environmental disclosure standard or modifying the current general disclosure standard to include suitable environmental disclosure requirements.”*

In addition, auditor AU4 indicated that he thought the SOCPA should be the major player in setting the required standard. He stated his belief as follows:

*“I think the SOCPA, as the accounting professional body, should be in charge of developing the disclosure requirements monitoring their implementation.”*

Financial manager FM2 voiced a similar suggestion:

*“The SOCPA should develop a new standard or modify the existing ones to include the disclosure of social and environmental information in publicly released reports.”*

As regards the size and activity of companies, financial manager FM6 stated:

*“The SOCPA should classify the companies required to disclose EI into different classes*

*depending on their activities, type and size.”*

He also advised the SOCPA to make the requirements realistic and implementable:

*“If the SOCPA really wants the standard to be implemented, the requirements included in it should be realistic and implemented gradually; otherwise companies might not be able to fully implement them.”*

As shown above, there were recommendations to introduce a new EI disclosure standard by the SOCPA, because interviewees thought organisations would not disclose EI unless demanded to do so by law. Recommendations have been made in many prior studies. For example, Chiu *et al.* (2002); de Villiers (1998); Deegan *et al.* (2000); Fortes and Åkerfeldt (1999); Hall and Jones (1991); Jones (2000); KPMG (2002); Lodhia (2003); Mezher and Zreik (2000); and Perry and Sheng (1999) all concluded that there is an urgent need for improved environmental legislation and regulatory intervention. The legislation should include the introduction of mandatory social and environmental disclosure requirements to promote greater openness and consistency in the presentation of information and to ensure that users’ ‘right to know’ is fulfilled. Academic AC3 supported this idea, but also pointed out that an environmental standard is not top of the SOCPA’s priority list. He suggested the need to solve outstanding accounting issues before introducing an environmental standard. He proposed starting with some guiding initiatives to enable organisations to become used to disclosing EI, then improving disclosure practices until the desired level is

reached (as already suggested).

The requirements of the standard, as suggested by the interviewees, should include the disclosure of information about environmental costs and related liabilities and, in general, it should also include requirements to disclose all material EI. Academic AC6 stressed the importance of the coverage of the disclosure:

*“The disclosure should cover all environmentally related items and not only the information selected by the company; all material EI should be disclosed to give users a clear and complete picture about the environmental performance of the reporting company.”*

Again, as already suggested, if the new standard required the EI to be disclosed within financial statements, it should be disclosed in a separate or specifically designated location, to help users locate it, instead of spreading it throughout the financial statements. Financial manager FM5 reflected this view:

*“In my view, the EI should be disclosed within the financial statements but in a separate section to allow users to easily find it.”*

Another financial manager (FM2) suggested that EI should be disclosed in a separate statement just like the cash flow statement. He contended that such a statement should include re-evaluation of environmentally related assets and liabilities from an environmental point of view. The form of the information in such a statement should not be limited to one form, i.e. financial. He thought such a statement would serve users better when published with the financial reports.

Academic AC7 suggested the introduction of an environmental disclosure standard which would give organisations a waiting period of, for example, five years. This waiting period would allow each organisation to develop and implement the procedures that would allow it to comply with the new standard. He also added that such a standard should be extensively explained to and debated among all interested parties to facilitate its acceptance and implementation. He stressed making use of the knowledge and experience of countries advanced in this field without sacrificing the special needs or ignoring the characteristics of the Saudi environment.

In summary, there seemed to be an agreement among interviewees that the SOCPA, as the regulatory body for accounting practice in Saudi Arabia, should take a leading role in the development of a new standard or modification of existing standards such as the GPDS. There was a strong demand that the SOCPA should begin the process of introducing environmental disclosure requirements to incorporate environmental issues among other disclosure requirements to fulfil the need of such information as presented in the Seventh Five-year Development Plan (MOP, 2000) (see section 2.2.3.2.2.1). The attributes of companies, such as size and activity, should be considered when introducing such requirements. Also, the complexity and the ability of organisations to implement these requirements should be considered. The SOCPA could help in this regard by providing guidance to accountants working with Saudi companies.

#### 6.6.4 The Media's Role

The media reflect public opinion with regard to the environment, broaden environmental awareness, monitor organisations' implementation, expose violators of environmental laws, encourage and support organisations who were the best environmentally friendly performers and innovators, provide feedback to the government and promote the exploration of new environmental innovation opportunities (See, for example, Brown and Deegan, 1998; Collison, 2001; and Lehman, 1998). Interviewees thought that the promotion of environmental awareness through the media was essential because of its ability to reach a wider audience, which gave it priority in environmental awareness promotion. Academic AC3 commented:

*"The media should play a major role in promoting environmental awareness among the public through the discussion of various matters relating to the environment, such as air pollution, ground water contamination, conservation of wildlife, raw material sustainability, and recycling."*

Financial manager FM3 offered some ideas as to how the media could increase environmental awareness. He said:

*"I suggest that environmental issues should be promoted by the media. Television channels should produce programmes about the environment to raise environmental awareness and to teach citizens how to be friends of the environment and explain the consequences of environmental degradation."*

The media could promote thinking about future generations' rights, according to financial manager FM8. In his view, the media have the

capacity to promote positive thinking about future generations, sustainability, and protection of the environment:

*“The media should encourage thinking about future generations, sustainability, and protection of the environment because I think this is a national duty.”*

The media’s ability to reach wider audiences easily puts it in a good position to promote environmental awareness, sustainability, and the protection of the rights of future generations. It could accomplish this through assigning some programmes to the discussion of environmental issues, the sustainability of natural resources, and protecting future generations’ rights.

#### **6.6.5 The Role of Education**

Mezher and Zreik (2000) and Perry and Sheng (1999) suggested that education should play its role in providing the private sector with the skills and knowledge essential for sustainable development. Some interviewees believed that environmental awareness can be increased through education; they thought it should be taught in schools. For instance, financial manager FM6 commented:

*“Environmental awareness is very important and is as important as road and fire safety; so it should be taught in schools just like road and fire safety. Children should be taught to respect and protect the natural environment so as to foster an environmentally well aware generation.”*

In addition, some interviewees suggested environmental accounting should be taught to accounting students at university level (see also



Bebbington, 1997 and Mathews, 2001). Academic AC8 made the following request:

*“As an academic, I suggest that environmental accounting should be taught to university accounting students as an emerging new accounting subject to make them ready and aware of such issues when they work for companies.”*

Educating the management of companies about the importance of environmental issues and concentration on longer payback periods was also suggested by some interviewees. Financial manager FM2 that:

*“Senior management of companies should be convinced that environmental protection is in their companies’ best interests; good environmental performance would increase their competitiveness through reduction of raw material use, defects and waste.”*

The Saudi Arabian universities and Chambers of Commerce could hold forums and seminars to raise environmental awareness among company management.

Educating school children, teaching university accounting students, and educating company managers about the long-term benefits of making their organisations environmentally friendly were viewed by respondents as helpful in the effort to promote higher environmental awareness and raise a new generation of more environmentally aware citizens.

#### 6.6.6 NGOs' Role

The results of Abu Baker and Naser's (2000) and Deegan and Gordon's

(1996) studies indicated that NGOs have a significant impact on the promotion of EAD practice. Interviewees viewed the absence of NGOs in Saudi Arabia as one of the reasons for the lack of environmental regulations. They pointed to the need for the establishment of NGOs in Saudi Arabia like the Friends of the Environment Organisations, to represent the interests of the public concerning environmental issues. NGOs could play a monitoring role by constantly observing the environmental performances of all entities operating in Saudi Arabia (see Tilt, 1994).

#### **6.6.7 The Role of Incentives**

Offering some incentives, such as awards or tax relief packages could encourage companies to engage in EI disclosure, as already suggested. Chiu *et al.* (2002) suggested that establishing awards schemes for reporting may help EAD practice to become more widespread among companies. As already stated, Stray and Ballantine (2000) in the UK and de Villiers (1998) in South Africa found that awards and incentives encouraged companies to adopt environmentally sound practices, and this was supported by some interviewees. For instance, financial manager FM7, whose company had adopted an EP, requested that companies be credited for being proactive in the field of environmental friendliness. On the other hand, he suggested that companies which harm the environment should be held accountable for their actions. Further support came from academic AC3, who suggested the introduction of an environmental award to good environmental

performers to acknowledge their achievements and to encourage others to do the same. He said:

*“There should be some incentives, such as awards, given to those companies that have achieved good levels in terms of environmental performance or those companies that are donating or sponsoring environmental protection and improvement activities.”*

The introduction of incentives, such as awards, might lead companies to compete to obtain these awards. Also, such awards would acknowledge and honour the companies with good environmental performance.

## **6.7 SUMMARY**

The previous chapter's (chapter 5) findings revealed that the adoption of EAD by Saudi Arabian companies was low. This result initiated some questions relating to the reasons for this low level of EAD practices. Therefore, thirty interviews were conducted with questionnaire respondents to explore these results. The results of the interview survey have been presented in this chapter and provide some answers to these questions.

Environmental issues might influence some matters relating to companies (such as their long-term survival, image, profitability decision-making processes and competitiveness); therefore it is essential for Saudi companies to engage in EAD practices. They should adopt EPs which should include all commitments that might help in the

protection and improvement of the environment.

Interviewees indicated the importance of EI for both internal and external users, which in turn necessitates the development of EISs to produce such EI. The perceived importance of EI to external users, including governmental agencies, investors, money lenders, customers and suppliers and the media, was discussed in section 6.4

Interviewees, in general, supported the disclosure of any available EI regardless of its form, timing, and medium of disclosure. It should occur with immediate effect and should be improved gradually until reaching interim disclosure in specially designated reports for EI. Interviewees recommended that mandatory requirements should distinguish between organisations in terms of size and activities. They viewed disclosure on an *ad hoc* basis as important, because some circumstances necessitate instant disclosure, such as in cases of environmental accidents that might affect communities near the accident site. The disclosure should include all items relating to the environmental performance of an organisation.

As to perceived reasons for lack of EAD, the current lack of regulations relating to the environment in general and regulations relating to EAD in particular was believed to be the most important reason, followed by the public's low level of environmental awareness and consciousness of the harm that can be inflicted by companies on the environment. Interviewees also thought that company management is primarily

concerned with the maximisation of profits, especially short-term profits, which might turn management's attention away from improving their companies' environmental performance. Because Saudi Arabia is a developing country, negative industrial effects on the environment are not clearly apparent. In addition, the non-existence in Saudi Arabia of NGOs, which might reveal or express the public's opinions or concerns about environmental issues, means that the governmental regulatory bodies are not aware of these concerns. Further, respondents indicated that the media is not giving environmental issues the attention that it should. Another reason for the lack of EAD practice in Saudi Arabia was thought to be the absence of incentives to promote good environmental practices.

The lack of 'know how,' coupled with the non-existence of guidance from professional accounting bodies and academic institutions make it difficult for companies to adopt EAD practice. On the other hand, the cost associated with EAD practice was not perceived to be a major contributor to the current situation, especially in large companies.

Some steps were suggested to promote EAD practice, especially to be carried out by governmental agencies, the SOCPA, the media, and educational institutions. For example, Saudi governmental bodies could play a vital role in the promotion of environmental awareness in general and EAD in particular. This role could be fulfilled through the development, implementation, and monitoring of new environmental regulations. Also, the SOCPA, as the regulating body for accounting

practices in Saudi Arabia, should take a leading role in the development of a new standard or modification of existing standards, such as the GPDS. The role of the media is essential in the promotion of environmental awareness, due to its ability to reach a wider audience. Finally, the Saudi education system could help in increasing environmental awareness through the incorporation of environmental issues within the curricula of the general education system and by teaching environmental accounting to accounting students at university level. The importance of environmental issues to companies and identification of the benefits that can be gained from environmental stewardship could be taught to company management. This might encourage them to adopt more environmentally friendly approaches. The introduction of incentives and/or awards to encourage companies to adopt environmentally sound practice was also suggested by some interviewees.

From the above discussion, it can be fairly asserted that the results from analysing the interviews' data confirm the results derived from the questionnaire survey and contribute valuable qualitative information. The analysis of interview data also offered some explanations for some of the ambiguous findings derived from responses to some survey questions. The results from all the study are brought together in the final chapter.

**CHAPTER SEVEN:  
FINDINGS AND CONCLUSIONS**

## **CHAPTER 7: FINDINGS AND CONCLUSIONS**

### **7.1 INTRODUCTION**

The aim of this chapter is to provide a summary of the contents of preceding chapters as well as answering the study questions presented in the first chapter. This chapter is divided into five sections. The following section provides a brief summary of the study, reiterating the study objectives and the research approach utilised to achieve them and rounding up the main aspects of the natural environment, socio-economic development and accounting in Saudi Arabia. The third section discusses the main findings from the empirical data analysis, and draws conclusions from them. Answers to the research questions are derived from the empirical results. The fourth section proposes recommendations for EAD practice in Saudi Arabia based on the conclusions. The final section details limitations of the study and suggests areas for further research.

### **7.2 SUMMARY OF THE STUDY**

The principal objective of this study was to critically examine and evaluate the current EAD practices of Saudi organisations and perceptions about them. Topics covered by each chapter are summarised below.

Chapter 1 commenced with a broad introduction to environmental issues by presenting some examples of global problems, such as the thinning of



the ozone layer, global warming, deforestation and major environmental incidents, such as the Bhopal gas leak, the Chernobyl nuclear explosion, and the Exxon Valdez oil spill, which have increased the public's concerns about degradation of the natural environment and led them to search for ways to help preserve and improve it. Some researchers believe that by including accountants as key players in the environmental management process, the target of environmental sensitivity within organisations can be achieved. The relationship between environmental awareness and the role that environmental accounting might play in resolving environmental problems were discussed in the second section, which also made reference to the literature calling for the accountancy profession to play its social role. The third section discussed the gap in the literature. The rationale of the present study and its importance to developing nations, such as Saudi Arabia, was highlighted in the fourth section, followed by a presentation of the main aim of the research in the fifth section. The sixth section presented the research questions, while the seventh presented the research methodologies to be employed to accomplish the research objectives. The eighth section outlined the structure of the thesis.

Chapter 2 provided background details about Saudi Arabia. This chapter was divided into three parts. The first part presented a historical overview of the establishment of the kingdom in 1932 and described the country's socio-economic status in its early stages. The discovery of oil and the revenues it brought with it and their subsequent impacts on the country's

society and economy were very significant. The resultant changes necessitated the adoption of a Five-year Development Plan, in 1970 and repeated up to the present day. The achievements of the development plans have been positively correlated with oil revenues; the Saudi population has tripled during the last three decades as a result of the high fertility rate and the high number of expatriate manpower needed for the maintenance of infrastructure development. This high population growth rate has led to an increased demand for basic services, such as water and electricity which, in turn, requires wise planning to allocate economic resources fairly and efficiently. In order to aid the private sector, the Saudi Government has established specialised credit institutions (SCIs) and has adopted a privatisation strategy to increase the participation of the private sector in the development process.

The second part of chapter two focused on the development of the accounting profession in Saudi Arabia, which has paralleled economic development in the kingdom. There was little demand for accounting in the early stages of the foundation of Saudi Arabia. However, the demand for accounting and auditing services grew noticeably with the vast increase in oil revenues and the acceleration of economic development. The Saudi Organisation for Certified Public Accountants was established in 1992 and issued seventeen accounting standards and fourteen auditing standards up to the end of December, 2003. None of these standards is related to environmental accounting or disclosure practices.

The third part of the chapter outlined the state of the natural environment

in Saudi Arabia. Environmental responsibility was originally shared among a number of ministries and executive agencies. In 1951, the Meteorology Environmental Protection Administration (MEPA) was established with responsibility for creating a regulatory framework for the development and enforcement of environmental rules and regulations. In addition, the National Commission for Wildlife Conservation and Development (NCWCD) was established in 1986 to conserve, protect and develop land and marine wildlife. Among the Ministry of Municipal and Rural Affairs (MOMRA) responsibilities is minimisation of environmental damage originating from urbanisation, public hygiene, and the wellbeing of the Saudi citizenry. A new Saudi environmental regulation was enacted in 2001. One of the major problems facing the country is the scarcity of water resources. It is worth noting that the Seventh Five-year Development Plan was the first plan to incorporate an environmental objective and designate an entire chapter to environmental matters.

Chapter 3 reviewed the literature relating to EAD, which has tended to focus more on developed countries. The literature review indicated that some studies have concentrated only on environmental themes, while others have included other themes, such as social, ethical, health and safety, and employment themes. Although the majority of studies examining current disclosure practices have been purely descriptive, others have sought to identify the motivations for disclosure or ascertain relationships between disclosure practices and some of the characteristics

of organisations.

In general, the results of the review suggested that EAD practices have increased over time. Organisations' disclosure of EI is influenced by factors such as the size of the organisation, the industry to which it belongs, changing community concerns, negative media attention, the occurrence of major social or environmental incidents, and the concerns of lobby groups and NGOs. Improvement of corporate image, taking the lead, showing the organisation's commitment to the environment, reduction in costs, risk reduction, responding to the occurrence of major environmental incidents, responding to pressures from NGOs, and responding to local and/or international legislations or recommendations are among the drivers for EI disclosure. The qualitative form is the dominant form of disclosure, with very little evidence of disclosure in quantitative or monetary forms, making comparison of companies' environmental performance difficult. It appears that the disclosed EI is positive in nature, with little evidence of negative information disclosure. It may also be concluded from the literature review that the practice of incorporating EI in annual reports or in stand-alone environmental reports is low and the disclosure of EI is currently voluntary. Hence, the majority of studies recommend the introduction of mandatory disclosure requirements and the independent verification of the disclosed information. Finally, the literature survey indicated that while EAD had been examined in the context of developed and developing countries, there was no evidence that this subject had been examined in the context

of GCC countries in general, and in the context of Saudi Arabia in particular. Therefore, the present study can be considered unique and provides useful subject matter for comparative accounting, since it has addressed the role that accounting can play in expanding the disclosure of corporate information in Saudi Arabia, and hence solve some of the environmental problems confronting the country, by making EI disclosure mandatory. This study may also prove useful to Saudi governmental agencies responsible for environmental work (e.g. the MEPA, NCWCD, MOMRA, etc.). Finally, the current study may have raised issues of interest to other researchers to consider in the future in this field and thereby makes a useful contribution to the literature.

Chapter 4 commenced by discussing research designs and concluded that the appropriate design for this study was the combination of an exploratory and descriptive cross-sectional research design. Two methods for data collection were utilised (namely, a postal questionnaire and semi-structured interviews). The study population consisted of financial managers in the Top 100 Saudi companies, certified auditors in Saudi Arabia, and accounting academics in Saudi universities. The advantages and disadvantages of postal questionnaires and semi-structured interviews were presented. The development and administration of the questionnaire were described. The questions included in the questionnaire were discussed in detail. The statistical tests used to analyse the data were briefly discussed. An explanation of how interviewees were identified and contacted was provided. Finally, a

discussion of the method used to analyse the interview data was presented.

