

CHAPTER 4

RESEARCH METHODOLOGY AND RESULTS OF THE FIRST EMPIRICAL STUDY

4.1 Introduction

The research methodology of the first empirical study is discussed in this chapter. The first aim was to establish the awareness level of individuals of different stakeholder groups of the current environmental reporting implications. The second aim was to establish their willingness to support more comprehensive corporate environmental reporting. Recommendations for the accounting profession and government regarding future developments in corporate environmental reporting in South Africa will be formulated, as well as recommendations regarding minimum reporting requirements. The awareness level and the willingness to support were established with the use of a questionnaire.

The development of the questionnaire is discussed. The links between the review of the literature and the questionnaire are explained. The ways in which the questionnaire was tested, refined and improved before it was finalised are described. The method of distributing the questionnaire and the population are elaborated upon.

The results of the first empirical study are also discussed in this chapter. The response rate and the representativeness of the results are discussed. The questions and answers are then given. The differences between the responses of the three groups (auditors, managers and users) were analysed by way of a chi-squared test of significance at the 5% level. Where significant differences (at the 5% level) were found, the fact is mentioned directly after the display of the full result.

The results of each question are graphically displayed and the immediate implications discussed where this is deemed appropriate.

The hypotheses mentioned in Chapter 1 is considered in the light of the results of the empirical study. The conclusions regarding the hypotheses are given. The conclusions are based on the first empirical study and will be reconsidered taking into account the results of the second empirical study.

The recommendations for the organised accounting profession and government regarding the future of corporate environmental accounting in South Africa and regarding minimum requirements are also given. This is also in line with the objectives of the study as set out in Chapter 1.

4.2 Questionnaire Content

Three different questionnaires were prepared, one for each of the groups. The three groups were auditors, managers including directors as the preparers of financial statements, and users of financial statements. The questionnaire for auditors is to be found in Appendix 1, that for managers in Appendix 2 and the questionnaire for users in Appendix 3.

The questionnaires consist of four sections each. The four sections deal with the following:

Section	Subject
1	Biographical information of the respondent
2	Awareness of current implications of environmental matters for the financial statements
3	Willingness to support more comprehensive corporate environmental reporting
4	Willingness to support sustainable development reporting

Section 1 is different for the three questionnaires. Sections 2 and 4 are exactly the same for each of the three groups. Section 3 is the same for Questions 1 to 7, but differ for Questions 8 to 10. The reason for the differences in the questionnaires (Section 1 and the last part of Section 3) are that some of the questions would not be applicable to all three groups. If the same questionnaire were to be used, the number of questions in the questionnaire would have to increase, and the questionnaire would be less user-friendly, because of either/or types of instructions. An example is an instruction in the questionnaire to a respondent that the next question should not be answered if the response to the previous question was "yes". This could lead to confusion and frustration in a respondent or, even worse, in a decision to abandon the questionnaire.

The parts of the three questionnaires which are the same were developed from the study of the literature (refer to Chapter 3). A concept questionnaire was first of all prepared. The concept was presented to a variety of individuals to consider the content and format of the questionnaire from their different perspectives. The individuals were academics from the Departments of Accounting at the University of Pretoria and the University of Stellenbosch and from the University of Stellenbosch Business School and partners of the audit firm Coopers & Lybrand. In this way input was received from academics and individuals in practice. The academics included an expert in the field of questionnaire compilation for the purpose of marketing research. The individuals who reviewed the questionnaire are listed in Appendix 4, along with an indication of their affiliation and their expertise.

After the changes they recommended were made, a pilot run of the mailing was undertaken. Individuals from each of the three groups to be included in the survey formed part of the pilot run.

The auditors in the pilot run consisted of individuals personally known to Prof. Q Vorster, Head of the Accounting Department at the University of Pretoria. The managers and the users consisted of individuals personally known by the researcher and others were

selected at random. Their names and affiliations are listed in Appendix 5. The pilot run was accompanied by the covering letter in Appendix 6. The feed-back of those in the pilot run led to some more changes.

The questionnaires were discussed with a statistician during the whole process outlined above to ensure that the final version of the questionnaires would yield statistically accountable answers.

The questionnaires were kept down to four pages in length (a double A4 size printed on both sides) to ensure that respondents were not required to spend an inordinate amount of time on them. Lengthy questionnaires could also lead to lower response rates.

In each questionnaire the respondent was asked to give a personal opinion. In this way, the individuals could answer freely without regard to the policy of the company or other affiliations they may have. They would also be able to make up their own minds on issues on which their company or affiliation has no policy or where it is unknown.

4.3 Population

4.3.1 Introduction

For the purpose of mailing the three questionnaires, three populations had to be identified and a sample taken from each population. In consultation with a statistician, it was decided that it would be desirable to obtain at least 100 responses in each category to ensure that valid deductions could be made. On the assumption that the response rate would be no worse than 10%, it was therefore decided to send at least 1000 questionnaires in each category. In categories with a population of less than 1000, the whole population was circularised.

4.3.2 Auditors

It is a relatively easy task to identify auditors of financial statements in South Africa. Only individuals registered with the Public Accountants and Auditors Board (PAAB) are allowed to do so by law. Most auditors are, however also registered with the South African Institute of Chartered Accountants (SAICA). This allows them to use the designation of Chartered Accountant (SA). SAICA also have members who are not in public practice as auditors; however, their membership records indicate who are and who are not members in public practice. The SAICA list of members in public practice was regarded as the population of auditors in South Africa.

The list, which excluded members who are resident in other countries, was obtained from SAICA in November 1994 (refer to the request in Appendix 7) The list contained 4 296 names in postal code order. The fact that there was no pattern of characteristics in the occurrence of names in the list meant that a random sequential sample would approximate a random sample. A number between and including 1 and 3 was chosen at random. This indicated the first name on the list to be taken. Thereafter every third name was taken as part of the sample. This resulted in a sample size of $(4296 \div 3)$ 1432 auditors.

4.3.3 Managers

It was important to study the managers of companies as they are the group responsible for the preparation of the financial statements. From a corporate governance point of view, the managers are accountable to the directors, who are in turn accountable to shareholders and other stakeholders. However, for the purpose of this study, the financial statements and its contents are at stake. Directors have a direct influence on the content of the financial statements and therefore no distinction is made in the study between managers and directors.

Larger companies are usually at the forefront in new developments, such as environmental reporting. It was, therefore, decided to concentrate on the larger companies in South Africa. One of the rankings of South African companies by size is that of the Financial Mail. The population of managers was defined as the directors of the top 300 companies in South Africa (refer to Appendix 8) as published in the 1994 Financial Mail top companies survey. The Financial Mail ranking is based on net asset value and excludes mining and financial companies. The ranking is also limited to companies quoted on the JSE.

The Financial Mail top 300 companies were sorted in alphabetical order. Each company was identified in the JSE handbook of August 1994. Each directors' name was captured along with the company name and the registered address of the company. The next step was to sort the list alphabetically by directors' names. All duplications, resulting from individuals with multiple directorships, were deleted. This process resulted in a list of 1 845 names. The complete list was circularised.

4.3.4 Users

Users of financial statements could be a diverse group (SAICA 1990:09), including current and potential investors, employees, money lenders, suppliers and other creditors, customers, government and other institutions and the public. Financial statements could also be used for a diversity of purposes (SAICA 1990:09). Because of this diversity, it is difficult to identify users in such a way that all viewpoints are considered. An overriding qualification for users to be included in the survey was that they should be "financially aware", otherwise they would not have a frame of reference for the purpose of completing the questionnaire. It was therefore decided to include members of various professional accounting bodies as well as stockbrokers and bankers. The professional accounting bodies include SAICA (only those members registered as not being in public

practice), CIMA (members resident in South Africa), ACCA (members resident in South Africa), and members of the Institute of Internal Auditors of South Africa.

The letters to the various bodies to request a list of member names are contained in Appendixes 7, 9, 10 and 11.

A list of names was obtained from SAICA and the ACCA. CIMA and the Institute of Internal Auditors would not supply a list of member names, but agreed to do a mailing on behalf of the researcher.

The stockbrokers are those registered at the Johannesburg Stock Exchange. Their names were obtained from the JSE handbook of August 1994.

Most of the lists of names mentioned above consisted of fewer than or only just more than 1000 names. They were therefore circularised in full. The exception was the list of SAICA member not in public practice. The list contained 8 274 names. In the same fashion as described for auditors, a sample of every seventh name was drawn. This resulted in a sample size of $(8\ 274 \div 7) = 1\ 182$.

A letter (refer to Appendix 12) was sent to all registered banks in South Africa (refer to Appendix 13), of which there were 62 at the time, requesting the names of all their branch managers along with the postal address of each branch.

From the responses of the banks, some by mail, some in person and some telephonic, it soon became clear that bank branch managers were not suitable as candidates for the questionnaire. They normally operate within very strict guidelines and have to refer any loan application above a certain level to higher authority. For example, more than 90% of the loan applications handled by a Permanent Bank manager were below the level of R100 000 and did not involve a company. This approach was abandoned and, instead, a questionnaire was sent to each of the registered banks with a request that it be handed

to a senior official in the corporate department of the bank. This covering letter is to be found in Appendix 14.

4.3.5 Summary

A summary of the populations of the various groups and categories and the sample sizes is contained in Table 4.1.

TABLE 4.1: SUMMARY OF POPULATIONS AND SAMPLES

	Population	Mailed to
Auditors	4 296	1 432
Managers	1 845	1 845
Others	10 882	3 790
Consisting of:		
Chartered Accs	8 274	1 182
CIMAs	891	891
ACCA's	104	104
Internal Auditors	1 213	1 213
Stockbrokers	338	338
Banks	62	62
TOTALS	17 023	7 067

4.4 Distribution of the Questionnaire

The three questionnaires were distributed to the three groups during January 1995.

The covering letter (refer to Appendix 15), the questionnaire (refer to Appendix 1, 2, 3), the addendum to the questionnaire (refer to Appendix 16) and a self-addressed envelope were to be sent to each member of the sample (refer to section 4.3). However, due to a clerical error, the covering letter was not included for most of the categories mailed. The general covering letter was only included for the CIMA and the Institute of Internal

Auditors members. The bank survey did include their own covering letter (refer to Appendix 14).

In spite of the lack of a covering letter, responses were received from all the categories included in the survey.

4.5 Response Rate and Representativeness of the Results

The number of questionnaires sent and received back is contained in Table 4.2.

TABLE 4.2: SUMMARY OF MAILINGS AND RESPONDENTS

	Population	Mailed to	Respondents	Resp/Mail%
Auditors	4 296	1 432	164	11.5%
Managers	1 845	1 845	115	6.2%
Users	10 882	3 790	238	6.3%
Consisting of:				
Chartered Accs	8 274	1 182	74	6.3%
CIMAs	891	891	111	12.5%
ACCAs	104	104	10	9.6%
Internal Auditors	1 213	1 213	29	2.4%
Stockbrokers	338	338	8	2.4%
Bankers	62	62	6	9.7%
TOTALS		7 067	517	7.3%

It is clear from Table 4.2 that the response rates of the Internal Auditors and the Stockbroker subgroups were substantially below that of the others. This should be borne in mind when conclusions are drawn on the whole population of users.

The representativeness of the respondents defined as users of all users of financial statements was re-assessed after the responses and the response rates (see Table 4.2) were available. A large number of individuals from the accounting profession were

classified as users and only a small number of other users (stockbrokers and bankers) are included. This has to be borne in mind when the results of the user group are assessed.

There could be bias in the responses to a postal survey, because of the tendency of individuals who are knowledgeable or enthusiastic about a subject to respond to a questionnaire on the subject. Less knowledgeable or enthusiastic individuals may be inclined not to respond. Future research will have to be done in order to determine the extent (if any) of this kind of bias. In the first empirical study, it was impossible to do so, as the responses were received on an anonymous basis. This was corrected in the second empirical study by keeping a record of who responded and who did not.

A positive aspect regarding the responses is that such a large number (517) of responses was received. Therefore, the views discussed below are those of a large number of individuals.

The overall response rate was, however, fairly low. This was another aspect which was to be improved on in the second empirical study.

In assessing to what extent the respondents were representative of the population as a whole, the responses to the biographical section of the questionnaires (section 1 of Appendix 1, 2 and 3) can be analysed to ensure that the respondents included individuals from all the different backgrounds. In the first empirical study, the population of each of these subgroups was not known. For example, it is not known how many auditors who are members of the largest eight firms (mentioned in Question 1 of Appendix 1) received the questionnaire and how many of other firms. The only thing that is known is how many returned the questionnaire. It would, therefore, be possible to state whether each category of respondent is covered in the responses, but not whether the representation of the respondents in each category is adequate when measured as a percentage of the population.

On the basis that each category, by difference in biographical information, of respondent is covered in the responses (refer to Section 5.3 below, Section 1 Questions 1 to 7), the respondents are representative of the population. This statement has to be evaluated in the light of the fact that the percentage response rate is not known for each category of different biographical information. The low response rate overall also has to be considered.

4.6 Responses to the Questions in the First Empirical Study

In this section each question is repeated as it appeared in the relevant questionnaire (refer to Appendixes 1, 2 and 3). After each question the responses of the three groups (where applicable) are given per category in aggregate and as a percentage.

Section 1: Biographical information of the respondents

The purpose of the questions in this section was to ensure that responses were received from all categories of potential respondents to ensure that the respondents represented the population satisfactorily. The responses in this section can also be used for statistical purposes.

1. Are you a partner of, or are you employed by, one of the following audit firms? (Arthur Andersen & Co.; Coopers & Lybrand; Deloitte & Touche; Ernst & Young; Fischer Hoffman Stride; Kessel Feinstein; KPMG Aiken & Peat; Price Waterhouse Meyernel).

		Yes	No	Did not Answer
Auditors	No of resp.	109	55	0
Auditors	Percentage	66	34	0

The firms named in the question are the eight largest firms in South Africa, according to a study by Gloeck & De Jager (1994). Two thirds of the respondents were from the larger firms. The larger firms tend to have larger clients. The environment is probably seen as more important by these larger clients. The expectation would therefore be that the larger audit firms come into contact with environmental issues more often. Nevertheless, smaller firms are well represented.

2. To which of the following categories do you belong?

		Sole practitioner/ Partner/Director	Manager or other	Did not Answer
Auditors	No of resp.	157	7	0
Auditors	Percentage	96	4	0

Individuals at partner level seemed to be more inclined to respond. This may be because of the culture in audit firms that all correspondence is usually approved by the partners before it leaves the firm. Although the questionnaire specifically asks for personal opinions and not that of the firm, managers may be reluctant to break the "code" that only partners communicate to the outside world.

3. To which of the following categories do you belong?

		Audit specialist/ Generalist	Tax specialist	Management Serv. specialist	Other	Did not Answer
Auditors	No of resp.	115	10	14	24	1
Auditors	Percentage	69	6	9	15	1

Most of the respondents belonged to the auditor category. The issues raised in the questionnaire are probably more relevant to them than any of the other categories. Environmental issues can after all impact on the audit risk. Auditors of financial statements have to consider environmental issues specifically if they are to ensure, amongst other things, that all possible liabilities are properly accounted for. The other categories are also represented, although not to the same degree.

4. Auditors: Please specify the sector of the **largest** entity (by turnover) you audit.

Managers: Please specify the sector of the **largest** company (by turnover) of which you are a director.

Users: Please specify the sector of the **largest** entity (by turnover) of which you peruse the financial statements at least annually.

	Mining Coal and Diamond	Mining Gold	Mining Metals & Minerals	Financial	Industrial	Other	N/A	Did not answer
Aud. (no)	2	1	4	13	81	46	16	1
Aud. (%)	1	1	2	8	49	28	10	1
Man. (no)	6	0	0	3	93	12	0	1
Man. (%)	5	0	0	3	81	10	0	1
Users (no)	6	8	12	43	135	31	1	2
Users (%)	3	3	5	18	57	13	0	1

There are respondents from a broad spectrum of backgrounds. The sectors are almost all represented. The one area that can be expected not to be well represented is managers from the mining sector and the financial sector. This is because "managers" consist of directors of Financial Mail Top 100 companies. That listing excludes mining companies and financial companies. The only way that managers from those sectors could be included is if an individual who is a director of more than one company (the mining or financial company being the largest) received and responded to the questionnaire. An interesting phenomenon was the large number of respondents who answered "other". If the JSE definitions are followed, these were probably meant to be "industrial". However, one would hesitate to call a company in the retail industry or the food industry an industrial company.

5. Is the entity specified in 4. above listed on a stock exchange (or part of a listed group)?

		Listed	Not listed	Not applicable	Did not Answer
Auditors	No of resp.	107	38	18	1
Auditors	Percentage	65	23	11	1
Managers	Percentage	100			
Users	No of resp.	60	176	0	2
Users	Percentage	25	74	0	1

Most of the respondents in the auditor group ($\pm 65\%$) had contact with companies listed on a stock exchange. The managers were all of the one category, because questionnaires were only sent to directors of listed companies. The respondents in the user group leaned more towards companies/entities not listed on a stock exchange. Since there are more companies not listed, the user respondents are probably a fair representation of the population of users in respect of listed/not listed.

6. The turnover of the entity specified in 4. above is:

	> R 10 bil	R 1-10 bil	R 200 mil to R 1 billion	R 50-200 mil	R 10-50 mil	< R 10 mil	N/A	Did not answer
Aud. (no)	12	16	21	18	38	38	20	1
Aud. (%)	7	10	13	11	23	23	12	1
Man. (no)	9	43	39	15	6	1	1	1
Man. (%)	8	37	34	13	5	1	1	1
Users (no)	53	60	64	22	15	15	3	7
Users (%)	22	25	28	9	6	6	1	3

The auditors who responded seem to audit a fair spread of companies in terms of size. The managers seem to be from a larger company environment. This trend is more marked for the user group. In the case of managers this can be explained by the way the sample was drawn; this was not so with users. There seemed to be a definite tendency of users who come in contact with larger entities to respond. This said, the setting of the categories could have an influence here. If the larger turnovers were, for example, split into more categories and the smaller turnovers grouped together, a different picture could emerge. Managers and users could then display a good distribution with auditors towards the small turnovers.

There are representatives of all categories and, therefore, the answers should be representative.

7. Is the entity specified in 4. above one of (or part of the group of) the companies listed in the enclosed addendum to this questionnaire.

		On the list	Not on the list	Not applicable	Did not Answer
Auditors	No of resp.	134	11	19	0
Auditors	Percentage	81	7	12	0
Managers	No of resp.	65	47	0	3
Managers	Percentage	56	41	0	3
Users	No of resp.	167	69	0	2
Users	Percentage	70	29	0	1

The list included consisted of the 37 companies that featured in the 1994 (based on 1993 results) top 100 listing of the Financial Mail, the Finance Week and the Sunday Times Business Times. The former two listings are based on size, whereas the latter is based on performance. Most of the respondents in all three groups came into contact with these 37 companies and/or their subsidiaries. An amazing statistic is that (134 + 65 + 167) 366 or 72% of the respondents had links with these 37 companies. The 37 companies can arguably be called the leaders in the South African economy. As far as the environment is concerned, these companies are large and should, therefore, come into contact with environmental pressure groups and other environmental issues. Their performance, on the other hand, points towards management prowess. Good management will probably not leave an important issue like the environment unaddressed. The environment is, therefore, probably on the agenda of these companies. Individuals who come in contact with them will come into contact with the issues and they may be more inclined to respond to a questionnaire on the environment. This could explain the high response rate from this group.

Section 2 : Awareness levels of current implications

Contingent liabilities for contaminated land, spills and unauthorised discharges

The purpose of this section was to determine the awareness levels of the respondents regarding the current implications of corporate environmental reporting.

The questions in this section were structured in such a way that "yes", "no" and "uncertain" could be answered. "Yes" would indicate awareness of the particular aspect covered in the question, whereas any other response (including no response at all) was regarded as indicating the opposite.

In this section the occurrence of respondents not answering a specific question was very high. Questionnaires with no response to a few questions were not left out of the results, as the non-responses affected only a particular question or a particular section. Valuable input on other questions and sections would be lost if questionnaires with one or more non-response were to be left out.

One of the reasons for the high incidence of non-responses in this section was probably that some respondents did not realise that they had to answer each question from the perspective of legislation and of generally accepted accounting practice. Another reason could be that they were uncertain.

Preamble to the questions in section 2

Are you aware of any environmental legislation with potential financial implications for organisations/Generally Accepted Accounting Practice (GAAP) regarding :

Answer each item in this section for Legislation and for GAAP

QUESTION 1

1. Contingent liabilities for contaminated land, spills and unauthorised emissions

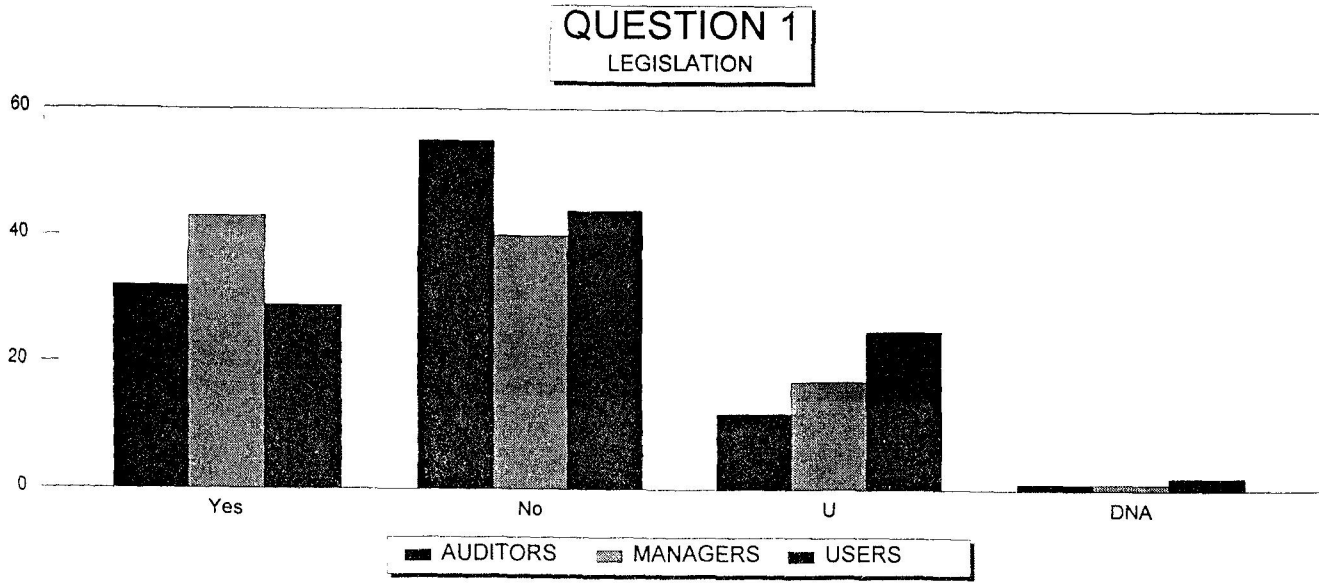
LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	53	90	20	1
Auditors	Percentage	32	55	12	1
Managers	No of resp.	49	46	19	1
Managers	Percentage	42	40	17	1
Users	No of resp.	70	105	59	4
Users	Percentage	29	44	25	2

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users



The manager group is the only one with more yes than no answers. Managers, therefore, seem to be more aware of this kind of legislation than the other two groups. However, according to the chi-squared tests, users seem to be the group with significantly different awareness levels from the other two groups. Users show a significantly lower level of awareness than the other groups.

