Appendix 2: Explanation of Questionnaire

A digital questionnaire was created and sent to the expert knowledge base for response. This expert knowledge base consisted of 145 Organisations and/or persons who were designated as experts in the field of Ecological Networks and GIS or GIS in relation to conservation. To enable an adapted Delphi method to be used these experts were individually targeted. Despite numerous reminders, most of the target group did not respond to the questionnaire. This appendix is a short discussion on why the questionnaire commanded such a low response, and possible solutions to combat this in the future.

The Original Questionnaire

During the investigative process 145 Organisations and/or persons (experts in the field) were approached (via email) with a request to complete a digital questionnaire. As a result of the large number of criteria a double ranking procedure was necessary. In order to streamline and facilitate the process, this took the form of a stand-alone application (.exe file). This dynamic questionnaire enabled the user to rank criteria in terms of importance and then within the "level of importance" to rank the sub-selection, a technique used in interviews to rank large groups of items (Loubser M., 1996) or criteria in this case. On completion of the questionnaire, the respondent clicks the submit button and their response is sent via email to a designated address.

Response Rate

In total 10 responses were received via email. In addition, 4 responses were received where persons did not make use of the digital questionnaire application. The low response rate is a well-known disadvantage of mail surveys (Smith and Martins, 1996), be they via postal or electronic mail.

As such no statistical analyses, which requires a sample of 30+, was performed on the data. Only frequency tables, fuzzy numbers and an adapted pairwise comparison were used all of which are independent of the number of respondents.

There are many factors, which affect the response rate of a mail survey. These are listed in table A2.1 below.

Factor	Effect
No/Limited Control	
Respondents interest in the topic	High response
Questionnaire length	Low response
Identity of survey sponsor	High response
Full Control	
Advance notice	High response

Type of return postage	High response
Monetary incentives	High response
Non-monetary incentives	Medium response
Physical characteristics	Medium response
Degree of personalisation	High response
Anonymity and/or confidentiality	Medium response
Type of appeal	Medium response
Lottery	Low response
Return deadlines	Medium response
Follow up contacts	Medium response

Table A2.1: Summary of factors affecting mail survey response rates. (from Tull & Hawkins 1990, *cited in* Martins et al 1996)

According to Nel et al (1988:92-94 cited in Smith and Martins, 1996) the response rate is often dependent on the "…type of population involved, the nature and general importance of the study, the type of research body/sponsor and the way the covering letter is formulated. As for the research body /sponsor, the better known and more respected they are, the higher the chances of a good response rate."

The issues

Since the questionnaire was electronic, a number of technical issues arose. In some cases after a number of tries some respondents still could not send the questionnaire via email. Unfortunately there was no save facility, or back button in the questionnaire. This meant that is the questionnaire was not sent correctly then the respondent had to start all over again. This was definitely a factor limiting the response rate. Besides this a number of email servers rejected the original request for response before the recipient even got the email as a result of the attached exe file. These emails were resend with the attachment as a zip file, some of the cases these files were also rejected by the servers. If the servers had not rejected the files then the number of respondents who were requested to complete the questionnaire would have been higher. Another factors which limited the number of requests was the unavailability of current email addresses. Many of the email addresses available, were no longer functioning.

Another factor, though non-technical, was the fact that the questionnaire was too long. During testing the questionnaire only required 10-15 min to complete. However many of the experts gave more comprehensive answers than the testers did, as well as giving more thought to the answers. This caused the completion of the questionnaire to take substantially longer. This in turn led to the respondents requiring saving their answers, which was not possible. Hence some of the results were lost and the respondents did not complete the questionnaire again. A number of follow ups were carried out, which slightly improved the response rate.

Recommendations

In order to improve the response rate of the questionnaire a number of things could have been done differently. Firstly more stringent testing should have been applied to the electronic version of the questionnaire to remove the technical faults (bugs). As with all software it inevitably has bugs. In addition, the functionality to save the respondents answers per tab/page should have been included, as well as the functionality to go back to a previous page.

Secondly, the questionnaire should have been shortened to increase the number of responses. Some suggestions have been made, that phoning the prospective respondents to ask if they would be willing to complete such a questionnaire, and to explain the context may be beneficial (Omzigt, *Personal Communication*, 2003). Another means to improve the response rate is to create some tangible benefit for the respondent (Martins et al 1996), such as a gift of some kind, on receipt of response. Unfortunately there was no budget to make this or the phone calls possible for this project. Follow up communication usually improves the response rate and is recommended.

The best way to improve the response rate of a questionnaire is to make responding as easy and as enticing as possible. This is why digital interviews were utilised. Unfortunately this did not have the desired effect.