The results of the postal survey data analysis were presented in chapter five. As regards Saudi organisations' EAD practice, the analysis indicated that EAD is rarely practised. Regarding perceptions about EAD, the analyses revealed strong support among respondents for the adoption of EAD practices by Saudi organisations. Main survey findings were derived from the questionnaire and interview surveys, and conclusions drawn from them are presented in section 7.3 below.

In chapter six, the results of the interview survey were presented. Discussion with the thirty interviewees about issues relating to current and future EAD practice in Saudi Arabia revealed general alignment with questionnaire survey findings. The overwhelming majority of interviewees stressed the importance of protecting the environment and indicated that organisations operating in Saudi Arabia should adopt EAD practices to assist this endeavour. They also suggested that any changes introduced should take into consideration company size and activity and be gradually implemented. The main survey findings and conclusions drawn from them are also presented in section 7.3, while section 7.4 proposes several recommendations based on the study findings.

### **7.3 FINDINGS AND DISCUSSION**

In this section the major findings derived from both the questionnaire and interview surveys are overviewed. These findings will be linked to

the research questions outlined in chapter one and detailed in chapter four of this research. As indicated in the introductory chapter, this study sought to critically examine the current practice and perceptions on EAD in Saudi Arabia. In order to achieve this, several questions were asked. Discussions and conclusions regarding the research questions are presented below:

**Q1. What environmentally related tasks and activities are Saudi Arabian organisations considering?**

As previously mentioned, the EP is a plan or blueprint for an organisation to follow with regard to environmental issues. If the management of an organisation cares about the environment, it will consider it in all its activities, such as decision-taking, production, packaging, etc. Questions focusing on current practices and perceived perceptions regarding adoption of an EP revealed that only five companies (8.9%) among the Top 100 companies in Saudi Arabia currently had an EP in place. This result differs from that in Jones (2000) and Stray and Ballantine (2000), who reported 23% and 42% of sampled companies, respectively, had written EPs. However, in Hong Kong, Chiu *et al.* (2002) found that 85% of public sector companies and 59% of private sector companies had EPs. The general low level of adoption of EPs by Saudi companies suggests a lack of awareness of the significance of environmental issues among management. This might be due to a lack of public pressure on organisations with regard to the environment, as evidenced by the lack of NGOs.

The findings thus point to the existence of a gap between current practice and perceptions with regard to EAD. They also suggest a missing link in the communication chain between companies and their stakeholders. The direction of reporting in Saudi Arabia is currently one way, i.e. from the company to stakeholders, according to the Company Act. No feedback channels and no NGOs exist in the country to represent the views of interested parties and hence apply pressure on company management to cause them to consider environmental issues and adopt EAD.

In addition to the adoption of an EP, there seem to be other tasks and activities an organisation should consider in order to be environmentally sensitive. Among these important tasks is the development and implementation of an EIS. The adoption of EISs by Saudi organisations is currently very low (3.6%). Respondents suggested that this should be changed, and organisations should develop and implement EISs, since they placed it on top of their environmental wish list.

Some EI, such as the costs of energy usage, might be produced under traditional accounting information systems (but see Solomon, 2000 and O'Dwyer, 2000), while other information might not. If an organisation wishes to produce EI, it needs to have a system to produce such information. Such a system might be a stand-alone EIS or might be merged with another system, such as the accounting information system. The main purposes of an EIS are the identification, measurement, and disclosure of environmentally related information. When designing an EIS, the targeted information user group(s), internal and/or external,



should be taken into consideration. The study results indicated that the production of environmental information should consider the needs of internal and external users equally (mean = 4.19). However, it is important to note that not all organisations are capable of developing and implementing an EIS because of cost and manpower limitations. Hence, organisations unable to do so, such as small companies, might choose to modify their existing financial information systems to be able to produce EI at a lower cost and with minimum manpower (but see Solomon, 2000 and O'Dwyer, 2000).

Also, there was strong support for holding organisations accountable for the effects of their activities on the environment (mean = 4.26) (See table 5-17), regardless of activity, size and legal status, thus indicating that all organisations should account for the environment regardless of activity, size and legal status. This might be attained through the development and implementation of full cost accounting systems to take all costs into account, including costs associated with the environment, such as the costs of recycling and emission control, etc.

As regards measuring the environmental impacts of an organisation, this activity is currently very low (14.3%) and mostly done for the purpose of fulfilling the needs of managements (10.7%) or the extent required by mandatory laws (3.6%) (See Table 5-6). No measurement of impacts was carried out to the extent that would qualify EI to be disclosed or independently verified. Also, no significant differences between organisations in terms of size, activity, or legal status were identified.

The present study's findings differ from those of Adams *et al.* (1998), Alnajjar (2000), Cowen *et al.* (1987), Deegan and Gordon (1996), Gray *et al.* (1995a), Hackston and Milne (1996), and Stray and Ballantine (2000) who found significant differences between organisations in terms of size and activity. As to perceptions regarding the practice of EAD, 'to the extent that will fulfil mandatory requirements' was the first choice for all respondents (mean = 3.89). This suggests legal requirements should be given priority by management. It also indirectly points to the significance of the role of the Saudi government in the development and implementation of environmental regulations.

Verifiability by an independent auditor was placed second in order of importance (mean = 3.76), while disclosing produced EI was placed third (mean = 3.74), indicating that the reliability of the information is more important than the disclosure of unverified, hence unreliable, information (see Letmathe and Doost, 2000; Lightbody, 2000; Tucker and Kasper., 1998; Vinten, 1991). The least importance was attached to the measurement of environmental impacts 'to the extent that fulfils management's needs' (mean = 2.48). This may have been due to the perception that stakeholders of organisations may not be able to view the results of such measurements and hence gain no benefit from them.

The majority of responding companies (57%) indicated that they accounted for the costs of energy consumption, 50% of them for water consumption and 39.3% of them for the use of raw materials. The high level of accounting for such items might be due to the fact that the costs

of such items are accounted for under the conventional accounting system. Such costs are included in the calculations of the profit/loss accounts of the company. This might be why these items are not accounted for and disclosed separately as environmental items. Half of the responding companies were from the industrial sector (see table 5-3), which perhaps explains the high percentage of accounting for such items. In their study, Hall and Jones (1991) found that information relating to energy conservation was the most popular item disclosed.

Turning to the present study, the overwhelming majority (over 89%) of responding companies indicated that they did not account for product LCA, waste disposal, clean up/remediation, compensations, emission control, licences, regulation compliance, environmental depreciation and environmental R&D (see Table 5-7). This might be due to the lack of legal requirements, or the fact that the majority of industrial companies do not invent or design their products by themselves, but instead import them or acquire their designs from patent holders, and only assemble them locally; hence they do not need to account for these items.

As regards respondents' perceptions of the thirteen environmental items presented for evaluation (see Table 5-12), there was strong support for accounting for the costs of all of them as indicated by the overall means of responses, which never dropped below 4.04.

Both types of environmentally related costs (incurred and expected) were recommended to be accounted for (mean = 4.07). This perception was

possibly influenced by the precautionary principle. Although the calculation of expected costs might involve some estimates, this should not deter from using available information in the calculation of costs. Also, there should be a certain level of flexibility to change these estimates if future events necessitate this.

**Q2. What is the current and perceived influence of environmental issues on Saudi Arabian organisations?**

There was a high level of agreement among respondents that environmental issues may influence the profitability, survival, competitiveness, image, and decision-making processes of Saudi organisations. This finding was supported by the means of the responses, which ranged from 3.34 to 4.01. However, environmental issues were considered to have most influence on the long-term survival of the organisation (mean = 4.01), possibly due to respondents' expectations that environmental awareness will increase with time and company stakeholders will increasingly demand and pressure for environmentally friendly procedures and practices. Hence environmentally friendly organisations are likely to survive, whereas environmentally unfriendly organisations are likely to experience some kind of boycott from environmentally aware consumers and suppliers. The second most influential perceived aspect is the organisation's image (mean = 3.99). It seems reasonable to conclude that if an organisation performs badly with regard to the environment, then its image will become tarnished in the eyes of its stakeholders given that these stakeholders have high levels of

environmental awareness. These findings support the assumptions of legitimacy theory.

The profitability of an organisation was also thought to be highly influenced by environmental issues (mean = 3.90). This might be attributed to the fact that the profitability of an organisation is linked, at least in part, to its ability to sell its products. If the products are harmful to the environment and the buyers of the products are environmentally aware, they may stop buying them. This could lead to a decrease in sales volume, which might result in a decrease in the organisation's profitability or even loss. Environmental issues were viewed as being least likely to influence the competitiveness of the organisation (mean = 3.34), suggesting that competitiveness between organisations operating in Saudi Arabia in terms of environmental performance is currently weak or does not exist, perhaps due to the current low level of consumers' environmental awareness. However, this might change if the level of environmental awareness of various stakeholders in the country increases in the future. Such an increase in awareness level may further result in the introduction or implementation of new regulations which may mandate the adoption of EI disclosure practices.

Comparing the influence of environmental issues on various types of decisions, expansion or new project decisions were thought to be the most influenced (mean = 3.98), possibly due to the perception that an organisation may not have considered the environment in the past but it should consider environmental issues when planning new projects. This

may help satisfy the expected increase in public demand for more environmental sensitivity. On the other hand, strategic, major but non-strategic, and operational (day-to-day) decisions were thought to be less influenced by environmental issues (mean = 3.87, 3.78 and 3.74, respectively).

**Q3. What are the current and perceived inhibitors and enablers for the adoption of EAD practices by Saudi Arabian organisations?**

Campbell (2000) found that CSR practices in the company appeared to be driven by the chairman in office in the UK. Similarly, in the current study, the lack of interest from organisations' managements was thought to be the main reason for not adopting environmental accounting (mean = 3.98), followed by the view that environmental accounting would not generate enough benefits to be worth considering by management (mean = 3.85). Doubt about the benefits of adopting environmental accounting might be the reason for management's lack of interest in it. Complexity and lack of know-how of environmental accounting was ranked third (mean = 2.95). The cost of adopting environmental accounting was viewed as the least influential reason for non-adoption (mean = 2.68). The above rankings point to the importance of environmental awareness on the part of management, since it is viewed as strongly influencing the decision to undertake EAD. However it is worth noting that even if management is willing to adopt EAD, it may not be able to do so because of opposing external powers. This was indicated by Rowe and Wehrmeyer (2001), who found that, in China, short-term economic

prosperity prevailed over long-term sustainable environmental concerns, even though Chinese business leaders hold positive beliefs and values about the environment.

As regards reasons preventing organisations from disclosing EI, the non-existence of mandatory requirements to disclose EI (mean = 4.13) and non-requirement by Saudi accounting standards (mean = 4.10) were perceived as the most important reasons for organisations not to disclose EI. Lack of demand from stakeholders and lack of importance of EI to stakeholders were the third (mean = 3.82) and fourth (mean = 3.38) important reasons, respectively. The latter finding contrasts with the finding of Perry and Sheng (1999), who found it to be the least influential reason for non disclosure of EI. Lack of expertise, sensitivity of information, and the costliness of production and disclosure of information were ranked fifth (mean = 3.27), sixth (mean = 2.90), and seventh (mean = 2.64), respectively. The present study's findings differ from those of Jones (2000) in which complexity was placed in first position among reasons preventing companies from disclosing certain EI; and those of Wycherley (1997), who reported that the cost of collecting EI in many cases outweighed the value of such information.

Improvement of the organisation's image in the eyes of the public was considered the most influential reason for the disclosure of EI (mean = 4.06). This result concurs with that in many other studies, including ACCA (2002), Belal (2000), Deegan and Rankin (1996), Deegan *et al.* (2000), Jones (2000), KPMG (2002), Neu *et al.* (1998), Roberts (1992),

and Wiseman (1982), but differs from that of Fortes and Åkerfeldt (1999), who found improving competitiveness in today's business environment the most important driver for environmental reporting. The second most influential reason for the disclosure of EI in the present study was adherence to local environmental laws (mean = 4.05), possibly related to the likely future introduction of such laws that will necessitate the disclosure of EI.

The desire to market an organisation's product(s) was placed third (mean = 3.97), followed by meeting the demand of stakeholders for EI (mean = 3.93). These two reasons are correlated with customers' level of environmental awareness, which was reported to be an influential reason for the disclosure of EI in the studies of ACCA (2002) and KPMG (2002). Compliance with international environmental laws and guidelines was ranked in fifth position (mean = 3.78), possibly because there are no mandatory international environmental laws. The only regulations that exist are of a guiding nature, such as ISO 14000, the GRI, and the EMAS. Saudi companies' business ties with the outside world are limited at this time to a very small number, such as SABIC. These ties may become stronger in the future due to globalisation of business; hence compliance with international laws may become a future driving force and push Saudi companies to disclose more EI. Similar conclusions were reached by ACCA (2002), Hackston and Milne (1996), and Moneva and Llana (2000). The desire to attract investors was ranked sixth (mean = 3.74) among the reasons for disclosure, indicating that investors do not



put a great deal of emphasis on EI when they make their investment decisions. This may be due to the perception that the majority of today's investors concentrate on short-term returns, while environmental issues may have long-term consequences. Finally, the least influential factor on disclosure practice was viewed as the organisation's awareness of its social responsibilities (mean = 3.54), although there is always the possibility that an organisation's management may decide to disclose EI to take the initiative or to lead in best practice (see Gray *et al.*, 1995b).

#### **Q4. Who are the current and perceived targets for EI disclosure?**

The overwhelming majority of companies (over 90%) did not disclose any EI to five of the nine suggested user categories, namely current and potential investors, customers, suppliers, and lenders. Disclosure of EI to the media was considered to be most important (mean = 1.43), followed by disclosure to insurance companies (mean = 1.27) (see Table 5-8). Referring to Naser and Abu Baker's (1999) and Perry and Sheng's (1999) results, the general low level of disclosure might be due to the non-existence of disclosure requirements and a lack of demand from information users and other stakeholders, as mentioned earlier.

As for the perceived importance of EI, it was perceived to be important for all nine user categories presented in question QC-2, indicated by the general agreement among all respondents (see Table 5-16). However, the perceived level of importance varied slightly. EI was considered most important to governmental agencies (mean = 4.16), perhaps because the government is thought to be the planner, the developer, and the monitor

of the implementation of all regulations. Potential investors were considered the next group in terms of importance (mean = 4.03), suggesting respondents thought potential investors might consider the environmental performance of the organisation they intend to invest in. This assumption appears to be linked to an expected rise in the environmental awareness of future investors. The media was placed in third position (mean = 3.90), indicating the importance of its role in terms of increasing environmental awareness through its wide coverage and easy accessibility (Brown and Deegan, 1998). Current investors (mean = 3.88), insurance organisations (mean = 3.82), employees (mean = 3.75), suppliers (mean = 3.72), banks and lenders (mean = 3.59), and customers (mean = 3.43) were ranked in the last six positions respectively. Similar findings were reported by Frost and Wilmshurst, (1996) and Fortes and Åkerfeldt (1999). The general high mean scores (3.43 to 4.16) may point to the high level of perceived importance of EI to all information users. They may also indicate the need for organisations operating in Saudi Arabia to start considering environmental issues and adopting measures that will allow for the production and disclosure of EI.

#### **Q5. What is the current and perceived form of EI disclosure?**

It seems that, due to lack of regulations, disclosure of EI is currently voluntary. Companies who are currently disclosing EI do so on their own initiative; and since there are no guidelines or standards, companies use the form that suits them and include the information they want to

disclose. Those companies that stated that they usually disclose EI indicated that they disclosed qualitative positive EI. They never included any quantitative information, whether financial or non-financial. These findings concur with those reported in previous studies conducted by ACCA (2002), Andrew *et al.* (1989), Belal (2000), Deegan and Gordon (1996), Deegan and Rankin (1996), de Villiers (1998), Fun (2002), Lodhia (2003) Moneva and Llena (2000), Niskala and Pretes (1995), Savage (1994), and Teoh and Thong (1984).

The preferred form was perceived to be a mixture of qualitative, quantitative and financial forms (mean = 4.15), and a preference to disclose EI at any time, regardless of the form taken. The second preferred form was a combination of qualitative and financial forms (mean = 3.01). The high ranking of this combination suggests that respondents like to have precise information, such as financial information, while at the same time they acknowledge the difficulty of quantifying EI, as supported by respondents placing the combination of quantitative and financial forms in third position (mean = 2.88) and the combination of qualitative and quantitative (non-monetary) forms in fourth position (mean = 2.78). Non-combination forms (i.e. only financial, only qualitative and only quantitative) were placed in the last three positions, with mean values of 2.76, 2.37 and 2.37, respectively (see Table 5-24). One might infer from the low ranking of the separate forms that each form alone is perceived as insufficient to show the real state of environmental performance and will not fulfil the needs of

information users.

**Q6. What is the current and perceived timing of EI disclosure?**

Disclosure of information may be on a regular basis, such as annually or biannually, or irregular such as at the discretion of the organisation's management or upon the request of stakeholders. The results indicated an overall low level of EI disclosure, which is done on an *ad hoc* basis (i.e. at the discretion of the organisation's management, 12.5%) and when there is good/positive environmental news that a company wanted to convey to its stakeholders (12.5%). The overwhelming majority of companies (96.4%) never disclosed bad/negative environmental news. Disclosing EI on a regular basis, i.e. in annual reports, was also very low; less than one tenth (7.1%) of companies used this timing for disclosure (see table 5-10).

The disclosure of bad/negative news was perceived as the most preferred occasion for disclosure (mean = 4.07), indicating that respondents perceived companies tend to disclose only positive news and hide bad or negative news if the decision was left to them. Results of previous studies supports this claim (see, for example Deegan and Gordon, 1996; Deegan and Rankin, 1996; and Fun, 2002). The disclosure of EI on a regular basis in annual reports gained very strong support (mean = 3.86), indicating the desire for EI to be disclosed on a regular basis. The least preferred timing was the disclosure of EI at the discretion of management (mean = 2.08) (see Table 5-25). Overall, the findings pointed to the need to regulate the cycle of disclosure and introduce guidelines and standards

to govern disclosure practices (similar to the findings of Abu Baker and Naser, 2000; Andrew *et al.*, 1989; Jones, 2000; Niskala and Pretes, 1995; and Stray and Ballantine, 2000).

**Q7. What is the current and perceived medium of EI disclosure?**

Again, the low level of disclosure of EI was evidenced, as over 85% of respondent companies indicated that they did not use any medium to disclose EI (see Table 5-11). This low level of disclosure was also reported in the findings of Belal (2000), KPMG (2002), Kreuze *et al.* (1996), and Perry and Sheng (1999). In the rare event of disclosure, the majority of disclosing companies used the media for their disclosure (slightly over 14%), and about half of this percentage of respondents disclosed EI through their annual reports.