QUESTION 1

1. Contingent liabilities for contaminated land, spills and unauthorised emissions

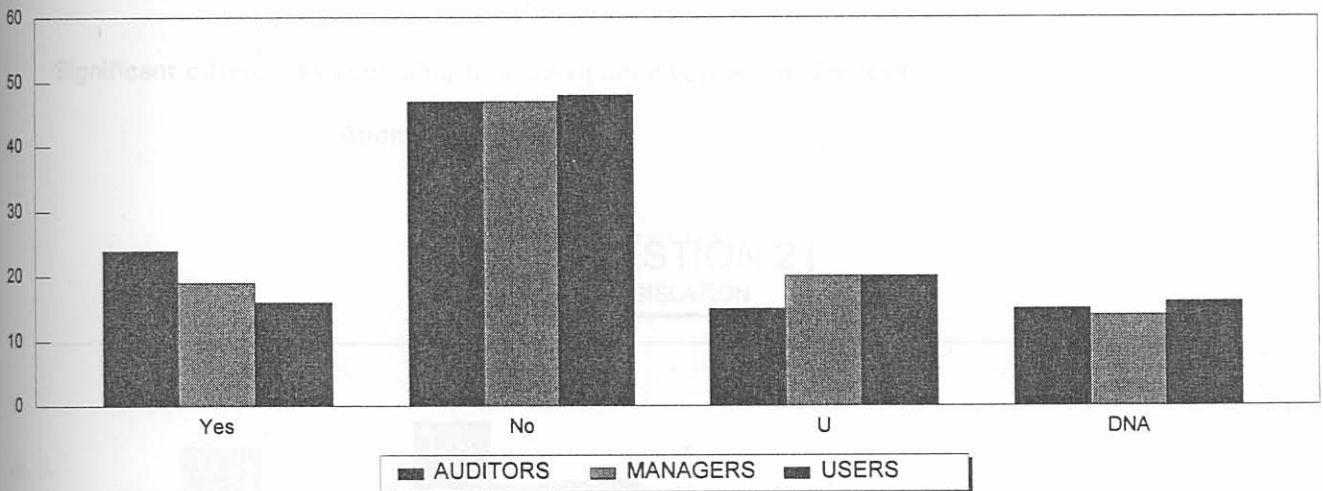
GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	39	77	24	24
Auditors	Percentage	24	46	15	15
Managers	No of resp.	22	54	23	16
Managers	Percentage	19	47	20	14
Users	No of resp.	38	114	48	38
Users	Percentage	16	48	20	16

Significant differences according to a chi-squared test at the 5% level:

None

QUESTION 1
GAAP



The three groups all have more no than yes answers. This indicates a low level of awareness. The auditor group have more positive answers than the manager group who, in turn, have more than the user group. These differences are, however, not significant. The three groups can be regarded as being equally ignorant.

A feature of this section of the questionnaire was the relatively high percentage of respondents who did not respond to the GAAP portion of the questions; in the case of this question between 14 and 16 percent. The reason could be that the respondents misinterpreted the instructions. In other words, they did not realise that each question had to be answered twice; firstly for legislation and then secondly for GAAP. Nevertheless, this misunderstanding probably had no relationship to the respondent's awareness level. Accordingly, it is assumed that the answers that were received are representative of the answers that would be received if the instruction was not misinterpreted.

QUESTION 2

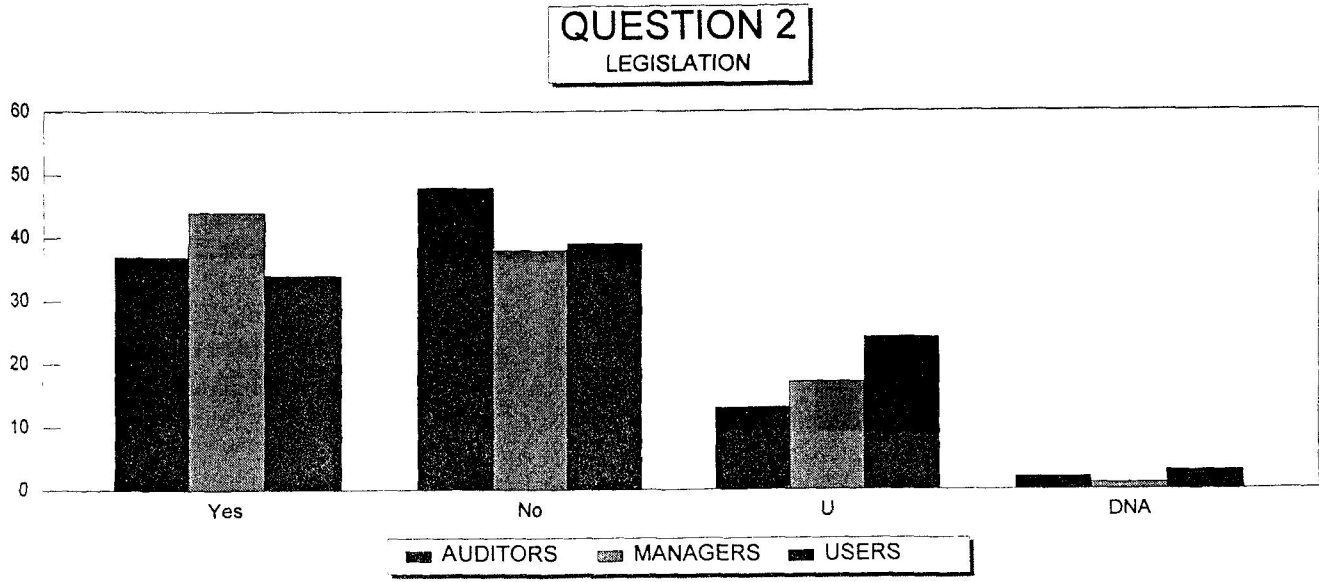
2. Provisions for rehabilitation, abandonment, decommissioning, waste disposal, recycling, catch-up to new legislation, insurance and legal costs on environmental litigation

LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	60	79	21	4
Auditors	Percentage	37	48	13	2
Managers	No of resp.	51	44	19	1
Managers	Percentage	44	38	17	1
Users	No of resp.	81	93	57	1
Users	Percentage	34	39	24	3

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Users



The responses to this question more or less follow the pattern of the first question. Managers again are the only ones with a higher number of yes than no answers. The only significant difference, though, is that between auditors and users.

QUESTION 2

2. Provisions for rehabilitation, abandonment, decommissioning, waste disposal, recycling, catch-up to new legislation, insurance and legal costs on environmental litigation

GAAP

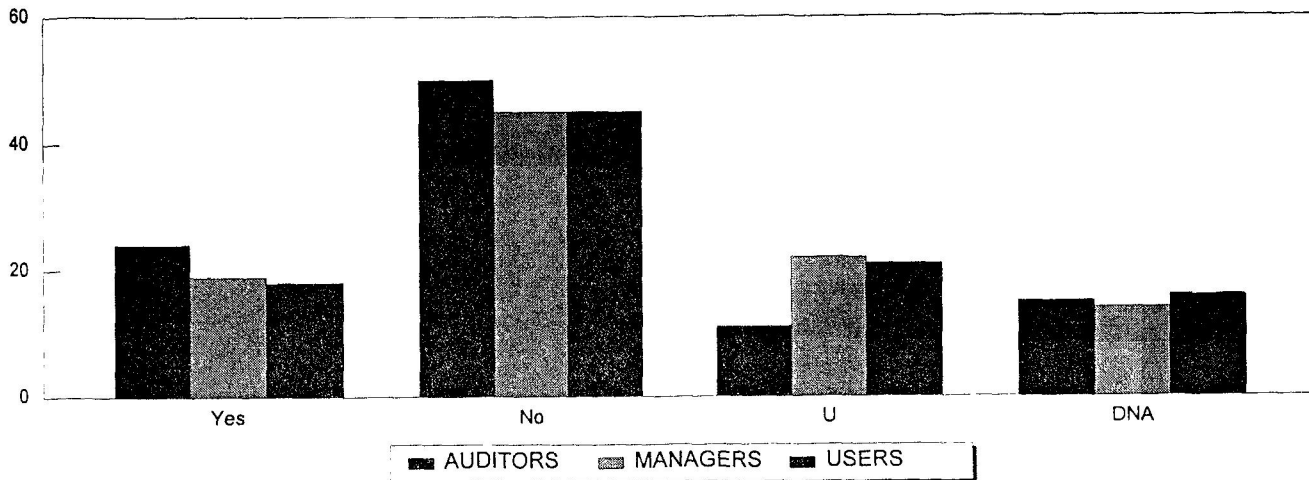
		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	40	82	18	24
Auditors	Percentage	24	50	11	15
Managers	No of resp.	22	52	25	16
Managers	Percentage	19	45	22	14
Users	No of resp.	42	107	50	39
Users	Percentage	18	45	21	16

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Auditors vs Users

QUESTION 2
GAAP



The responses seem to follow the same pattern as those in question 1 (GAAP), but in this case, auditors' responses differ significantly from those of the other two groups. Awareness levels are low in all three groups.

QUESTION 3

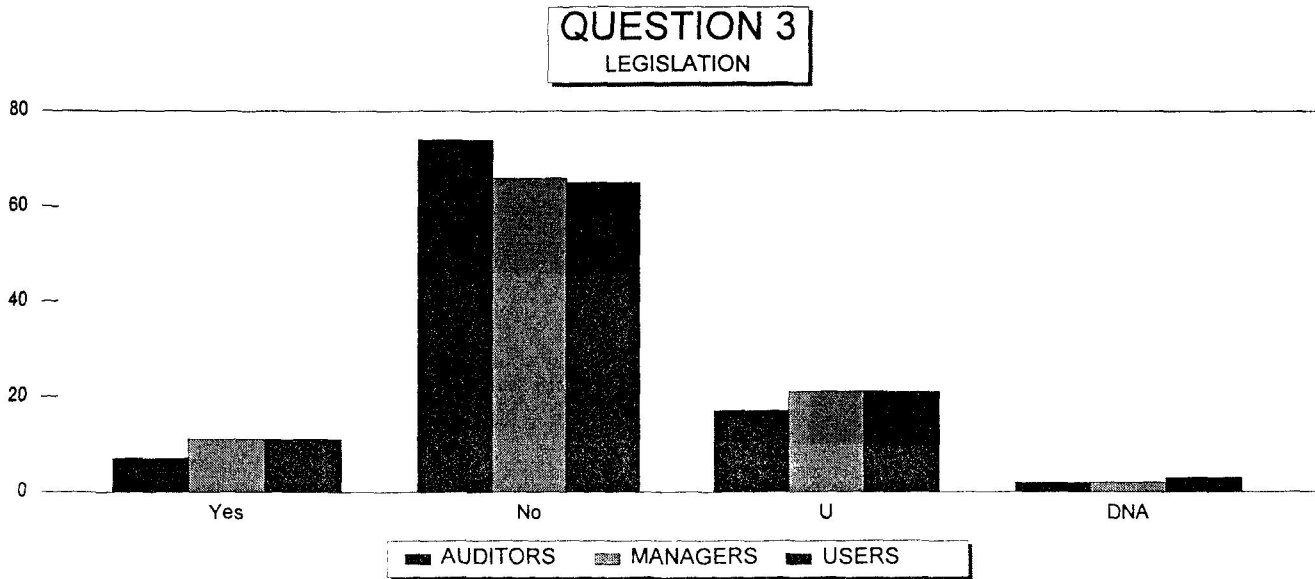
3. Reserves for environmental catastrophes

LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	12	121	28	3
Auditors	Percentage	7	74	17	2
Managers	No of resp.	13	76	24	2
Managers	Percentage	11	66	21	2
Users	No of resp.	26	155	51	6
Users	Percentage	11	65	21	3

Significant differences according to a chi-squared test at the 5% level:

None



A very small percentage of respondents in all the groups responded in the positive. There were no significant differences in the responses of the three groups. The awareness level of legislation regarding environmental catastrophe is very low.

QUESTION 3

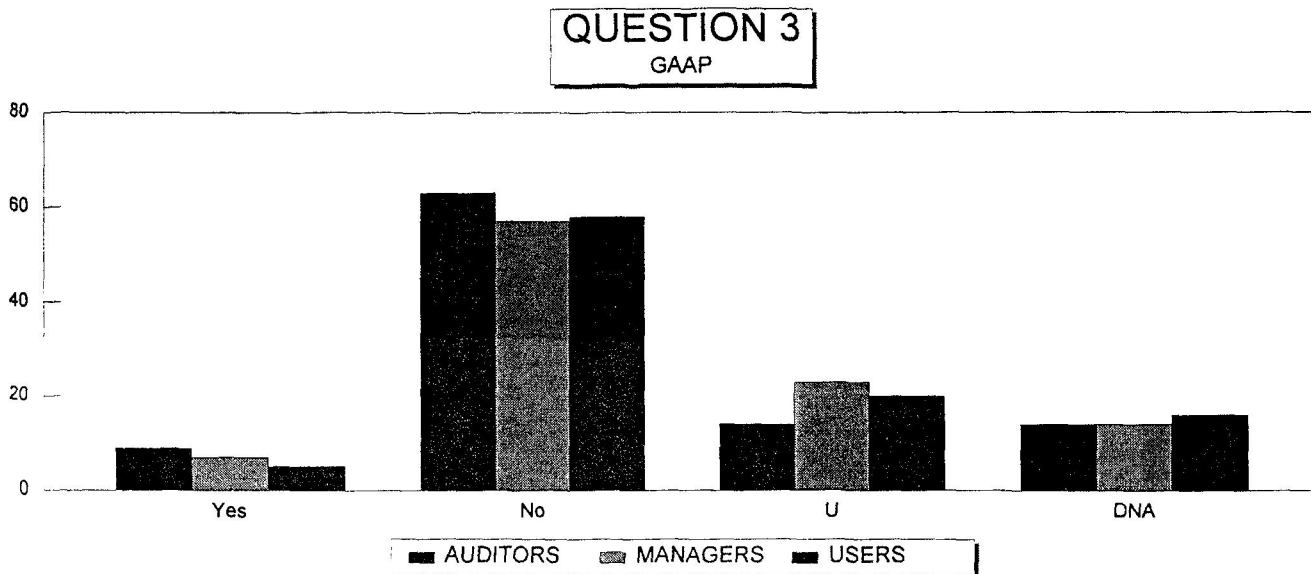
3. Reserves for environmental catastrophes

GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	15	103	23	23
Auditors	Percentage	9	63	14	14
Managers	No of resp.	8	65	26	16
Managers	Percentage	7	56	23	14
Users	No of resp.	13	138	48	39
Users	Percentage	5	59	20	16

Significant differences according to a chi-squared test at the 5% level:

None



The awareness levels of GAAP regarding reserves for environmental catastrophe seem to be as low as that for legislation of this kind. The three groups seem to be equally unaware, as there were no significant differences in their responses.

QUESTION 4

4. Valuation of land and buildings influenced by environmental issues

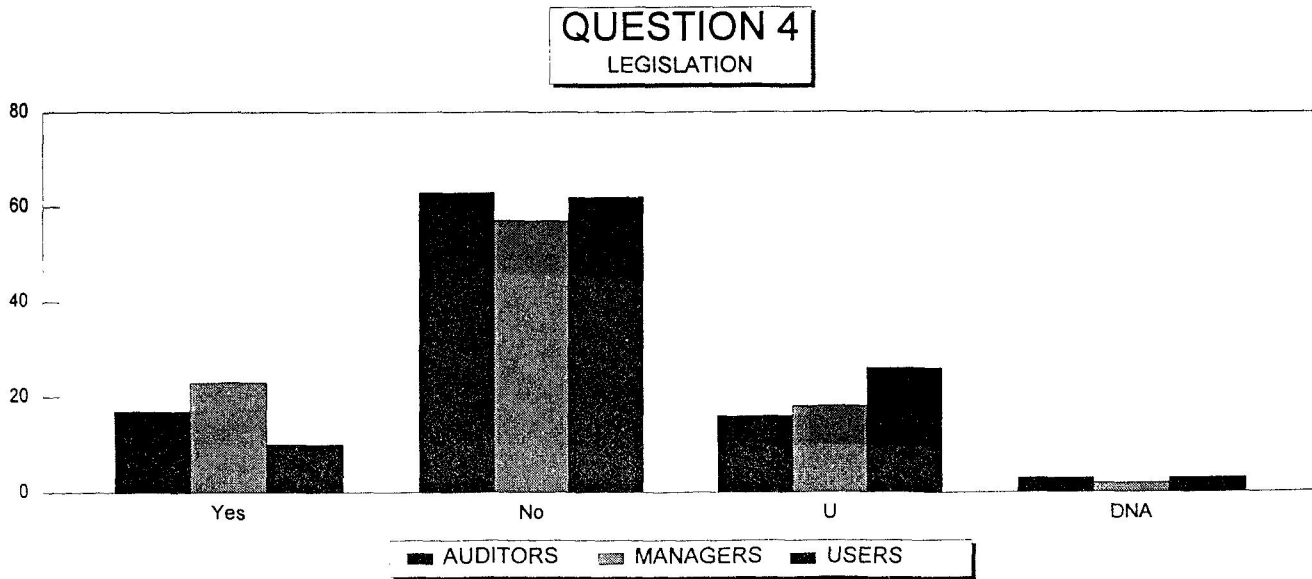
LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	28	104	27	5
Auditors	Percentage	17	64	16	3
Managers	No of resp.	26	66	21	2
Managers	Percentage	23	57	18	2
Users	No of resp.	24	147	61	6
Users	Percentage	10	61	26	3

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users



The awareness levels are low in all three groups with users being significantly lower than the other two groups.

QUESTION 4

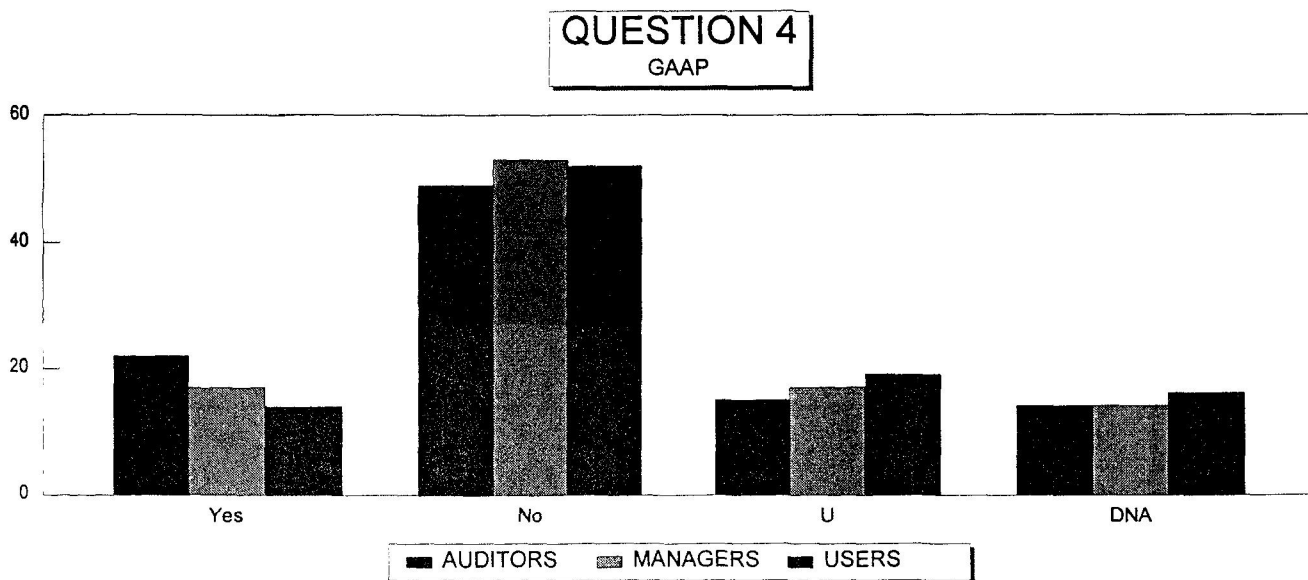
4. Valuation of land and buildings influenced by environmental issues

GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	36	81	24	23
Auditors	Percentage	22	49	15	14
Managers	No of resp.	19	61	19	16
Managers	Percentage	17	52	17	14
Users	No of resp.	33	123	45	37
Users	Percentage	14	51	19	16

Significant differences according to a chi-squared test at the 5% level:

None



The responses again display a low level of awareness. As with previous questions, auditors seem to display a higher level of awareness of the implications of GAAP. This is not unexpected, as they should be experts in the field of GAAP. The difference, however, is not significant.

QUESTION 5

5. Depreciation policy considering newly available environment friendly technologies

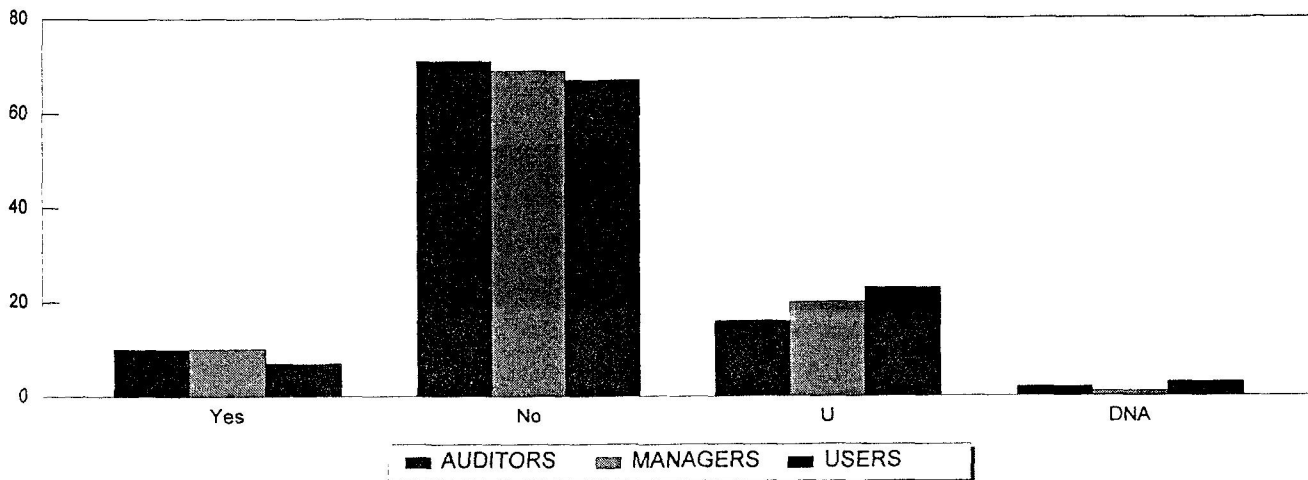
LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	17	116	27	4
Auditors	Percentage	10	72	16	2
Managers	No of resp.	12	79	23	1
Managers	Percentage	10	69	20	1
Users	No of resp.	16	159	55	8
Users	Percentage	7	67	23	3

Significant differences according to a chi-squared test at the 5% level:

None

QUESTION 5
LEGISLATION



The responses indicate a low awareness level at first glance. The question may, however, have been ambiguous. There may be legislation regarding the use of more environment-friendly technologies, but not legislation that directly mentions depreciation policy. This may explain why there are a larger percentage yes answers in the GAAP section to this question than in the legislation section. In previous questions, this was mostly the other way around. There were no significant differences between the responses of the various groups.

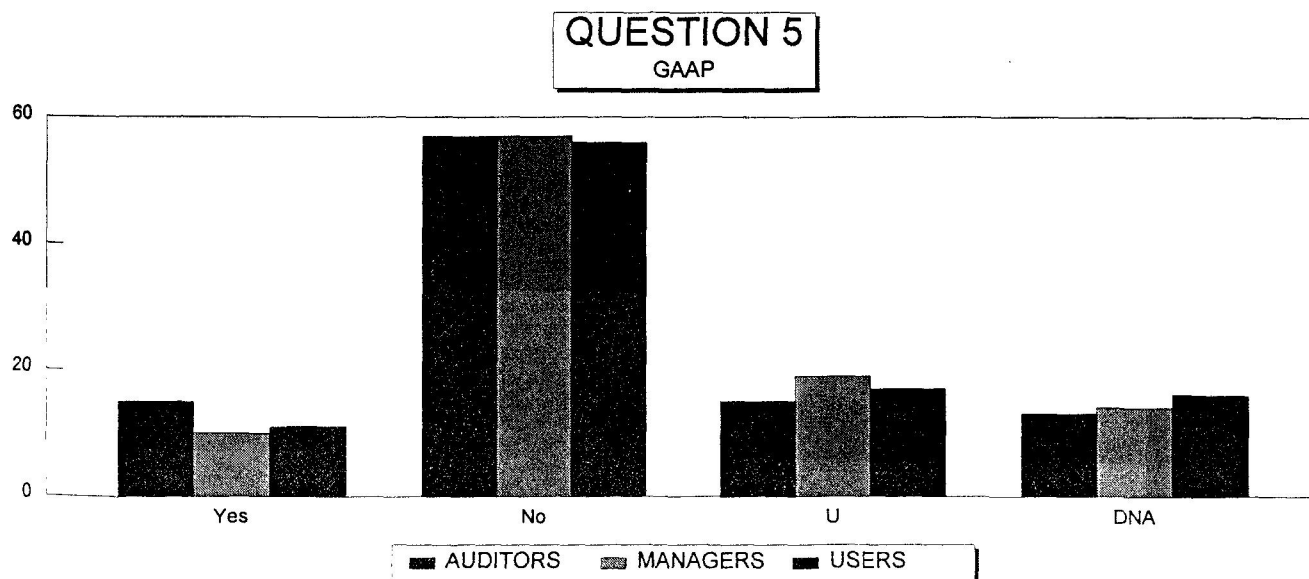
QUESTION 5

5. Depreciation policy considering newly available environment friendly technologies
GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	24	94	24	22
Auditors	Percentage	15	57	15	13
Managers	No of resp.	11	66	22	16
Managers	Percentage	10	57	19	14
Users	No of resp.	25	134	40	39
Users	Percentage	11	56	17	16

Significant differences according to a chi-squared test at the 5% level:

None



The responses indicate low awareness levels, although slightly higher than for the legislation section of the question. The reason may be the ambiguity mentioned above. There were once again no significant differences in the responses between the groups.

QUESTION 6

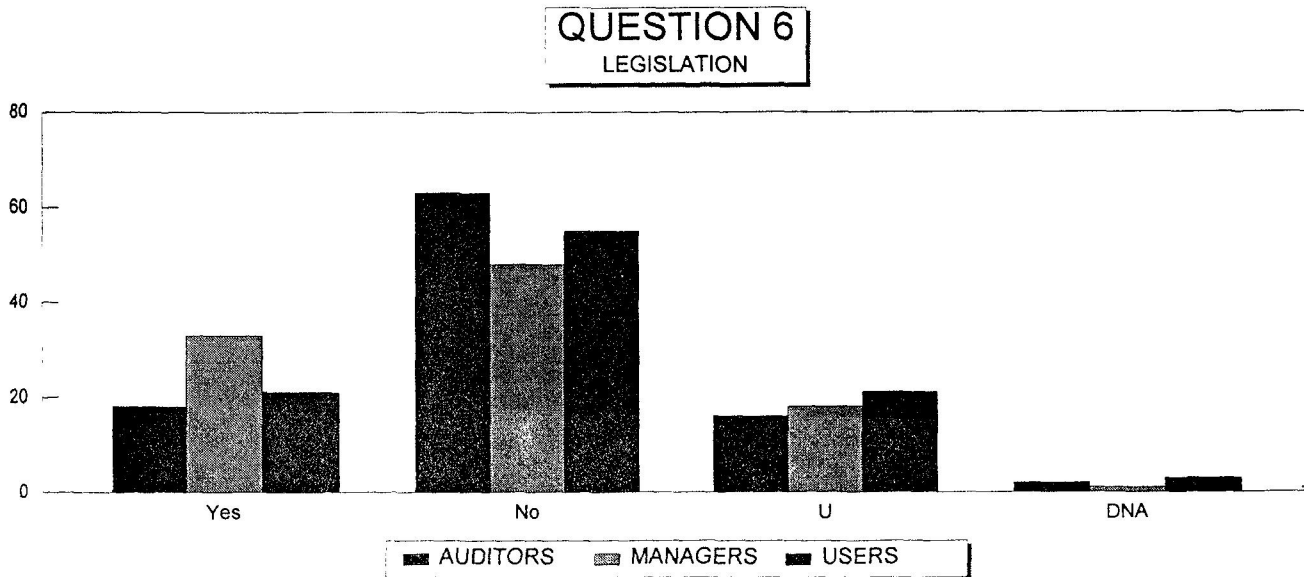
6. Changing standards that require additional capital costs to bring assets currently used up to the new standard

LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	30	104	26	4
Auditors	Percentage	18	64	16	2
Managers	No of resp.	38	55	21	1
Managers	Percentage	33	48	18	1
Users	No of resp.	50	132	50	6
Users	Percentage	21	55	21	3

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers



Managers displayed the highest awareness level of the three groups. This was also the case with many of the legislation parts of the previous questions. The manager groups' responses were significantly different from those of auditors, but not significantly different from those of users.

QUESTION 6

6. Changing standards that require additional capital costs to bring assets currently used up to the new standard

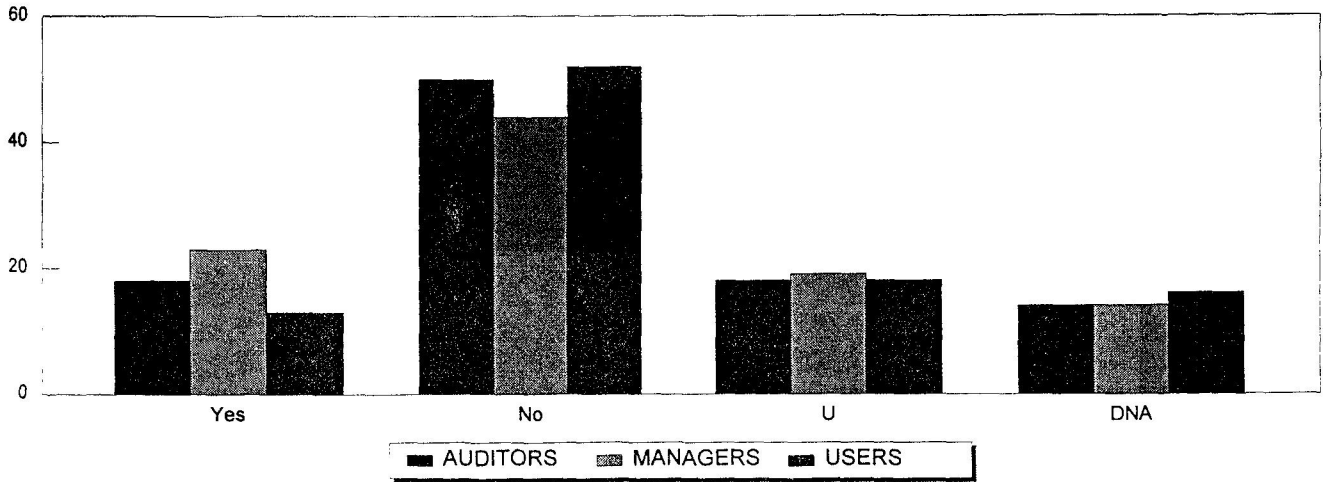
GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	29	82	30	23
Auditors	Percentage	18	50	18	14
Managers	No of resp.	26	51	22	16
Managers	Percentage	23	44	19	14
Users	No of resp.	31	124	44	39
Users	Percentage	13	53	18	16

Significant differences according to a chi-squared test at the 5% level:

None

QUESTION 6
GAAP



Managers show a higher awareness level, although not significantly so. In all the previous questions, auditors had the highest percentage of yes answers of the three groups. A possible explanation could be that the GAAP implications of these costs cannot be fully appreciated if the respondent is unaware of legislation that make this necessary.

QUESTION 7

7. Changing standards that could result in inventory obsolescence

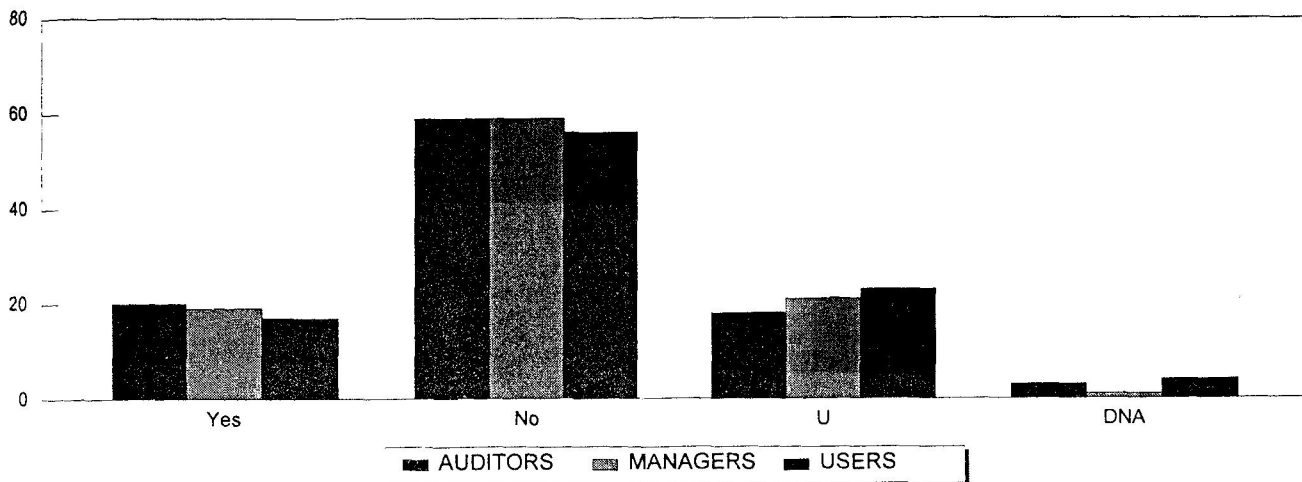
LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	33	97	29	5
Auditors	Percentage	20	59	18	3
Managers	No of resp.	22	68	24	1
Managers	Percentage	19	59	21	1
Users	No of resp.	41	133	55	9
Users	Percentage	17	56	23	4

Significant differences according to a chi-squared test at the 5% level:

None

QUESTION 7
LEGISLATION



The responses indicate a low level of awareness with no significant differences between the responses of the three groups.

QUESTION 7

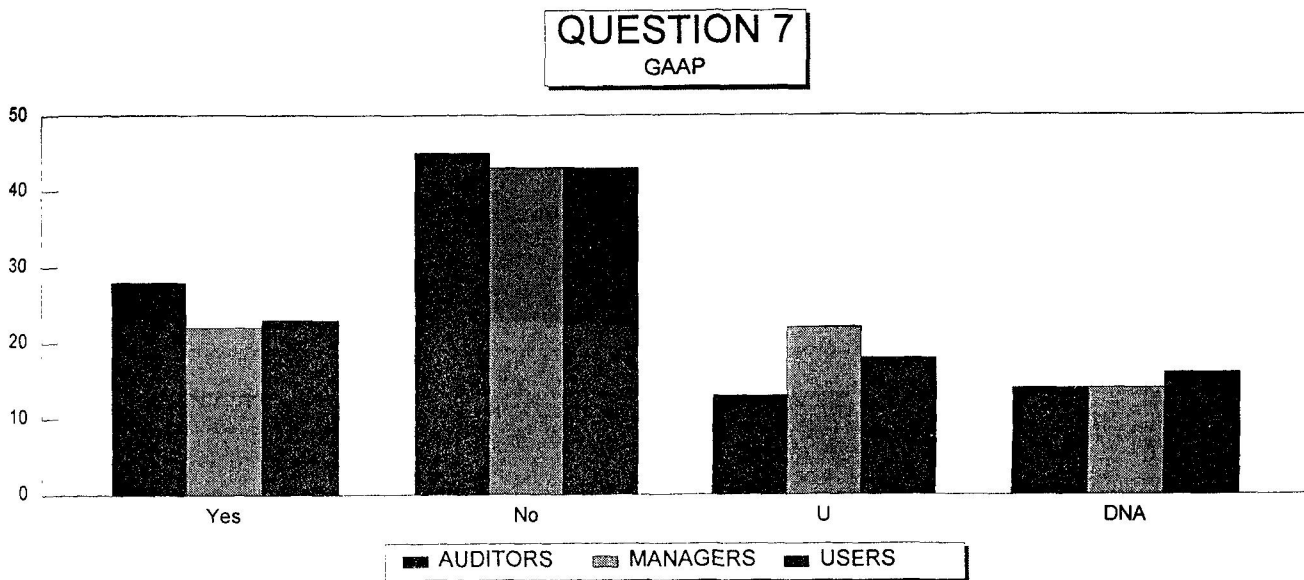
7. Changing standards that could result in inventory obsolescence

GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	46	73	22	23
Auditors	Percentage	28	45	13	14
Managers	No of resp.	25	49	25	16
Managers	Percentage	22	42	22	14
Users	No of resp.	54	103	43	38
Users	Percentage	23	43	18	16

Significant differences according to a chi-squared test at the 5% level:

None



The awareness level of GAAP is higher than that of legislation in this question. This was also the case in question 5. An interesting aspect is that users had a higher percentage of positive responses than managers. This was also the case in question 5, but not in any of the other questions. The difference was not, however, significant in either case.

QUESTION 8

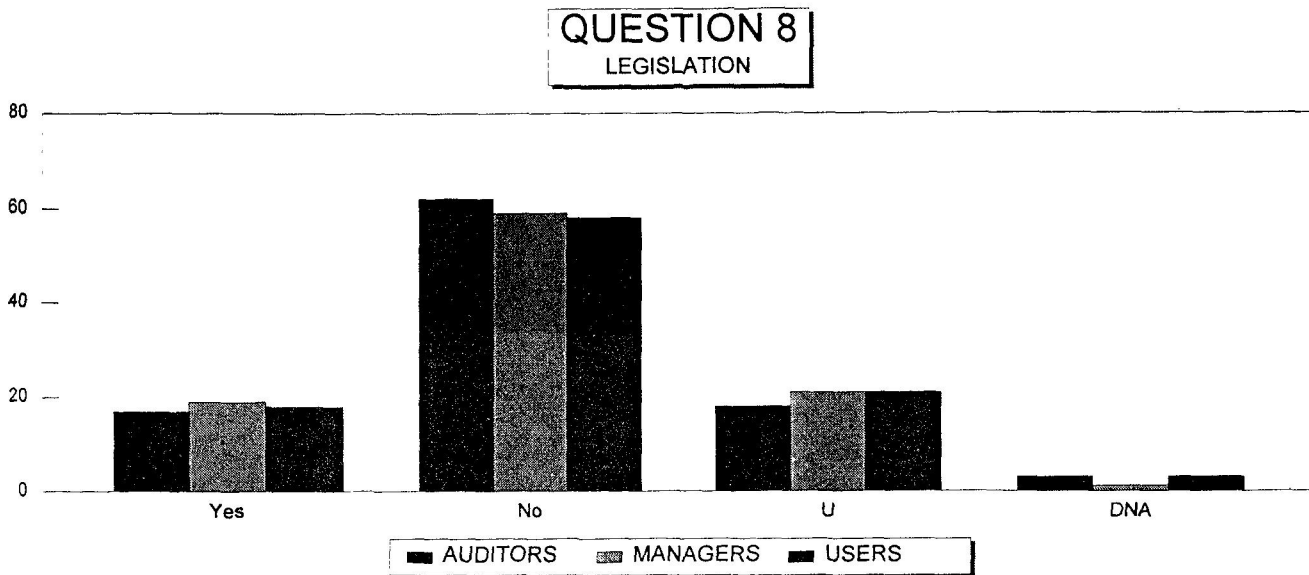
8. Changing standards that could result in a going concern problem

LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	28	102	29	5
Auditors	Percentage	17	62	18	3
Managers	No of resp.	22	68	24	1
Managers	Percentage	19	59	21	1
Users	No of resp.	42	139	49	8
Users	Percentage	18	58	21	3

Significant differences according to a chi-squared test at the 5% level:

None



The responses again indicate a low level of awareness in each of the three groups. Managers edge ahead in the percentage of positive responses. This seemed to be the trend in the legislation section of the questions. Only in question 7 did managers not score the highest percentage positive responses up to this point in the questionnaire.

QUESTION 8

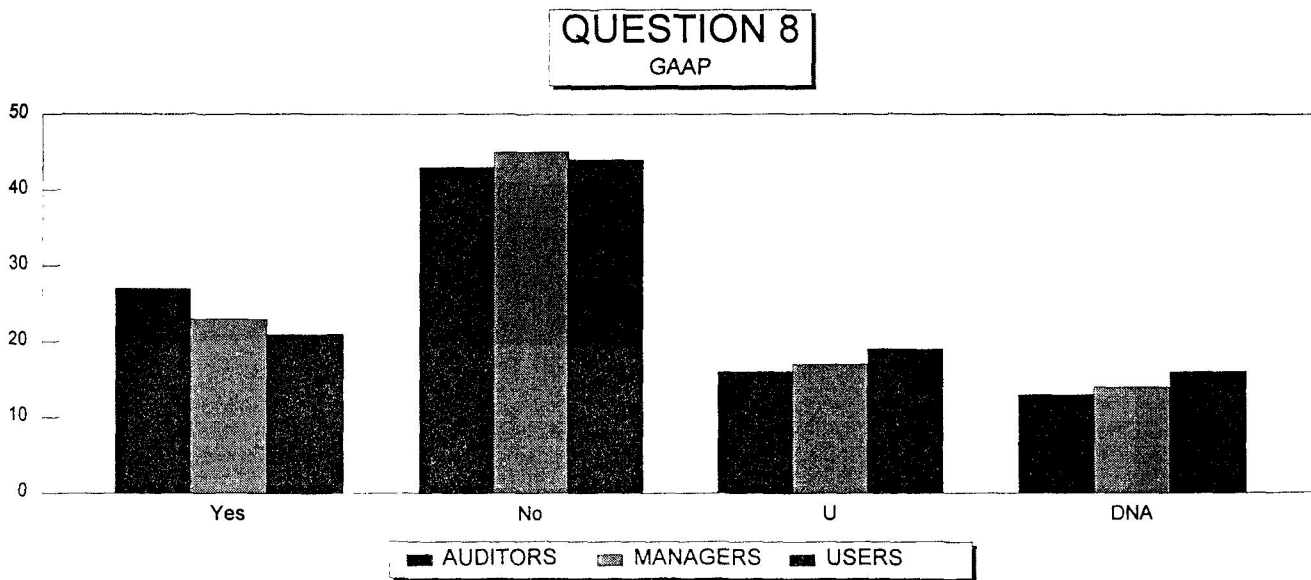
8. Changing standards that could result in a going concern problem

GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	45	71	26	22
Auditors	Percentage	27	44	16	13
Managers	No of resp.	27	52	20	16
Managers	Percentage	23	46	17	14
Users	No of resp.	49	105	46	38
Users	Percentage	21	44	19	16

Significant differences according to a chi-squared test at the 5% level:

None



The awareness level here seems to be better than for the legislation part of the question, but awareness levels are still low. Auditors once again lead the field in the number of positive responses. The differences are, however, not significant.

QUESTION 9

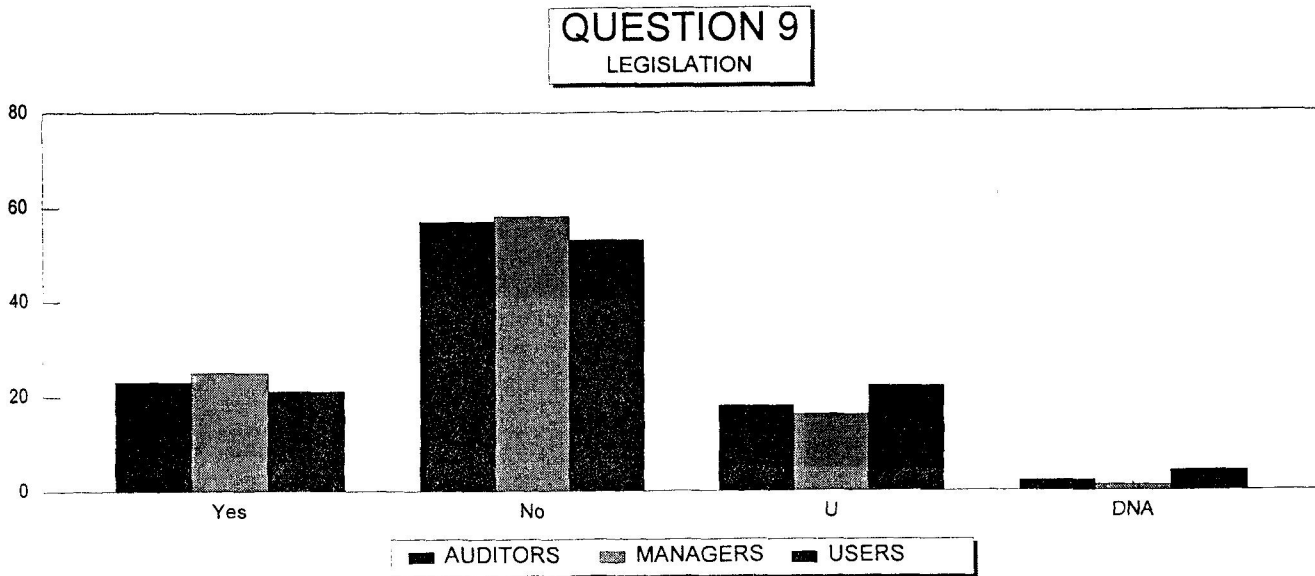
9. Recycling commitments and storage and disposal of materials that are harmful to the environment that could affect the net realisable value of inventory

LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	37	93	30	4
Auditors	Percentage	23	57	18	2
Managers	No of resp.	29	67	18	1
Managers	Percentage	25	58	16	1
Users	No of resp.	49	127	53	9
Users	Percentage	21	53	22	4

Significant differences according to a chi-squared test at the 5% level:

None



The awareness levels amongst all three groups are low with managers again slightly ahead of the other two groups. The differences are, however, not significant.

QUESTION 9

9. Recycling commitments and storage and disposal of materials that are harmful to the environment that could affect the net realisable value of inventory

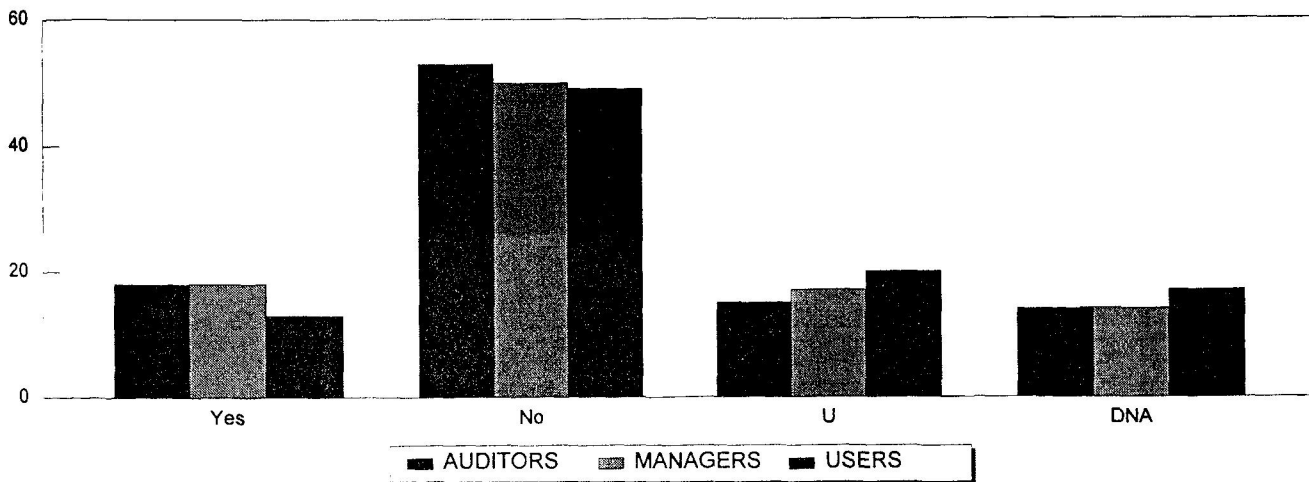
GAAP

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	29	87	25	23
Auditors	Percentage	18	53	15	14
Managers	No of resp.	21	58	20	16
Managers	Percentage	18	51	17	14
Users	No of resp.	32	117	48	41
Users	Percentage	13	50	20	17

Significant differences according to a chi-squared test at the 5% level:

None

QUESTION 9
GAAP



The awareness of the influence of GAAP on recycling commitments and the like is low amongst all the groups. There are no significant differences between the responses of the three groups.

QUESTION 10

10. Items such as waste disposal and recycling that could result in increased production costs

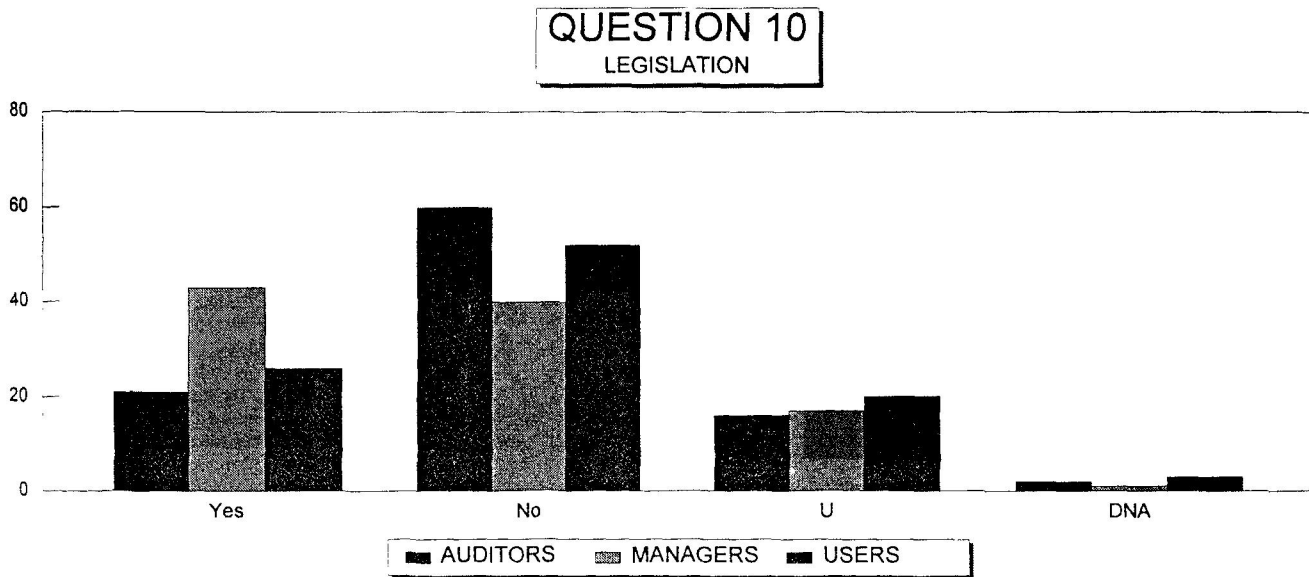
LEGISLATION

		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	35	98	27	4
Auditors	Percentage	21	61	16	2
Managers	No of resp.	49	46	19	1
Managers	Percentage	42	40	17	1
Users	No of resp.	61	124	47	6
Users	Percentage	26	51	20	3

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users



The manager group is significantly more aware of legislation that has the influence of increasing production costs due to waste disposal and recycling than the other two groups are. Most local authorities have rules regarding the discharge of effluent and most factory managers should be aware of this.