Respondents' perceptions indicated very strong support for the disclosure of EI on a regular basis in specially designated environmental reports, as indicated by placing the interim environmental report and annual environmental report in the first two positions (means = 4.16 and 3.94, respectively), similar to the findings of Jones (2000). The inclusion of EI in annual financial reports was ranked in third place (mean = 3.90) and the board of directors' report was ranked fourth (mean = 3.08). Disclosure in the interim financial report, although more frequent than annual and directors' reports, was placed in last position (mean = 2.97) (see Table 5-26), possibly because these reports are currently not required to be verified by an independent auditor, hence the information included in them is not viewed as reliable (see Letmathe and Doost,

2000; Lightbody, 2000; Tucker and Kasper., 1998; Vinten, 1991).

**Q8. What are the current and perceived subjects of EI disclosure?**

Disclosing information about environmentally related items was rarely practised (mean responses ranged between 1.04 and 1.18), over 89% of responding companies claiming that they never disclosed such information (see Table 5-9). Respondents' perceptions, on the other hand, indicated very strong support for the disclosure of all thirteen items included for evaluation. The mean value for perceptions with respect to each item ranged from 4.06 to 4.35 (see Table 5-27 for more details). Although differences between responses did not vary significantly, disclosure compliance with environmental laws was assigned priority in terms of importance (mean = 4.35), again confirming the importance of introducing legal requirements for EI disclosure. Information about water pollution was placed second in importance (mean = 4.34), highlighting the sensitivity of this issue due to the scarcity of water resources in Saudi Arabia, as indicated in chapter 2, section 2.4.6. Disclosure of EI about air pollution and energy use were equal third in importance (mean = 4.27). Air pollution may be visible in areas where oil and cement production takes place, since smoke, fumes, and dust are perceived by local communities to be hazardous to their health. Information about environmental performance, waste disposal, and recycling were ranked fourth (mean = 4.24), fifth (mean = 4.21) and sixth (mean = 4.19) in importance, respectively. Although ranked eleventh and twelfth in importance, respectively, the means of disclosure of EI about product

LCA and environmental sustainability were both above 4 (4.07 and 4.06, respectively). The low ranking of these two may be due to the perception that companies operating in Saudi Arabia in general do not invent or develop products themselves, instead, they either import the finished products or import the parts and assemble them.

**Q9. What are the current and perceived environmentally related issues Saudi Arabian organisations carry out risk assessment for?**

The majority of companies (over 87%) did not carry out any risk assessment. A small percentage of companies (5.4%) indicated that they carried out assessment of risk deriving from non-compliance with local and international environmental laws and environmental liabilities (see chapter 6, section 6.3.1.3). With respect to perceptions, all three types of risk assessment attracted very strong support, as evidenced by the high response means, which ranged between 4.15 and 4.23. The strongest support was for carrying out assessment of risk deriving from non-compliance with local environmental laws (mean = 4.23). Risk assessments for non-compliance with international laws and environmental liabilities were equal in second place, with mean values of 4.15. Again, this shows the importance of environmental laws as indicated by the high perception means (see Table 5-28).

**Q10. Who is the current and perceived party who is/would be in charge of assessing and reporting the impacts of environmental incidents involving Saudi Arabian organisations?**

Over 62% of responding companies indicated they had not

assigned any party to deal with environmental incidents. About one third of responding companies had assigned an internal department to deal with environmental incidents. A small number (3) of responding companies indicated that they had appointed independent consultants to deal with such incidents.

According to respondents' perceptions there appeared to be strong support for appointing an independent party to be in charge of assessing/reporting the organisation's environmental incidents on a contractual basis. This suggests that respondents thought dealing with environmental incidents should be done in an objective manner. This inference is supported by the ranking of the other options (governmental agency, independent consultant on an ad hoc basis, and organisational department) in second to fourth places (means = 3.73, 2.98 and 2.91, respectively).

Generally, it could be concluded that the adoption of EAD practices by Saudi organisations is currently low. Only (8.9%) among the Top 100 companies had an EP in place. This low level of EAD adoption is similar to the results of most studies in the context of developed and developing countries. For developed countries, Deegan and Gordon (1996), Deegan and Rankin (1999), Gray *et al.* (1995a and 1995b), Hackston and Milne (1996), Hall and Jones (1991), Moneva and Llana (2000), Niskala and Pretes (1995), and Trotman (1979), all found low levels of uptake of EAD. In the context of developing countries, similar results were found by ACCA (2002), Belal (2000), Chiu *et al.* (2002), Fun (2002), Lodhia



(2003) Naser and Abu Baker (1999), Perry and Sheng (1999), Rowe and Wehrmeyer (2001) and Singh and Ahuja (1983).

Decision usefulness prevailed over accountability in explaining current and perceived EAD practice. As discussed in section 3.2.3, stakeholder theory assumes that organisations should be accountable and responsible to a wider set of stakeholders other than their owners. These stakeholders differ in their impact on the organisation because some of them are more powerful than others. In this study, it appears that the needs of the most powerful stakeholders, mainly the owners and to some extent the government, are the focus of management. This focus on the most powerful stakeholders needs could be at the expense of the less powerful, and may be more vulnerable, stakeholders.

There also seems to be a gap between current EAD practice and the expectations of the surveyed respondents. This is indicated by the small level of current EAD practice and the strong support for the adoption of various EAD activities, which was evidenced in the results of the two surveys.

Although the results and analysis of the empirical data indicate a general trend towards the agreement that the adoption of EAD practices is important, testing between the three groups of respondents resulted in significant differences with regard to some of the questions. These differences imply the existence of a gap between the respondents in terms of their perceptions of various aspects relating to EAD practices. In

general, the academic group tend to agree more strongly than the other two groups with any aspect that they thought would promote the adoption of EAD practices or would help protect and improve the environment. Auditors' responses occupied the middle position most of the time. Financial managers, on the other hand, demonstrated the least support with any issue requiring them to make more effort or cause their companies to incur additional costs. In light of this reluctance to adopt EAD practices voluntarily on the side of financial managers, who represent the views of their companies, it seems necessary to mandate EAD.

In developed countries, such as the UK, various stakeholders (including NGOs) may apply pressure on companies that may lead them to adopt EAD practices or disclose information relating to their social and environmental performance. In a developing country such as Saudi Arabia, however, the case is different. Non-governmental pressure groups do not exist. The government is in control of developing and implementing all regulations. Hence, if mandatory requirements are to be introduced, it is the government that has the power to initiate, develop and implement such requirements. Based on the above findings, several recommendations are suggested in the following section.

#### **7.4 RECOMMENDATIONS**

Recommendations based on the findings of both the questionnaire and interview surveys are presented below:

#### 7.4.1 Measurement of Environmental Impact

The conventional accounting system ignores some of the costs associated with performing the activities of organisations, such as the costs of externalities. This results in an unfair evaluation of the results of organisations' activities (see Adams *et al.*, 1999 and FEE, 2000). This problem can be overcome by sincere efforts to measure such costs and incorporate them with other costs. The inclusion of the costs of externalities is expected to result in a better representation of activities. Although it might seem difficult to measure such costs, this difficulty should not deter from the attempt to do so. With further research in this area, the difficulties are expected to lessen, and new measurement techniques are expected to emerge, as evidenced by the formation of ISO 14000, EMAS, and the GRI. Also, international advancements and experience in this regard should be beneficial. Article 32 of the Saudi Basic Law states: "The state works for the preservation, protection, and improvement of the environment, and for the prevention of pollution" (MOP, 2000b). Also, the Fifteenth Objective of the Seventh Five-year Development Plan is: "To continue to protect the environment against pollution and develop appropriate systems, and to preserve natural resources and conserve wildlife" (MOP, 2000b). These two targets could be accomplished with the participation of the concerned governmental agencies, accounting profession, accounting education system, the general education system, and the media. It is recommended that

accounting plays a major role in terms of producing and disclosing EI to facilitate the development of the Saudi Arabian economy and promote the well being of the Saudi society as a whole.

Organisations operating in Saudi Arabia should develop and implement EPs and EISs that are appropriate for their size and activities. The EPs should include all commitments that will lead to limiting negative effects on the environment and, if possible, enhance the positive effects. The EISs should facilitate the production and disclosure of EI. It is suggested that measurement of all environmental impacts is carried out by all organisations operating in Saudi Arabia. This measurement is expected to benefit both management and stakeholders. Management will practically be able to take informed decisions due to greater information as input for its decisions. Stakeholders, on the other hand, will be able to distinguish between environmentally friendly and non-environmentally friendly organisations, hence give more support to environmentally sound practices, which, in the end, will benefit all parties.

#### **7.4.2 Production and Disclosure of EI**

Information could be produced to serve the needs of internal or external parties or both. There appeared to be very strong evidence that the production of EI should take both internal and external needs into account. Results of both the questionnaire and interview surveys suggested that EI is important for a spectrum of users (see sections 5.4.3 and 6.3), such as current and potential investors, governmental agencies, money lenders, customers, suppliers, etc. If the information produced for

internal use could benefit external parties and is not sensitive competition wise, it could be disclosed to external users as it is or with slight modifications. Therefore, it is recommended that the production of EI takes both the needs of internal and external users into account and such information should be disclosed to external users if it is deemed safe to do so.

Disclosure of information about all sorts of environmentally related items elicited extremely strong support from all respondents in this study, as evidenced by their high overall mean values, which ranged between 4.35 and 4.06 (Table 5-27), and support for them from all interviewees. Hence, it is recommended that companies disclose information relating to all environmental items, which should include, but not be limited to, air, water and land pollution, energy use, waste disposal and recycling, compliance with environmental laws, and other environmental performance indicators. The disclosed information may help all stakeholders in Saudi Arabia by providing them with useful information. Among the stakeholders are the Saudi governmental agencies responsible for planning and those who are in charge of the protection and development of the environment. These agencies would be able to find information about the usage of water, energy and other natural resources. They also would be able to compare the environmental performances of different disclosing companies (see section 2.2.3.2.2.1).

Timing of disclosure of EI should be regulated to take place in a systematic way. There was obvious support for the disclosure of EI more

regularly and in specially designated reports, i.e. interim and annual environmental reports, which is in line with Jones's (2000) recommendations. At present it may be difficult to mandate such a requirement; however it is recommended that companies start disclosing EI regularly as soon as possible. They could even start to disclose EI within their board of director's or annual reports until the regulations and knowledge become available to allow them to produce environmentally designated annual and interim reports. The regular disclosure of EI may provide the chance to compare the environmental performances of the disclosing companies. Also, it may allow the comparison of the environmental performance of the same disclosing company at different points in time.

Jones (2000) recommended that disclosure of EI should take a quantified form. It is recommended that the form of EI disclosure be quantitative and as much as possible in monetary terms, which supports recommendations. However, because the current circumstances do not allow such a form, it is recommended to use whichever form is available to disclose EI. Such disclosure is expected to improve with time. Further research on new methods of measurement of environmental impacts will ultimately lead to quantification and fair presentation of such information.

#### **7.4.3 The Governmental Agencies' Role**

There is a need for collaborative efforts between all governmental agencies involved with developmental planning and implementation in

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the Kingdom and in agencies concerned with environmental issues, such as the MEPA, NCWCD, MOP, MOPMR, MOMRA, and KACST. This collaboration would help to minimise time and costs, prevent duplication of effort, and encourage the exchange of experiences between the agencies. Because of the central role assigned to it by the government, the MEPA could be the body to coordinate collaborative efforts.

#### **7.4.4 The Need for the SOCPA's Intervention**

Many researchers in developed and developing countries (such as Chiu *et al.*, 2002; Deegan *et al.*, 2000; de Villiers, 1998; Enderle and Peters, 1998; Fortes and Åkerfeldt, 1999; Frost and Wilmshurst, 1996; Hall and Jones, 1991; Jones, 2000; KPMG, 2002; Lodhia, 2003; Mezher and Zreik, 2000; and Perry and Sheng, 1999) have recommend introducing mandatory requirements for EI disclosure. The results of this study indicate that the lack of legal requirements that mandate the disclosure of EI is the most important reason behind the low level of EI disclosure. This low level could be elevated by the introduction of mandatory disclosure requirements. The SOCPA is the body responsible for regulating accounting in Saudi Arabia (see sections 2.3.4 and 2.3.5); hence it should play a major role in the development and implementation of EAD standards. This could be achieved through research and by examining EAD practices worldwide and utilising the gained knowledge to introduce new standards or modify existing ones (such as the GPDS) that incorporate the measurement of environmental impacts and the disclosure of EI.

#### **7.4.5 NGOs' Role**

At present, it is apparent that an accountability framework to hold companies responsible for their environmental impacts does not exist in Saudi Arabia. This is indicated by the results of both surveys showing respondents' perceptions of the Saudi government's overall power in driving matters in the country. Hence, the researcher recommends the identification, development, and implementation of an accountability framework, within which social EI is disclosed to a wider set of stakeholders and is not just for the use of company owners and the government. Tilt (1994) argues that NGOs represent the views of a broader cross-section of the community; hence organisations need to consider the views of such groups. The absence of NGOs in Saudi Arabia contributes to the lack of environmental regulations. There were some indications that such NGOs might play a positive role, if introduced, in the promotion and development of the environment through manifesting the public's environmental concerns.

#### **7.4.6 Education's Role**

Mezher and Zreik (2000) and Perry and Sheng (1999) pointed to the importance of educational initiatives to stimulate environmental awareness. General education and university level education in Saudi Arabia could significantly increase the environmental awareness level and create new generations that are environmentally well-informed. Recommendations to include environmental issues in some courses were proposed by some interviewees. Also, it was recommended that



environmental accounting should be included in accounting programmes in Saudi Arabia (see Bebbington, 1997; and Mathews, 2001). Other institutions, such as the Saudi Chamber of Commerce, could help to raise the environmental awareness of companies' managers through seminars, conferences, and training programmes.

#### **7.4.7 The Media's Role**

Brown and Deegan's (1998) study showed a significant association between level of media attention and level of environmental disclosure in annual reports. Because the media can reach large audiences, it is perceived to play a major role in the promotion of environmental awareness, sustainability, and the protection of future generations' rights. The media could achieve these goals through discussion of these issues in newspapers, magazines, radio and TV programmes.

#### **7.4.8 Risk Assessment**

It is recommended that companies consider all risks associated with environmental issues, such as non-compliance with environmental laws and environmental liabilities that might result from accidents or disasters. This consideration is in line with the accounting precautionary principle which accounts for expected liabilities and supports KPMG's (2002) findings.

#### **7.4.9 Environmental Incidents**

It is recommended that an independent party carry out the evaluation and reporting of environmental incidents to assure objectivity and fairness

and to deter fraud. Also, it is advised that the concerned company participates in providing the needed information.

## **7.5 LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH**

The current and perceived practices of EAD in Saudi Arabia have been the main concerns of this study. In order to achieve the study's objective, two instruments were utilised for the collection of data (namely, the questionnaire and semi-structured interviews). Each instrument suffers from limitations and drawbacks. Both instruments included questions eliciting the respondents' perceptions on the issues under study. However, respondents' responses may have been influenced by their values, beliefs, and other factors, which may in turn have affected the quality and generalisability of the findings. In order to reduce these limitations and deficiencies and enhance the quality of findings, both methods were used in combination and the results triangulated. To improve the generalisability of the findings, respondents were drawn from among the financial managers of the Top 100 Saudi companies, thus findings can be generalised to this company segment only. Nevertheless, the large companies are perceived to be innovators in new practices and set trends that other companies follow, as pointed out by Gray *et al.* (1995a).

This study could have explored practices relating to other issues, such as social accounting. However, time and cost constraints made it impossible to include such issues in the study. Also, the inclusion of such issues

might have resulted in lengthy questionnaires and interviews which might have led to loss of focus and a lowering of the quality of the data.

Another possible limitation to this study is associated with the selection of the Top 100 Saudi companies as the sample for examining current EAD practices. The researcher spent a long time searching for other groups of companies to include in the study, but unfortunately no other list existed to provide other candidates for a potential sample. Section 4.4.1.1 in chapter four presented the rationale for choosing this group of companies.

Because this study has focused on EAD practices in Saudi Arabia, other research is needed to explore practices relating to social accounting other than EAD. Also, research is recommended in the context of other GCC countries and other Arab countries to explore social and environmental accounting to fill the gap in the accounting literature relating to these countries. Also, it is necessary to explore EI disclosure practices by Saudi Arabian companies on the Internet, because there is international evidence that companies are increasingly using the Internet to disclose different types of information (see section 3.9). Further, this study found strong support for the introduction of a new accounting standard by the SOCPA to regulate EAD practices, pointing to the need for more research in this area to help the SOCPA identify the needs and qualities of EI and develop the needed standard. The research proposed should include the views of all interested parties such as companies, concerned

governmental agencies, auditors, academics, and other stakeholders.

Finally, it is hoped that this research will make a positive contribution to Saudi life, and as a result of it, Saudi Arabia will make a contribution to the region's practice, and become a model for other developing countries in the world.

## **BIBLIOGRAPHY**

## BIBLIOGRAPHY

- AAA.(1966), A Statement of Basic Accounting Theory. Sarasota, FL, USA: American Accounting Association.
- Abbott, W. F. and Monsen, R. J. (1979), "On the Measurement of Corporate Social Responsibility: Self-Reported Disclosures as a Method of Measuring Corporate Social Involvement". *The Academy of Management Journal*, 22, (3), pp. 501-515.
- Abdeldayem, M. M. (2003), *An Examination into the Impact of the Egyptian Privatisation Programme : With Special Reference to Financial and Operating Performance*. Ph.D., UWC.
- Abu Baker, N. and Naser, K. (2000), "Empirical Evidence on Corporate Social Disclosure (CSD) Practices in Jordan". *International Journal of Commerce and Management*, 10, (3/4), pp. 18-34.
- ACCA.(2002), The State of Corporate Environmental Reporting in Malaysia, 2002.London: The Association of Chartered Certified Accountants. p. 72
- ACCA.(2003), The Big Picture: How the Environment Influences Corporate Profit. London: The Association of Chartered Certified Accountants.
- Adams, C., Hill, W. Y. and Roberts, C.(1995), Environmental, Employee and Ethical Reporting in Europe. London: ACCA.
- Adams, C. A., Hill, W.Y. and Roberts, C. B. (1998), "Corporate Social Reporting Practices in Western Europe: Legitimizing Corporate Behaviour?" *The British Accounting Review*, 30, (1), pp. 1-21.
- Adams, R., Houldin, M. and Slomp, S. (1999), "An Fee Approach to Environmental Accounting". *Accounting and Business*.
- Al Jadaan, M. and Mercer, P.(2001), Saudi Arabian Environmental Laws. Riyadh: The Law Firm of Yousef and Mohammed Al-Jadaan.
- Al-Amari, S. R. (1989), *The Development of Accounting Standards and Practices in the Kingdom of Saudi Arabia*. Ph.D., Glasgow University.