QUESTION 10

10. Items such as waste disposal and recycling that could result in increased production costs

GAAP

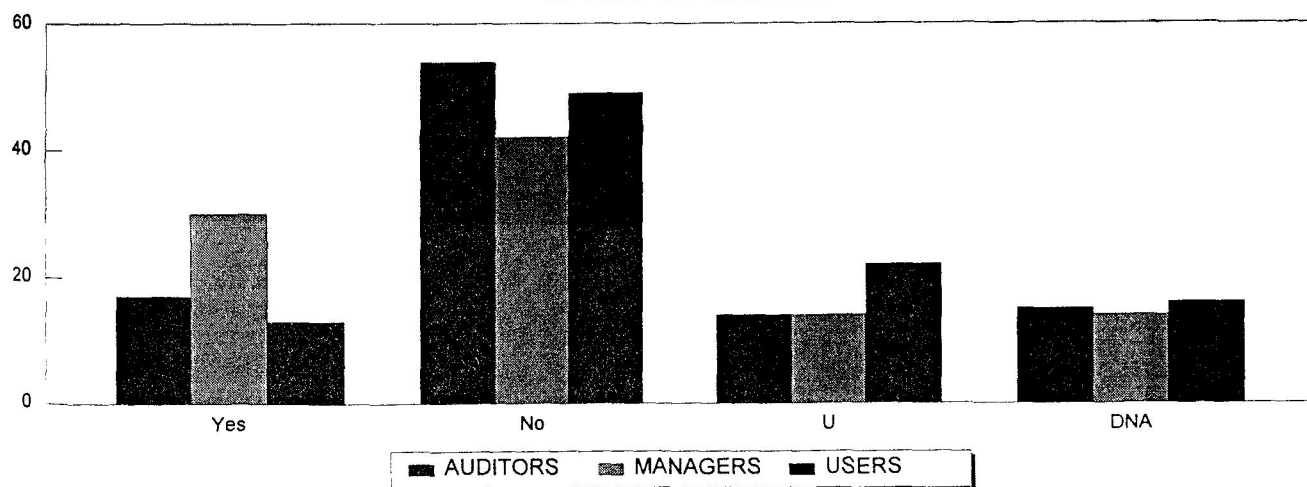
		Yes	No	Uncertain	Did not Answer
Auditors	No of resp.	28	88	23	25
Auditors	Percentage	17	54	14	15
Managers	No of resp.	35	48	16	16
Managers	Percentage	30	42	14	14
Users	No of resp.	30	117	53	38
Users	Percentage	13	49	22	16

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

QUESTION 10
GAAP



Managers are also significantly more aware of GAAP relating to increased production costs than the other two groups. This is unusual, as the GAAP part of most of the other questions had auditors ahead in the percentage of "yes" answers. A possible explanation could be that one can only fully appreciate the GAAP implications if one is aware of the legislation.

Summaries of the results of this section are given in Figures 4.1 and 4.2.

FIGURE 4.1: SUMMARY OF FIRST STUDY - AWARENESS OF LEGISLATION

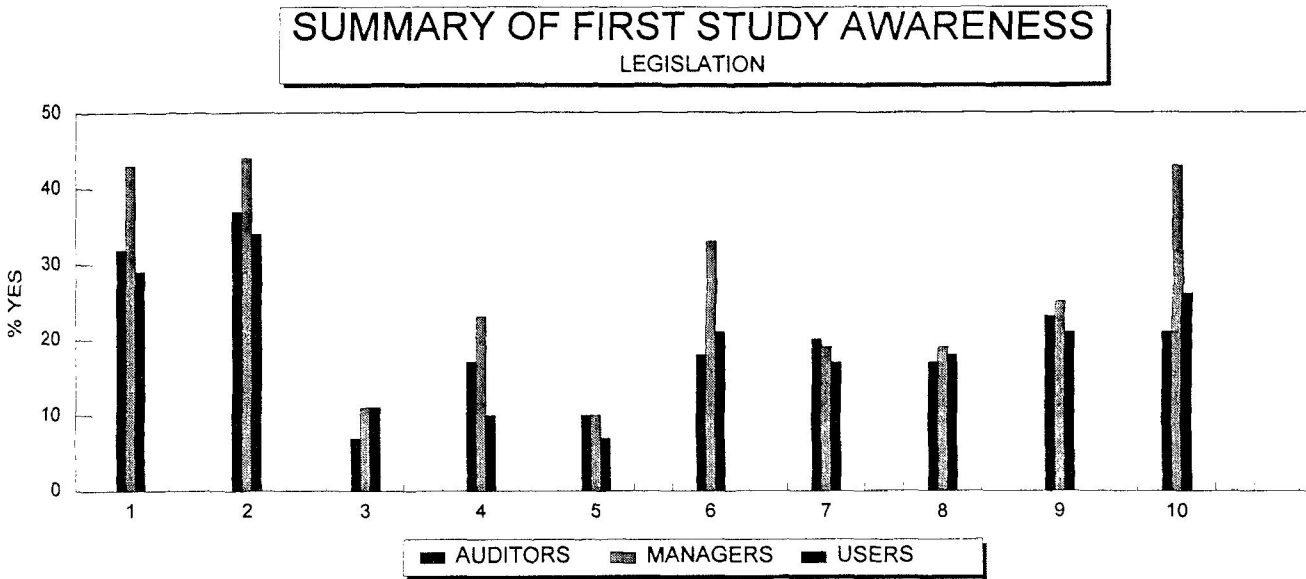
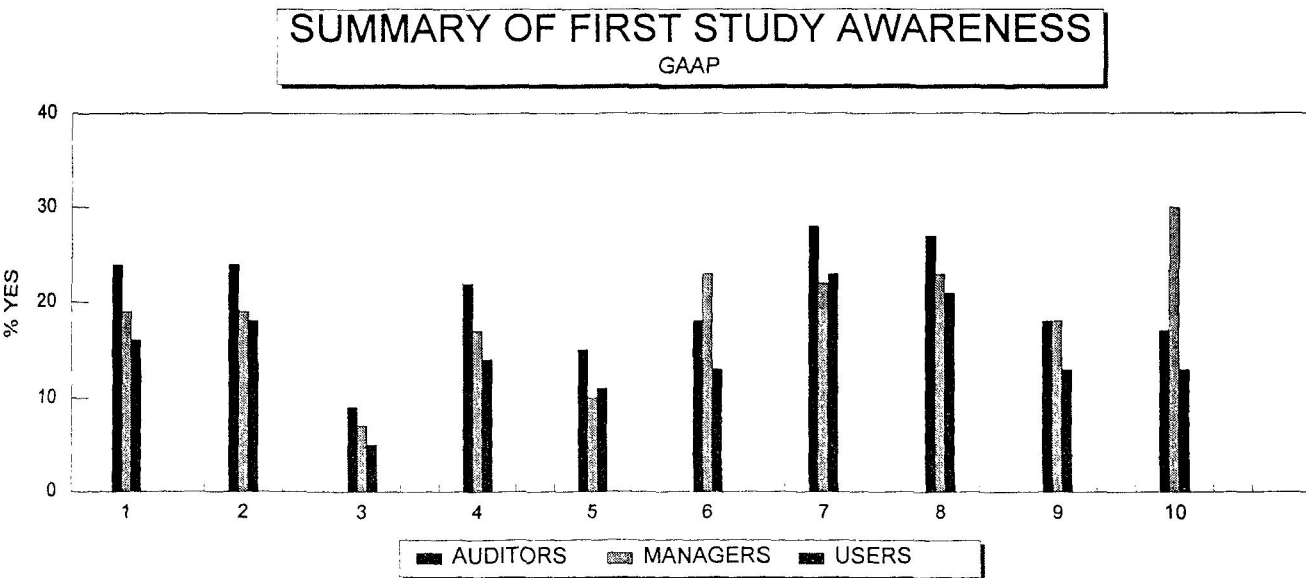


FIGURE 4.2: SUMMARY OF FIRST STUDY - AWARENESS OF GAAP



Section 3: Willingness to support more comprehensive disclosure in the annual report

The purpose of the questions in sections 3 and 4 was to establish the willingness of individuals to support more comprehensive corporate environmental reporting in the annual financial statements.

The answers to questions in sections 3 and 4 were given on a five-point scale. The possibilities being "strongly agree", "agree", "uncertain or does not matter", "disagree" and "strongly disagree". Some respondents neglected to answer specific questions. The incidence of this was much smaller than in section 2. Non-responses in this section were probably mostly due to simple neglect.

The responses in sections 3 and 4 were measured in two ways. Firstly, an average score was calculated for each of the three groups. This was done on the basis of the following scores:

Strongly agree	5
Agree	4
Uncertain/Does not matter	3
Disagree	2
Strongly disagree	1

An average of 3 would therefore indicate no specific preference. An average of above 3 would indicate agreement and below 3, disagreement. In this way the few non-responses are effectively ignored. The questions were generally set in such a way that agreement would indicate a willingness to support more comprehensive corporate environmental disclosure.

The second measure used was that of percentage agreement. The number of respondents who "strongly agreed" and those who "agreed" were taken as a percentage of the total questionnaires received back in the particular group. In this way non-responses are not ignored, as non-responses effectively reduce the percentage agreement.

A particular question with many "uncertain" respondents and many non-responses could therefore have an average score of more than 3, but a percentage agreement of below 50%. An average of more than 3 can be regarded as agreement by a group, but a percentage agreement of 50% or more is a very strong indication of agreement.

Preamble to the questions in section 3

To what degree do you personally agree/disagree with the following statements?

1. Current disclosure requirements of environmental matters are fair and not too onerous

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	4	39	44	61	15	1	2.7
Auditors	Percentage	2	24	27	37	9	1	26
Managers	No of resp.	8	44	25	31	4	3	3.2
Managers	Percentage	7	38	22	27	3	3	45
Users	No of resp.	14	49	40	112	20	3	2.7
Users	Percentage	6	21	17	47	8	1	26

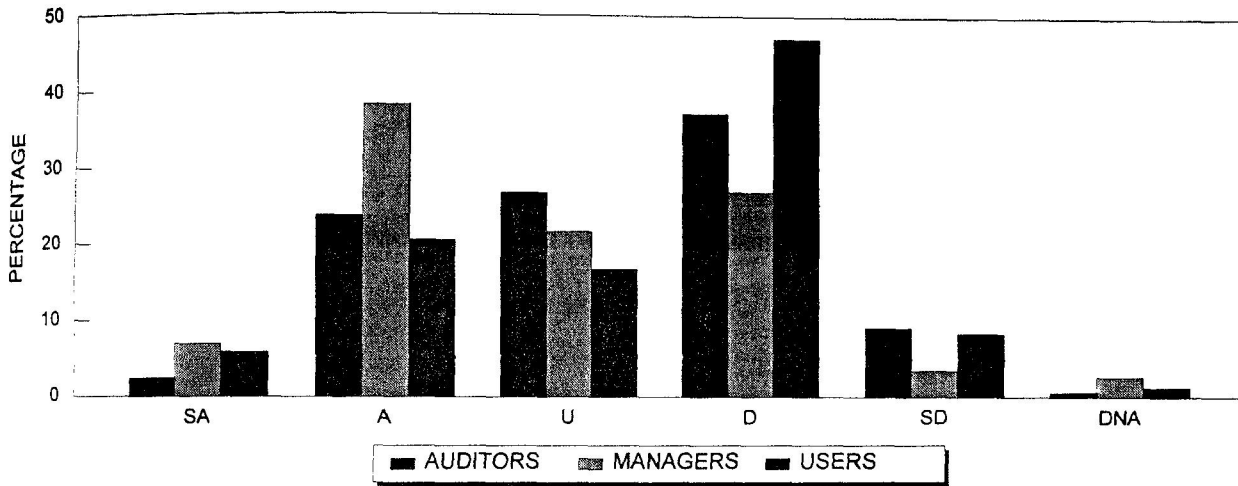
Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 1



The question was meant to determine whether the respondent believed the current environmental reporting requirements to be too much of a burden already. It was clear from the responses, though, that many respondents misinterpreted the question. They would contradict their negative answer here by, for example, agreeing that more environmental reporting is needed in another question. The results of this question are, therefore, meaningless and will be ignored.

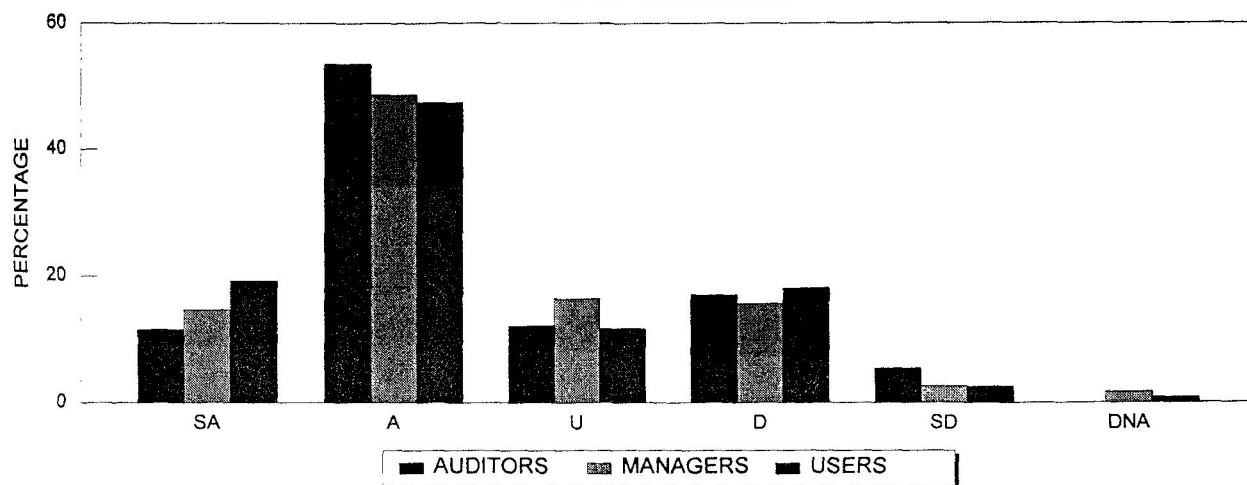
2. More comprehensive disclosure of environmental matters is needed on a voluntary basis

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	19	88	20	28	9	0	3.5
Auditors	Percentage	12	54	12	17	5	0	65
Managers	No of resp.	17	56	19	18	3	2	3.6
Managers	Percentage	15	48	16	16	3	2	63
Users	No of resp.	46	113	28	43	6	2	3.6
Users	Percentage	19	47	12	18	3	1	67

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 2



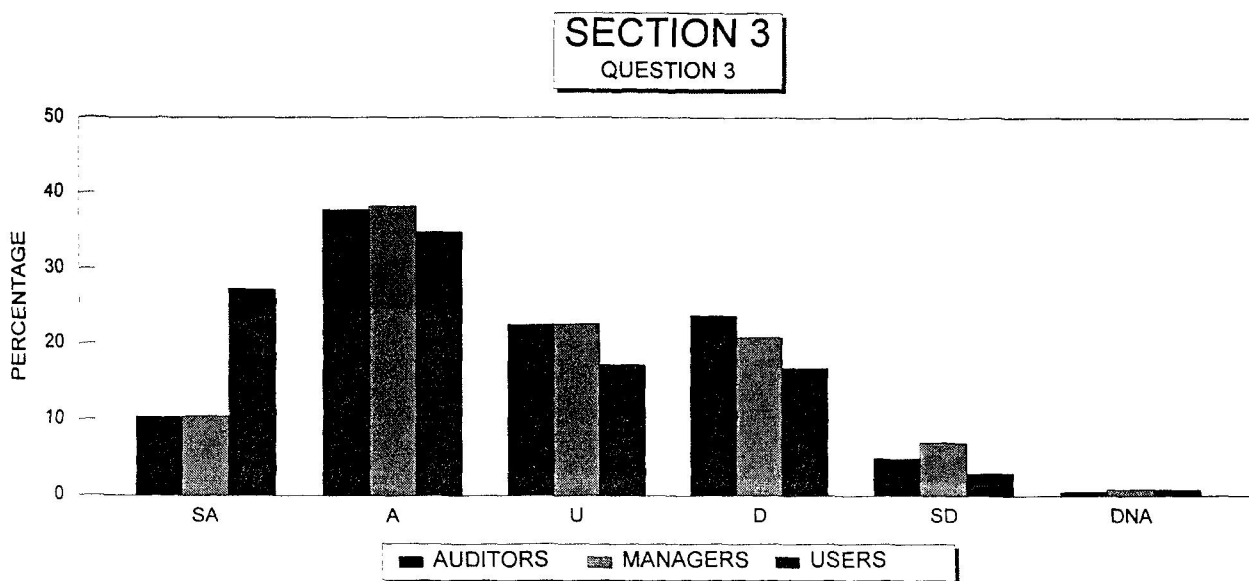
There is agreement amongst all three groups that more environmental reporting is needed in the annual statements of organisations. There are no significant differences between the responses of the three groups. More or less two thirds of the respondents are in favour of more environmental reporting. This is a very strong positive response and an indication that environmental reporting will probably increase in importance in South Africa in future. The managers who responded positively to this question probably had in mind some of the pragmatic reasons for environmental reporting mentioned in section 2.6.

3. More comprehensive disclosure of environmental matters is needed on a compulsory basis

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	17	62	37	39	8	1	3.3
Auditors	Percentage	10	37	23	24	5	1	47
Managers	No of resp.	12	44	26	24	8	1	3.2
Managers	Percentage	10	38	23	21	7	1	49
Users	No of resp.	65	83	41	40	7	2	3.7
Users	Percentage	27	35	17	17	3	1	62

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users



On whether the additional environmental reporting should be compulsory, many of the auditors and managers who responded indicated uncertainty. They were not as positive about compulsory disclosure as with disclosure on a voluntary basis. Although the averages of auditors and managers are above 3 (indicating agreement), the stricter percentage positive test indicates a score of just below 50%. Users remain very positive and these observations are borne out in the significance tests where the user responses differ significantly from those of the other two groups. The large number of users who responded "strongly agree" is noteworthy. Questions 2 and 3 address the issue of whether environmental reporting should be voluntary or compulsory first mentioned in section 2.8. In that section, it was concluded that it should, in theory, be compulsory. There is apparently support for this view, in particular from users. Their views are, according to accountability, of prime importance.

4. All environmental disclosure should be published as part of the annual financial statements or an addendum thereto to ensure accessibility

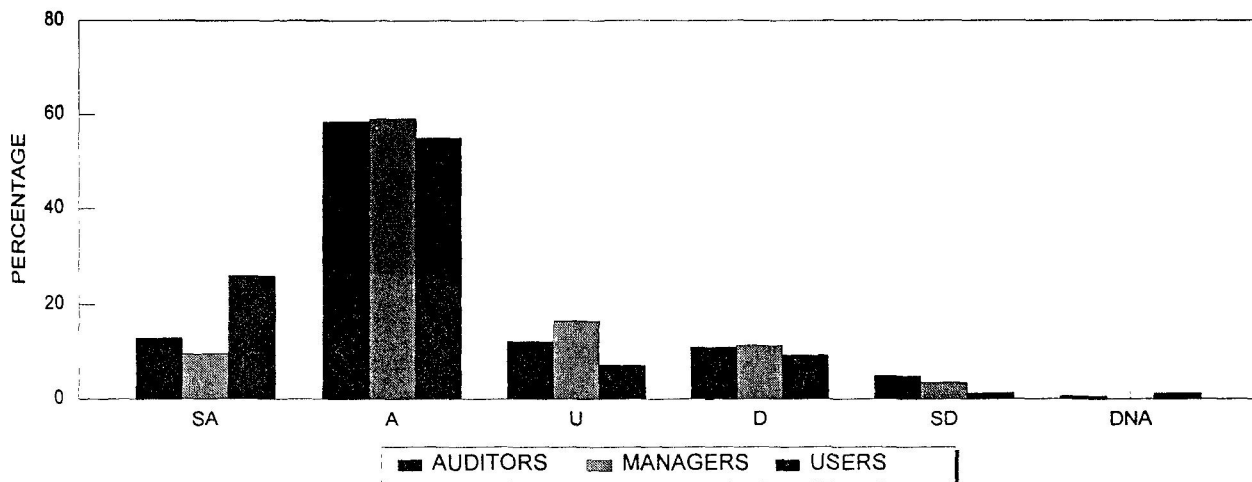
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	21	96	20	18	8	1	3.6
Auditors	Percentage	13	58	12	11	5	1	71
Managers	No of resp.	11	68	19	13	4	0	3.6
Managers	Percentage	10	59	17	11	3	0	69
Users	No of resp.	62	131	17	22	3	3	4.0
Users	Percentage	26	56	7	9	1	1	82

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 4



Respondents from all three groups seem to agree that additional environmental reporting should form part of the annual financial statements to ensure accessibility. Users are, however, significantly more positive about this than the other two groups. Again, more users tended to "strongly agree". The difference in the responses could be explained by the fact that managers and auditors see additional requirements for the financial statements as an additional burden on them, even leading to additional risk factors. Users, on the other hand, are keen to entrench and exercise their information rights.

5. More comprehensive environmental disclosure of a financial nature is needed

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	17	96	26	21	4	0	3.6
Auditors	Percentage	10	59	16	13	2	0	69
Managers	No of resp.	13	49	29	23	1	0	3.4
Managers	Percentage	11	43	25	20	1	0	54
Users	No of resp.	58	122	37	18	1	2	3.9
Users	Percentage	24	51	16	8	0	1	76

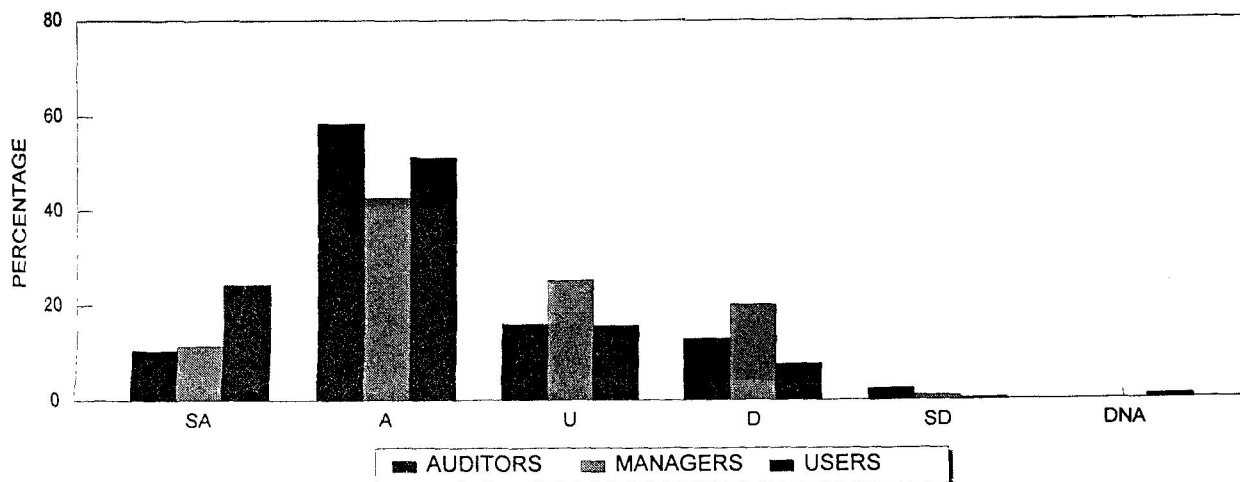
Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 5



The groups are all positive about the additional environmental information being of a financial nature. However, there are significant differences between the response of all the groups. Managers are positive, but auditors are significantly more so and users significantly more than auditors.