- Al-Bogami, S. A. (1996), *An Examination of the Usefulness of Interim Financial Statements to Investors in the Saudi Stock Market*. Ph.D. Thesis, University of Dundee.
- Al-Dhowaihy, M. O. (2003), *Management Accounting Practices of Saudi Arabian Municipalities*. Ph.D., University of Wales, Cardiff.
- Alebaishi, M. A. I. (1998), *Management Accounting in the Industrial Sector of Saudi Arabia*. Ph.D., University of Wales.
- Al-Faisal, A. M.(1981), Comments on Auditing Standards and the External Auditor's Report. Riyadh: KSU, (published in Arabic)
- Al-Faisal, A. M. (1992), The Accounting Profession in Saudi Arabia. In: Anyane-ntow, K. ed. *International Handbook of Accounting Education and Certification*. Oxford: Pergamon Press, pp. 127-140.
- Al-Farsy, F. (1986), *Saudi Arabia : A Case Study in Development*. 2nd ed. London: KPI, p. 264.
- Al-Farsy, F. (1999), *Modernity and Tradition : The Saudi Equation*. Guernsey, Channel Islands: Knight Communications, p. 344.
- Al-Farsy, F. (2001), *Custodians of the Two Holy Mosques: King Fahd Bin Abdul Aziz*. 1st ed. Channel Islands: Knight Communications, p. 282.
- Algaber, N. A. S. (1995), *The Financial and Management Accounting Practices of British and Saudi Arabian Universities*. Ph.D., University of Wales.
- Almahmoud, S. A. (2000), *The Usefulness of Annual Report Information to Participants in the Saudi Stock Market*. Ph.D., University of Wales.
- Al-Motairy, O. S. (2000), *Understanding the Emergence and Functioning of the Organising and Regulating of the Auditing Profession in Saudi Arabia: A Foucauldian Perspective*. Ph.D. Thesis, University of Essex.
- Alnajjar, F. K. (2000), "Determinants of Social Responsibility Disclosures of U.S. Fortune 500 Firms: An Application of Content Analysis". *Advances in Environmental Accounting and Management*, 1, pp. 163-200.

- Al-Rashed, R. A. ed. (Year), of Conference. *the Second Accounting Conference*  
Riyadh: Saudi Arabia, (published in Arabic)
- Al-Rehaily, A. S. F. (1992), *The Evolution of Accounting in Saudi Arabia: A Study of Its Relevance to the Social and Economic Environment*. Ph.D., University of Hull.
- Al-Rumaihi, J. S. H. (1997), *Setting Accounting Standards in a Non-Western Environment with Special Reference to the Kingdom of Saudi Arabia*. Ph.D. Thesis, University of Dundee.
- Al-Turaief, M. S. (1996), *Wildlife and Natural Reserves Conservation Systems in Saudi Arabia*. Riyadh: The National Commission for Wildlife Conservation and Development (NCWCD), p. 123, (published in Arabic)
- Anderson, R. H. (1980), "Attitudes of Chartered Accountants to Social Responsibility Disclosure in Australia". *Chartered Accountant in Australia*, 10, (1), pp. 12-16.
- Andrew, B. H., Gul, F. A., Guthrie, J. E. and Teoh, H. Y. (1989), "A Note on Corporate Social Disclosure Practices in Developing Countries: The Case of Malaysia and Singapore". *British Accounting Review*, 21, (4), p. 371-376.
- Arab News (2002), *Top 100 Saudi Companies 2001*. Arab News. 19/1/2002. pp. 42-46.
- Ash Shura (2003), "Ash Shura Journey in Decades... A Foundation for Administration and Regulation (in Arabic)". *Ash Shura*, (44), (published in Arabic)
- Babbie, E. R. (2001), *The Practice of Social Research*. 9th ed. Belmont, CA: Wadsworth Thomson Learning.
- Ba-Eissa, M. O. (1984), *The Professionalisation of Accounting: A Study of the Development of the Accountancy Profession, with a Special Reference to Great Britain, the United States and Saudi Arabia*. Ph.D., University of Kent at Canterbury.
- Bailey, K. D. (1994), *Methods of Social Research*. 4th ed. New York: Maxwell Macmillan International, p. 588.



- Bansal, P. and Howard, E. eds. (1997), *Business and the Natural Environment*. Oxford ; Boston: Butterworth-Heinemann, p. 278.
- Bauer, M. and Gaskell, G. (2000), *Qualitative Researching with Text, Image and Sound : A Practical Handbook*. London: SAGE, p. 384.
- Baylis, R., Connell, L. and Flynn, A. (1998a), "Company Size, Environmental Regulation and Ecological Modernization: Further Analysis at the Level of the Firm". *Business Strategy and the Environment*, 7, (5), p. 285–296.
- Baylis, R., Connell, L. and Flynn, A. (1998b), "Company Size, Environmental Regulation and Ecological Modernization: Further Analysis at the Level of the Firm". *Business Strategy and the Environment*, 7, (5), pp. 285-296.
- Bebbington, J. (1997), "Engagement, Education and Sustainability a Review Essay on Environmental Accounting". *Accounting, Auditing and Accountability Journal*, 10, (3), pp. 365-381.
- Bebbington, J. (1999), "Compulsory Environmental Reporting in Denmark: An Evaluation". *Social and Environmental Accounting*, 19, pp. 2-4.
- Bebbington, J., Gray, R. and Owen, D. (1999), "Seeing the Wood for the Trees: Taking the Pulse of Social and Environmental Accounting". *Accounting, Auditing and Accountability Journal*, 12, (1), pp. 47-51.
- Beck, U. (1992), *Risk Society : Towards a New Modernity*. London: Sage Publications, p. 260.
- Becker, P. H. (1993), "Common Pitfalls in Published Grounded Theory Research". *Qualitative Health Research*, 3, pp. 254-260.
- Belal, A. R. (2000), "Environmental Reporting in Developing Countries: Empirical Evidence from Bangladesh". *Eco-Management and Auditing*, 7, (3), p. 114–121.
- Belkaoui, A. (1976), "The Impact of the Disclosure of the Environmental Effects of Organisational Behaviour on the Market". *Financial Management*, 5, (4), pp. 26-31.

- Belkaoui, A. (1980), "The Impact of Socio-Economic Accounting Statements on the Investment Decision: An Empirical Study". *Accounting, Organizations and Society*, 5, (3), pp. 263-283.
- Belkaoui, A. (1984), *Socio-Economic Accounting*. Westport, London: Quorum Books, p. 324.
- Belkaoui, A. (1994), *Accounting Theory*. 3rd ed. London: Dryden Press, p. 539.
- Belkaoui, A. and Karpik, P. G. (1989), "Determinants of the Corporate Decision to Disclose Social Information". *Accounting, Auditing and Accountability Journal*, 2, (1), pp. 36-51.
- Boyd, J. W.(1998), Searching for the Profit in Pollution Prevention: Case Studies in the Corporate Evaluation of Environmental Opportunities. *Discussion Paper 98-30*. Washington, DC: Resources for the Future.
- Brown, N. and Deegan, C. (1998), " The Public Disclosure of Environmental Performance Information - a Dual Test of Media Agenda Setting Theory and Legitimacy Theory". *Accounting and Business Research*, 29, (1), pp. 21-41.
- Bryer, R. A. (1995), "A Political Economy of Ssap22: Accounting for Goodwill". *The British Accounting Review*, 27, (4), pp. 283-310.
- Bryman, A. (2001), *Social Research Methods*. 1st ed. New York, USA: Oxford University Press, p. 540.
- Bulloch, J. (1992), *Reforms of the Saudi Arabian Constitution*. London: Gulf Center For Strategic Studies.
- Burchell, S., Clubb, C. and Hopwood, A. G. (1985), "Accounting in Its Social Context: Towards a History of Value Added in the United Kingdom". *Accounting, Organizations and Society*, 10, (4), pp. 381-413.
- Campbell, D. J. (2000), "Legitimacy Theory or Managerial Reality Construction? Corporate Social Disclosure in Marks and Spencer Plc Corporate Reports, 1969-1997". *Accounting Forum*, 24, (1), pp. 80-100.
- Carroll, A. B. and Buchholtz, A. (1999), *Business and Society : Ethics and Stakeholder Management*. 4th ed. London: International Thomson, p. 750.

- CDS.(2002), Statistical Yearbook. Riyadh: Saudi Arabia: The Central Department of Statistics: Ministry of Planning, (published in Arabic)
- Chiu, A. C., Coppel, L. and Li, D.(2002), The State of Corporate Environmental Reporting in Hong Kong: Executive Summary. London: The Association of Chartered Certified Accountants.
- Chua, W. F. (1986), "Radical Developments in Accounting Thought". *The Accounting Review*, 61, (4), pp. 601-632.
- Churchill, G. A. (1991), *Marketing Research : Methodological Foundations*. 5th ed. Chicago: Dryden Press, p. 1070.
- Churchill, G. A. and Iacobucci, D. (2002), *Marketing Research: Methodological Foundations*. 8th ed. USA: South Western, p. 1006.
- Collison, D. and Slomp, S. (2000), "Environmental Accounting, Auditing and Reporting in Europe: The Role of Fee". *The European Accounting Review*, 9, (1), pp. 31-52.
- Cooper, D. J. (1980), "Discussion of Towards a Political Economy Accounting". *Accounting, Organizations and Society*, 5, (31), pp. 161-166.
- Cooper, D. J. and Sherer, M. J. (1984), "The Value of Corporate Accounting Reports: Arguments for a Political Economy of Accounting". *Accounting, Organizations and Society*, 9, (3/4), pp. 207-232.
- Cormier, D. and Gordon, I. M. (2001), "An Examination of Social and Environmental Reporting Strategies". *Accounting, Auditing and Accountability Journal*, 14, (5), pp. 587-616.
- Cowen, S., Ferreri, L. and Parker, L. (1987), "The Impact of Corporate Characteristics on Social Responsibility Disclosure: A Typology and Frequency-Based Analysis". *Accounting, Organizations and Society*, 12, (2), pp. 111-122.
- Cramer, D. (1998), *Fundamental Statistics for Social Research : Step-by-Step Calculations and Computer Techniques Using SPSS for Windows*. 1st ed. London: Routledge, p. 456.

- Christenson, C. (1983), "The Methodology of Positive Accounting". *The Accounting Review*, 58, (1), pp. 1-22.
- Deegan, C. (2002), "The Legitimising Effect of Social and Environmental Disclosures – a Theoretical Foundation". *Accounting, Auditing and Accountability Journal*, 15, (3), pp. 282-311.
- Deegan, C., Geddes, S. and Staunton, J. (1995), "A Survey of Australian Accountants' Attitudes on Environmental Reporting". *Accounting Forum*, 19, (2/3), p. 143–163.
- Deegan, C. and Gordon, B. (1996), "A Study of Environmental Disclosure Practices of Australian Corporations". *Accounting and Business Research*, 26, (3), pp. 187-199.
- Deegan, C. and Rankin, M. (1996), "Do Australian Companies Report Environmental News Objectively? An Analysis of Environmental Disclosures by Firms Prosecuted Successfully by the Environmental Protection Authority". *Accounting, Auditing and Accountability Journal*, 9, (2), pp. 50-67.
- Deegan, C. and Rankin, M. (1999), "The Environmental Reporting Expectations Gap: Australian Evidence". *The British Accounting Review*, 31, (3), pp. 313-346.
- Deegan, C., Rankin, M. and Tobin, J. (2002), "An Examination of the Corporate Social and Environmental Disclosures of BHP from 1983-1997 a Test of Legitimacy Theory". *Accounting, Auditing and Accountability Journal*, 15, (3), pp. 312-343.
- Deegan, C., Rankin, M. and Voght, P. (2000), "Firms' Disclosure Reactions to Major Social Incidents: Australian Evidence". *Accounting Forum*, 24, (1), pp. 101-130.
- De Vaus, D. A. (2002), *Surveys in Social Research*. 5th ed. London: Routledge, p. 379.
- de Villiers, C. (1998), South African Environmental Reporting: What It Is, What It Should Be. *ASIAN-PACIFIC INTERDISCIPLINARY RESEARCH IN ACCOUNTING CONFERENCE (APIRA) 1998*. The Osaka City University

Media Center. Available at: <URL: <http://www3.bus.osaka-cu.ac.jp/apira98/archives/pdfs/18.pdf>>

- Dierkes, M. and Antal, A. B. (1985), "The Usefulness and Use of Social Reporting Information". *Accounting, Organization and Society*, 10, (1), pp. 29-34.
- Dierkes, M. and Preston, L. E. (1977), "Corporate Social Accounting Reporting for the Physical Environment: A Critical Review and Implementation Proposal". *Accounting, Organizations and Society*, 2, (1), pp. 3-22.
- Dillman, D. A. (1978), *Mail and Telephone Surveys : The Total Design Method*. New York: Wiley-Interscience, p. 325.
- Denzin, N. K. and Lincoln, Y. S. (1998), Introduction : The Discipline and Practice of Qualitative Research. In: Denzin, N.K. and Lincoln, Y.S. eds. *The Landscape of Qualitative Research : Theories and Issues*. 2nd ed. Thousand Oaks, California: Sage, p. 684.
- Ditz, D. and Ranganathan, J. (1997), *Measuring Up : Toward a Common Framework for Tracking Corporate Environmental Performance*. Washington, D.C.: World Resources Institute, p. 40.
- Dowling, J. and Pfeffer, J. (1975), "Organizational Legitimacy: Social Values and Organizational Behavior". *Pacific Sociological Review*, 18, (1), pp. 122-136.
- Easterby-Smith, M., Thorpe, R. and Lowe, A. (1991), *Management Research : An Introduction*. Sage Publications, p. 208.
- Elkharouf, F. W. (1985), Generally Accepted Accounting Principles in Saudi Arabia. In: Zimmerman, V.K. ed. *The Recent Accounting and Economic Developments in the Middle East*. Urbana-Champaign, USA: University of Illinois, pp. 127-150.
- Elkington, J., Kreander, N. and Stibbard, H. (1998), "The Third International Survey on Company Environmental Reporting: The 1997 Benchmark Survey". *Greener Management International*, Spring, (21), p. 99.
- Enderle, G. and Peters, G. (1998), *A Strange Affair? The Emerging Relationship between Ngos and Transnational Companies*. London: Price Waterhouse.

- Environics International.(1999), *The Millennium Poll on Corporate Social Responsibility*. Toronto: Environics International.
- Epstein, M. J. and Freedman, M. (1994), "Social Disclosure and the Individual Investor". *Accounting, Auditing and Accountability Journal*, 7, (4), pp. 94-109.
- Ernst and Ernst.(1972-78), *Social Responsibility Disclosure Surveys 1972-78*.Cleveland, OH, US: Ernst and Ernst.
- FEE.(2000), *Towards a Generally Accepted Framework for Environmental Reporting*. Bruxelles: Fédération des Experts Comptables Européens.
- Fekrat, M. A., Inclan, C. and Petroni, D. (1996), "Corporate Environmental Disclosures: Competitive Disclosure Hypothesis Using 1991 Annual Report Data". *The International Journal of Accounting*, 31, (2), pp. 175-195.
- Fierth, M. (1978), "A Study of the Consensus of the Perceived Importance of Disclosure of Individual Items in Corporate Annual Reports". *The International Journal of Accounting Education and Research*, 14, pp. 57-70.
- Fonda, D. (1999), "After the Spill: Ten Years Later, Alaska's Wilderness Still Struggles to Heal". *Life*, 22, (4), p. 103.
- Fortes, H. J. and Åkerfeldt, K.(1999), *Environmental Reporting in Sweden a Report into the Current Position, Based on a Survey of Swedish Public Companies*. London: Accounting and Finance Group, Middlesex University Business School. p. 38
- Friedman, M. (1962), *Capitalism and Freedom*. Chicago: University of Chicago, p. 202.
- Freeman, R. E. (1984), *Strategic Management : A Stakeholder Approach*. Boston: Pitman, p. 276.
- Frost, G. (2001). "An Investigation of the Introduction of Mandatory Environmental Reporting in Australia" *The Third Asia Pacific Interdisciplinary Research in Accounting Conference (APIRA)* Adelaide, Australia: p. 25.

- Frost, G. and Wilmshurst, T. (1996), "Going Green...but Not Yet". *Australian Accountant*, September, pp. 36-37.
- Frost, G. R. and Wilmshurst, T. D. (2000), "The Adoption of Environment-Related Management Accounting: An Analysis of Corporate Environmental Sensitivity". *Accounting Forum*, 24, (4), pp. 344-365.
- Fun, A.(2002), The State of Corporate Environmental Reporting in Singapore, ACCA 2002.London: Certified Accountants Educational Trust, Association of Chartered Certified Accountants. p. 39
- GAB.(1982), Comprehensive Auditing Standards. Riyadh, Saudi Arabia: General Auditing Bureau, (published in Arabic)
- Gamble, G. O., Hsu, K., Jackson, C. and Tollerson, C. D. (1996), "Environmental Disclosures in Annual Reports: An International Perspective". *The International Journal of Accounting*, 31, (3), pp. 293-331.
- Gamble, G. O., Hsu, K., Kite, D. and Radtke, R. R. (1995), "Environmental Disclosures in Annual Reports and 10ks: An Examination". *Accounting Horizons*, 9, (3), pp. 34-54.
- Giddens, A. (1990), *The Consequences of Modernity*. Stanford, CA, USA: Stanford University Press, p. 186.
- Giddens, A. (1993), *Sociology : A Brief but Critical Introduction*. 2nd ed. Basingstoke: Macmillan Education, p. 179.
- Glautier, M. W. E. and Underdown, B. (2000), *Accounting Theory and Practice*. 7th ed. Harlow : Pearson Education.
- Gray, R. (2001), "Thirty Years of Social Accounting, Reporting and Auditing: What (If Anything) Have We Learnt?" *Business Ethics, A European Review*, 10, (1), pp. 9-15.
- Gray, R. (2002), "The Social Accounting Project and Accounting Organizations and Society Privileging Engagement, Imaginings, New Accountings and Pragmatism over Critique?" *Accounting, Organizations and Society*, 27, (7), pp. 687-708.

- Gray, R. and Bebbington, J. (2001), *Accounting for the Environment*. 2nd ed. London: SAGE Publications, p. 359.
- Gray, R., Bebbington, J. and Walters, D. (1993), *Accounting for the Environment: The Greening of Accountancy, Part Ii*. 1st ed. London: Paul Chapman, p. 348.
- Gray, R., Kouhy, R. and Lavers, S. (1995a), "Constructing a Research Database of Social and Environmental Reporting by UK Companies". *Accounting, Auditing and Accountability Journal*, 8, (2), pp. 78-101.
- Gray, R., Kouhy, R. and Lavers, S. (1995b), "Corporate Social and Environmental Reporting a Review of the Literature and a Longitudinal Study of UK Disclosure". *Accounting, Auditing and Accountability Journal*, 8, (2), pp. 47-77.
- Gray, R., Owen, D. and Adams, C. (1996), *Accounting & Accountability : Changes and Challenges in Corporate Social and Environmental Reporting*. London,: Prentice-Hall, p. 332.
- Gray, R., Owen, D. and Maunders, K. (1987), *Corporate Social Reporting : Accounting and Accountability*. 1st ed. Englewood Cliffs, London: Prentice-Hall International, p. 224.
- Gray, R., Owen, D. and Maunders, K. (1988), "Corporate Social Reporting: Emerging Trends in Accountability and the Social Contract". *Accounting, Auditing and Accountability*, 1, (1), pp. 6-20.
- Guthrie, J. E. and Parker, L. D. (1989), "Corporate Social Reporting: A Rebuttal of Legitimacy Theory". *Accounting and Business Research*, 19, (76), pp. 343-352.
- Hackston, D. and Milne, M. J. (1996), "Some Determinants of Social and Environmental Disclosures in New Zealand Companies". *Accounting, Auditing and Accountability Journal*, 9, (1), pp. 77-108.
- Hakim, C. (2000), *Research Design : Successful Designs for Social and Economic Research*. 2nd ed. London ; New York: Routledge, p. 256.
- Hall, C. and Jones, M. (1991), "Social Responsibility Accounting: Myth or Reality?" *Management Accounting (British)*, March, pp. 34-35, 40.



- Harte, G., Lewis, L. and Owen, D. (1991), "Ethical Investment and the Corporate Reporting Function". *Critical Perspectives on Accounting*, 2, (3), pp. 227-253.
- Hofer, C. W., Murray, E., Caharan, R. and Pitts, R. (1980), *Strategic Management : A Casebook in Business Policy and Planning*. St. Paul: West Publishing Co., p. 613.
- Hogner, R. H. (1982), "Corporate Social Reporting: Eight Decades of Development at Us Steel". *Research in Corporate Performance and Policy*, 4, pp. 243-250.
- Holland, L. and Foo, Y. B. (2003), "Differences in Environmental Reporting Practices in the Uk and the Us: The Legal and Regulatory Context". *The British Accounting Review*, 35, (1), pp. 1-18.
- Hopwood, A. G. (1987), "The Archaeology of Accounting Systems". *Accounting, Organizations and Society*, 12, (3), pp. 207-234.
- Hopwood, A. G. and Miller, P. eds. (1994), *Accounting as Social and Institutional Practice*. Cambridge ; New York: Cambridge University Press, p. 324.
- Jackson, P. M. (1982), *The Political Economy of Bureaucracy*. Oxford: Philip Allen.
- Johany, A. D., Berne, M. and Mixon Jr., J. W. (1985), *The Saudi Arabian Economy*. London: Croom Helm, p. 189.
- Jones, K. (2000), *Study on Environmental Reporting by Companies*. Luxembourg: European Communities Commission, p. 187.
- Jones, K., Alabaster, T. and Hetherington, K. (1999), "Internet-Based Environmental Reporting". *Greener Management International*, (26), pp. 69-90.
- Jones, M. J. (1996), "Accounting for Biodiversity: A Pilot Study". *British Accounting Review*, 28, (4), pp. 281-303.
- Jones, M. J. (2003), "Accounting for Biodiversity: Operationalising Environmental Accounting". *Accounting, Auditing and Accountability*, 16, (5), pp. 762-789.
- Jones, M. J. and Matthews, J.(2000), *Accounting for Biodiversity: A Natural Inventory of the Elan Valley Nature Reserve*. London: The Association of Chartered Certified Accountants. Occasional Research Paper No. 29, p. 45

- Karbhari, Y. (1997), *Managerial Reforms in Government and the Impact of the Agencification Programme on Accounting, Accountability and Effectiveness*. Ph.D., UWC.
- Kinnear, T. C. and Taylor, J. R. (1991), *Marketing Research: An Applied Approach*. 4th ed. New York ; London: McGraw-Hill, p. 856.
- Kolk, A. (1999), "Evaluating Corporate Environmental Reporting". *Business Strategy and the Environment*, 8, (4), pp. 225-237.
- KPMG.(2002), KPMG International Survey of Corporate Sustainability Reporting 2002.Amsterdam: Amsterdam graduate Business School, University of Amsterdam and KPMG Sustainability Services. p. 32
- Kreuze, J. G., Newell, G. E. and Newell, S. J. (1996), "What Companies Are Reporting. (Environmental Disclosures)". *Management Accounting (USA)*, 78, (1), pp. 37-43.
- Lackner, H. (1978), *A House Built on Sand: A Political Economy of Saudi Arabia*. London: Ithaca Press.
- Lemon, A. J. and Cahan, S. F. (1997), "Environmental Legislation and Environmental Disclosure: Some Evidence from New Zealand". *Asian Review of Accounting*, 5, (1), pp. 78-105.
- Letmathe, P. and Doost, R. K. (2000), "Environmental Cost Accounting and Auditing". *Managerial Auditing Journal*, 15, (8), pp. 424-430.
- Lickiss, M. (1991), "Measuring up to the Environmental Challenge". *Accountancy*, 107, (1169), p. 6.
- Lightbody, M. (2000), "Environmental Auditing: The Audit Theory Gap". *Accounting Forum*, 24, (2), pp. 151-169.
- Lindblom, C. K. (1994), The Implications of Organizational Legitimacy for Corporate Social Performance and Disclosure. *Paper presented at the Critical Perspectives on Accounting Conference*. New York.

- Lodhia, S. K. (2003), "Accountants' Responses to the Environmental Agenda in a Developing Nation: An Initial and Exploratory Study on Fiji". *Critical Perspectives on Accounting*, 14, (7), p. 715–737.
- Lynn, M. (1992), "A Note on Corporate Social Disclosure in Hong Kong". *The British Accounting Review*, 24, (2), pp. 105-110.
- Marples, D. R. (1988), *The Social Impact of the Chernobyl Disaster*. New York: St.Martin's Press, p. 313.
- Mason, J. (2002), *Qualitative Researching*. 2nd ed. London ; Thousand Oaks, California.: Sage, p. 223.
- Mathews, M. R. (1993), *Socially Responsible Accounting*. 1st ed. London: Chapman & Hall, p. 249.
- Mathews, M. R. (1997), "Twenty-Five Years of Social and Environmental Accounting Research Is There a Silver Jubilee to Celebrate?" *Accounting, Auditing and Accountability Journal*, 10, (4), pp. 481-531.
- Mathews, M. R. (2000), "The Development of Social and Environmental Accounting Research 1995-2000".
- Mathews, M. R. (2001), "Some Thoughts on Social and Environmental Accounting Education". *Accounting Education*, 10, (4), p. 335–352.
- Mathews, M. R. and Perera, M. H. B. (1996), *Accounting Theory and Development*. 3rd ed. Melbourne: Nelson, p. 402.
- MEPA.(2002), History of the Meteorology and Environmental Protection Administration. Jeddah: Saudi Arabia: Meteorology and Environmental Protection Administration, (published in Arabic)
- Mezher, T. and Zreik, C. (2000), "Current Environmental Management Practices in the Lebanese Manufacturing Sector". *Eco-Management and Auditing*, 7, (3), pp. 131-142.
- Meznar, M. B. and Nigh, D. (1993), "Managing Corporate Legitimacy: Public Affairs Activities, Strategies and Effectiveness". *Business and Society*, 32, (1), pp. 30-43.

- Milne, M. J. and Chan, C. C. C. (1999), "Narrative Corporate Social Disclosures: How Much of a Difference Do They Make to Investment Decision-Making?" *The British Accounting Review*, 31, (4), pp. 439-457.
- Milne, M. J. and Patten, D. M. (2002), "Securing Organizational Legitimacy an Experimental Decision Case Examining the Impact of Environmental Disclosures". *Accounting, Auditing and Accountability Journal*, 15, (3), pp. 372-405.
- Mitchell, J. G. (1999), "In the Wake of the Spill: Ten Years after Exxon Valdez". *National Geographic*, 195, (3), pp. 94-95.
- MOC.(1979), Minutes of Higher Committee of Chartered Accountants Meeting No. 3, Self-Employment Professions Archive, Internal Trade Section. Riyadh: Saudi Arabia: Ministry of Commerce, (published in Arabic)
- MOC.(1986), Objectives and Concepts of Accounting. Riyadh: Ministry of Commerce: Saudi Arabia, (published in Arabic)
- MOFNE.(1973), Statistical Year Book. Riyadh: Ministry of Finance and National Economy, (published in Arabic)
- Moneva, J. M. and Llana, F. (2000), "Environmental Disclosures in the Annual Reports of Large Companies in Spain". *European Accounting Review*, 9, (1), pp. 7-29.
- MOP.(1995), Fifth Development Plan. Riyadh: Ministry of Planning, Kingdom of Saudi Arabia, (published in Arabic)
- MOP.(2000a), Achievements of the Development Plans. Riyadh, Saudi Arabia: Ministry of Planning, p. 354, (published in Arabic)
- MOP.(2000b), Seventh Development Plan. Riyadh: Ministry of Planning, Kingdom of Saudi Arabia. p. 384, (published in Arabic)
- Moser, C. and Kalton, G. (1985), *Survey Methods in Social Investigation*. 2nd ed. Gower: Aldershot, p. 555.
- Mouly, G. J. (1978), *Educational Research : The Art and Science of Investigation*. Boston: Allyn and Bacon, p. 390.

- Muhansi, A. (1981), *The Accounting and Auditing Profession in Saudi Arabia. First Accounting Conference*. Riyadh, (published in Arabic)
- Nachmias, C. F. and Nachmias, D. (1996), *Research Methods in the Social Sciences*. 5th ed. London: Arnold, p. 600.
- Naess, A. (1993), The Deep Ecological Debate: Some Philosophical Aspects. In: Zimmerman, M., Callicot, J., Session, G., Warren, K. and Clark, J. eds. *Environmental Philosophy*. Englewood Cliffs, NJ.: Prentice-Hall, p. 193–212.
- Naser, K. and Abu Baker, N. (1999), "Empirical Evidence on Corporate Social Responsibility Reporting and Accountability in Developing Countries: The Case of Jordan". *Advance in International Accounting*, 12, pp. 193-226.
- Neu, D., Wasame, H. and Pedwell, K. (1998), "Managing Public Impressions: Environmental Disclosures in Annual Reports". *Accounting, Organizations and Society*, 23, (3), pp. 265-289.
- Ness, K. E. and Mirza, A. M. (1991), "Corporate Social Disclosure: A Note on a Test of Agency Theory". *The British Accounting Review*, 23, (3), pp. 211-217.
- Newson, M. and Deegan, C. (2002), "Global Expectations and Their Association with Corporate Social Disclosure Practices in Australia, Singapore, and South Korea". *The International Journal of Accounting*, 37, (2), p. 183–213.
- Niskala, M. and Pretes, M. (1995), "Environmental Reporting in Finland: A Note on the Use of Annual Reports". *Accounting, Organizations and Society*, 20, (6), pp. 457-466.
- Noreen, E. (1988), "The Economics of Ethics: A New Perspective on Agency Theory". *Accounting, Organization and Society*, 13, (4), pp. 359-370.
- Nyquist, S. (2003), "The Legislation of Environmental Disclosures in Three Nordic Countries - a Comparison". *Business Strategy and the Environment*, 12, (1), pp. 12-25.
- O'Dwyer, B. (2002), "Managerial Perceptions of Corporate Social Disclosure an Irish Story". *Accounting, Auditing and Accountability Journal*, 15, (3), pp. 406-436.

- Ogden, S. G. and Bougen, P. D. (1985), "A Radical Perspective on Disclosure of Information to Trade Unions". *Accounting, Organization and Society*, 10, (2), pp. 211-224.
- Owen, D. ed. (1992), *Green Reporting : Accountancy and the Challenge of the Nineties*. 1st ed. London: Chapman & Hall, p. 299.
- Owen, D. and Lehman, G. (2000), "Social and Environmental Accounting: Trends and Directions for the Future". *Accounting Forum*, 24, (1), pp. 1-4.
- Owen, D., Gray, R. and Maunders, K. (1987), "Researching the Information Content of Social Responsibility Disclosure: A Comment". *The British Accounting Review*, 19, (2), pp. 169-179.
- Parker, L. and Gould, G. (1999), "Changing Public Sector Accountability: Critiquing New Directions". *Accounting Forum*, 23, (2), pp. 109-135.
- Parker, L. and Roffey, B. H. (1997), "Methodological Themes Back to the Drawing Board: Revisiting Grounded Theory and the Everyday Accountant'S and Manager'S Reality". *Accounting, Auditing and Accountability*, 10(36), (2), pp. 212-247.
- Patten, D. M. (1991), "Exposure, Legitimacy, and Social Disclosure". *Journal of Accounting and Public Policy*, 10, (4), pp. 297-308.
- Patten, D. M. (1992), "Intra- Industry Disclosure in Response to the Alaskan Oil Spill: A Note on Legitimacy Theory". *Accounting, Organization and Society*, 17, (5), pp. 471-475.
- Patten, D. M. (2002), "The Relation between Environmental Performance and Environmental Disclosure: A Research Note". *Accounting, Organizations and Society*, 27, (8), pp. 763-773.
- Perry, M. and Sheng, T. T. (1999), "An Overview of Trends Related to Environmental Reporting in Singapore". *Environmental Management and Health*, 10, (5), pp. 310-320.
- Pinckard, M. and Venter, W.(2002), *Environmental Audit & Regularity Auditing*. New Zealand: New Zealand Office of the Controller and Auditor-General. p.

- PIRCP.(1998), *Environmental and Social Reporting: A Survey of Current Practice at FTSE 350 Companies*. Pensions & Investment Research Consultants Limited.
- Presley, J. R. and Westaway, A. J. (1989), *A Guide to the Saudi Arabian Economy*. 2nd ed. Basingstoke: Macmillan, p. 233.
- Ramanathan, K. V. (1976), "Toward a Theory of Corporate Social Accounting". *The Accounting Review*, 51, (3), pp. 516-528.
- Raynard, P. and Forstater, M.(2002), *Corporate Social Responsibility: Implications for Small and Medium Enterprises in Developing Countries*. Vienna: United Nations Industrial Development Organization (UNIDO). p. 75
- Rivera-Camino, J. (2001), "What Motivates European Firms to Adopt Environmental Management Systems?" *Eco-Management and Auditing*, 8, p. 134–143.
- Roberts, R. W. (1992), "Determinants of Corporate Social Responsibility Disclosure". *Accounting, Organizations and Society*, 17, (9), pp. 595-612.
- Robson, C. (2002), *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. 2nd ed. Oxford: Blackwell Publishers, p. 599.
- Roscoe, J. T. (1975), *Fundamental Research Statistics for the Behavioural Sciences*. 2nd ed. New York: Holt, Rinehart and Winston, p. 483.
- Rowe, A. L. and Wehrmeyer, W. (2001), *Why does the Talk of Positive Environmental Values not match the Walk of Environmental Accountability in Shanghai?*, Paper submitted to: The Third Asian Pacific Interdisciplinary Research in Accounting Conference Adelaide
- SAMA.(1998), Annual Report. Riyadh: Saudi Arabia: Saudi Arabian Monetary Agency, (published in Arabic)
- SAMA.(2002), Annual Report.Riyadh: Saudi Arabia: Saudi Arabian Monetary Agency, (published in Arabic)
- Samuels, J. M. (1990), Accounting for Development: An Alternative Approach',. In: Wallace, R. S. O., Samuels, J.M. and Briston, R.J. eds. *Research in Third World Accounting*. Vol. 1. London: JAI Press, pp. 67-86.
- Sarantakos, S. (1998), *Social Research*. 2nd ed. Basingstoke: Macmillan, p. 488.

- Saunders, M., Lewis, P. and Thornhill, A. (2003), *Research Methods for Business Students*. 3rd ed. Essex: Pearson Education, p. 504.
- Savage, A. (1994), "Corporate Social Disclosure Practices in South Africa: A Research Note". *Social and Environmental Accounting*, 14, (1), p. 2–4.
- Sekaran, U. (1992), *Research Methods for Business : A Skill Building Approach*. 2nd ed. New York: Wiley, p. 428.
- Sekaran, U. (2003), *Research Methods for Business : A Skill Building Approach*. 4th ed. New York: Wiley, p. 450.
- Senani, A. H. (1983), *Underdevelopment in a Capital-Rich Economy*. Iowa State University.
- Shinawi, A. and Crum, W. F. (1971), "The Emergence of Professional Public Accounting in Saudi Arabia". *International Journal of Accounting Education and Research*, 6, (2), pp. 103-110.
- Shocker, A. D. and Sethi, S. P. (1973), "An Approach to Developing Societal Preferences in Developing Corporate Action Strategies". *California Management Review*, 15, (4), pp. 97-105.
- Siegel, S. and Castellan, J. (1988), *Nonparametric Statistics for the Behavioural Sciences*. 2nd ed. New York: McGraw-Hill, p. 399.
- Silver, M. (1997), *Business Statistics*. 2nd ed. London: McGraw-Hill, p. 341.
- Singh, D. and Ahuja, J. (1983), "Corporate Social Reporting in India". *International Journal of Accounting*, 18, (2), p. 151–169.
- SOCPA.(1994), Certified Public Accountants' Regulations .Riyadh, (published in Arabic)
- SOCPA.(2001a), A List of Licensed Certified Public Accountants, (published in Arabic)
- SOCPA.(2001b), SOCPA Archives [Z], 'List of Accountancy Firms Operating in Saudi Arabia'. Riyadh, (published in Arabic)
- Solomon, A. (1998), *An Investigation into a Conceptual Framework for Corporate Environmental Reporting*. PhD, Sheffield University.



- Solomon, A. (2000), "Could Corporate Environmental Reporting Shadow Financial Reporting?" *Accounting Forum*, 24, (1), pp. 30-55.
- Solomon, J. and Solomon, A. (2004), *Corporate Governance and Accountability*. Chichester: Wiley, p. 303.
- Spicer, B. H. (1978), "Investors, Corporate Social Performance and Information Disclosure: An Empirical Study". *The Accounting Review*, 53, (1), pp. 94-111.
- Stanwick, S. and Stanwick, P. (1998), "A Descriptive Analysis of Environmental Disclosures: A Study of the Us Chemical Industry". *Eco-Management and Auditing*, 5, (1), p. 22-37.
- Strauss, A. and Corbin, J. (1990), *Basics of Qualitative Research : Grounded Theory Procedures and Techniques*. London :: Sage Publications, p. 270.
- Stray, S. and Ballantine, J. (2000), "A Sectoral Comparison of Corporate Environmental Reporting and Disclosure". *Eco-Management and Auditing*, 7, (4), pp. 165-177.
- Suchman, M. (1995), "Managing Legitimacy: Strategic and Institutional Approaches". *Academy of Management Review*, 20, (3), pp. 571-610.
- Sudman, S. and Bradburn, N. M. (1982), *Asking Questions*. San Francisco: Jossey-Bass, p. 397.
- Teoh, H.Y. and Thong, G. (1984), "Another Look at Corporate Social Responsibility and Reporting: An Empirical Study in a Developing Country". *Accounting, Organizations and Society*, 9, (2), pp. 189-206.
- The Lancet (2000), "Has the World Forgotten Bhopal?" *The Lancet, Editorial*, 356, (9245), p. 1863.
- Tilt, C. A. (1994), "The Influence of External Pressure Groups on Corporate Social Disclosure Some Empirical Evidence". *Accounting, Auditing and Accountability Journal*, 7, (4), pp. 47-72.
- Tilt, C. A. and Symes, C. F. (1999), "Environmental Disclosure by Australian Mining Companies: Environmental Conscience or Commercial Reality?" *Accounting Forum*, 23, (2), pp. 137-154.