6. More comprehensive environmental disclosure of a non-financial nature is needed, such as descriptive information or information in physical units

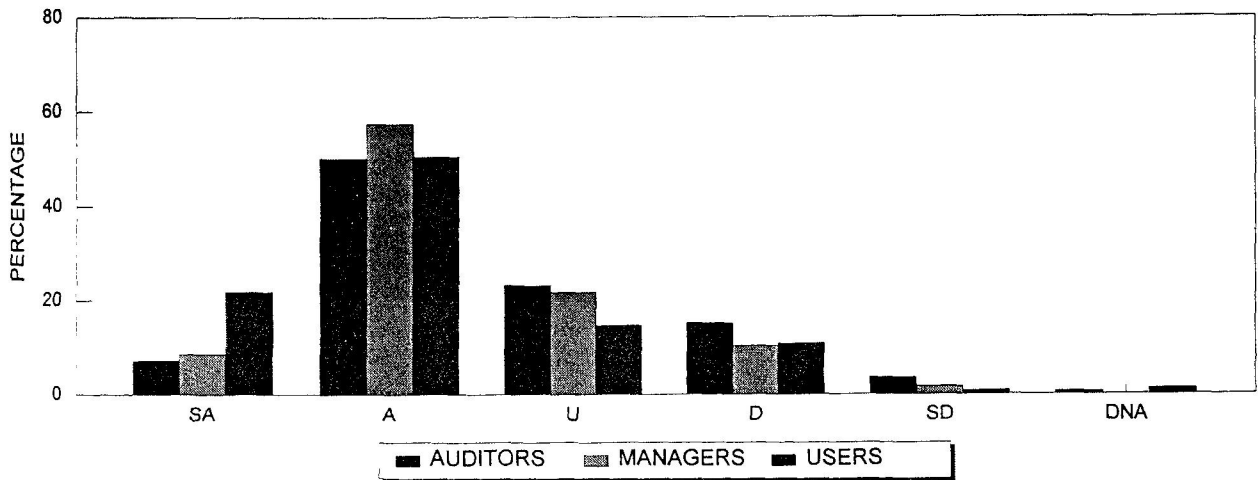
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	12	82	38	25	6	1	3.4
Auditors	Percentage	7	50	23	15	4	1	57
Managers	No of resp.	10	66	25	12	2	0	3.6
Managers	Percentage	9	57	22	10	2	0	66
Users	No of resp.	52	120	35	26	2	3	3.8
Users	Percentage	22	50	15	11	1	1	72

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

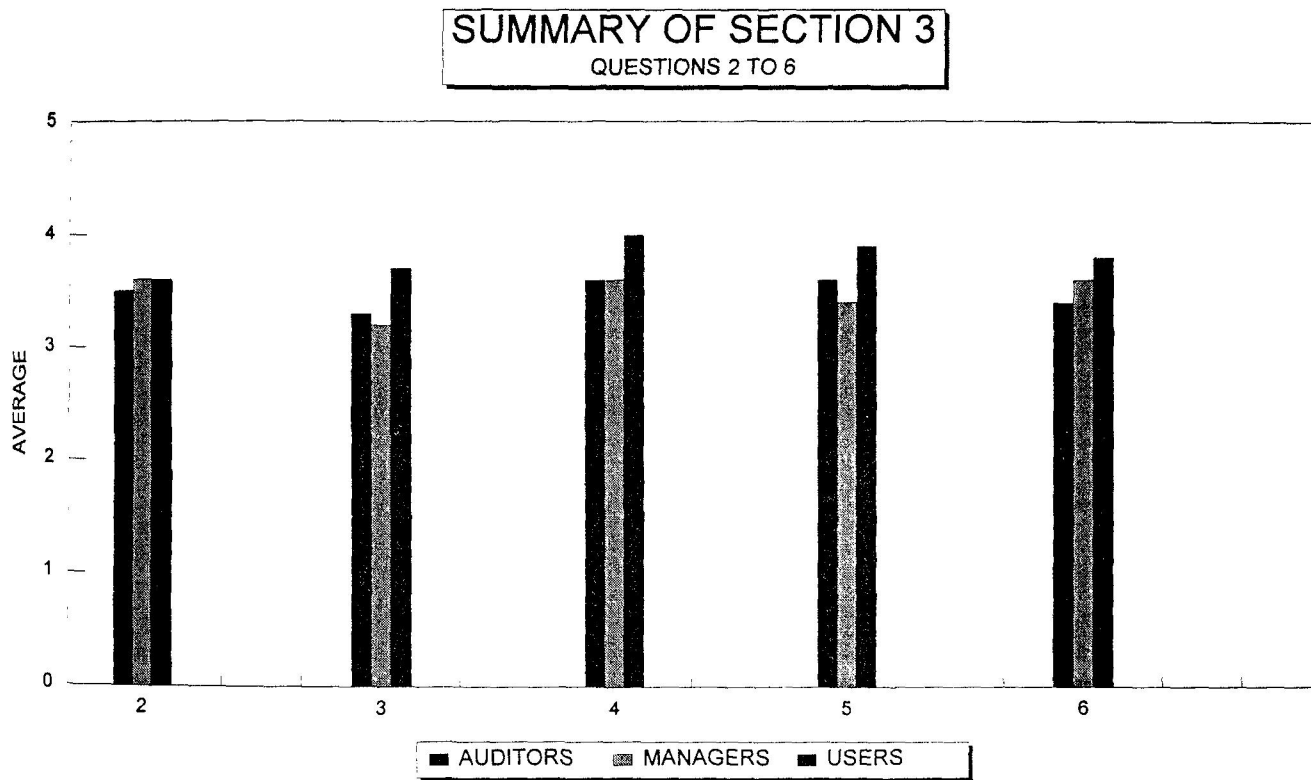
Auditors vs Users

SECTION 3
QUESTION 6



The groups are all positive about additional environmental information being of a non-financial nature too. The only significant difference here is that users are significantly more positive than the other two groups. It is of interest to note that managers and auditors switched position in the previous two questions. Managers were more positive here (although not significantly so) and auditors were more positive in the previous question. A possible explanation is that auditors feel more comfortable with financial data (which they deal with on a daily basis) and managers feel more comfortable with non-financial data (which they use to manage the organisation).

FIGURE 4.3: SUMMARY OF SECTION 3 QUESTIONS 2 TO 6



7. Auditors and Managers The following items should be disclosed by organisations:

Users The following items should be disclosed by organisations, because it is useful to me:

a) a descriptive overview of the major environmental risks and impacts of the organisation

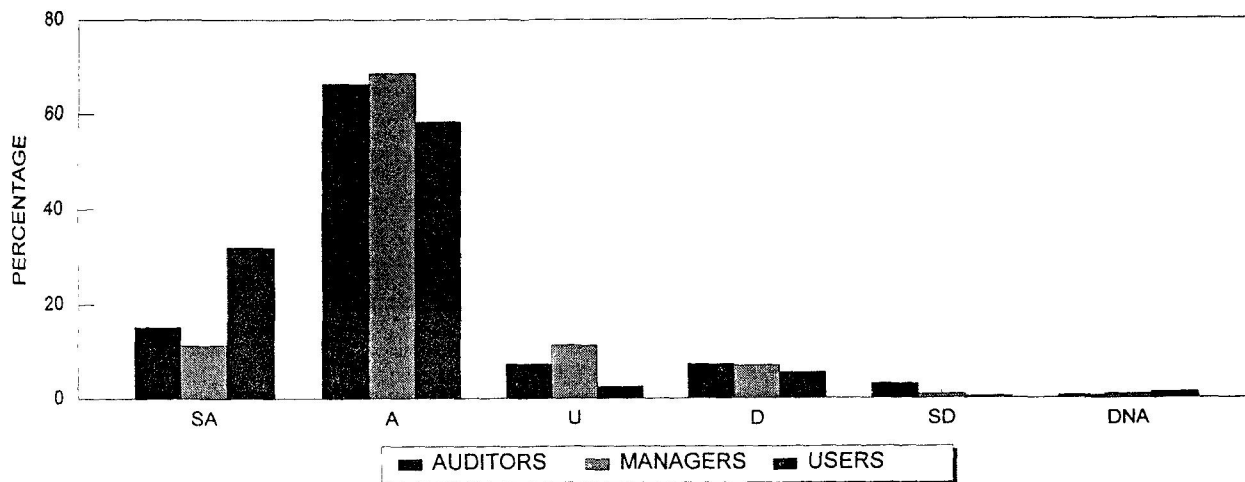
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	25	109	12	12	5	1	3.8
Auditors	Percentage	15	67	7	7	3	1	82
Managers	No of resp.	13	79	13	8	1	1	3.8
Managers	Percentage	11	69	11	7	1	1	80
Users	No of resp.	76	139	6	13	1	3	4.2
Users	Percentage	32	59	3	5	0	1	91

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 7a



The three groups were all extremely positive about this kind of environmental disclosure. This stands to reason, because this is probably the easiest form of disclosure to implement. Anyone who is positive about environmental reporting will probably agree with this type of reporting. Users were significantly more positive than the other two groups, again asserting their information rights.

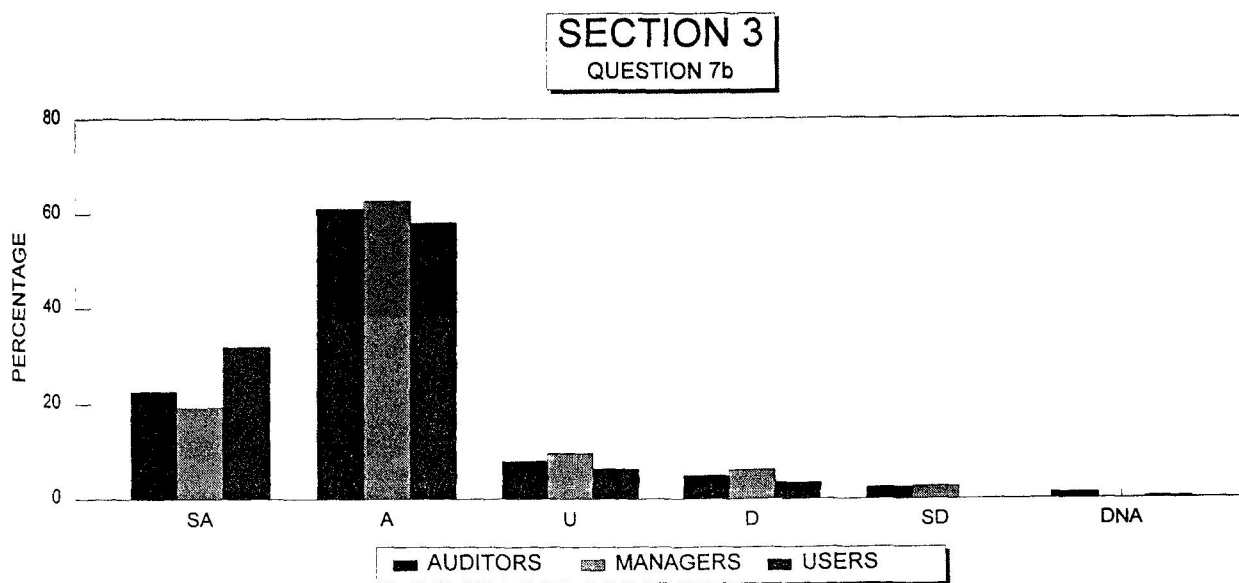
b) the environmental policy of the organisation

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	37	100	13	8	4	2	4.0
Auditors	Percentage	23	61	8	5	2	1	84
Managers	No of resp.	22	72	11	8	3	0	3.9
Managers	Percentage	19	62	10	6	3	0	81
Users	No of resp.	76	138	15	8	0	1	4.2
Users	Percentage	32	59	6	3	0	0	91

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users



The responses regarding the disclosure of environmental policy were very positive once again. The responses of users were significantly more positive than those of the other two groups. Auditors and managers have access to information like the environmental policy of an organisation. Users often do not. It would, therefore, make sense that they would regard it as more important to share in the information.

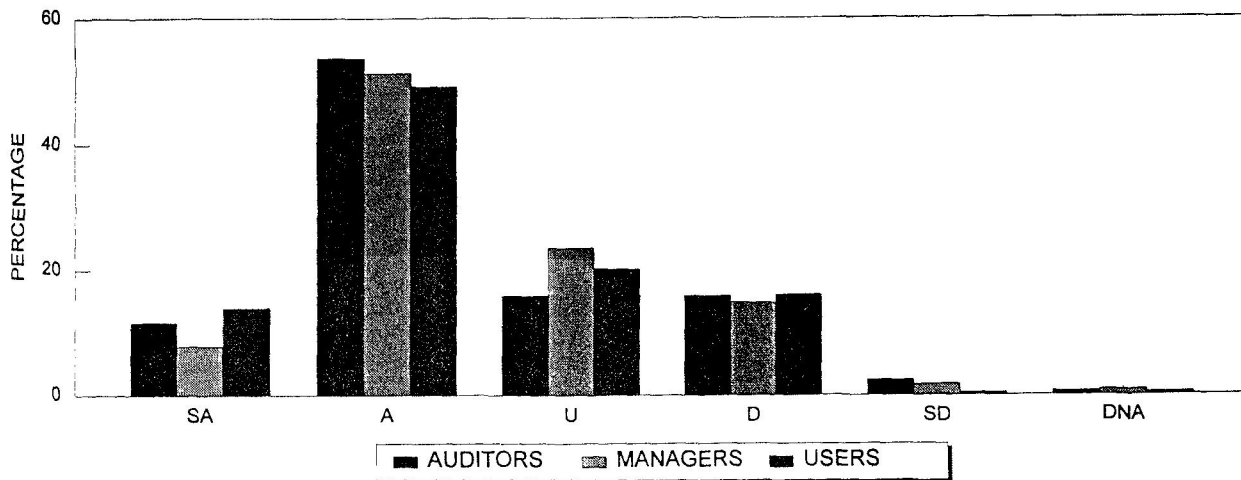
c) management processes and arrangements to implement the environmental policy

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	19	88	26	26	4	1	3.6
Auditors	Percentage	12	53	16	16	2	1	65
Managers	No of resp.	9	59	27	17	2	1	3.5
Managers	Percentage	8	51	23	15	2	1	59
Users	No of resp.	33	117	48	38	1	1	3.6
Users	Percentage	14	50	20	16	0	0	64

Significant differences according to a chi-squared test at the 5 % level:

None

SECTION 3
QUESTION 7c



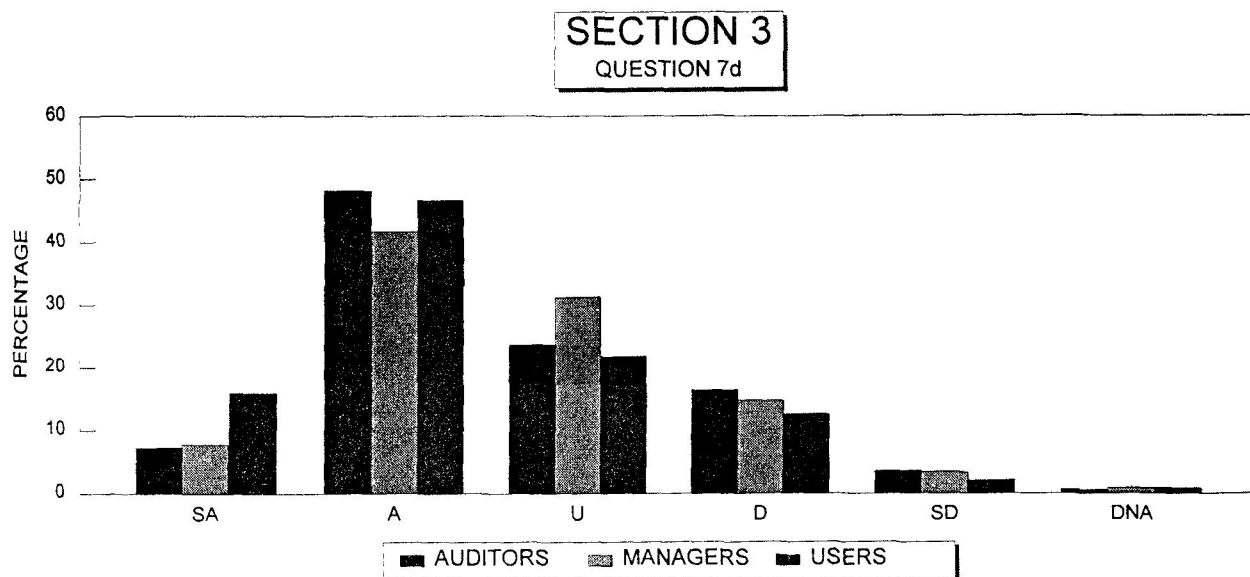
Respondents in all three groups are equally positive about this kind of disclosure. This type of disclosure can be invaluable. Whereas a policy is a mere declaration of intent, the user can form an opinion of whether this is translated into action by referring to this kind of information.

d) measurable targets in physical units and Rand amounts, where applicable, based on the environmental policy e.g. emissions

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	12	79	39	27	6	1	3.4
Auditors	Percentage	7	48	24	16	4	1	55
Managers	No of resp.	9	48	36	17	4	1	3.4
Managers	Percentage	8	42	31	15	3	1	50
Users	No of resp.	38	111	52	30	5	2	3.6
Users	Percentage	16	46	22	13	2	1	62

Significant differences according to a chi-squared test at the 5% level:

None



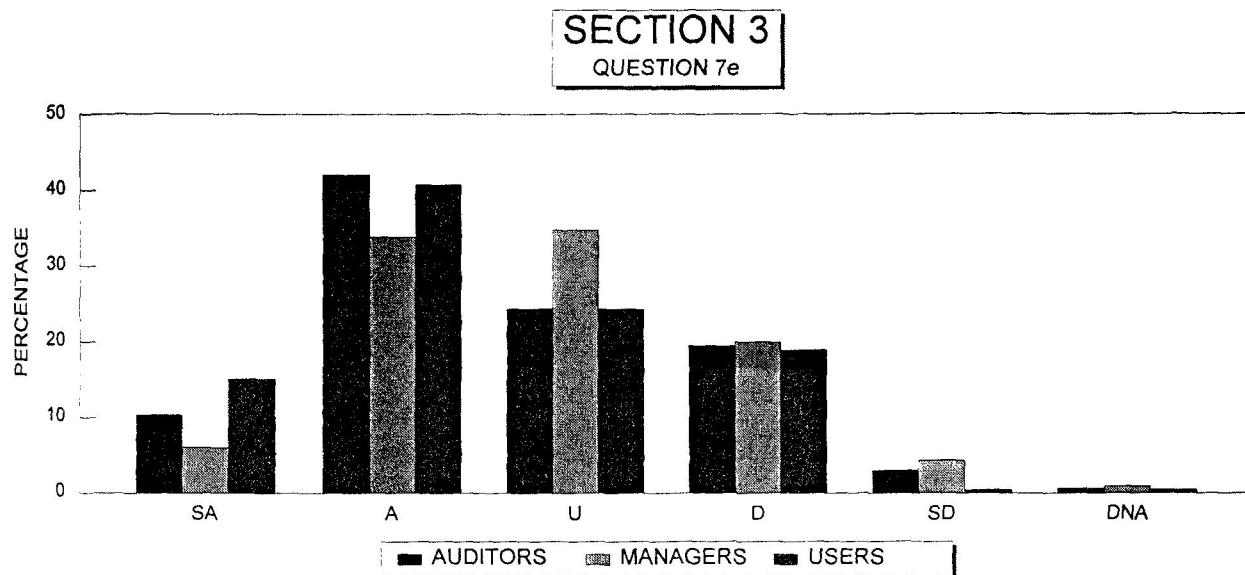
The groups are positive about measurable targets, although not as positive as with some of the earlier questions. There are no significant differences between the responses of the various groups. Measurable targets are necessary to ensure that there is substance to the reporting and the ability to monitor progress. Without measurable targets, environmental reporting could degenerate into a public relations exercise.

e) an indication of how the environmental targets were set and the legal requirement (if any) for each target

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	17	69	40	32	5	1	3.4
Auditors	Percentage	10	42	24	20	3	1	52
Managers	No of resp.	7	39	40	23	5	1	3.2
Managers	Percentage	6	34	35	20	4	1	40
Users	No of resp.	36	97	58	45	1	1	3.5
Users	Percentage	15	42	24	19	0	0	57

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users



There was general agreement about this type of reporting, except for managers if the percentage agreed measure is used. Only 40% of manager respondents agreed, although the manager average is still above 3. Users were found to be significantly more in favour of this kind of reporting than managers. The legal requirement of a particular measure is usually seen as the minimum acceptable requirement. It would be comforting to know that an organisations' own targets are in most instances stricter than what is required by law.

f) performance against environmental targets and comparative figures (previous year)

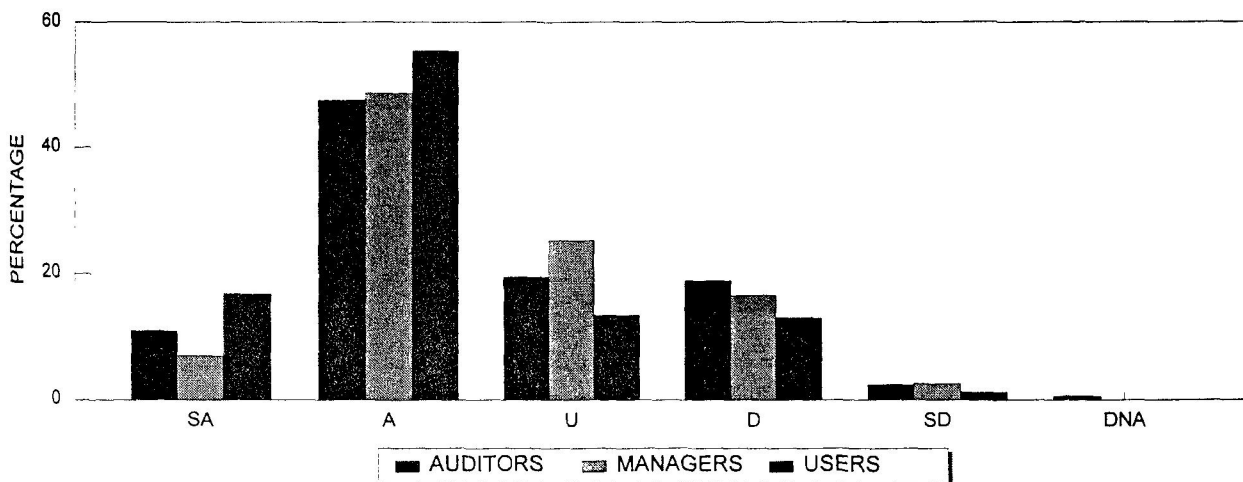
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	18	78	32	31	4	1	3.5
Auditors	Percentage	11	47	20	19	2	1	58
Managers	No of resp.	8	56	29	19	3	0	3.4
Managers	Percentage	7	48	25	17	3	0	55
Users	No of resp.	40	132	32	31	3	0	3.7
Users	Percentage	17	56	13	13	1	0	73

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 7f



All the groups are, once again, positive about the disclosure mentioned. Users are significantly more so than the other two groups. Targets would be of no use if the actual performance is not given. Also, a figure is much more useful if it is placed in context with the achievements in the past. Improvement would be seen as positive and vice versa.

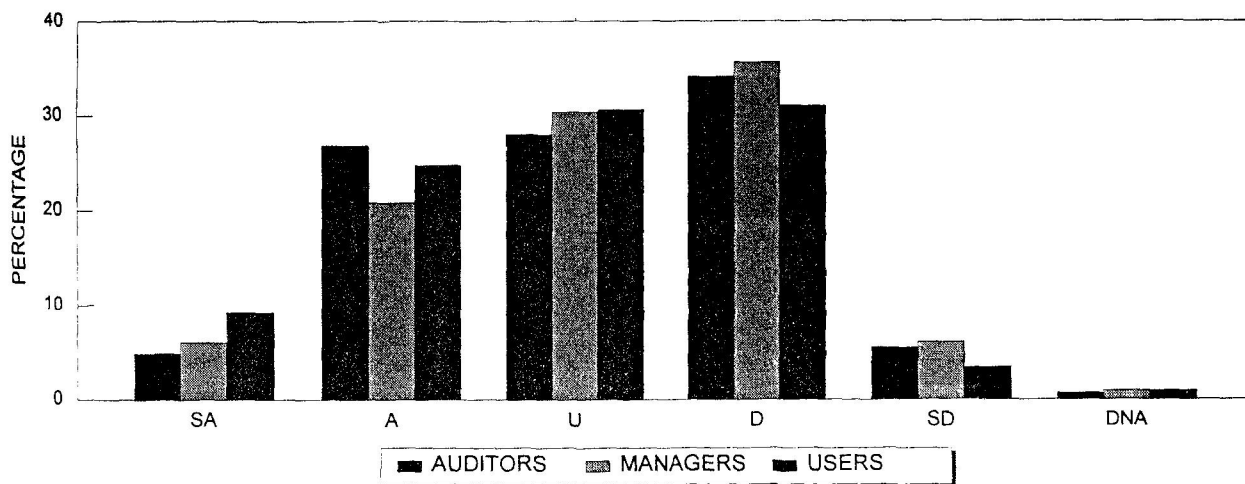
g) all targets and performance thereon on a site-by-site basis

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	8	44	46	56	9	1	2.9
Auditors	Percentage	5	27	28	34	5	1	32
Managers	No of resp.	7	24	35	41	7	1	2.9
Managers	Percentage	6	21	30	36	6	1	27
Users	No of resp.	22	59	73	74	8	2	3.1
Users	Percentage	9	25	31	31	3	1	34

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 7g



This question was one of the few that did not meet with approval. Only the less strict average measure under users indicates agreement. According to the chi-squared test, the groups were equally opposed to disclosure on a site-by-site basis. Respondents probably felt that this would lead to unwieldy reports. The importance of site-by-site reporting lies in the fact that harmful practices in a particular factory within a particular community can be hidden in an aggregate figure. If this makes reports too voluminous, the problem could be obviated with exception reporting. For example, companies could report the performance of a site in addition to the company aggregate only if the particular site's performance is more than 10% worse than the aggregate.

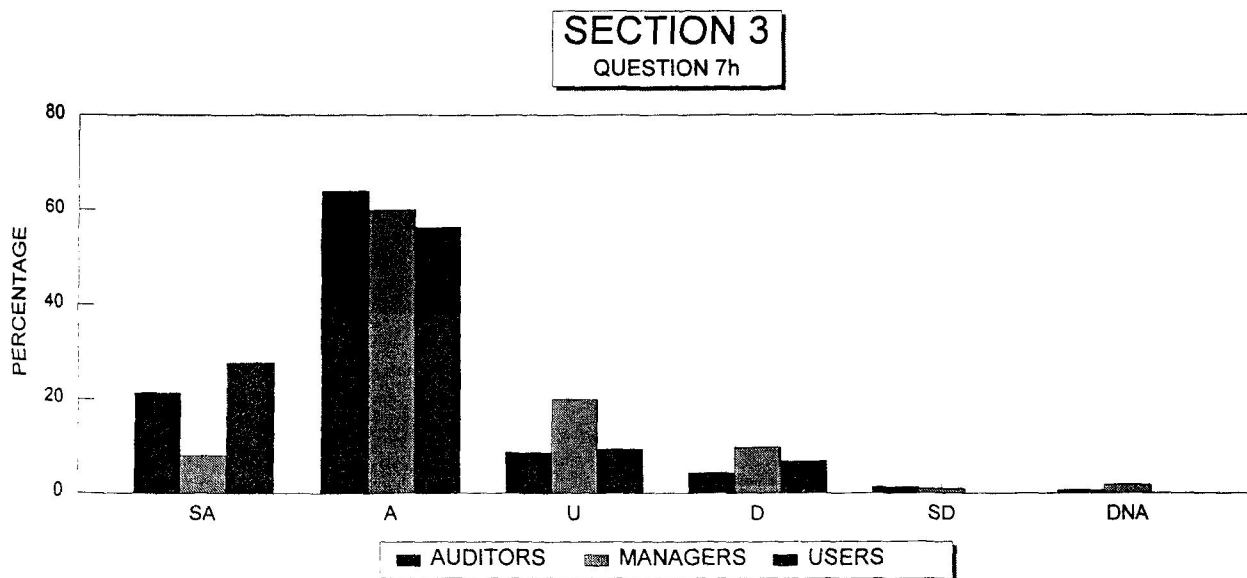
h) accounting policies for recording liabilities, provisions, contingent liabilities and catastrophe reserves

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	35	105	14	7	2	1	4.0
Auditors	Percentage	21	64	9	4	1	1	85
Managers	No of resp.	9	69	23	11	1	2	3.7
Managers	Percentage	8	59	20	10	1	2	67
Users	No of resp.	66	134	22	16	0	0	4.1
Users	Percentage	28	56	9	7	0	0	84

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users



The respondents were very positive regarding the disclosure of accounting policies. Managers, although positive, were significantly less so than the other two groups.

i) Rand amounts of environmental liabilities, contingent liabilities and reserves established in the current period

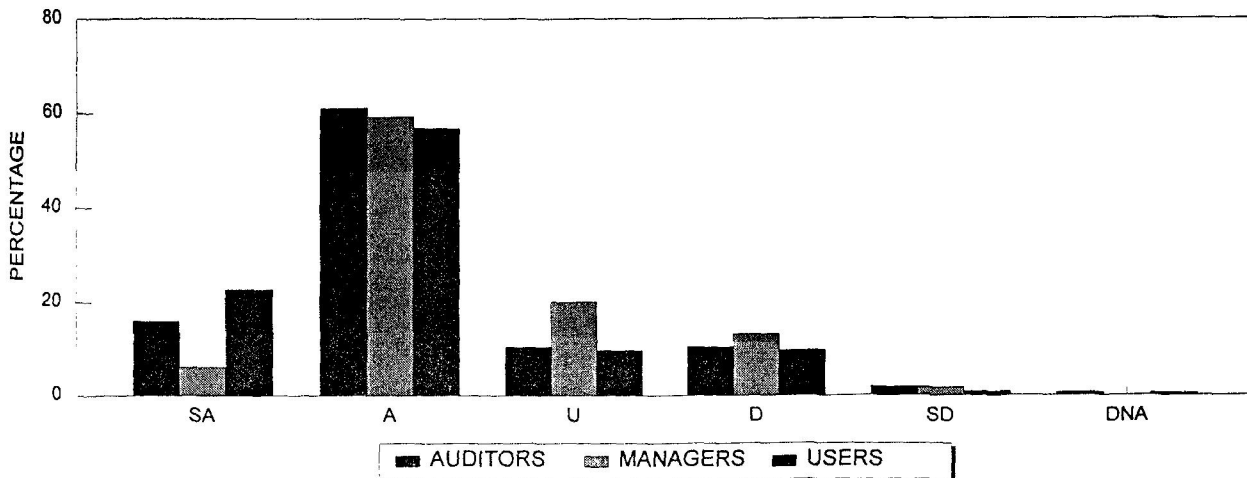
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	26	100	17	17	3	1	3.8
Auditors	Percentage	16	61	10	10	2	1	77
Managers	No of resp.	7	68	23	15	2	0	3.5
Managers	Percentage	6	59	20	13	2	0	65
Users	No of resp.	54	135	23	23	2	1	3.9
Users	Percentage	23	56	10	10	1	0	79

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

SECTION 3
QUESTION 71



The pattern of responses more or less followed that of the previous question. The groups were all very positive about disclosing the information. Managers were again significantly less so than the other two groups.

j) environmental costs (energy; waste handling, treatment and disposal; legal compliance; packaging; fines; rehabilitation; recycling; etc.) by category, charged to operating expenses during the period

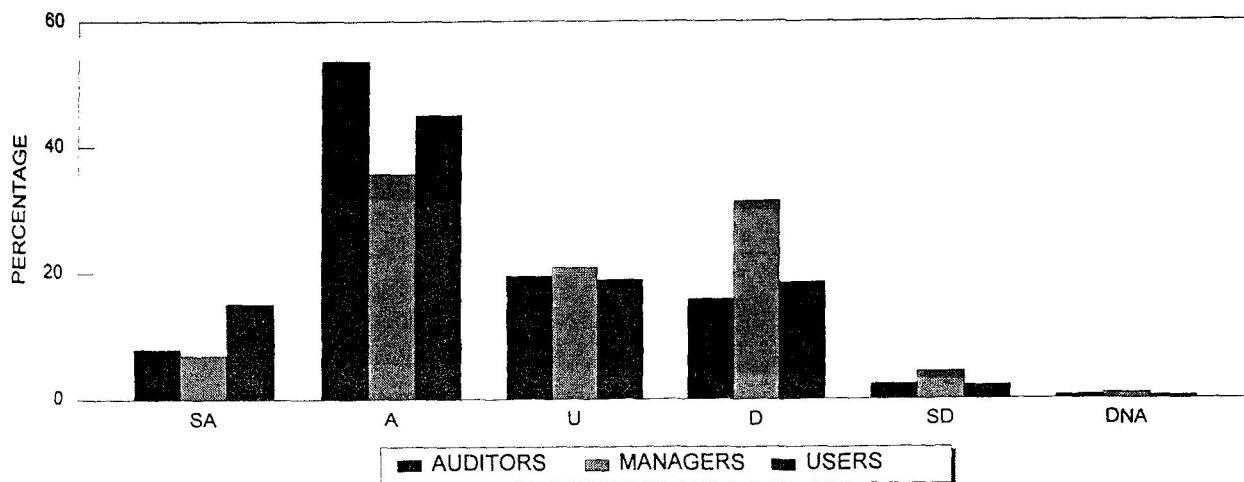
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	13	88	32	26	4	1	3.5
Auditors	Percentage	8	53	20	16	2	1	61
Managers	No of resp.	8	41	24	36	5	1	3.1
Managers	Percentage	7	36	21	31	4	1	43
Users	No of resp.	36	107	45	44	5	1	3.5
Users	Percentage	15	46	19	18	2	0	61

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

SECTION 3
QUESTION 7j



The costs mentioned here are not normally shown separately in the income statement. Managers were significantly less positive about reporting this information than the other two groups. In fact, only 43% agreed that this should be done. Their responses could probably be explained by the fact that they are loath to increase their burden of disclosure.

k) environmental costs capitalised during the period

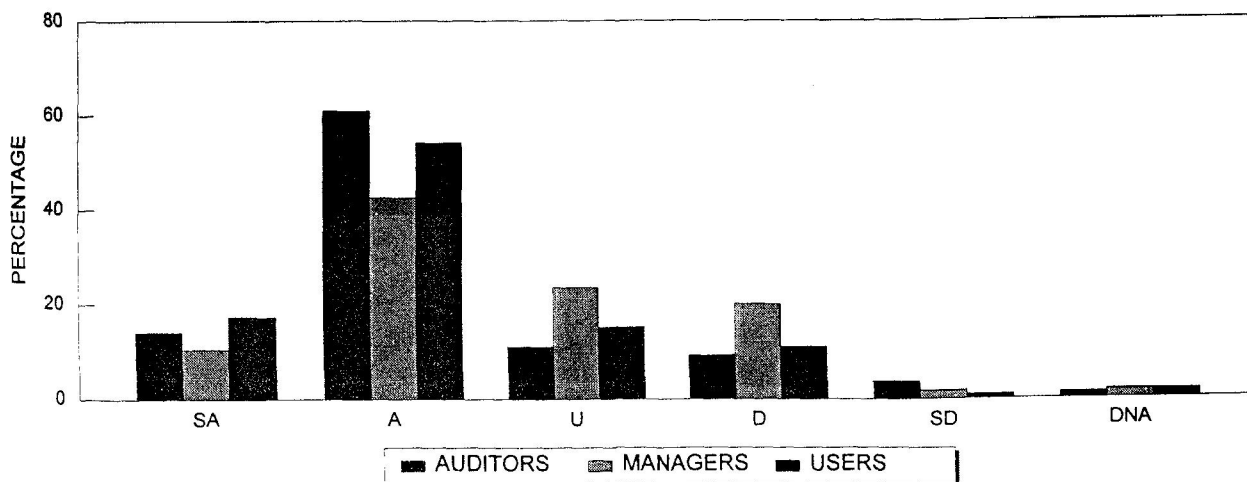
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	23	100	18	15	6	2	3.7
Auditors	Percentage	14	61	11	9	4	1	75
Managers	No of resp.	12	49	27	23	2	2	3.4
Managers	Percentage	10	43	23	20	2	2	53
Users	No of resp.	41	129	36	26	2	4	3.8
Users	Percentage	17	54	15	11	1	2	71

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

SECTION 3
QUESTION 7k



Although all three groups were more positive about this question, the trend remained the same. Managers were, namely, significantly less in favour than the other two groups.

i) government environmental grants received

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	27	103	20	10	3	1	3.9
Auditors	Percentage	16	63	12	6	2	1	79
Managers	No of resp.	11	67	22	14	0	1	3.7
Managers	Percentage	10	58	19	12	0	1	68
Users	No of resp.	58	126	30	24	0	0	3.9
Users	Percentage	24	53	13	10	0	0	77

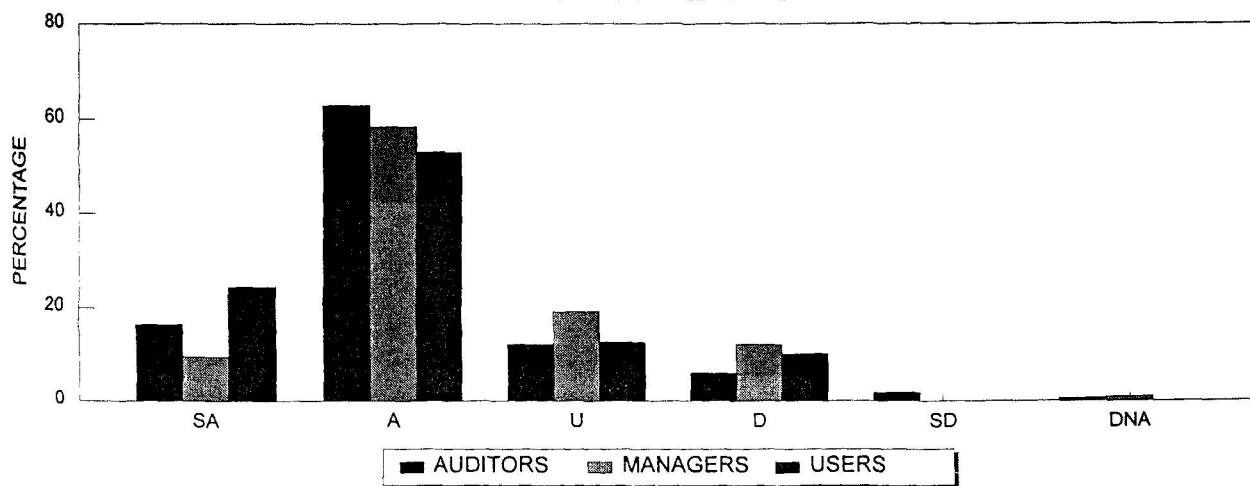
Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 71



Although the groups were all very much in favour of the disclosure of government environmental grants received, there were significant differences between the responses of all the groups. Auditors were most positive followed by users and then managers.

m) likely effect of environmental policy on future capital investment and earnings

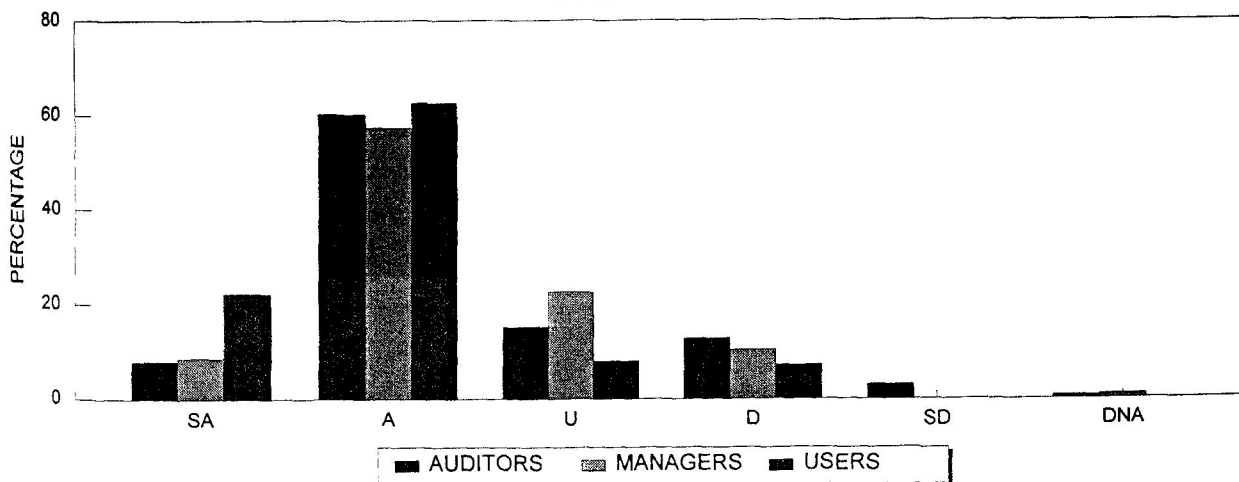
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	13	99	25	21	5	1	3.6
Auditors	Percentage	8	60	15	13	3	1	68
Managers	No of resp.	10	66	26	12	0	1	3.6
Managers	Percentage	9	57	23	10	0	1	66
Users	No of resp.	53	149	19	17	0	0	4.0
Users	Percentage	22	63	8	7	0	0	85

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 7m



The groups were all in favour of the disclosure of the future effect of the environmental policy of organisations. Users were significantly more positive than the other two groups. Information regarding the future of organisations is often sited as a weakness in traditional financial statements. Here it is once again confirmed as important to have this kind of information.

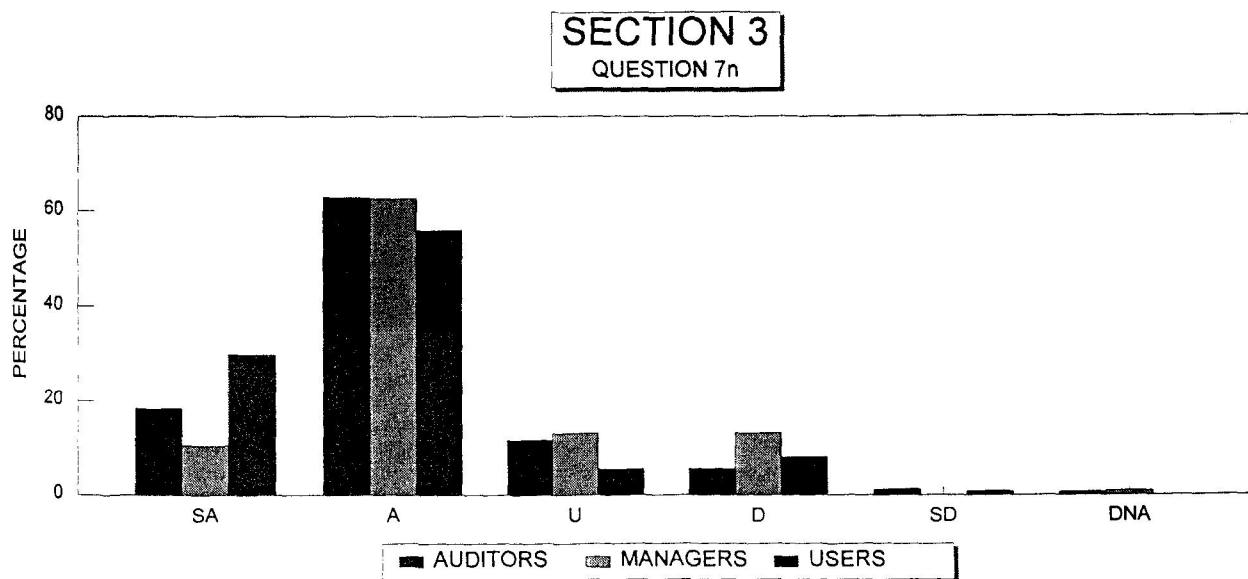
n) environmental litigation the organisation is currently involved in

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	30	103	19	9	2	1	3.9
Auditors	Percentage	18	63	12	5	1	1	81
Managers	No of resp.	12	72	15	15	0	1	3.7
Managers	Percentage	10	63	13	13	0	1	73
Users	No of resp.	71	133	13	19	2	0	4.1
Users	Percentage	30	56	5	8	1	0	86

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users



Users are significantly more in favour of the disclosure of the environmental litigation that organisations are involved in than the other two groups. The other two groups are also very positive. The fact that 73% of manager respondents agreed is noteworthy. One might have expected them to shy away from this kind of disclosure, as it could place their company and their own management ability in a bad light.

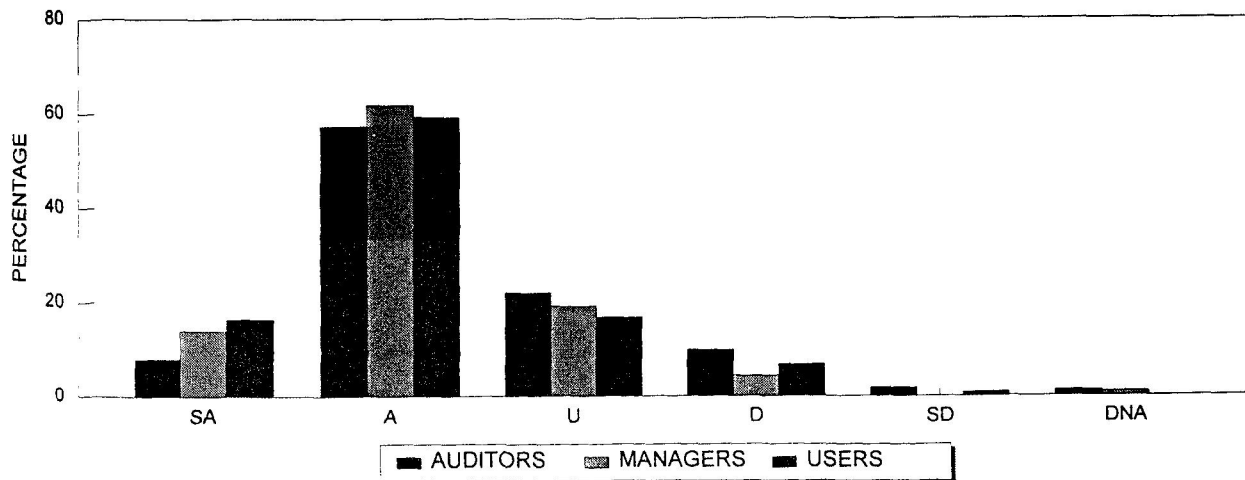
o) environmental awards/commendations received

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	13	94	36	16	3	2	3.6
Auditors	Percentage	8	57	22	10	2	1	65
Managers	No of resp.	16	71	22	5	0	1	3.9
Managers	Percentage	14	62	19	4	0	1	76
Users	No of resp.	39	141	40	16	2	0	3.8
Users	Percentage	16	59	17	7	1	0	76

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 7o



The groups were all equally positive about the disclosure of awards and commendations received. As it involves the dissemination of positive information, it is not surprising to find that every one agrees on its disclosure.

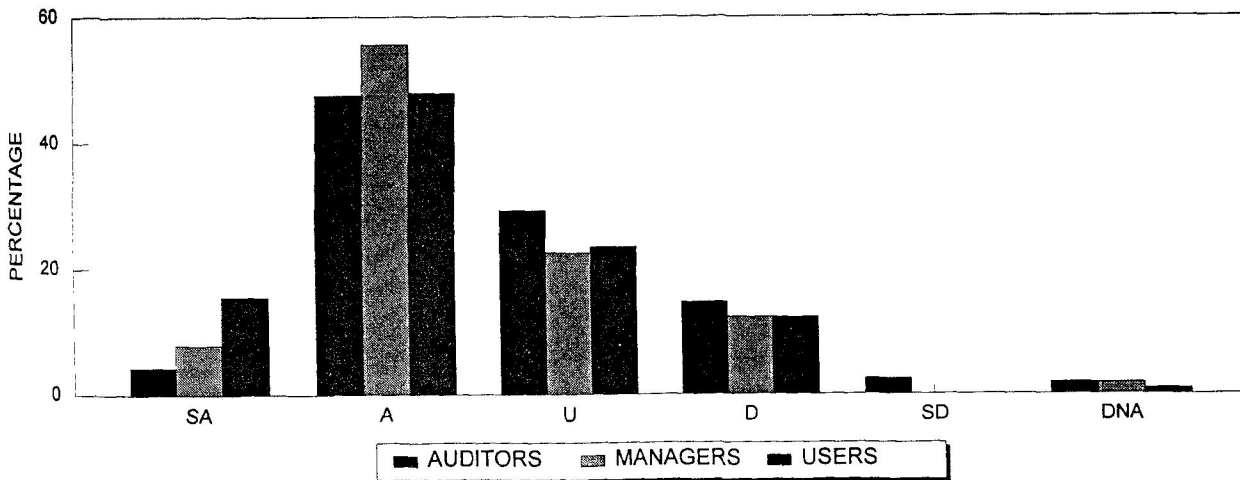
p) voluntary environmental projects including programs with employees, customers, suppliers

		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	7	78	48	24	4	3	3.4
Auditors	Percentage	4	48	29	15	2	2	52
Managers	No of resp.	9	64	26	14	0	2	3.6
Managers	Percentage	8	55	23	12	0	2	63
Users	No of resp.	37	114	56	29	0	2	3.7
Users	Percentage	16	47	24	12	0	1	63

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Users

SECTION 3
QUESTION 7p



The respondents of all three groups were positive about this kind of disclosure. Users were significantly more so than auditors.

q) information to enable the user of the financial statements to assess the completeness of the environmental information disclosed

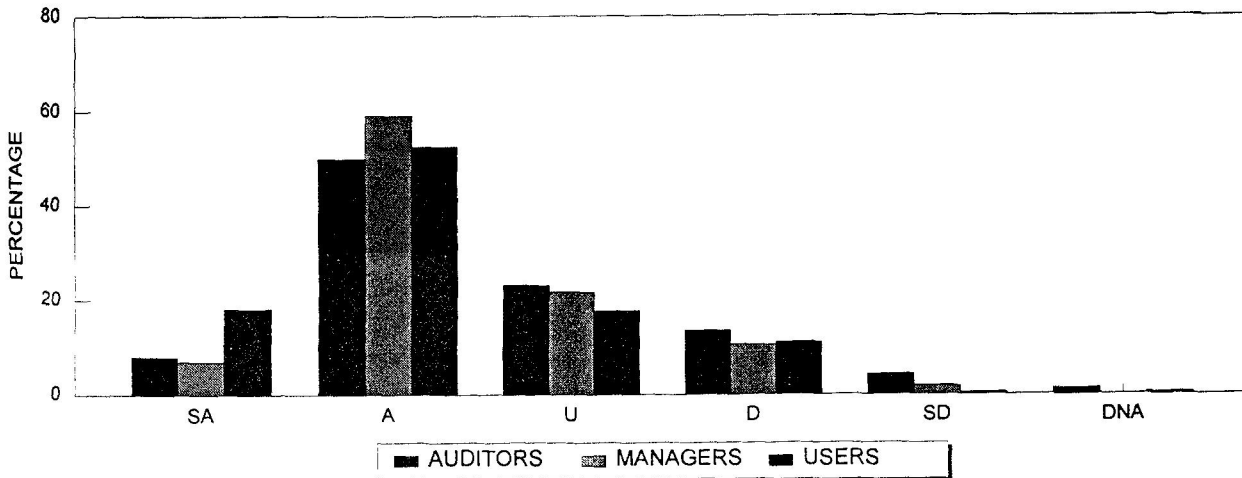
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	13	82	38	22	7	2	3.4
Auditors	Percentage	8	51	23	13	4	1	59
Managers	No of resp.	8	68	25	12	2	0	3.6
Managers	Percentage	7	59	22	10	2	0	66
Users	No of resp.	43	125	42	26	1	1	3.8
Users	Percentage	18	53	18	11	0	0	71

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 7q



The groups were all positive about this kind of disclosure. Users were significantly more so than managers and auditors. As the disclosure of third party attestation of environmental reporting was not very popular (refer to the answers to Questions 7r and 7s below), this may be a possible alternative. Third party attestation will, of course, have the added benefit that the correctness of the information disclosed will also be attested. However, organisations will in all likelihood not give incorrect information. If the user can, therefore, somehow ensure that the information given is complete (including negative aspects), this will be an improvement on the current situation.

r) independent third party attestation of some of the aspects agreed to above

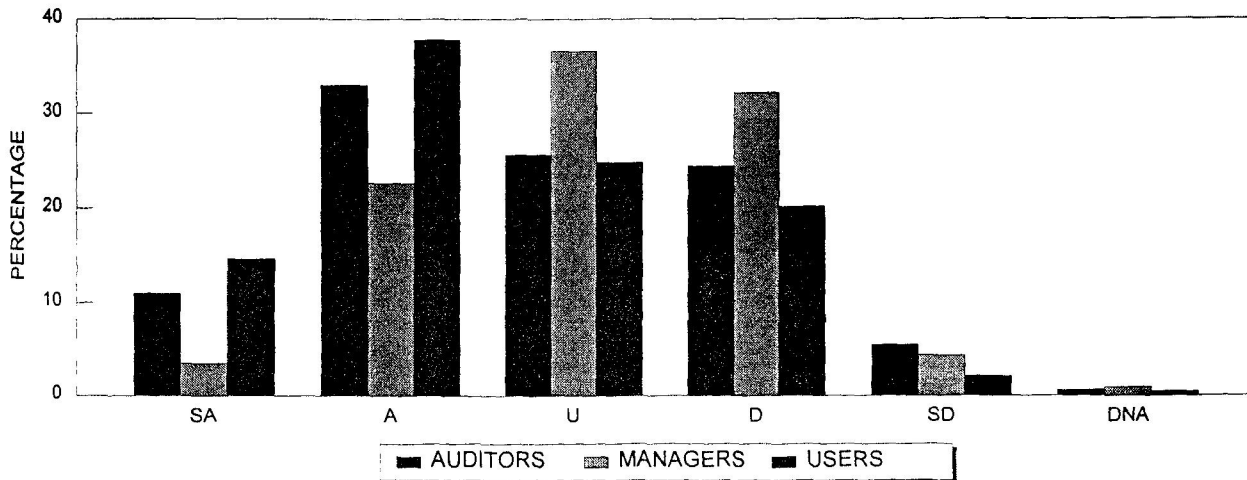
		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	18	54	42	40	9	1	3.2
Auditors	Percentage	11	33	26	24	5	1	44
Managers	No of resp.	4	26	42	37	5	1	2.9
Managers	Percentage	3	23	37	32	4	1	26
Users	No of resp.	35	90	59	48	5	1	3.4
Users	Percentage	15	38	25	20	2	0	53

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

SECTION 3
QUESTION 7r



The respondents were not so positive about the disclosure of third party environmental audit findings. Only users had a positive response using both the average and the percentage agreed measure. Auditors were only positive using the average measure and managers were not positive at all. The chi-squared test employed indicated significant differences between the manager responses and those of the other two groups. This is again a situation where the custodians are reluctant to give the information required by users.

s) independent third party attestation of all the aspects agreed to above

54		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	10	28	60	51	13	2	2.8
Auditors	Percentage	6	17	37	31	8	1	23
Managers	No of resp.	2	10	38	55	9	1	2.5
Managers	Percentage	2	9	33	47	8	1	11
Users	No of resp.	30	55	77	64	10	2	3.1
Users	Percentage	13	23	32	27	4	1	36

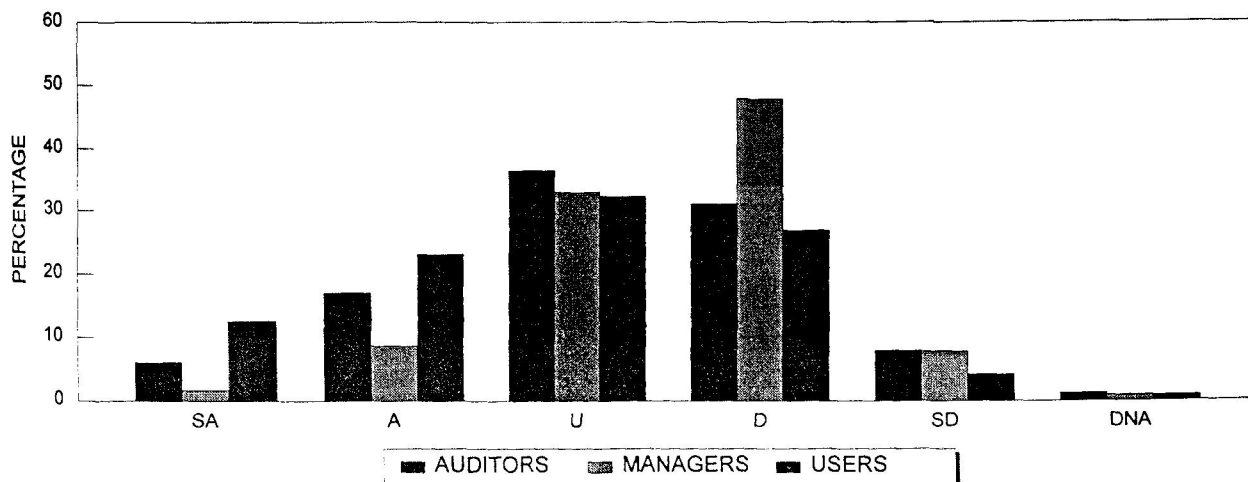
Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users

Auditors vs Users

SECTION 3
QUESTION 7s



The respondents were not at all positive about the disclosure of third party audits of all environmental reporting given. Only users indicated agreement if the average measure is used. Furthermore, there are significant differences between the responses of all three groups.

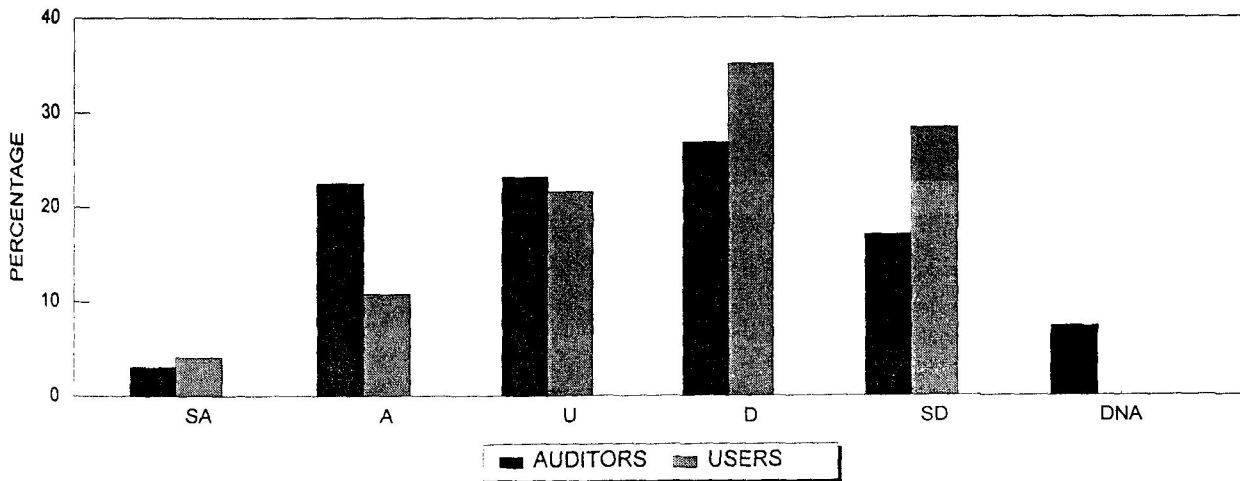
8. It will be possible for auditors of financial statements to attest all the additional disclosure referred to in 7.
above

55		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	5	37	38	44	28	12	2.7
Auditors	Percentage	3	23	23	27	17	7	26
Users(CAs)	No of resp.	3	8	16	26	21	0	2.3
Users(CAs)	Percentage	4	11	22	35	28	0	15

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 8



The respondents did not agree with the statement. In other words, it will not be possible for traditional auditors (Chartered Accountants in South Africa) to perform environmental audits. This result is surprising as, despite their lack of technical knowledge, auditors have unparalleled skills in the performance of systems audits which environmental audits will often involve. The implication is that environmental audits will be probably be performed by individuals with technical know-how, such as engineers. A new breed of professional will therefore emerge.

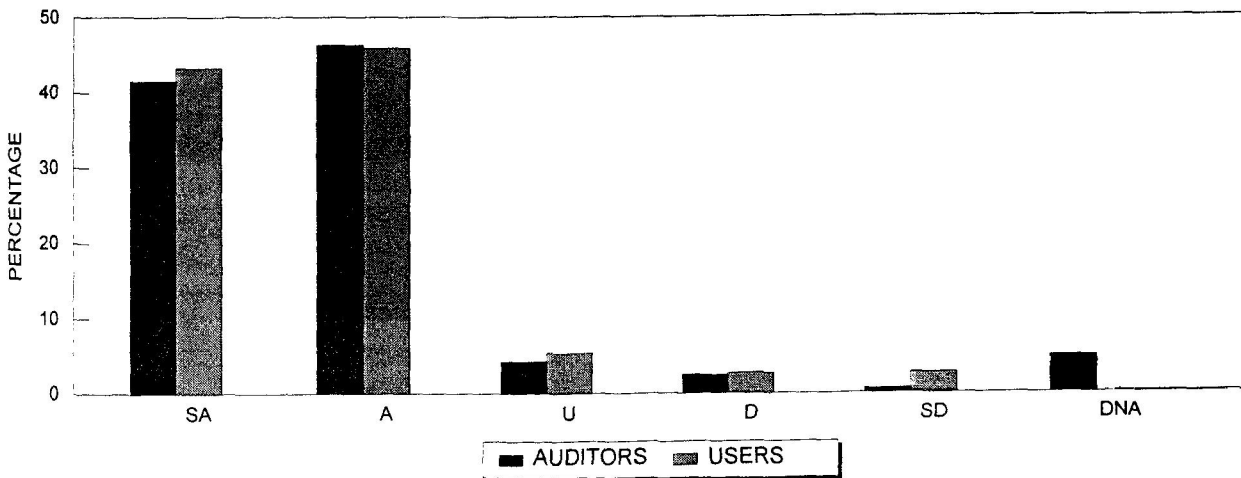
9. The additional audit work required will lead to higher audit fees

56		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	68	76	7	4	1	8	4.3
Auditors	Percentage	41	47	4	2	1	5	88
Users(CAs)	No of resp.	32	34	4	2	2	0	4.2
Users(CAs)	Percentage	43	46	5	3	3	0	89

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 9



Most respondents agreed that additional work will lead to additional audit fees. This stands to reason, particularly if it is taken into account that the additional work will lead to additional exposure to risk.

If you disagreed (D or SD) with 9. above, do not answer question 10.

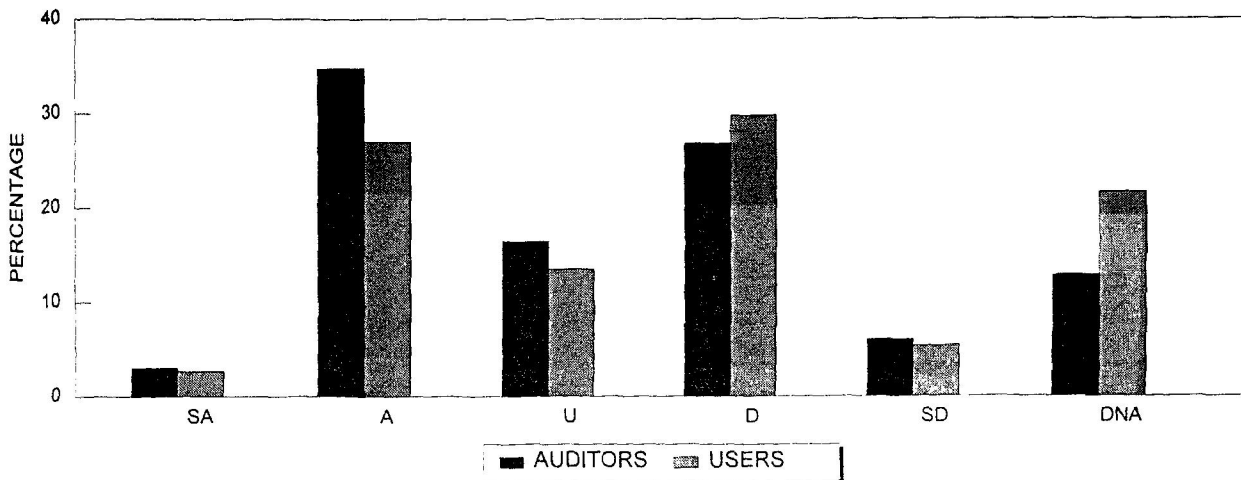
10. Should the additional audit work lead to higher audit fees, the additional audit fees will not be material compared to current fees

57		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	5	57	27	44	10	21	3.0
Auditors	Percentage	3	35	16	27	6	13	38
Users(CAs)	No of resp.	2	20	10	22	4	16	2.9
Users(CAs)	Percentage	3	27	14	29	5	22	30

Significant differences according to a chi-squared test at the 5% level:

None

SECTION 3
QUESTION 10

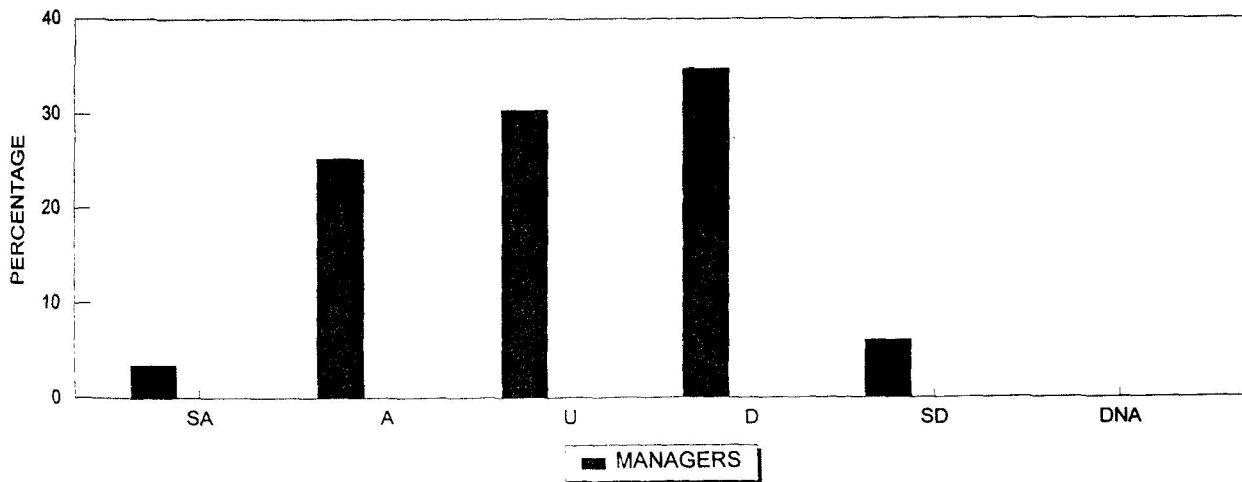


The respondents believed that the additional audit work involved in an environmental audit will lead to an increase in audit fees of a material magnitude.

8. All the information referred to in 7. above is currently available to management within the company of which I am a director.

58		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Managers	No of resp.	4	29	35	40	7	0	2.9
Managers	Percentage	3	25	30	36	6	0	28

SECTION 3
QUESTION 8

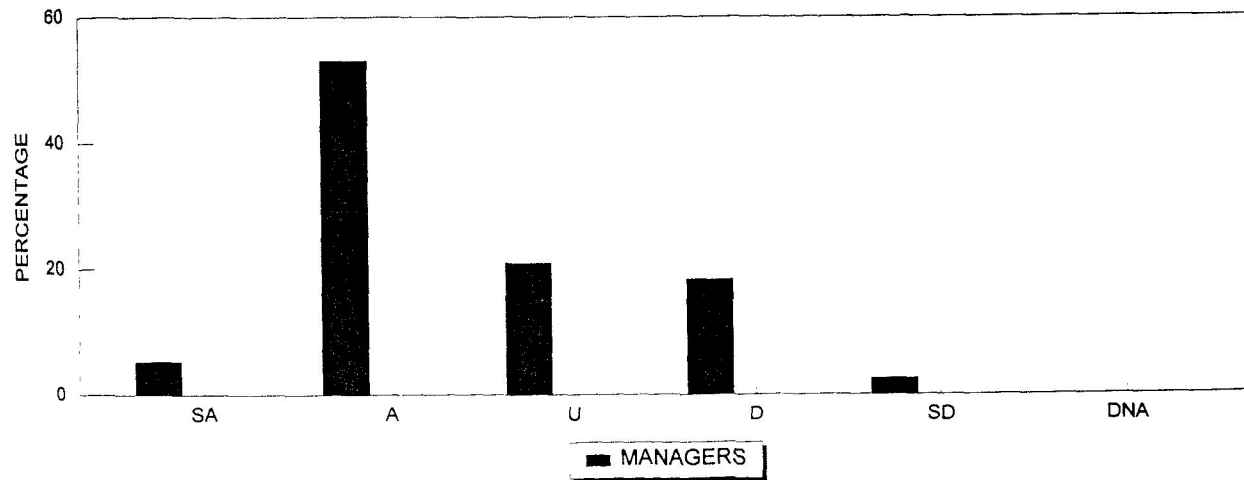


According to managers all the information referred to in Question 7 above is mostly not currently available in their companies. However, in 29% of cases all the information was available.

9. All the information referred to in 7. above is available or could be obtained.

59		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Managers	No of resp.	6	61	24	21	3	0	3.4
Managers	Percentage	5	53	21	18	3	0	58

SECTION 3
QUESTION 9

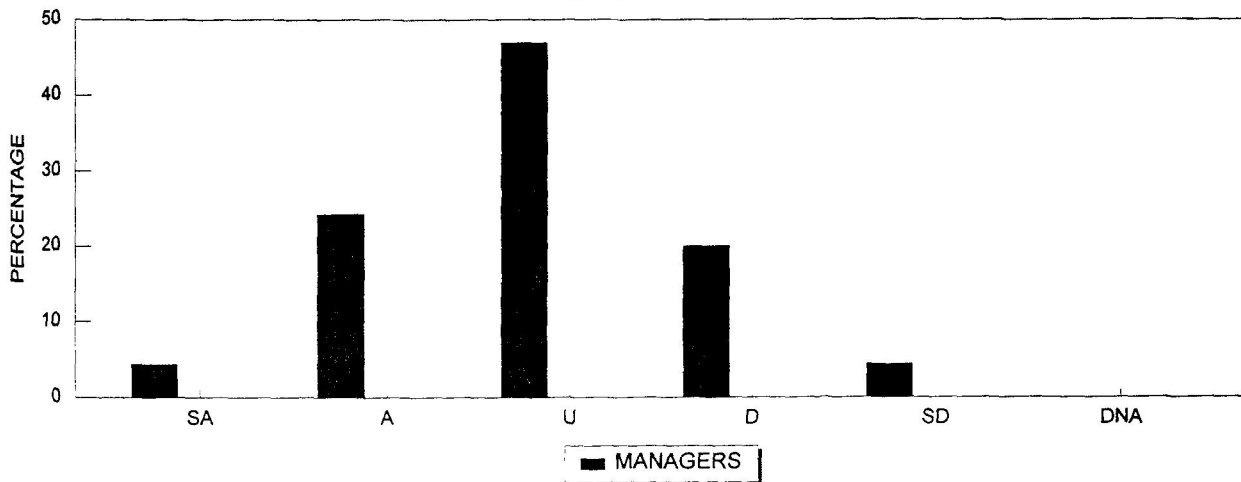


The question had a surprisingly low positive response. Although the average of the responses is above 3 and the percentage agreed is above 50% the agreement is still fairly low. The question asks whether the information mentioned in Question 7 could be obtained if it is not already available. It is hard to believe that the information cannot be obtained in some way or other.

10. The benefits to accumulate and disclose the information referred to in 7. above will outweigh the costs thereof.

60		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Managers	No of resp.	5	28	54	23	5	0	3.0
Managers	Percentage	4	24	48	20	4	0	28

SECTION 3
QUESTION 10

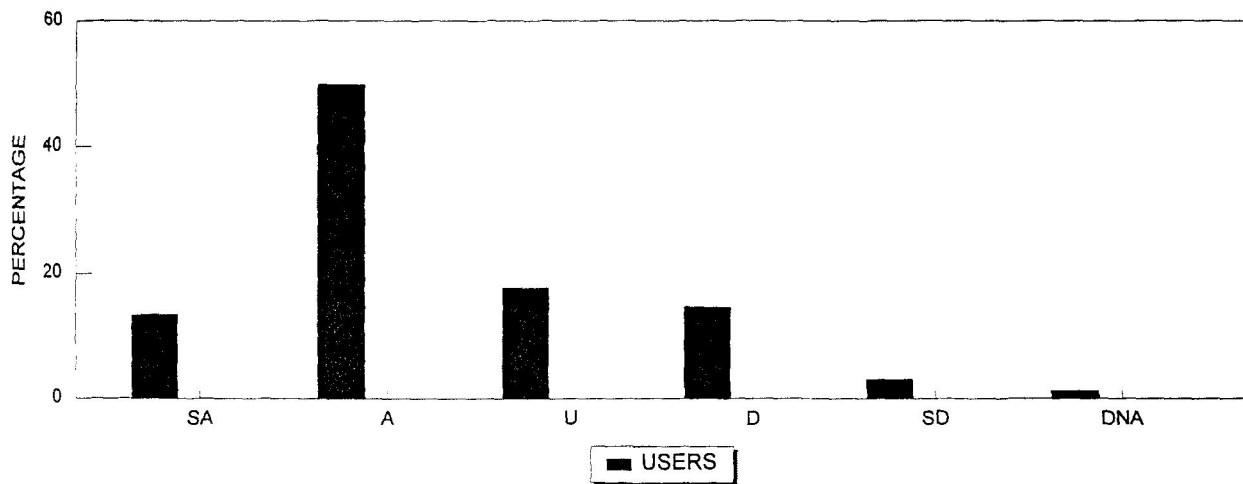


There was a lot of uncertainty amongst respondents about this question. Almost half of the respondents were in this category. This is not surprising, as the costs of accumulation and disclosure would be unknown, but more obvious than the benefits of disclosure. Nevertheless, 29% of the respondents felt that environmental disclosure would withstand the cost-benefit test. In section 2.7.1, where cost/benefit was originally discussed, the point was made that the benefits of all stakeholders should be taken into account. The managers may well have ignored the benefits to users when they made their assessment.

8. Environmental information will influence my decision making regarding a company even if the environmental information will have no short or long term financial impact on the company.

61		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Users	No of resp.	22	82	29	24	5	2	3.6
Users	Percentage	13	50	18	15	3	1	63

SECTION 3
QUESTION 8



The user-respondents asserted that environmental information would influence their decision-making regarding a company even if the information did not point to financial implications. Two-thirds of users claimed that they would consider not only financial information or information that points towards financial implications in their decision-making. Presumably they will be led by ethical considerations. In other words, organisations that do not maintain high ethical norms in their environmental conduct could increasingly find themselves in difficulty. In sections 2.3 to 2.5 the ethics of environmental reporting were considered. The point was made that ethical considerations may influence conduct. In section 2.5.2, in particular, the fact that economic considerations are not always appropriate for the consideration of environmental issues was highlighted. This is confirmed here by the fact that 63% of users claim that their decisions will be changed even if there are no financial implications. They, therefore, need non-financial information as well as financial information. Also, they need information not only for financial decision-making.

Section 4 : Accounting for Sustainability

To what degree do you personally agree/disagree with the following statements?

In order to assist third parties to assess the impact that organisations have on the environment:

- The natural resources under the control of the organisation along with the changes therein during the reporting period should be disclosed by category in a separate statement (inventory approach).

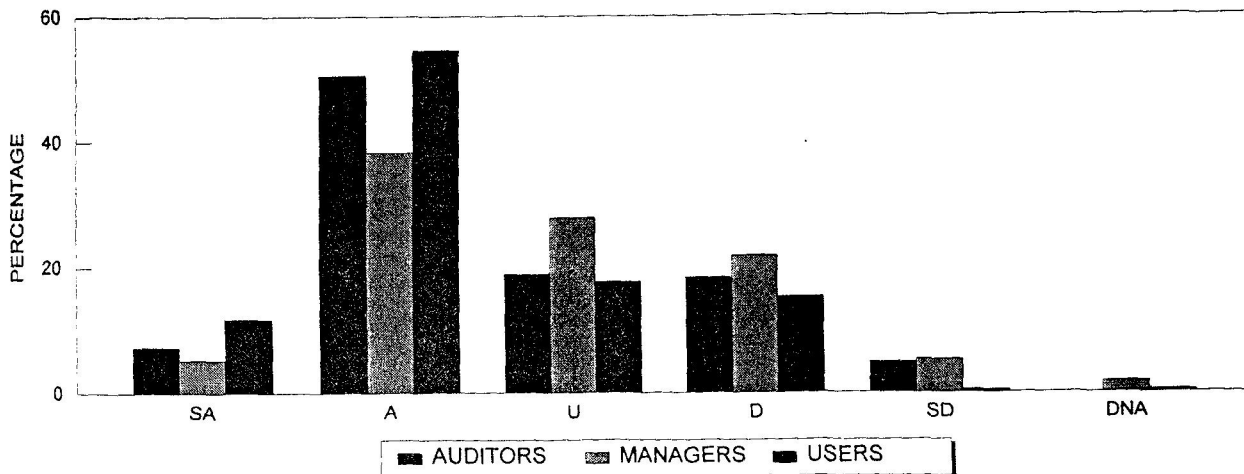
62		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	12	83	31	30	8	0	3.4
Auditors	Percentage	7	51	19	18	5	0	58
Managers	No of resp.	6	44	32	25	6	2	3.2
Managers	Percentage	5	38	28	22	5	2	43
Users	No of resp.	28	130	42	36	1	1	3.6
Users	Percentage	12	55	18	15	0	0	66

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users

Auditors vs Users

SECTION 4
QUESTION 1



The groups agreed with disclosure along the lines of the inventory approach. The only exception, was that less than 50% of managers agreed. Users were significantly more in favour of this kind of reporting than the other two groups.

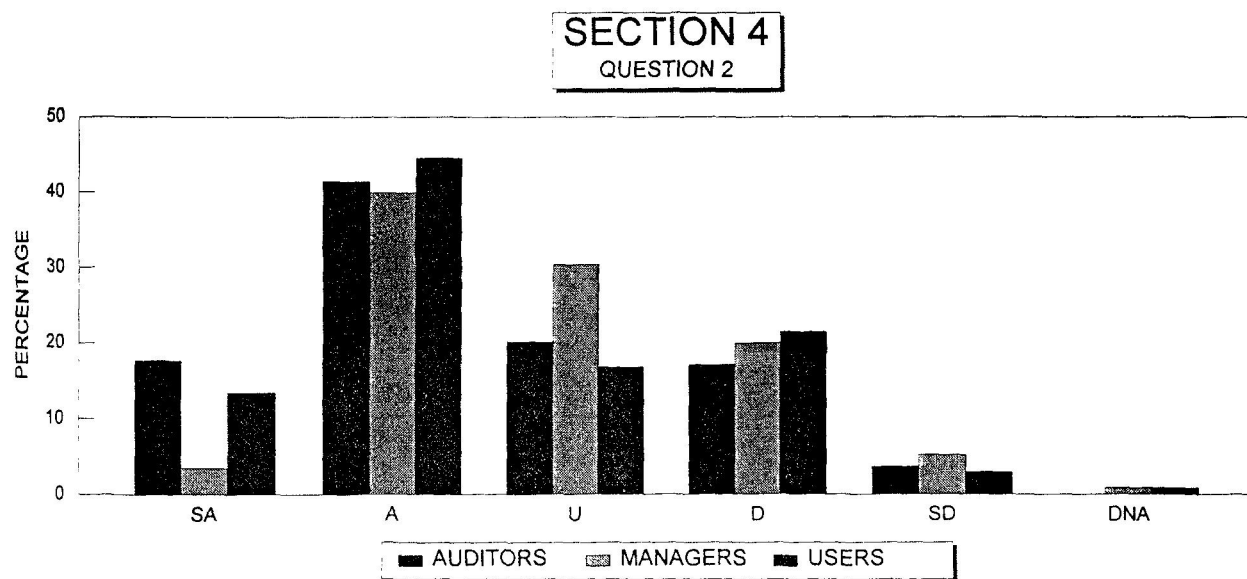
2. The cost that would be required to correct damage done to the biosphere by the organisation during the reporting period should be deducted in the Income Statement (sustainable cost approach).

63		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	29	68	33	28	6	0	3.5
Auditors	Percentage	18	41	20	17	4	0	59
Managers	No of resp.	4	46	35	23	6	1	3.2
Managers	Percentage	3	41	30	20	5	1	44
Users	No of resp.	32	106	40	51	7	2	3.4
Users	Percentage	13	45	17	21	3	1	58

Significant differences according to a chi-squared test at the 5% level:

Auditors vs Managers

Managers vs Users



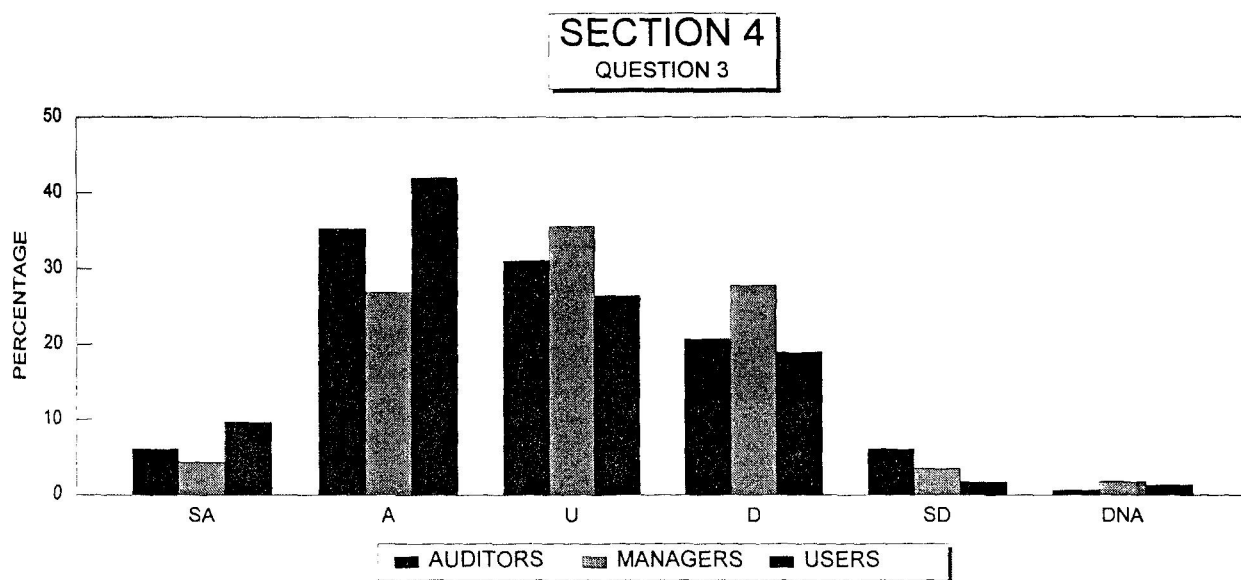
A similar pattern as in the first question in section 4 emerged here. The groups were all positive except the manager group, if the percentage agreed measure was taken. Users were, however, no more positive than auditors in the case of this, the sustainable cost, approach. Managers were significantly less enthusiastic about this kind of reporting than auditors and users.

3. All resources flowing into the organisation, those flowing from it and the losses or leakages from the process should be disclosed in a separate statement (resource flow approach).

64		Strongly Agree	Agree	Uncertain or Does not matter	Disagree	Strongly Disagree	Did not Answer	Average/ % Agree
Auditors	No of resp.	10	58	51	34	10	1	3.1
Auditors	Percentage	6	35	31	21	6	1	41
Managers	No of resp.	5	31	41	32	4	2	3.0
Managers	Percentage	4	27	36	28	3	2	31
Users	No of resp.	23	100	63	45	4	3	3.4
Users	Percentage	10	42	26	19	2	1	52

Significant differences according to a chi-squared test at the 5% level:

Managers vs Users



Only users emerged as being in favour of accounting for sustainable development using the resource flow approach using both measures. Auditors and managers were noncommittal or close to noncommittal using the average measure. However, 41% and 31% respectively agreed with the statement. The only significant difference was between managers and users.

The respondents were fairly positive about the three methods of accounting for sustainability they were questioned on. This is particularly so if it is considered that these methods lead to a number of difficulties and are not found in practice that often.

A summary of the research results of section 3 (questions 2 to 7) and section 4 is given in Figure 4.4 and Table 4.3.

FIGURE 4.4: SUMMARY OF FIRST STUDY - WILLINGNESS

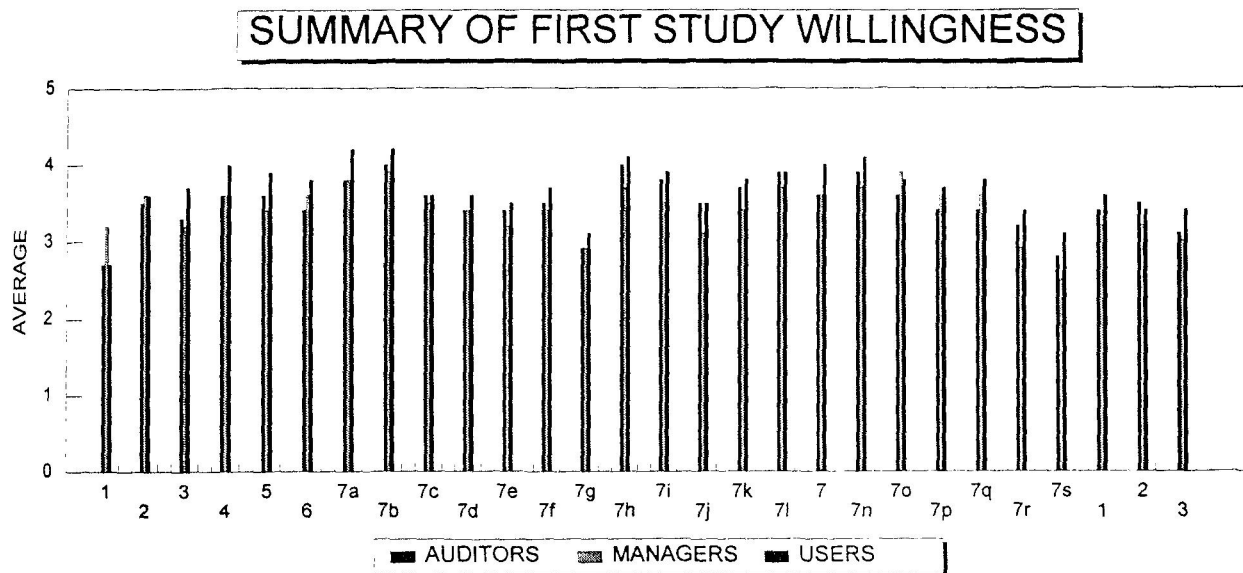


TABLE 4.3: SUMMARY OF SECTIONS 3 AND 4 OF THE EMPIRICAL STUDY

	AUDITORS Average	AUDITORS % positive	MANAGERS Average	MANAGERS % positive	USERS Average	USERS % positive
ENVIRONMENTAL DISCLOSURE						
2 More disclosure voluntary	3.5	65	3.6	63	3.6	67
3 More disclosure compulsory	3.3	47	3.2	49	3.7	62
4 Part of annual statements	3.6	71	3.6	69	4.0	82
5 More financial information	3.6	69	3.4	54	3.9	76
6 More non-financial	3.4	57	3.6	66	3.8	72
SPECIFIC DISCLOSURES						
7 Summary of all	3.5	63	3.4	56	3.7	69
ACCOUNTING FOR SUSTAINABILITY						
1 Inventory approach	3.4	58	3.2	43	3.6	66
2 Sustainable cost approach	3.5	59	3.2	44	3.4	58
3 Resource flow approach	3.1	41	3.0	31	3.4	52

In the average column, 3 would indicate no preference, whereas 5 would indicate that everyone answered "strongly agree"

4.7 Awareness Levels of Individuals of the Three Groups of Current Implications of Corporate Environmental Reporting

As explained in the previous section, a "yes" answer in section 2 of the questionnaire indicates awareness. The aggregate of the answers to all the questions in section 2 of the questionnaire are shown in Table 4.4.

TABLE 4.4: AGGREGATE OF ANSWERS TO SECTION 2 OF THE QUESTIONNAIRE

	Percentage of answers including those who did not answer	Percentage of answers of those who answered
	Yes	Yes
Auditors	20%	22%
Managers	23%	25%
Users	17%	19%

Because of the high incidence of non-responses to questions in this section, it was decided to also calculate the aggregate ignoring those who did not answer. However, the percentages are still below 50% (refer to the second column in Table 4.4).

Since the percentages are all below 50%, awareness levels are low in each of the three groups. This is confirmation of the view expressed in section 3.3.2.b where it was suggested that the fact that South Africa lags behind many other countries in corporate environmental reporting practices may already point towards low awareness levels.

4.8 Willingness of Individuals of the Three Groups to Support More Comprehensive Corporate Environmental Reporting

As explained in the previous section, an average score of above 3 would indicate a willingness to support more disclosure. If more than 50% of those who returned questionnaires agreed, this would be an even stronger indication of willingness to support more disclosure. The questions that were aimed at establishing the willingness to support more disclosure were to be

found in sections 3 and 4 of the questionnaire (refer to Appendixes 1, 2 and 3). Questions 8, 9 and 10 of section 3 of the questionnaire did not have this aim. Question 1 of section 3 of the questionnaire was incorrectly interpreted by many of the respondents as mentioned in the previous section. As a result, the questions aimed at establishing the willingness to support more comprehensive disclosure and that was not incorrectly interpreted, were:

Section 3	Questions 2 to 7
Section 4	Questions 1 to 3

The aggregate of these responses is contained in Table 4.5.

TABLE 4.5: AGGREGATE OF ANSWERS TO SECTIONS 3 AND 4 OF THE QUESTIONNAIRE

		Aggregate of section 3 question 2 to 7 and section 4	Aggregate of Section 3 Question 7
Auditors	- Average	3.5	3.5
	- % Agreed	62%	63%
Managers	- Average	3.4	3.4
	- % Agreed	55%	56%
Users	- Average	3.7	3.7
	- % Agreed	68%	69%

The aggregates in the first column of Table 4.5 contain the responses to diverse questions. Question 7 of section 3 of the questionnaire required respondents to indicate their response to 19 different types of environmental reporting. The aggregates for Question 7 only was calculated and form the second column of Table 4.5. The figures in the two columns are almost identical.

Since the averages are all above 3 and the percentages are all above 50, all three groups are willing to support more comprehensive corporate environmental reporting.

4.9 Recommendations for the Accounting Profession and Government regarding the Future of Corporate Environmental Reporting in South Africa

In the study of the literature, it was concluded in section 2.8 that corporate environmental reporting should be made compulsory. This will increase the value of such reporting, as the good and the bad will both have to be disclosed. It will also be the only effective way to ensure that more environmental reporting is done and that the reporting is more objective than it would be under voluntary conditions.

From section 4.5 above, it is clear that auditors, managers and users of financial statements are all positive about more environmental disclosure. In the case of users, they claimed to want more environmental information because it is useful to them. From a decision-usefulness point of view (as accepted in the accounting framework, AC 000), therefore, more corporate environmental reporting is justified. More such reporting is also justified from an accountability viewpoint (refer to section 2.2.2).

Question 3 of section 3 specifically required respondents to state whether they agreed that "more comprehensive disclosure of environmental matters is needed on a compulsory basis". The averages of the three groups were all above 3, indicating agreement. Using the more onerous measure of percentage agreement, auditors score 48%, managers score 49% and users score 62%. In other words, users were greatly in favour of more compulsory environmental disclosure, whereas auditors and managers were positive, but not to the same degree. The difference between the responses of users and the responses of the other two groups are significant according to a chi-squared test at the 5% level. From both a decision-usefulness and an accountability viewpoint, the views of users should take precedence over those of the other two groups especially with respect to accountability, where users have information rights (refer to section 2.2.2). Ethical reasons for reporting (refer to sections 2.3 to 2.5) and pragmatic reasons (refer to section 2.6) may be the prime motivators for some auditors, managers and even users. Accountability was, however, accepted as the most important reason for reporting for the purposes of this study (refer to Chapter 2).

The response of users to question 8 of section 3 was remarkable in this context. Sixty-three percent (63%) claimed that environmental information would influence their decision making regarding a company even if the information did not have any financial impact whatsoever. Therefore, users need environmental information regardless of whether the information points to a financial impact now or in the future.

To summarise, users have information rights. According to the empirical study, they want more corporate environmental reporting. Unless the additional reporting is made compulsory, it will not be published by a large proportion of corporations. Users want the additional reporting to be made compulsory. Therefore, more comprehensive corporate environmental reporting should be made compulsory. This implies legislation or rule changes. Since managers and auditors are also positive (although not to the same extent as users) about more reporting even on a compulsory basis, the political process of changing the legislation or the rules has a good chance of success.

In practical terms, a point of departure could be to amend the fourth schedule of the Companies Act or to introduce a new statement of GAAP.

4.10 Cost/benefit and Information Overload

Information disclosed should always pass the twin tests of cost/benefit (refer to section 2.7.1) and information overload (refer to section 2.7.4). The benefits derived from disclosure should be more than the costs involved, and the information should not be so detailed as to become meaningless.

It has been established that corporate environmental reporting is desirable in theory (refer to Chapter 2). It has further been established that the practice exists (refer to Chapter 3) and that South African auditors, managers and users want more (refer to Chapter 4). However,

considering cost/benefit and information overload as criteria, only a limited amount of environmental reporting should probably be required. A recommendation will be made in this regard in Chapter 6.

4.11 Recommendations for the Accounting Profession and Government regarding the Minimum Requirements for Corporate Environmental Reporting in South Africa

According to accountability (refer to section 2.2.2), the information rights of users dictate that their views regarding disclosure should take precedence over that of other groups. The types of environmental disclosure that proved to be most popular with users in the survey are given below as a point of departure to set a minimum requirement. The nine most popular types (out of the 19 examples given in the questionnaire) or in other words the most popular half, are given. Only half of the types are mentioned in an effort to accommodate cost/benefit and information overload as important constraints.

- a descriptive overview of the major environmental risks and impacts of the organisation
- the environmental policy of the organisation
- performance against environmental targets and comparative figures (previous year)
- accounting policies for recording liabilities, provisions, contingent liabilities and catastrophe reserves
- Rand amounts of environmental liabilities, contingent liabilities and reserves established in the current period
- government environmental grants received
- likely effect of environmental policy on future capital investment and earnings
- environmental litigation the organisation is currently involved in
- environmental awards/commendations received.

Before a recommendation could be finalised, certain logical issues should be addressed. For example, if performance against targets is required, so should information on the target itself.

Another example is that if a positive item, such as awards/commendations received, should not be required, it will probably be given voluntarily. Chapters 5 and 6 will elaborate on this theme.

4.12 Conclusions and Recommendations

The results of the questionnaire could be used to make many deductions and to arrive at many conclusions. However, deductions and conclusions are limited to the objectives and the hypotheses outlined in Chapter 1.

Areas that could be discussed in more detail include:

1. Specific types of environmental disclosure that meet with the general approval of all three groups
2. The differences between the answers of each of the three groups
3. The differences between the answers of subgroups split in terms of their biographical information
4. The answers to Questions 8, 9 and 10 of section 3 in the auditor group regarding the auditability of environmental information and the resultant audit fees
5. The answers to Questions 8, 9 and 10 of section 3 in the manager group regarding the availability of environmental information in companies and the cost-effectiveness of accumulating and reporting the information.

The first empirical study yielded answers to the problem stated in Chapter 1. However, there is uncertainty about the validity of the results, for two reasons. Firstly, the response rate was low. This resulted in uncertainty about whether the results could be generalised to the whole population. Secondly, the responses in the user group consisted mainly of accountants belonging to various professional bodies. This placed a question mark on whether they represent all relevant user groups.

When the deductions and the conclusions made in this chapter are considered, the above criticisms should be borne in mind.

A second empirical study was undertaken in an effort to eliminate the two problems mentioned. The methodology and results of the second empirical study are contained in Chapters 6 and 7.

a. Hypothesis 1 Awareness levels

Awareness levels of the current implications of the impact of corporate environmental reporting is low amongst auditors, managers and users of financial statements.

b. Hypothesis 2 Support more reporting

Auditors, managers and users of financial statements support more comprehensive corporate environmental reporting.

c. Recommendations for the accounting profession and government regarding the future of corporate environmental accounting in South Africa

The accounting profession should pursue ways of making more corporate environmental reporting compulsory. This can be achieved by introducing a statement of generally accepted accounting practice or by influencing government to amend laws (such as the Companies Act) or to legislate corporate environmental reporting in a separate act.

d. **Recommendations for the accounting profession and government regarding the minimum requirements for corporate environmental reporting in South Africa**

The following types of environmental reporting form a preliminary guideline for a minimum requirement:

- a descriptive overview of the major environmental risks and impacts of the organisation
- the environmental policy of the organisation
- performance against environmental targets and comparative figures (previous year)
- accounting policies for recording liabilities, provisions, contingent liabilities and catastrophe reserves
- Rand amounts of environmental liabilities, contingent liabilities and reserves established in the current period
- government environmental grants received
- likely effect of environmental policy on future capital investment and earnings
- environmental litigation the organisation is currently involved in.