- Tinker, A. M. and Neimark, M. (1987), "The Role of Annual Reports in Gender and Class Contradictions at General Motors: 1917-1976". *Accounting, Organization and Society*, 12, (1), pp. 71-88.
- Tinker, T. (1985), *Paper Prophets : A Social Critique of Accounting*. New York: Eastbourne: Praeger, p. 230.
- Tinker, T. and Okcabol, F. (1991), " Fatal Attractions in the Agency Relationship". *The British Accounting Review*, 23, (4), pp. 329-354.
- Tinker, T. and Puxty, T. eds. (1995), *Policing Accounting Knowledge*. London: Paul Chapman, p. 270.
- Trotman, K. T. (1979), "Social Responsibility Disclosures by Australian Companies". *Chartered Accountants in Australia*, 18, (3), p. 47 – 69.
- Trotman, K. T. and Bradley, G. W. (1981), "Associations between Social Responsibility Disclosure and Characteristics of Companies". *Accounting, Organizations and Society*, 6, (4), pp. 355-362.
- Tsang, E. W. K. (1998), "A Longitudinal Study of Corporate Social Reporting in Singapore: The Case of the Banking, Food and Beverages and Hotel Industries". *Accounting, Auditing and Accountability Journal*, 11, (3), p. 624–635.
- Tucker, R. R. and Kasper., J. (1998), "Pressures for Change in Environmental Auditing and in the Role of the Internal Auditor". *Journal of Managerial Issues*, 10, (3), pp. 340-354.
- Ullmann, A. A. (1976), "The Corporate Environmental Accounting System: A Management Tool for Fighting Environmental Degradation". *Accounting, Organizations and Society*, 1, (1), pp. 71-79.
- Um al Qura (2001), Environmental Regulations. *Um al Qura*. 16/10/2001, (published in Arabic)
- UNCTAD.(1998), Environmental Financial Accounting and Reporting at the Corporate Level. Geneva: United Nations Conference on Trade and Development. p. 22

- Vinten, G. (1991), "The Greening of Audit". *The Internal Auditor*, 48, (5), pp. 30-36.
- Walden, W. D. and Schwartz, B. N. (1997), "Environmental Disclosures and Public Policy Pressures". *Journal of Accounting and Public Policy*, 16, (2), pp. 125-154.
- Wallace, R. S. O. (1988), "Corporate Financial Reporting in Nigeria". *Accounting and Business Research*, 18, (72), pp. 352-362.
- Wallace, R. S. O. (1990), Accounting in Developing Countries: A Review of the Literature. In: Wallace, R. S. O., Samuels, J.M. and Briston, R.J. eds. *Research in Third World Accounting*. Vol. 1. London: JAI Press, pp. 3-54.
- Wallace, R. S. O. and Mellor, C. J. (1988), "Nonresponse Bias in Mail Accounting Surveys: A Pedagogical Note". *British Accounting Review*, 20, (3), pp. 131-139.
- Wallace, R. S. O., Naser, K. and Mora, A. (1994), "The Relationship between the Comprehensiveness of Corporate Annual Reports and Firm Characteristics in Spain". *Accounting and Business Research*, 25, (97), pp. 41-53.
- Watts, R. and Zimmerman, J. (1978), "Towards a Positive Theory of the Determination of Accounting Standards". *The Accounting Review*, 53, (1), pp. 112-134.
- Weber, R. P. (1990), *Basic Content Analysis*. 2nd ed. Newbury Park, CA: Sage Publications, p. 96.
- Wheeler, D. and Elkington, J. (2001), "The End of the Corporate Environmental Report? Or the Advent of Cybernetic Sustainability Reporting and Communication". *Business Strategy and the Environment*, 10, (1), pp. 1-14.
- Williams, M. and May, T. (1996), *Introduction to the Philosophy of Social Research*. London: UCL Press, p. 223.
- Williams, S. M. (1999), "Voluntary Environmental and Social Accounting Disclosure Practices in the Asia-Pacific Region: An International Empirical Test of Political Economy Theory". *The International Journal of Accounting*, 34, (2), pp. 209-238.

- Williams, S. M. and Pei, C.-A. H. W. (1999), "Corporate Social Disclosures by Listed Companies on Their Web Sites: An International Comparison". *The International Journal of Accounting*, 34, (3), pp. 389-419.
- Wilmshurst, T. D. and Frost, G. R. (2000), "Corporate Environmental Reporting a Test of Legitimacy Theory". *Accounting, Auditing and Accountability Journal*, 13, (1), pp. 10-26.
- Wiseman, J. (1982), "An Evaluation of Environmental Disclosures Made in Corporate Annual Reports". *Accounting, Organizations and Society*, 7, (1), pp. 53-63.
- Wolk, H. I., Francis, J. R. and Tearney, M. G. (1992), *Accounting Theory : A Conceptual and Institutional Approach*. 3rd ed. Cincinnati, Ohio, USA: South-Western Publishing Co., p. 605.
- Woodward, D. G., Edwards, P. and Birkin, F. (1996), "Organizational Legitimacy and Stakeholder Information Provision." *British Journal of Management*, 7, (4), pp. 329-347.
- Wycherley, I. (1997), "Environmental Managers and Accounting". *Journal of Applied Management Studies*, 6, (2), pp. 169-184.
- Yamamoto, T. (1995), *Emerging Civil Society in the Asia Pacific Community*. Tokyo: Japan: Center for International Exchange.
- Zeghal, D. and Ahmed, S. A. (1990), "Comparison of Social Responsibility Information Disclosure Media Used by Canadian Firms". *Accounting, Auditing and Accountability Journal*, 3, (1), pp. 38-53.
- Zikmund, W. G. (2000), *Business Research Methods*. 6th ed. Fort Worth, USA: Dryden Press, p. 660.

## **APPENDICES**

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**Appendix A:  
Postal Questionnaire**

**Part 1. Current environmental accounting and disclosure practices:**

The purpose of this part of the survey is to ascertain the current environmental accounting and disclosure practices of your organisation, so please answer the following questions by providing the requested information or by selecting the appropriate answer.

**A. Environmental Accounting:**

**1. Does your organisation have an environmental policy (EP) of some form or other?**

- Yes.
- No. *Please proceed to question 3.*
- An EP is currently under development. *Please proceed to question 3.*
- My organisation plans to develop an EP in the future. *Please proceed to question 3.*

**2. If you answered ‘Yes’ to the preceding question, please tick which of the following commitments are expressly referred to in your organisation’s actual environmental policy?**

1.	Continuous environmental improvement.	
2.	Compliance with appropriate laws, regulations and agreements.	
3.	Compliance with industry voluntary codes of best practice.	
4.	Reduction of environmental impacts caused by production.	
5.	Reduction of environmental impacts arising from the use and disposal of products.	
6.	Reduction of use of renewable and non-renewable natural resources.	
7.	Prevention/reduction of incidents and accidents.	
8.	Reporting of environmental information.	
9.	Continuous education of employees.	
10.	Continuous dialogue with the organisation’s stakeholders.	
11.	The pursuit of ISO 14000.	
	Other, <i>(please specify)</i>	
12.	.....	
13.	.....	
14.	.....	

**3. Does your organisation have an environmental information system (EIS)?**

- Yes.
- No.
- An EIS is under development.
- My organisation plans to develop an EIS in the future.

**4. To what extent, IN GENERAL, does your organisation measure the environmental impacts of its activities?**

- To the extent needed by the management of the organisation.
- To the extent required by mandatory requirements (i.e. governmental requirements)
- To the extent that would allow the organisation to disclose environmental information.
- To the extent that would allow external verification (i.e. by an external auditor).
- The organisation does not measure or record any environmental impacts of its activities.

**5. How often does your organisation measure the financial costs of each of the following environmental items?**

		Never	Rarely	Sometimes	Usually	Always
1.	Raw material use		2	3	4	5
2.	Energy consumption	1	2	3	4	5
3.	Water consumption	1	2	3	4	5
4.	Environmental prevention	1	2	3	4	5
5.	Product life-cycle design and assessment	1	2	3	4	5
6.	Wastes disposal/treatment	1	2	3	4	5
7.	Cleanup/remediation	1	2	3	4	5
8.	Environmental liabilities	1	2	3	4	5
9.	Emission control	1	2	3	4	5
10.	Licences	1	2	3	4	5
11.	Regulation compliance	1	2	3	4	5
12.	Environmental depreciation	1	2	3	4	5
13.	Environmental research and development	1	2	3	4	5
	Other ( <i>please specify</i> )					
14.	.....	1	2	3	4	5
15.	.....	1	2	3	4	5
16.	.....	1	2	3	4	5

**6. How often does your organisation carry out environmental risk assessments?**

		Never	Rarely	Sometimes	Usually	Always
1.	Risk assessment for non-compliance with local laws.	1	2	3	4	5
2.	Risk assessment for non-compliance with international laws.	1	2	3	4	5
3.	Assessment for liabilities that could be imposed on the organisation as a result of an environmental disaster or contamination.	1	2	3	4	5
	Other ( <i>please specify</i> )					
4.	.....	1	2	3	4	5
5.	.....	1	2	3	4	5



**B. Environmental Disclosure:**

**1. How often does your organisation disclose environmental information to each of the following parties?**

		Never	Rarely	Sometimes	Usually	Always
1.	Current investors.	1	2	3	4	5
2.	Potential investors.	1	2	3	4	5
3.	Customers.	1	2	3	4	5
4.	Suppliers.	1	2	3	4	5
5.	Lenders.	1	2	3	4	5
6.	Governmental agencies	1	2	3	4	5
7.	Insurance companies.	1	2	3	4	5
8.	Employees.	1	2	3	4	5
9.	Media.	1	2	3	4	5
	Other ( <i>please specify</i> )					
10.	.....	1	2	3	4	5
11.	.....	1	2	3	4	5
12.	.....	1	2	3	4	5

**2. How often does your organisation disclose environmental information about each of the following items?**

		Never	Rarely	Sometimes	Usually	Always
1.	Air pollution.	1	2	3	4	5
2.	Water pollution.	1	2	3	4	5
3.	Land pollution.	1	2	3	4	5
4.	Waste disposal.	1	2	3	4	5
5.	Energy use.	1	2	3	4	5
6.	Recycling.	1	2	3	4	5
7.	Cost of environmental remediation.	1	2	3	4	5
8.	Environmental cost/budgeting.	1	2	3	4	5
9.	Life-cycle analysis.	1	2	3	4	5
10.	Environmental impact assessments.	1	2	3	4	5
11.	Environmental sustainability.	1	2	3	4	5
12.	Environmental performance.	1	2	3	4	5
	Other ( <i>please specify</i> )	1	2	3	4	5
14.	.....					
15.	.....	1	2	3	4	5
16.	.....	1	2	3	4	5

**3. How often does your organisation disclose environmental information...**

		Never	Rarely	Sometimes	Usually	Always
1.	At the discretion of its management	1	2	3	4	5
2.	Upon the request of stakeholders.	1	2	3	4	5
3.	When there is good news.	1	2	3	4	5
4.	When there is bad news.	1	2	3	4	5
5.	Regularly through the annual reports.	1	2	3	4	5
	<i>Other (please specify)</i>					
6.	.....	1	2	3	4	5
7.	.....	1	2	3	4	5
8.	.....	1	2	3	4	5

**4. Where does your organisation disclose environmental information...**

		Never	Rarely	Sometimes	Usually	Always
1.	In a press release.	1	2	3	4	5
2.	In the board of directors' report.	1	2	3	4	5
3.	In the annual financial report.	1	2	3	4	5
4.	In the interim financial reports.	1	2	3	4	5
5.	In a special environmental report.	1	2	3	4	5
6.	In interim environmental reports.	1	2	3	4	5
	<i>Other (please specify)</i>					
7.	.....	1	2	3	4	5
8.	.....	1	2	3	4	5
9.	.....	1	2	3	4	5

**5. The form that your organisation uses to disclose environmental information is usually...**

		Never	Rarely	Some times	Usually	Always
1.	Only qualitative (descriptive/narrative).	1	2	3	4	5
2.	Only quantitative (non-monetary).	1	2	3	4	5
3.	Only financial (monetary).	1	2	3	4	5
4.	Qualitative and quantitative.	1	2	3	4	5
5.	Qualitative and financial.	1	2	3	4	5
6.	Quantitative and financial.	1	2	3	4	5
7.	A mixture of all forms.	1	2	3	4	5

**6. In the event of an environmental incident, involving your organisation, who would immediately assess and/or report the impact?**

- No one.
- Organisational department.
- Independent consultants who are constantly in charge of the organisation's environmental issues on a contractual basis.
- Independent consultants who are constantly in charge of the organisation's environmental issues on an ad hoc basis.
- Other (please specify).....

**Part 2. Perceptions of environmental accounting and disclosure:**

**C. The purpose of this part of the survey is to elicit your personal perceptions regarding environmental accounting and disclosure practices by organisations operating in Saudi Arabia, so please circle the appropriate number on the basis of the following scale:**

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	2	3	4	5

**1. Please indicate the level of influence you think the environment might have on each of the following items on the basis of the following scale:**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	The profitability of an organisation.	1	2	3	4	5
2	The long-term survival of an organisation.	1	2	3	4	5
3	The competitiveness level of an organisation.	1	2	3	4	5
4	The image of an organisation.	1	2	3	4	5
5	Strategic decisions.	1	2	3	4	5
6	Major but non-strategic decisions.	1	2	3	4	5
7	Expansion or new project decisions.	1	2	3	4	5
8	Operational (day-to-day) decisions.	1	2	3	4	5

**2. Environmental information is important for...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Current investors.	1	2	3	4	5
2	Potential investors.	1	2	3	4	5
3	Customers.	1	2	3	4	5
4	Suppliers.	1	2	3	4	5
5	Banks and lenders.	1	2	3	4	5
6	Governmental agencies.	1	2	3	4	5
7	Insurance organisations.	1	2	3	4	5
8	Employees.	1	2	3	4	5
9	Media.	1	2	3	4	5
	Other, (Please specify)					
10	.....	1	2	3	4	5
11	.....	1	2	3	4	5
13	.....	1	2	3	4	5

**3. An organisation should...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	have an environmental policy.	1	2	3	4	5
2	be held accountable for the effects of its activity on the environment.	1	2	3	4	5
3	account for the environment regardless of its activity.	1	2	3	4	5
4	account for the environment regardless of its size.	1	2	3	4	5
5	account for the environment regardless of its legal status.	1	2	3	4	5
6	have an environmental information system.	1	2	3	4	5
7	have a system to disclose environmental information.	1	2	3	4	5
8	Have a full cost accounting system for all environmental impacts.	1	2	3	4	5

**4. The following commitments should be expressly referred to in an organisation's environmental policy:**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Continuous environmental improvement.	1	2	3	4	5
2	Compliance with appropriate laws, regulations and agreements.	1	2	3	4	5
3	Compliance with industry voluntary codes of best practice.	1	2	3	4	5
4	Reduction of environmental impacts caused by production process.	1	2	3	4	5
5	Reduction of environmental impacts arising from the use and disposal of the final product.	1	2	3	4	5
6	Reduction of the use of renewable and non-renewable natural resources.	1	2	3	4	5
7	Prevention/reduction of accidents.	1	2	3	4	5
8	Reporting of environmental information.	1	2	3	4	5
9	Continuous education of employees.	1	2	3	4	5
10	Continuous dialogue with the organisation's stakeholders.	1	2	3	4	5
	<i>Other (please specify)</i>					
11	.....	1	2	3	4	5
12	.....	1	2	3	4	5
13	.....	1	2	3	4	5

**5. To what extent do you agree with the following reasons for organisations NOT to account for the environment?**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Organisations are unsure of the benefits of environmental accounting.	1	2	3	4	5
2	Accounting for the environment is too complex.	1	2	3	4	5
3	Accounting for the environment is too expensive.	1	2	3	4	5
4	Environmental issues, in general, are not a primary concern for organisations.	1	2	3	4	5
	<i>Other reasons (please specify)</i>					
5	.....	1	2	3	4	5
6	.....	1	2	3	4	5
7	.....	1	2	3	4	5

**6. An organisation should measure the environmental impact of its activities in general to the extent that...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Fulfils the needs of the organisation's management.	1	2	3	4	5
2	Is required by laws and regulations.	1	2	3	4	5
3	Would allow the organisation to disclose environmental information.	1	2	3	4	5
4	Would allow an external auditor to audit it.	1	2	3	4	5

**7. An organisation should financially measure the environmental costs...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	That were incurred (i.e. the cost of energy).	1	2	3	4	5
2	That are expected (i.e. environmental liabilities).	1	2	3	4	5
3	all incurred and expected costs.	1	2	3	4	5

**8. An organisation should financially account for the environmental costs of the...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Raw material use.	1	2	3	4	5
2	Energy consumption.	1	2	3	4	5
3	Water consumption.	1	2	3	4	5
4	Environmental prevention (health and safety).	1	2	3	4	5
5	Product life-cycle design and assessment.	1	2	3	4	5
6	Waste disposal/treatment.	1	2	3	4	5
7	Cleanup/remediation.	1	2	3	4	5
8	Compensations.	1	2	3	4	5
9	Emission control.	1	2	3	4	5
10	Licences.	1	2	3	4	5
11	Regulation compliance.	1	2	3	4	5
12	Environmental Depreciation.	1	2	3	4	5
13	Research and development.	1	2	3	4	5
	Other ( <i>please specify</i> )					
14	.....	1	2	3	4	5
15	.....	1	2	3	4	5
16	.....	1	2	3	4	5

**9. An organisation should produce environmental information...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	For internal use only.	1	2	3	4	5
2	Mainly for internal use and secondarily for external use.	1	2	3	4	5
3	For external use only.	1	2	3	4	5
4	Mainly for external use and secondarily for internal use.	1	2	3	4	5
5	For external and internal use equally.	1	2	3	4	5

**10. To what extent do you agree with the following reasons for organisations to disclose environmental information?**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	To comply with local laws and regulations.	1	2	3	4	5
2	To comply with international laws and guidelines.	1	2	3	4	5
3	To attract investors.	1	2	3	4	5
4	To improve the social image of the organisation.	1	2	3	4	5
5	To meet the demand of stakeholders for environmental information.	1	2	3	4	5
6	To market the products of the organisation.	1	2	3	4	5
7	As a result of the organisation's awareness of its social responsibilities.	1	2	3	4	5
	Other ( <i>please specify</i> )					
8	.....	1	2	3	4	5
9	.....	1	2	3	4	5
10	.....	1	2	3	4	5

**11. To what extent do you agree with the following reasons for organisations NOT to disclose environmental information?**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Not required by environmental law.	1	2	3	4	5
2	Not required by Saudi accounting standards.	1	2	3	4	5
3	There is no demand for such information from stakeholders.	1	2	3	4	5
4	Cost outweighs benefit.	1	2	3	4	5
5	Such information is sensitive and confidential.	1	2	3	4	5
6	Organisations lack the expertise to produce and disclose such information.	1	2	3	4	5
7	Organisations think that such information is not important for stakeholders.	1	2	3	4	5
	Other ( <i>please specify</i> )					
8	.....	1	2	3	4	5
9	.....	1	2	3	4	5
10	.....	1	2	3	4	5

**12. An organisation should disclose its environmental information...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Only qualitatively (descriptive/narrative).	1	2	3	4	5
2	Only quantitatively (non-monetary).	1	2	3	4	5
3	Only financially (monetary).	1	2	3	4	5
4	Qualitatively and quantitatively.	1	2	3	4	5
5	Qualitatively and financially.	1	2	3	4	5
6	Quantitatively and financially.	1	2	3	4	5
7	Qualitatively, quantitatively and financially.	1	2	3	4	5

**13. The timing of the organisation's environmental information disclosure should be...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	At the discretion of the management of the organisation.	1	2	3	4	5
2	Upon the request of stakeholders.	1	2	3	4	5
3	When there is good news to disclose.	1	2	3	4	5
4	When there is bad news to disclose.	1	2	3	4	5
5	In annual reports on a consistent basis.	1	2	3	4	5
6	In interim reports on a consistent basis.	1	2	3	4	5
7	Other ( <i>please specify</i> ) .....					

**14. An organisation should disclose environmental information through...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	The board of directors' report.	1	2	3	4	5
2	The annual financial report.	1	2	3	4	5
3	The interim financial reports.	1	2	3	4	5
4	An annual environmental report.	1	2	3	4	5
5	Interim environmental reports	1	2	3	4	5
	Other ( <i>please specify</i> )					
6	.....	1	2	3	4	5
7	.....	1	2	3	4	5
8	.....	1	2	3	4	5

**15. An organisation should disclose environmental information about...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Air pollution	1	2	3	4	5
2	Water pollution	1	2	3	4	5
3	Land pollution	1	2	3	4	5
4	Waste	1	2	3	4	5
5	Energy usage	1	2	3	4	5
6	Recycling	1	2	3	4	5
7	Cost of environmental remediation	1	2	3	4	5
8	Environmental cost/budgeting	1	2	3	4	5
9	Life-cycle analysis	1	2	3	4	5
10	Environmental impact assessment	1	2	3	4	5
11	Environmental preservation.	1	2	3	4	5
12	Environmental performance.	1	2	3	4	5
13	Compliance with environmental laws.	1	2	3	4	5
	Other ( <i>please specify</i> )					
14	.....	1	2	3	4	5
15	.....	1	2	3	4	5
16	.....	1	2	3	4	5

**16. An organisation should carry out risk assessment of...**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Non-compliance with local environmental laws.	1	2	3	4	5
2	Non-compliance with international environmental laws.	1	2	3	4	5
3	Liabilities that could be imposed on the organisation as a result of environmental disaster or contamination.	1	2	3	4	5
	<i>Other (Please specify)</i>					
4	.....	1	2	3	4	5
5	.....	1	2	3	4	5
6	.....	1	2	3	4	5

**17. Who do you think should immediately assess and/or report the impact of an environmental incident involving an organisation?**

		Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	Organisational department.	1	2	3	4	5
2	Independent consultants who are constantly in charge of the organisation's environmental issues on contractual basis.	1	2	3	4	5
3	Independent consultants who are constantly in charge of the organisation's environmental issues on an ad hoc basis.	1	2	3	4	5
4	Governmental agency	1	2	3	4	5
5	<i>Other (please specify).....</i>	1	2	3	4	5



**18. In case I need more information or clarification, would you be willing to be interviewed?**

- Yes. (Please write your name, telephone number and address below).
- No

**19. Would you like to receive a copy of the results of this questionnaire?**

- Yes. (Please write your name, telephone number and address below).
- No

**20. Personal information:** Please provide the personal information requested below :

What is your current position in your organisation?  
.....years.

Highest educational qualification?  
.....

Years of experience in general?  
.....years.

Educational qualifications in accounting?  
.....

Years of experience with this organisation?  
.....

Professional qualifications in accounting?  
.....

**Name:**.....

**Telephone:** ( )..... **Fax:** ( ).....

**E-mail:**

**Address:**.....

.....

.....

**Thank you for taking the time to complete this questionnaire. I would like to reassure you that all information you have provided will remain confidential.**

**Appendix B:**  
**Arabic Postal Questionnaire**

## استبيان المحاسب:

### الجزء الأول: (المزاوالت الحالية للمحاسبة والافصاح عن المعلومات البيئية)

الهدف من هذا الجزء من الاستبانة هو التعرف على المزاوالت الحالية لمنشآتكم فيما يتعلق بالمحاسبة عن البيئية ومدى الإفصاح فالمرجو منكم التكرم بوضع علامة ✓ في الصندوق المناسب او بوضع دائرة حول الرقم المناسب.

#### أ. المحاسبة البيئية:

١. هل لدى منشآتكم أي نوع من السياسة البيئية ؟

- نعم.  
 لا. (الرجاء الانتقال للإجابة على السؤال الثالث).  
 السياسة البيئية تحت التطوير حالياً. (الرجاء الانتقال للإجابة على السؤال الثالث).  
 المنشأة تخطط لتبني سياسة بيئية في المستقبل. (الرجاء الانتقال للإجابة على السؤال الثالث).

٢. إذا كانت إجابتك للسؤال السابق هي "نعم"، فالرجاء وضع علامة ✓ أمام كل التزام يشار إليه صراحة في تلك السياسة:

١	التطوير البيئي المستمر.
٢	الالتزام بتطبيق القوانين والأنظمة والاتفاقيات البيئية.
٣	الالتزام بالمزاوالت المثلى التطوعية المتعارف عليها في القطاع التابعة له المنشأة.
٤	التقليل من الآثار البيئية الناتجة عن العمليات الإنتاجية.
٥	التقليل من الآثار البيئية الناتجة من عن استخدام المنتج النهائي والتخلص من نفاياته.
٦	الاقتصاد في استخدام كل من المصادر الطبيعية المتجددة و غير المتجددة.
٧	الوقاية والتقليل من الحوادث.
٨	التقرير عن المعلومات البيئية.
٩	التعليم البيئي المستمر للعاملين.
١٠	الحوار المستمر مع الأطراف الخارجية المهمة بالمنشأة.
١١	تبني الأيزو ١٤٠٠٠ ISO .
	التزامات أخرى، (الرجاء التحديد)
١٢	.....
١٣	.....
١٤	.....

٣. هل لدى منشآتكم نظام معلومات بيئية؟

- نعم.  
 لا.  
 نظام المعلومات البيئية تحت التطوير حالياً.  
 المنشأة تخطط لتبني نظام معلومات بيئية في المستقبل.

٤. إلى أي مدى تقوم منشآتكم بقياس وتسجيل الآثار البيئية لأنشطتها على وجه العموم؟

- إلى المدى الذي يفرضه باحتياجات إدارة المنشأة فقط.
- إلى المدى الذي يفرضه بالمتطلبات الإجبارية مثل المتطلبات الحكومية.
- إلى المدى الذي يمكن المنشأة من نشر معلومات بيئية.
- إلى المدى الذي يجعل من الممكن القيام بالتحقق من صحتها خارجياً (أي عن طريق مراجع خارجي مثل).
- لا تقوم المنشأة بأي قياس أو تسجيل للآثار البيئية لأنشطتها.

الرجاء تحديد إجابات الأسئلة المتبقية من هذا الجزء بوضع دائرة حول الرقم الذي يتناسب مع واقع منشآتكم فيما يتعلق بالمحاسبة ومدى الإفصاح عن المعلومات البيئية وذلك بناءً على الجدول التالي:

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً
١	٢	٣	٤	٥

٥. فضلاً عن تحديد مدى تكرار قيام منشآتكم بقياس وتسجيل تكلفة كل من البنود البيئية التالية مالياً؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	١ استخدام المواد الأولية.
١	٢	٣	٤	٥	٢ استهلاك الطاقة.
١	٢	٣	٤	٥	٣ استهلاك المياه.
١	٢	٣	٤	٥	٤ الوقاية البيئية (الصحة والسلامة).
١	٢	٣	٤	٥	٥ تكاليف تصميم وتقييم دورة حياة المنتج.
١	٢	٣	٤	٥	٦ تكاليف معالجة النفايات والتخلص منها.
١	٢	٣	٤	٥	٧ تكاليف المعالجة والتطهير لمواقع التشغيل.
١	٢	٣	٤	٥	٨ التعويضات.
١	٢	٣	٤	٥	٩ تكاليف التحكم بالعماد.
١	٢	٣	٤	٥	١٠ تكاليف التراخيص.
١	٢	٣	٤	٥	١١ تكاليف الالتزام بتطبيق الأنظمة البيئية.
١	٢	٣	٤	٥	١٢ تكاليف الاستهلاك البيئي.
١	٢	٣	٤	٥	١٣ تكاليف البحث والتطوير البيئي.
					أخرى. (الرجاء التحديد)
١	٢	٣	٤	٥	١٤ .....
١	٢	٣	٤	٥	١٥ .....
١	٢	٣	٤	٥	١٦ .....

٦. فضلاً عن تحديد مدى تكرار قيام منشآتكم بتحليل المخاطر لكل بند من البنود البيئية التالية؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	١ عدم الالتزام بالأنظمة البيئية المحلية.
١	٢	٣	٤	٥	٢ عدم الالتزام بالأنظمة والإرشادات البيئية العالمية.
١	٢	٣	٤	٥	٣ المسؤوليات الممكن أن تتحملها المنشأة نتيجة وقوع كوارث أو تلوث بيئي.
					أخرى. (الرجاء التحديد)
١	٢	٣	٤	٥	.....
١	٢	٣	٤	٥	.....

**ب. الإفصاح عن المعلومات البيئية:**

١. فضلاً تحديد مدى تكرار الإفصاح عن المعلومات البيئية لكل طرف من الأطراف التالية؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	المستثمرين الحاليين.
١	٢	٣	٤	٥	المستثمرين المتوقعين.
١	٢	٣	٤	٥	العملاء.
١	٢	٣	٤	٥	الموردين.
١	٢	٣	٤	٥	المقرضين.
١	٢	٣	٤	٥	الجهات الحكومية.
١	٢	٣	٤	٥	شركات التأمين.
١	٢	٣	٤	٥	الموظفين.
١	٢	٣	٤	٥	وسائل الإعلام.
					أخرى. (الرجاء التحديد)
١	٢	٣	٤	٥	.....
١	٢	٣	٤	٥	.....
١	٢	٣	٤	٥	.....

٢. فضلاً تحديد مدى تكرار إفصاح منشأتكم عن كل من المعلومات البيئية التالية؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	تلويث الهواء.
١	٢	٣	٤	٥	تلويث الماء.
١	٢	٣	٤	٥	تلويث التربة.
١	٢	٣	٤	٥	كيفية التخلص من المخلفات التي من الممكن أن تضر بالبيئة.
١	٢	٣	٤	٥	استخدامات الطاقة.
١	٢	٣	٤	٥	إعادة التصنيع (التدوير).
١	٢	٣	٤	٥	تكاليف المعالجة والتطهير لمواقع التشغيل.
١	٢	٣	٤	٥	التكاليف والموازنات البيئية.
١	٢	٣	٤	٥	دراسة و تحليل دورة حياة المنتج من الناحية البيئية.
١	٢	٣	٤	٥	تقديرات الآثار المتوقعة لأنشطة المنشأة على البيئة.
١	٢	٣	٤	٥	الترشيد البيئي.
١	٢	٣	٤	٥	الأداء البيئي.
١	٢	٣	٤	٥	الالتزام بتطبيق الأنظمة البيئية.
					أخرى. (الرجاء التحديد)
١	٢	٣	٤	٥	.....
١	٢	٣	٤	٥	.....
١	٢	٣	٤	٥	.....

٣. فضلاً تحديد مدى قيام منشآتكم بالإفصاح عن المعلومات البيئية ...

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	١ حسب رغبة إدارة المنشأة.
١	٢	٣	٤	٥	٢ حسب طلب المهتمين بالمنشأة.
١	٢	٣	٤	٥	٣ عندما تكون هناك أخبار جيدة يمكن الإفصاح عنها.
١	٢	٣	٤	٥	٤ عندما تكون هناك أخبار سيئة يمكن الإفصاح عنها.
١	٢	٣	٤	٥	٥ من خلال التقارير المالية السنوية.
أخرى. (الرجاء التحديد)					
١	٢	٣	٤	٥	٦ .....
١	٢	٣	٤	٥	٧ .....
١	٢	٣	٤	٥	٨ .....

٤. فضلاً تحديد مدى استخدام منشآتكم لكل وسيلة من الوسائل التالية للإفصاح عن المعلومات البيئية؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	١ الصحافة.
١	٢	٣	٤	٥	٢ تقرير مجلس الإدارة.
١	٢	٣	٤	٥	٣ التقارير المالية السنوية.
١	٢	٣	٤	٥	٤ التقارير المالية الربع سنوية.
١	٢	٣	٤	٥	٥ تقارير سنوية خاصة بالبيئة.
١	٢	٣	٤	٥	٦ تقارير ربع سنوية خاصة بالبيئة.
وسائل أخرى. (الرجاء التحديد)					
١	٢	٣	٤	٥	٧ .....
١	٢	٣	٤	٥	٨ .....
١	٢	٣	٤	٥	٩ .....

٥. فضلاً تحديد مدى تكرار استخدام منشآتكم لكل هيئة من هيئات الإفصاح التالية في الإفصاح عن المعلومات البيئية؟

لا يتم أبداً	نادراً	أحياناً	غالباً	دائماً	
١	٢	٣	٤	٥	١ معلومات نوعية فقط (أي سرد أو وصف للأحداث).
١	٢	٣	٤	٥	٢ معلومات كمية فقط ولكنها ليست مالية.
١	٢	٣	٤	٥	٣ معلومات مالية (معتبر عنها بوحدات نقدية).
١	٢	٣	٤	٥	٤ خليط من المعلومات الوصفية والكمية.
١	٢	٣	٤	٥	٥ خليط من المعلومات الوصفية والمالية.
١	٢	٣	٤	٥	٦ خليط من المعلومات الكمية والمالية.
١	٢	٣	٤	٥	٧ خليط من المعلومات الوصفية والكمية والمالية.

٦. في حالة وقوع أي حادثة بيئية لها علاقة بالمنشأة فإن الجهة التي تقوم بمباشرة الحادثة لتقدير آثار نتائجها والتقرير عنها هي...

- جهة من داخل المنشأة؟
- جهة خارجية مستقلة تم التعاقد معها للتعامل الدائم مع أمور المنشأة البيئية.
- جهة خارجية مستقلة يتم التعاقد معها للتعامل مع أمور المنشأة البيئية عند الحاجة لذلك فقط.
- جهة أخرى غير ما ذكر. (الرجاء التحديد).....

الجزء الثاني: وجهة النظر الخاصة تجاه المحاسبة والإفصاح عن البيئة:

الهدف من هذا الجزء من الاستبانة هو التعرف على وجهة نظركم الشخصية حيال أهم جوانب المحاسبة البيئية ومدى إفصاح المنشآت السعودية عن المعلومات البيئية، فالمرجو منكم تحديد مدى موافقتكم على العبارات التالية من خلال وضع دائرة حول الرقم الذي يتناسب مع رأيكم الشخصي لكل فقرة من فقرات الأسئلة التالية وذلك حسب الجدول التالي:

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة
١	٢	٣	٤	٥

١. مامدى موافقتكم مع تأثير الأمور البيئية في كل بند من البنود التالية؟

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ ربحية المنشأة.
١	٢	٣	٤	٥	٢ بقاء واستمرارية المنشأة.
١	٢	٣	٤	٥	٣ المقدرة التنافسية للمنشأة.
١	٢	٣	٤	٥	٤ سمعة المنشأة.
١	٢	٣	٤	٥	٥ القرارات الاستراتيجية.
١	٢	٣	٤	٥	٦ القرارات المهمة ولكن غير الاستراتيجية.
١	٢	٣	٤	٥	٧ القرارات الخاصة بالتوسع أو بمشاريع جديدة.
١	٢	٣	٤	٥	٨ قرارات التشغيل اليومية (أو الروتينية).

٢. المعلومات البيئية مهمة لـ ...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ المستثمرين الحاليين.
١	٢	٣	٤	٥	٢ المستثمرين المتوقعين.
١	٢	٣	٤	٥	٣ العملاء.
١	٢	٣	٤	٥	٤ الموردين.
١	٢	٣	٤	٥	٥ البنوك والمقرضين.
١	٢	٣	٤	٥	٦ الجهات الحكومية.
١	٢	٣	٤	٥	٧ شركات التأمين.
١	٢	٣	٤	٥	٨ الموظفون.
١	٢	٣	٤	٥	٩ وسائل الإعلام.
١	٢	٣	٤	٥	أطراف أخرى. (الرجاء التحديد)
١	٢	٣	٤	٥	١٠ .....
١	٢	٣	٤	٥	١١ .....
١	٢	٣	٤	٥	١٢ .....

٣. من الواجب على المنشأة ...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ أن يكون لديها سياسة بيئية.
١	٢	٣	٤	٥	٢ أن تكون مسؤولة عن آثار أنشطتها على البيئة.
١	٢	٣	٤	٥	٣ أن تقوم بالمحاسبة البيئية بغض النظر عن طبيعة النشاط الذي تزاوله.
١	٢	٣	٤	٥	٤ أن تقوم بالمحاسبة البيئية بغض النظر عن حجمها.
١	٢	٣	٤	٥	٥ أن تقوم بالمحاسبة البيئية بغض النظر عن شكلها القانوني.
١	٢	٣	٤	٥	٦ أن يكون لديها نظام معلومات بيئية.
١	٢	٣	٤	٥	٧ أن يكون لديها نظام للإفصاح عن المعلومات البيئية.
١	٢	٣	٤	٥	٨ أن يكون لديها نظام محاسبة تكاليف يغطي كل تأثيرات نشاطها على البيئة.

٤. من الواجب أن تنص المنشأة على الالتزامات التالية في سياسة المنشأة البيئية...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ التحسين البيئي المستمر
٥	٤	٣	٢	١	٢ الالتزام بتطبيق القوانين والأنظمة والاتفاقيات البيئية.
٥	٤	٣	٢	١	٣ الالتزام بالمزاوالت المثلى المتعارف عليها في القطاع الذي تتبع له المنشأة.
٥	٤	٣	٢	١	٤ التقليل من الآثار البيئية الناتجة عن عمليات المنشأة.
٥	٤	٣	٢	١	٥ التقليل من الآثار البيئية الناجمة عن استخدام المنتجات والتخلص من نفاياتها.
٥	٤	٣	٢	١	٦ التقليل من استخدام كل من المصادر الطبيعية المتجددة و غير المتجددة.
٥	٤	٣	٢	١	٧ الوقاية والتقليل من الحوادث.
٥	٤	٣	٢	١	٨ التقرير عن المعلومات البيئية.
٥	٤	٣	٢	١	٩ التعليم المستمر للعاملين
٥	٤	٣	٢	١	١٠ الحوار المستمر مع أصحاب الاهتمامات بالمنشأة.
التزامات أخرى، (الرجاء التحديد)					
٥	٤	٣	٢	١	١١ .....
٥	٤	٣	٢	١	١٢ .....
٥	٤	٣	٢	١	١٣ .....

٥. من أسباب عدم قيام المنشآت السعودية بالحاسبة عن البيئة أن...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ المنشآت غير متأكدة من الفوائد المترتبة على القيام بالحاسبة عن البيئة.
٥	٤	٣	٢	١	٢ القيام بالحاسبة عن البيئة يعتبر أمراً بالغ التعقيد.
٥	٤	٣	٢	١	٣ القيام بالحاسبة عن البيئة يعتبر أمراً باهظ التكلفة.
٥	٤	٣	٢	١	٤ الاعتبارات البيئية على وجه العموم ليست من الاهتمامات ذات الأولوية للمنشآت.
أسباب أخرى، (الرجاء التحديد).					
٥	٤	٣	٢	١	٥ .....
٥	٤	٣	٢	١	٦ .....
٥	٤	٣	٢	١	٧ .....

٦. من الواجب على المنشأة أن تقوم بقياس وتسجيل الآثار البيئية لأنشطتها إلى المدى الذي...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ وفي باحتياجات إدارة المنشأة فقط.
٥	٤	٣	٢	١	٢ وفي بالمتطلبات الإجبارية (مثل المتطلبات الحكومية).
٥	٤	٣	٢	١	٣ يمكن المنشأة من نشر معلومات بيئية.
٥	٤	٣	٢	١	٤ يمكن من مراجعتها من قبل مراجع خارجي.

٧. من الواجب على المنشأة القياس والتسجيل المالي للتكاليف البيئية...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ التي تحملتها فعلاً فقط (مثل تكاليف استخدام الطاقة).
٥	٤	٣	٢	١	٢ المتوقعة فقط (مثل الاحتياطات البيئية).
٥	٤	٣	٢	١	٣ بغض النظر عن كونها فعلية أو متوقعة.



٨. من الواجب على المنشأة أن تحاسب مالياً عن تكلفة...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ استخدام المواد الأولية.
٥	٤	٣	٢	١	٢ استهلاك الطاقة.
٥	٤	٣	٢	١	٣ استهلاك المياه.
٥	٤	٣	٢	١	٤ الوقاية البيئية (الصحة والسلامة).
٥	٤	٣	٢	١	٥ تكاليف تصميم ودراسة دورة حياة المنتج من الناحية البيئية.
٥	٤	٣	٢	١	٦ تكاليف معالجة النفايات والتخلص منها.
٥	٤	٣	٢	١	٧ تكاليف المعالجة والتطهير لمواقع التشغيل.
٥	٤	٣	٢	١	٨ التعويضات عن الأضرار البيئية.
٥	٤	٣	٢	١	٩ تكاليف التحكم بالعام.
٥	٤	٣	٢	١	١٠ تكاليف التراخيص.
٥	٤	٣	٢	١	١١ تكاليف الالتزام بتطبيق الأنظمة البيئية.
٥	٤	٣	٢	١	١٢ تكاليف الاستهلاك البيئي.
٥	٤	٣	٢	١	١٣ تكاليف البحث والتطوير البيئي.
					بنود أخرى، (الرجاء التحديد)
٥	٤	٣	٢	١	١٤ .....
٥	٤	٣	٢	١	١٥ .....
٥	٤	٣	٢	١	١٦ .....

٩. يجب على المنشأة إنتاج المعلومات البيئية للإستخدام...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ الداخلي فقط (أي لمساعدة متخذي القرارات الداخليين).
٥	٤	٣	٢	١	٢ الداخلي أساساً، والاستخدام الخارجي بصفة ثانوية.
٥	٤	٣	٢	١	٣ الخارجي فقط (أي لمساعدة متخذي القرارات الخارجيين).
٥	٤	٣	٢	١	٤ الخارجي أساساً، والاستخدام الداخلي بصفة ثانوية.
٥	٤	٣	٢	١	٥ الداخلي والخارجي على حد سواء

١٠. من أسباب قيام المنشأة بالإفصاح عن المعلومات البيئية...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ تطبيقاً للأنظمة المحلية.
٥	٤	٣	٢	١	٢ تطبيقاً للأنظمة والقوانين والتوصيات العالمية.
٥	٤	٣	٢	١	٣ لجذب المستثمرين.
٥	٤	٣	٢	١	٤ لتحسين الصورة الاجتماعية للمنشأة.
٥	٤	٣	٢	١	٥ للوفاء باحتياجات المهتمين بأمور المنشأة من المعلومات البيئية.
٥	٤	٣	٢	١	٦ لدعم تسويق منتجات المنشأة.
٥	٤	٣	٢	١	٧ كنتيجة لوعي المنشأة بمسؤولياتها تجاه المجتمع.
					دوافع أخرى (الرجاء التحديد)
٥	٤	٣	٢	١	٨ .....
٥	٤	٣	٢	١	٩ .....
٥	٤	٣	٢	١	١٠ .....

١١. من أسباب عدم قيام المنشآت بالإفصاح عن المعلومات البنينة...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ ليست مطلوبة حسب النظام البنيني.
١	٢	٣	٤	٥	٢ ليست من متطلبات معايير المحاسبة السعودية.
١	٢	٣	٤	٥	٣ عدم وجود طلب على مثل تلك المعلومات من قبل المهتمين بالمنشأة.
١	٢	٣	٤	٥	٤ تكاليف الإفصاح عن تلك المعلومات تفوق الفوائد.
١	٢	٣	٤	٥	٥ المعلومات من ذلك النوع تعتبر سرية وحساسة.
١	٢	٣	٤	٥	٦ لا تتوفر للمنشأة الخبرات لإعداد الإفصاح عن مثل تلك المعلومات.
١	٢	٣	٤	٥	٧ المنشأة تعتبر مثل تلك المعلومات غير مهمة للمهتمين بالمنشأة.
أسباب أخرى. (الرجاء التحديد)					
١	٢	٣	٤	٥	٨ .....
١	٢	٣	٤	٥	٩ .....
١	٢	٣	٤	٥	١٠ .....

١٢. يجب أن تكون المعلومات البنينة التي تفصح عنها المنشأة على هيئة معلومات...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ نوعية فقط (أي سرد أو وصف للأحداث).
١	٢	٣	٤	٥	٢ كمية فقط ولكنها ليست مالية.
١	٢	٣	٤	٥	٣ مالية (معبّر عنها بوحدات نقدية).
١	٢	٣	٤	٥	٤ وصفية وكمية.
١	٢	٣	٤	٥	٥ وصفية ومالية.
١	٢	٣	٤	٥	٦ كمية ومالية.
١	٢	٣	٤	٥	٧ وصفية وكمية ومالية.

١٣. يجب أن يكون توقيت إفصاح المنشأة عن المعلومات البنينة...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ حسب رغبة إدارة المنشأة.
١	٢	٣	٤	٥	٢ حسب طلب المهتمين بالمنشأة.
١	٢	٣	٤	٥	٣ عندما تكون هناك أخبار جيدة يمكن الإفصاح عنها.
١	٢	٣	٤	٥	٤ عندما تكون هناك أخبار سيئة يمكن الإفصاح عنها.
١	٢	٣	٤	٥	٥ من خلال تقارير سنوية بصفة مستمرة.
١	٢	٣	٤	٥	٦ من خلال تقارير ربع سنوية بصفة مستمرة.
١	٢	٣	٤	٥	٧ توقيت آخر. (الرجاء التحديد).....

١٤. يجب أن تفصح المنشأة عن المعلومات البنينة من خلال...

غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة	
١	٢	٣	٤	٥	١ تقرير مجلس الإدارة.
١	٢	٣	٤	٥	٢ التقارير المالية السنوية.
١	٢	٣	٤	٥	٣ التقارير المالية الربع سنوية.
١	٢	٣	٤	٥	٤ تقارير بنينة سنوية.
١	٢	٣	٤	٥	٥ تقارير بنينة ربع سنوية.
وسائل أخرى. (الرجاء التحديد)					
١	٢	٣	٤	٥	٦ .....
١	٢	٣	٤	٥	٧ .....
١	٢	٣	٤	٥	٨ .....

١٥. يجب على المنشأة أن تقوم بالإفصاح عن المعلومات البيئية المتعلقة بـ ...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ تلويث الهواء.
٥	٤	٣	٢	١	٢ تلويث الماء.
٥	٤	٣	٢	١	٣ تلويث التربة.
٥	٤	٣	٢	١	٤ المخلفات البيئية.
٥	٤	٣	٢	١	٥ استخدامات الطاقة.
٥	٤	٣	٢	١	٦ إعادة التصنيع (التدوير).
٥	٤	٣	٢	١	٧ تكاليف المعالجة والتطهير لمواقع التشغيل.
٥	٤	٣	٢	١	٨ التكاليف والموازنات البيئية.
٥	٤	٣	٢	١	٩ دراسة وتحليل دورة حياة المنتج من الناحية البيئية.
٥	٤	٣	٢	١	١٠ تقديرات الآثار البيئية.
٥	٤	٣	٢	١	١١ الترشيح البيئي.
٥	٤	٣	٢	١	١٢ الأداء البيئي للمنشأة.
٥	٤	٣	٢	١	١٣ مدى الالتزام بتطبيق الأنظمة البيئية.
أخرى (الرجاء التحديد)					
٥	٤	٣	٢	١	١٤ .....
٥	٤	٣	٢	١	١٥ .....
٥	٤	٣	٢	١	١٦ .....

١٦. يجب على المنشأة القيام بتحليل للمخاطر...

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ الناجمة عن عدم الالتزام بالأنظمة البيئية المحلية.
٥	٤	٣	٢	١	٢ الناجمة عن عدم الالتزام بالأنظمة البيئية العالمية.
٥	٤	٣	٢	١	٣ المتوقع حدوثها والتي قد تنجم عن وقوع كوارث أو تلوث بيئي.
تحليل مخاطر أخرى. (الرجاء التحديد)					
٥	٤	٣	٢	١	٤ .....
٥	٤	٣	٢	١	٥ .....
٥	٤	٣	٢	١	٦ .....

١٧. إلى أي مدى توافقون على قيام كل من الأطراف التالية بمباشرة الحوادث البيئية لتقدير أثارها والتقرير عنها؟

موافق بشدة	موافق	غير متأكد	غير موافق	غير موافق بشدة	
٥	٤	٣	٢	١	١ موظفون من داخل المنشأة.
٥	٤	٣	٢	١	٢ مستشارون مستقلون للتعامل الدائم مع أمور المنشأة البيئية.
٥	٤	٣	٢	١	٣ مستشارون مستقلون يتم التعاقد معهم عند الحاجة لذلك فقط.
٥	٤	٣	٢	١	٤ الجهة الحكومية المسؤولة عن البيئة.
٥	٤	٣	٢	١	٦ جهة أخرى غير ما ذكر. (الرجاء التحديد) .....

١٨. في حالة احتياج الباحث لبعض المعلومات الإضافية أو الإيضاحات فهل لديكم الاستعداد لأن تجرى معكم مقابلة شخصية؟

نعم. (الرجاء كتابة اسمكم ورقم هاتفكم وعنوانكم البريدي في المكان المخصص أدناه).  
 لا.

١٩. هل تودون الحصول على نسخة من ملخص نتائج هذا الاستبيان؟

نعم. (الرجاء كتابة اسمكم ورقم هاتفكم وعنوانكم البريدي في المكان المخصص أدناه).  
 لا.

٢٠. معلومات شخصية:

هـ. هل لديك مؤهلات علمية في المحاسبة؟ <input type="checkbox"/> لا. <input type="checkbox"/> نعم ، (الرجاء تحديد أعلى مؤهل) .....	أ. ما هي وظيفتك الحالية؟ ..... ب. فضلاً حدد عمرك؟ ..... سنة. ج. كم عدد سنوات خبرتك؟ ..... سنة. د. فضلاً تحديد أعلى مؤهل علمي لديك؟ المؤهل: ..... التخصص: .....
و. هل لديك مؤهلات مهنية في المحاسبة؟ <input type="checkbox"/> لا. <input type="checkbox"/> نعم ، (الرجاء التحديد) .....	الإسم: ..... رقم الهاتف: ..... رقم الفاكس: ..... العنوان: ..... ..... ..... ..... البريد الإلكتروني: .....

ختاماً، أود أن أشكركم جزيل الشكر على تكريمكم بتعبئة هذه الاستبانة مكرراً التأكيد لكم أن المعلومات التي أدليتم بها سوف تتم المحافظة على سريتها التامة ولن يطلع عليها سوى الباحث فقط.

**Appendix C:  
Interview Questions**

## INTERVIEW SURVEY QUESTIONS

Date:    /    /

Started at: \_\_ : \_\_

Tape Number: \_\_

- Introduce your self.
  - Remained interviewee of the questionnaire survey and that he agreed to be interviewed.
  - Brief description of the nature of the study.
  - Importance of the interview for the current research.
  - Assurance of confidentiality.
- Urge the interviewee to accept taping the interview and explain how helpful that will be.

### **Background Information:**

Name of organisation: .....

Name of interviewee (optional): .....

Position: .....

- Group:
- Financial Manager
  - Auditor
  - Academic

Explain to the interviewee that the postal survey indicated that the majority of the top 100 Saudi companies do not currently practice environmental accounting.

Ask interviewee why in his opinion is that

*If needed, give examples of reasons:*

not required by law  
no attention from companies' managements  
no demand from stakeholders  
too expensive  
too complex

Ask him about his opinion about the steps or measures that could be taken to change that

### Environmental Policy (EP)

Indicate that the postal survey showed that only 9% of the companies have an EP.

Ask interviewee if he thinks that organisations should have an EP?

If yes,  
Ask why does he think that is important?

Ask him about the commitments that could be included in the EP?

*If needed, give examples of commitments:*

Compliance with environmental laws.  
Compliance with industry's best practice.  
Sustainability in general *examples: water, natural resources, recycling, etc.*  
Prevention of accidents  
Continuous dialogue with stakeholders.  
The pursuit of ISO 14000.

Ask about the effects of international interest in the environment on the local practices?

### Influence of environmental matters.

Indicate that the postal survey showed that the majority of the respondents agreed that environmental matters influence the listed matters in the following order of the significance of influence:

Long-term survival  
Image  
Expansion Decisions

Profitability  
Strategic Decisions  
Non-strategic Decisions  
Routine Decisions  
Competitiveness

Ask about his view about the order?

Ask why auditors seemed to agree more than the other two groups with the influence of environmental matters on the organisation's long-term survival?

Importance of environmental information (EI) to users:

Ask about the importance of EI to various groups of users?

*Give the following examples if needed:*

Governmental agencies  
Investors  
Suppliers  
Customers  
Media  
Lenders

Explain that current practice placed the media group on the top of all groups and governmental agencies group in the third place. On the other hand, the media group was placed in the third place in the perception list while the governmental agencies group was placed on the top.

Ask why?

Ask about his perception of the governmental role?

Ask if he thinks that there will be an increase in governmental intervention in environmental regulations

If yes, ask how?

Environmental Information System (EIS).

Ask about the importance of having an EIS?

Explain that the purpose of EI production might be for internal or external use or for both, then, ask about his perception about the purpose of EI production?



Indicate that the results of the postal survey indicated that the production of EI for the internal and the external use equally was the first choice.

Probe on this issue

*Indicate the following order if needed:*

- Equally for internal and external use
- Mainly for internal use
- Mainly for external use
- Solely for internal use
- Solely for external use

Disclosure of EI

#### Reasons for EI disclosure

Indicate that the postal survey showed that companies disclose EI in the first place to improve their image then to comply with local laws.

Ask the interviewee if he could suggest some explanations for that?

*Indicate the following order if needed:*

- To improve the image
- Compliance with local laws
- To market products
- To meet stakeholders demands for EI
- Compliance with international laws
- To attract investors
- Awareness of social responsibility

Ask if the relation with international businesses might have any influence on the organisations EI disclosure practices?

If the answer is positive, ask how?

Also, ask if the pursuit of ISO14000 have any influence on the organisations EI disclosure practices?

#### Reasons for non-disclosure of EI

Explain that the postal survey indicated that companies do not disclose EI for many reasons on top of which was the absence of laws requiring them to do so.

Ask the interviewee if he could elaborate on that?

*Indicate the following order if needed:*

Not required by environmental laws  
Not required by Saudi accounting standards  
No demand for EI from stake holders  
Lack of importance for stakeholders  
No expertise  
Information sensitivity  
Expensiveness

Probe on the role of environmental laws in causing organisations to disclose EI.

#### Form of EI disclosure

Ask why in the interviewee's opinion the preferred form of EI disclosure was the combination of qualitative, quantitative and financial?

*Indicate the following order if needed:*

Qualitative, quantitative and financial  
Qualitative and financial  
Quantitative and financial  
Qualitative and quantitative  
Only financial  
Only qualitative  
Only quantitative

Probe on the use of each form separately

Financial

Qualitative

Quantitative

#### Timing of EI disclosure

Ask why in his opinion the preferred timing of EI disclosure was when there is bad/negative environmental news to disclose?

*Indicate the following order if needed:*

When there is bad news  
In annual reports

In interim reports  
Upon stakeholders' request  
When there is good news  
At management's discretion

Probe on the disclosure on an *ad hoc* basis such as when there is good/bad news or on regular bases such as in annual or interim reports

#### Medium of EI disclosure

Ask why in the interviewee's opinion the preferred medium of EI disclosure was interim environmental reports?

*Indicate the following order if needed:*

In interim environmental reports  
In an annual environmental report  
In the annual financial report  
In the board of directors' report  
In the interim financial report

Ask if he thinks there is a need for a new environmental disclosure standard or law by the SOCPA?

If yes, what should it require? (for example interim or annual environmental report)

#### Subjects of EI disclosure

Indicate that all items listed in the survey gained strong supports from all respondents (the lowest mean value = 4.06).

Ask why the disclosure of information of compliance to environmental laws was the first on the list?

Ask why environmental sustainability was the last?

Probe on other items such as water pollution, recycling, product LCA, etc.

#### Environmental risk assessment

Ask if organisations should carry out any risk assessment?

If yes, ask why?

Follow up by asking what risk assessments should be carried out?

*If needed, indicate that risk assessment for non-compliance with local environmental laws was placed in the first position while risk assessments for non-compliance with international environmental laws and environmental liabilities were tied in second position..*

Ask the interviewee what that might indicate?

### Environmental incidents

Ask the interviewee, in his opinion, who should be in charge of environmental incidents, should it be an internal party or an external party?

If external, should it be an independent consultant or a governmental agency?

Ask him why he thought that?

Ask what role governmental agencies might play in this regard?

Ask the interviewee if he wants to add any thing or if has any comments?

Thank the interviewee for his precious time and indicate how helpful he was and ask him if he prefers to have a copy of the summary results of the study. If yes, ask him in what form, for example e-mail or hard copy, ask for address

Name:

E-mail:

Address:

