

Investigating South African Environmental Practitioners' perceptions on the integration of specialist studies in EIA reports

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requirements for the degree *Magister* in *Environmental
Management* at the Potchefstroom Campus of the North-West
University

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PREFACE

This mini-dissertation has been structured in accordance with the North-West University Guideline (North-West University, 2010). The bibliography and referencing are formatted in accordance with the Harvard Referencing Style (North-West University, 2012).

It consists of the following sections and Chapters as required by the North-West University Guideline:

- Title page
- Preface
- Declaration
- Acknowledgement
- Abstract
- Table of contents
- Chapter 1: Introduction: problem statement, research aim, Objectives and structure
- Chapter 2: Research design and methodology
- Chapter 3: Review of literature on specialist studies in EIA reports
- Chapter 4: Data analysis and interpretation
- Chapter 5: Conclusions and recommendations
- Bibliography
- Annexures (A, B & C)

Preliminary results of this research were presented as a poster at the Annual National Conference of the International Association for Impact Assessment - South African affiliate (IAIASa) on 13 August 2015 at the Champagne Sports Resort, KZN: South Africa. Feedback obtained during the poster presentation session has been incorporated into this dissertation as well as survey answers (Chapter 3 & 4).

The poster was awarded Best Poster Award IAIAsa 2015.

DECLARATION

I, Perseverance Sehaole, hereby declare that this mini-dissertation, investigating South African environmental practitioners' perspectives on the integration of specialist studies in EIA reports, which I herewith submit to the North-West University Potchefstroom Campus, in compliance with the requirements set for the Master's degree, is my own work and has not already been submitted to any other university. The survey questionnaires conducted in this research were completed during the period of May 2015 to August 2015 as a fulfilment of the requirements for the degree Magister in Environmental Management at Potchefstroom Campus of the North-West University, South Africa. The study was conducted under the supervision and co-supervision of Dr Jan-Albert Wessels and Prof Angus Morrison-Saunders. This is my own original, unaided work and has not been presented for any other degree and examination.

Signature: _____

Sehaole.

Date: _____

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“GOD IS A SAFE PLACE TO HIDE, READY TO HELP WHEN WE NEED HIM.” (PSALM 46:1 MSG).

ABSTRACT

Environmental Impact Assessment (EIA) is an important tool used globally to manage the impact of human activities on the environment, by identifying, predicting, evaluating and introducing mitigation measures for sustainable development. Therefore, EIA need inputs of expert specialist studies within the EIA reports. Despite EIA' many benefits, many problems are experienced in EIA practice; these include EIA reports being inadequately detailed, thus resulting in reports which are poorly integrated.

The aim of this study was to investigate South African Environmental Practitioners' perspectives of the integration of specialist studies into EIA reports. Specific Objectives were to identify problems associated with the integration, investigate perspectives of practitioners on the integration and make recommendations on the integration of specialist studies into EIA reports in South Africa. A literature review, self-administered survey questionnaire, IAIA poster session as well as panel discussion were used for data collection.

The key findings of the literature review were that lack of experience and regulatory bodies allows people from different fields without relevant experience to start practising as EAPs. Limited budget allocated to carry out the EIA process, unclear term of reference and insufficient time leaves room for omission of important assessment phases. The way inputs from different practitioners are managed and communicated in EIA reports makes it difficult to understand the contents of the report.

Some of the key problems identified by specialists associated with the integration was lack of knowledge from practitioners, limited allocation of budget to carry out specialist studies, time, misinterpretation of specialist studies and specialists not having access to the final EIA report. However, EAPs were of the opinion that receiving specialist studies reports late and complex findings is one of the major problems.

Specialists disagreed that their studies were successfully integrated into EIA reports. They also agreed that important information is often omitted from the EIA reports. However, EAPs were of the opinion that specialist studies were successfully integrated and information is accurately communicated into EIA reports.

According to the practitioners, the most successful ways of integrating specialist studies into EIA reports are to have integration meetings which can be used to integrate specialist findings to the reports, the person carrying out this task should understand the work sharing of executive summaries and that specialists should be allowed to review their part in EIA reports prior to submission to Competent Authority.

It can be concluded that despite the development of EIA in this country, there is still room for improvement in report writing to address these problems. Therefore, in order to achieve an effective integration of specialist studies into EIA reports, there needs to be clear communication between specialists and EAPs regarding relevant information which needs to be in the EIA report.

Keywords: Environmental Impact Assessment, specialist studies, integration, problems, Environmental Assessment Practitioners & specialists

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ACRONYMS

BAR	Basic Assessment Report
CA	Competent Authorities
DEAT	Department of Environmental Affairs and Tourism
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIR	Environmental Impact Assessment Report
EIS	Environmental Impact Statement
EMPr	Environmental Management Programme
I&APs	Interested and Affected Parties
IAIA	International Association of Impact Assessment
IAIAsa	International Association of Impact Assessment South Africa
KZN	Kwa-Zulu Natal
NEMA	National Environmental Management Act
S&EIR	Scoping & Environmental Impact Report
SA	South Africa
SACNASP	South African Council for Natural Scientific Professions
ToR	Terms of reference
UK	United Kingdom
UNEP	United Nations Environmental Programme
US	United States

CHAPTER 1: INTRODUCTION

1.1 Introduction and background

Environmental Impact Assessment (EIA) has been established worldwide as an important environmental management tool. This tool has a globally accepted definition from the International Association of Impact Assessment (IAIA, 1999) stating that EIA is “the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made” (IAIA, 1999:2). Sánchez and Morrison-Saunders (2011) mention that EIA “is an important tool for managing human uses of the environment through a systematic and public process for identifying and designing environmentally sustainable development projects, plans and programs” (Sánchez and Morrison-Saunders, 2011:2260).

In the South African context, the EIA Regulations of 2014 defines EIA as a “systematic process of identifying; assessing and reporting environmental impacts associated with an activity and include basic assessment report (BAR) and scoping and environmental impact report (S&EIR)” (South Africa, 2014:10). Therefore, EIA is an important tool used to integrate environmental concerns in project planning and development by identifying, predicting, evaluating and introducing mitigation measures for a sustainable development (Saidi, 2010:2). This is done to ensure that resources are used in a sustainable manner, that they aid in decision-making, identify appropriate measures to mitigate potential impacts of the proposed activities and create means of consultation for stakeholders and interested and affected parties (I&APs) (IAIA, 1999:2; Glasson *et al.* 2012:7-8 & UNEP, 2002:103).

Despite the many benefits and efforts to legislate EIA, many problems are experienced in EIA practice, and these include EIA reports being inadequately detailed which in turn result in poor integrated reports. A reason for the poor integrated EIA reports is the inadequate integration of specialist findings into EIA reports (Cashmore, 2004:204; Shah, 2013:1). This incorporates inputs from professionals with different backgrounds, thus making EIA a complex study, which needs expertise from different fields that could come together and assess the impacts of any project (Shah, 2013:1; Morgan *et al.*, 2012:12).

Specialists’ studies are included in an EIA to provide the decision-makers with appropriate information to assess the various impacts in terms of their anticipated magnitude (DEAT, 2002:5). According to Brownlie (2005) “specialist involvement is needed when the environment could be significantly affected by the proposed activity” (Brownlie, 2005: ii). Weaver *et al.* (1996), mention

that specialist studies need to be managed and the key to doing that lies in whether the Environmental Assessment Practitioner (EAP) can relate to the idea the specialist is bringing forth in an integrated manner (Weaver *et al.*, 1996:105). The analysis and integration of results and recommendations of environmental specialists are therefore crucial in the EIA process.

In a similar line of thinking, Morgan *et al.* (2012) also mention that “Impact assessment brings together environmental practitioners from a wide range of disciplinary and professional backgrounds working towards a common end” and that it should “integrate their specialist reports” (Morgan *et al.*, 2012:11). Therefore, EAPs and various specialists can efficiently and effectively ensure that specialist studies are linked as early as possible in the EIA process (Münster, 2005:24).

To date integration of specialist studies into EIA has not been thoroughly investigated in South Africa (S.A). This study was conducted specifically in order to investigate South African environmental practitioners’ perspectives of the integration of specialist studies into an EIA reports. It is to be noted that environmental practitioners in this study refer to EIA specialists and EAPs, therefore the term practitioners will be used when generalising to refer to both specialists and EAPs.

1.2 Significance of the Study

This study is of particular importance in South Africa as integration of specialist studies play a significant role in the EIA process and compilation of EIA reports. According to Glazewski (2005), an EIA report (EIR) is a report which presents the identified environmental impacts with specialist studies integrated for the proposed project (Loubser & Freeman, 2011). This report outlines mitigation methods which are subjected to a decision from a competent authority (Glazewski, 2005). From this, it is evident that EIR is important in the EIA process. It is therefore crucial to ensure that EIA reports integrate specialist studies effectively. To date practitioners’ perspectives on integration of specialist studies into EIA reports (EIR) have not been comprehensively investigated. This study addresses this gap in current knowledge within both the South African EIA context and in the international EIA literature more generally also.

1.3 Research aim

Based on the problem outlined above, the aim of this research is to investigate South African environmental practitioners' perspectives on the integration of specialist studies into EIA reports.

1.4 Research objectives

More specific Objectives to achieve the research aim are as follows:

1. To identify problems associated with the integration of specialist studies into EIA reports in South Africa.
2. To investigate the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports.
3. To make recommendations on integration of specialist studies into EIA reports in South Africa.

The aim and these three Objectives form the basis for the structure and content of the dissertation Chapters that follow.

1.5 Research structure

In order to have a clear interpretation of the research, clear linkages need to be provided between research aim, Objectives, methodology and data analysis throughout the Chapters. This is illustrated by Table 1.5.1 and described below:

To achieve the research aim and Objectives the following three-phased research process was followed:

Phase 1: Introduction, definition and preparation

Phase 1 introduces the research and describes the research methodology. The following is contained in Chapter 1:

- **Chapter 1: Introduction**

The research is introduced by providing background and the problem statement with research aim and Objective defined.

Phase 2: Data collection and analysis

Phase 2 of the research addresses research Objectives 1, 2 and 3. During this phase the research design is executed and data collected with the use of survey questionnaires and literature review and then analysed. It includes the following Chapters:

- **Chapter 2: Methodology**

This Chapter deals with the research methodology and design used to address the research aim and research Objectives introduced in Chapter 1.

- **Chapter 3: Literature review**

This Chapter explores existing literature to address research Objectives 1. The Chapter will identify problems associated with the integration of specialist studies into EIA reports in S.A.

Chapter 4: Data analysis

Survey questionnaires, IAIAAs poster session and IAIAAs panel discussion were introduced and analysed by investigating the perspectives of environmental practitioners on the integration of specialist studies into EIA reports in S.A. The analysis enables the identification of problems which are observed by practitioners pertaining to the reports after integration of specialist studies in an EIA.

Phase 3: Conclusion and recommendation

During this phase conclusions and recommendations are made on the integration of specialist studies into EIA reports. This phase includes:

- **Chapter 5: Conclusion and recommendations**

Overall conclusions as well as recommendations are made in terms of the research aim and Objectives.

Table 1.5.1: The structure of the research

RESEARCH OBJECTIVES (Refer to Chapter 1, section 1.3)	METHODS (Refer to Chapter 2)	PHASES	CHAPTERS
1. To identify problems associated with the integration of specialist studies into EIA reports	Literature review (Chapter 3)	<u>Phase 1</u> Introduction, definition and preparation	Chapter 1 Introduction
2. To investigate the perspectives of environmental practitioners on the integration of specialist studies into EIA reports	Survey questionnaire (Chapter 4)	<u>Phase 2</u> Data collection and analysis	Chapter 2, 3 & 4 Data collection and data analysis
3. To draw conclusions on the perspectives of practitioners and to make recommendations on integration of specialist studies into EIA reports	Survey questionnaire (Chapter 4)	<u>Phase 3</u> Conclusion and recommendation	Chapter 5 Conclusion and recommendations
RESEARCH AIM (Chapter 1, section 1.3) To investigate South African environmental practitioners' perspectives on the integration of specialist studies into EIA reports.			

CHAPTER 2: RESEARCH DESIGN AND METHODOLOGY

2.1 Introduction

This Chapter addresses research methodology and the design which was used to carry out the study. The research design used was intended to provide structure to guide the research process. According to Hart (1998), a method is “a system of methods and rules to facilitate the collection and analysis of data, by providing a starting point for choosing an approach” (Hart, 1998). Therefore, research methodology is a systematic way of obtaining, organising and analysing data with the aim of solving a problem so that feasible conclusions can be drawn (Rajasekar *et al.*, 2013:5).

In essence, methodology seeks to give details on the approaches which were followed to address the research aim and objectives. This was done with the aim of investigating South African environmental practitioners’ perspectives on the integration of specialist studies into EIA reports. In order for Objective 1 to be met, a literature review was conducted to identify problems associated with the integration of specialist studies into EIA reports in South Africa. To achieve Objectives 2 and 3, IAIAAsa poster session, IAIAAsa panel discussion and survey questionnaires which followed a qualitative approach were used to investigate the perspectives of South African environmental practitioners and to generate ideas and recommendations for enhancing the integration of specialist studies into EIA reports in South Africa in future practice.

To execute methodology, the research design outlined in section 2.2 was followed.

2.2 Research design

A research design is the entire research process from the hypothesis of a problem, having research objectives, data collection and analysis of data in order to address the aim and the objectives (Creswell, 2007:5). It basically gives direction and a plan of action as to how the study is to be conducted before collection of data commences (De Vaus, 2001:8).

For this study, a research design as illustrated in Figure 2.2.1 was followed and the steps were discussed in detail thereafter in section 2.3. This included two approaches which were followed to collect and analyse data, as well as reporting the results.

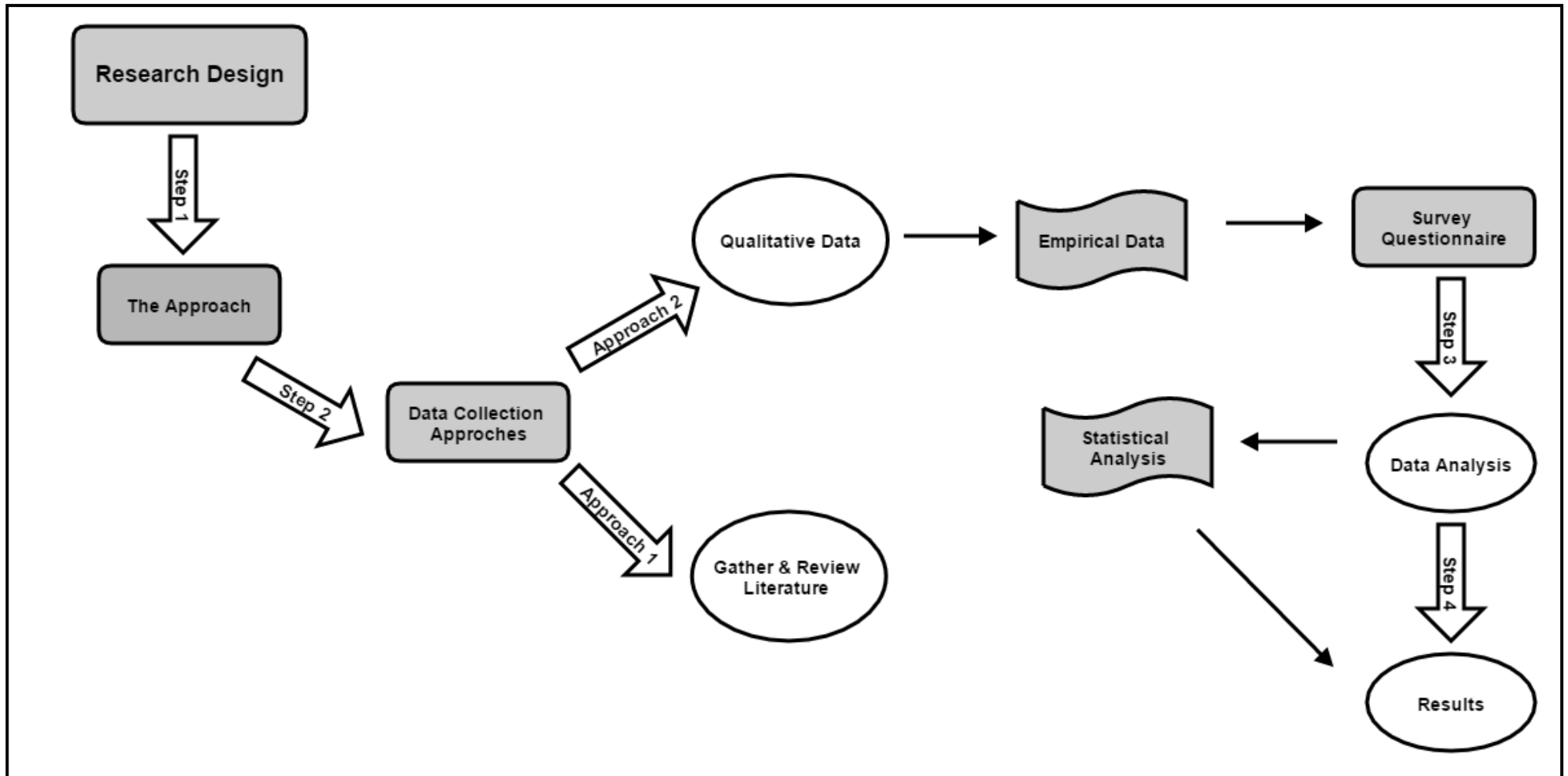


Figure 2.2.1: Research design process for this project

2.3 Methods of data collection, analysis and reporting

As alluded to in section 2.1, methods of data collection, analysis and reporting followed two approaches, which were used (Section 2.4, Chapter 3 and 4) to gather empirical data and review existing literature on the subject of research. This review aids in designing a survey questionnaire as suggested by Caruth (2013:116) and Robson, (2002:241).

2.4 Methodology

Qualitative research approach aims to achieve further research by mainly relying on “converting information from observations, reports and recordings into data and then into the written word” (Creswell, 2007). This kind of research study usually involves a smaller sample group in comparison to a quantitative research study (Creswell, 2007). The purpose of this research approach is to describe and understand the issue at hand by emphasizing the participant’s perspectives (Babbie and Mouton, 2001:309).

Literature was explored in Chapter 3 to address Objective 1. A survey research was executed with the following steps: Construction of questionnaire, selection of sample and data collection through self-administered questionnaires to address Objective 2 and 3. A poster session at the 2015 IAIA conference as well as a panel discussion was used to also address the research Objectives.

2.4.1 Literature review

The literature review was conducted by utilising international and national published and peer reviewed journals, books, theses and scholarly articles, as well as additional sources which consisted of EIA guidelines, internet sources, question 1.1 of the survey questionnaire and International Association for Impact Assessment (IAIA) conference proceedings, aimed to achieve Objective 1.

Gathering and reviewing of literature used (Chapter 3) followed a scoping review as suggested by Grant and Booth (2009:101). This was done with the purpose of determining the existing knowledge on the subject. According to Hart (1998:13), a literature review is “the selection of available documents on the topic which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is going to be investigated, and the effective evaluation of these documents in relation to the research being proposed” (Hart, 1998:13). This means studies about the topic are being located and summarized (Creswell, 2003:32).

Reputable and relevant literature was reviewed to identify problems associated with the integration of specialist studies and to make recommendations on the integration of specialist studies into EIA reports in South Africa. A poster presentation session during the IAIA 2015 Annual National conference was used as a platform to address Objective 1 as well as an opportunity to obtain further insights from delegates at the conference for the research. Details of the poster session together with the panel discussion are addressed in this Chapter (section 2.4.4).

2.4.2 Questionnaires

To achieve Objective 2 and 3, self-administered survey questionnaires were compiled and distributed to participants to gather empirical data. According to Babbie & Mouton (2001:258), self-administered questionnaires are appropriate for adequately literate population (Babbie and Mouton, 2001:258). The questionnaire consisted of closed and open-ended questions as well as demographics. Open-ended questions encouraged the respondent to supply their own answers. Closed-ended questions were based on fixed sets (likert scale) providing the respondents with a list of answers to select from. A demographics section was used to establish each practitioner's level of expertise (Neuman, 2011:323, Babbie and Mouton, 2001:233). Demographic questions (Question 3.1-3.4 as recorded on appendix A) addressed survey participants' roles in EIA, fields of speciality and years of experience working as a specialist in relation to EIA.

The period of sampling was from the first week of May 2015 until the end of August 2015. Forty (40) environmental practitioners were sampled and twenty-one (21) survey questionnaires were returned by participants. These survey questionnaires were distributed using electronic mails (e-mails). According to Cohen *et al.* (2007:101), "a sample size of 30 is held by some to be the minimum number of cases if researchers plan to use some form of statistical analysis on their data" (Cohen *et al.* 2007:101). One of the limitations observed in this research was that the total sample population may be viewed as small, since there are only a few professionals registered as specialists and EAPs, however it is sufficient to address the aim and objectives.

The results from the survey were analysed and plotted graphically. Data analysis is the examination of data to potentially resolve the problem. According to Berg (2004), data analysis depends on the method which was used to gather data (Berg, 2004:197). Data collected were considered and captured in an Excel spread sheet for analysis purposes. Closed-ended data was ready for immediate analysis unlike open-ended data.

Table 2.3.1 shows key survey questionnaire questions addressing the three research objectives

The three research objectives were intended:

1. To identify problems associated with the integration of specialist studies into EIA reports in South Africa.
2. To investigate the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports.
3. To make recommendations on integration of specialist studies into EIA reports in South Africa.

Table 2.4.1: Key survey questionnaire questions addressing the three research objectives

RESEARCH OBJECTIVES	CHAPTERS	CORRESPONDING SURVEY QUESTIONS
Objective 1	Chapter 4	Question 1.1: Based on your experience, what are the five greatest problems associated with the integration of specialist studies into an EIA report?
Objective 2	Chapter 4	- Question 1.2: What would be the three most successful ways to integrate specialist studies into an EIA report? - Question 1.3: Who in your opinion do you think can encourage a successful integration of specialist studies in an EIA report? <u>Likert Scale Questions</u> (strongly agree, agree, disagree, strongly disagree & unable to judge) - Question 2.1: Specialist studies are successfully integrated into an EIA report - Question 2.2: Important information of specialist studies is sometimes omitted in an EIA report - Question 2.3: Information of specialist studies is not communicated accurately in an EIA report - Question 2.4: As a specialist, I always have access to the final EIA report
Objective 3	Chapter 4	All of the above plus; Question 1.4: Do you have any other comments to make about the integration of specialist studies in an EIA report?

Demographics	Chapter 4	• Question 3.1: Organisation where you are employed? • Question 3.2: What best describes your role in EIA • Question 3.3: What is your area of specialty with respect to EIA • Question 3.4: How many years of working experience do you have as a specialist in relation to EIA
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2.4.3 Data validity

Another component that contributes to data analysis is validity. This concept allows that before something is measured, there should be a tool in place to determine how it is going to be measured (De Vos *et al.* 2011:172; Neuman, 2011:214). According to Neuman (2011), it is crucial to pilot test the survey questionnaire prior to implementation (Neuman, 2011:214). To aid in data validity and to have quality control, the survey questionnaire was firstly tested with two participants as suggested by Golafshani (2003:599). The survey questionnaire is attached as Appendix B. This also helped in ensuring that the results are valid to achieve the research aim and objectives. After the pilot study, had been conducted, some of the questions were modified for the purpose of clarity. Data gathered through the pilot study were not included in the results.

2.4.4 IAIA conference data collection

During the IAIA 2015 Annual National conference a poster session and a panel discussion were used for data collection. Preliminary results of this research were presented to the delegates in the form of poster during the poster session. This allowed one on one interaction which assisted in addressing Objective 2 as well as generating ideas for enhancing future practice (Objective 3). This was session 4 of the conference which was held on the 12th August 2015 for one hour 30 minutes (17:00-18:30pm) giving the conference delegates' an opportunity to ask questions related to the poster. A copy of the poster is attached as Appendix C. The results thereof were incorporated in Chapter 3 and 4 of this study.

A panel discussion was session 9, which was held on the 14th August 2015 at 8:30am – 10:00am. The panel consisted of eight Panelists. The panel discussion was conducted to generate interaction between Panelists and the audience allowing exchange of knowledge and personal views on “integration in EIA: is it achievable or elusive goal?”

There were eight people who were part of the panel. For ethical considerations, the names are omitted and each Panelist is referenced as a number from 1 to 8

The audience asked the panel the following questions:

1. What is definition of the word integration?
2. Is there a way of integration?
3. Does integration make a difference?

4. How do we make links between different studies?
5. What will help with integration?

The answers to these questions are included in Chapter 3 and 4.

2.5 Conclusion

The aim of this Chapter was to address research methodology and the design which was used to conduct this research. Literature review was identified as a method which can be used to achieve Objective 1. To achieve Objective 2 and 3, self-administered survey questionnaires were compiled and distributed to participants to gather data.

To further explore the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports, a literature review will be presented in Chapter 3 to identify problems associated with the integration of specialist studies into EIA reports. Perspectives of EAPs and specialists will be investigated in Chapter 4 with the use of self-administered questionnaires to gather and analyse data from the practitioners.

CHAPTER 3: REVIEW OF LITERATURE ON SPECIALIST STUDIES IN EIA REPORTS

3.1 Introduction

In Chapter 1, it was stated, that in South Africa there is limited research on the integration of specialist studies into EIA reports and because of this there is a necessity for future research on the subject. Therefore, the main aim of this dissertation was to investigate South African environmental practitioners' perspectives on the integration of specialist studies into EIA reports. This Chapter will focus on Objective 1 as stated below:

1. To identify problems associated with the integration of specialist studies into EIA reports in South Africa.

According to the 2014 EIA Regulations, "Specialist means a person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies" (South Africa, 2014:12).

Environmental Assessment Practitioner (EAP) as defined by National Environmental Management Act (NEMA) (1998) "means the individual responsible for the planning, management, coordination or review of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instruments introduced through regulations" (South Africa, 2013:4)

According to Glasson *et al.*, (1999), to carry out an EIA there needs to be a team that will work together to cover all the aspects which may be needed for the project (Glasson, *et al.*, 1999). Therefore, EAPs and specialists need to work together to accomplish the aim and objectives of EIA. This will help in achieving an integrated EIA report.

3.2 The origin and nature of EIA

Environmental impact assessment is a policy and management tool for both planning and decision-making which has a capacity of determining and managing potential

impacts of proposed human activities on the environment (Glasson, *et al.*, 2005; Lawrence, 2003). The aim of EIA is to identify, evaluate and mitigate the biophysical, social, and other potential impacts of proposed development prior to decision-making (IAIA, 1999).

The history of EIA in South Africa consists of the legal mandate and the mandatory commencement in September 1997 with the promulgation of EIA regulations in terms of the Environment Conservation Act (ECA) of 1989 (South-Africa, 1989). This “evolved from an era of voluntary practice (pre-1997) to the Environmental Conservation Act (ECA) regime (1997-2006) and the present NEMA regime (2006-present)” (Retief *et al.*, 2011). In April 2006, second EIA regulations were promulgated, in terms of the Act of 1998 of NEMA (South Africa, 1998). In August 2010 with the aim of improving the efficiency and effectiveness of the EIA process, the third phase came into effect (Retief *et al.*, 2011; Wood, 1999). In December 2014, the fourth phase of EIA regulations came into effect.

The objectives of carrying out an EIA is to ensure that environmental considerations are addressed by avoiding and minimizing adverse developmental impacts and further promoting sustainable development by in-cooperating these aspects in a proposal for decision making process (IAIA, 1999). This therefore is presented to the competent authorities (CA) in a form of an EIA report.

The EIA report is intended to provide the CA with sufficient information which may assist the decision-making process to approve or refuse the proposed project. This report is prepared by an EAP outlining identified environmental impacts with specialist studies integrated for the proposed project on behalf of the proponent who is responsible for ensuring that it meets the requirements of the EIA regulations (Abaza *et al.* 2004:59; Glazewski, 2005). The EAP usually bring together all of the many findings of the specialists and evaluating them in order to make recommendations for the decision-maker, (Loubser & Freeman, 2011).

From this, it is evident that the EIA report is important in the EIA process. Therefore, it is crucial to ensure that the report integrate specialist studies effectively.

This project-based process, consists of five distinct phases, namely:

Phase 1

Screening - planning and design phase where potential fatal flaws are identified. This is important as it will determine what level of assessment is required (Anon (s.a), Glasson *et al.*, 2012:5; Van Zyl., *et al.*, 2005:9-10, Münster, 2005:4).

Phase 2

Scoping – phase where the key issues are identified, and terms of reference for an EIA are established as well as predict and assess potential impacts of a proposed development during the impact assessment phase as well as make recommendations for monitoring (Anon (s.a), Winter and Baumann, 2005:14; Oberholzer, 2005:7, Münster, 2005:4).

Phase 3

Specialist studies- this phase gives specialists an opportunity to predict changes that are likely to result from the proposed project and its alternatives. Specialist studies provide information on both the positive and negative impacts associated with the project alternatives (Anon (s.a), Loubser & Freeman, 2011, Münster, 2005:4).

Phase 4

Integration and Assessment – The findings of the specialist studies are integrated with other available information into an EIA report (Loubser & Freeman, 2011). This is the responsibility of the lead EAP to bring together all the findings of specialists.

Phase 5

Authority review and decision making – The decision on environmental authorization will clearly state whether the EIA for the proposed project and alternatives is approved or not based on the submitted EIA report (Loubser & Freeman, 2011, Münster, 2005:4).

The Western Cape Department of Environmental Affairs and Development Planning how to guide further states that the findings should be presented in a clear, understandable format to the project proponent, authorities and interested and affected parties (Anon., s.a). In order to have efficient and effective EIA processes, specialists and their studies need to be involved in the project life cycle with an aim of providing input through an EIA process (Keatimilwe & Ashton, 2005:6; Barbour, 2007:26). This is done to ensure that certain impacts of an EIA are correctly identified, assessed, managed and to avoid certain problems. This study is interested

in phase 4 of the project where the findings of the specialist studies are integrated into an EIA report.

3.3 Problems associated with the integration of specialist studies

This section seeks to achieve Objective 1 by identifying problems associated with the integration of specialist studies into EIA reports in South Africa. It should be noted that due to lack of literature, integration of specialist studies into EIA reports (EIR) has not been comprehensively investigated. Some of the contents of this section were derived from the IAAsa 2015 poster session and panel discussion.

According to Saidi (2010) people with little or no environmental management background are conducting EIAs in South Africa (Saidi, 2010:4). Since the discipline of environmental management is multi-disciplinary and evolving, it has resulted in inexperienced or insufficiently trained people practising. Loubser and Freeman (2011) further mentioned that insufficient skills and competencies amongst environmental practitioners has become a problem which needs urgent attention (Saidi, 2010:4; Loubser & Freeman, 2011). Most of the time companies use inexperienced students who come straight from Universities to write reports without proper training and workshops (Saidi, 2010:4; IAAsa, 2015a).

Shah (2013) is of the opinion that the absence of a legal mechanism and registration bodies of EAPs may be contributing to this problem (Shah, 2013:4). Currently there is no official registration body for EAPs, however SACNASP (the South African Council for Natural Scientific Professions) is in place for individuals who intend to do specialist work in the natural sciences field. This helps to regulate specialists (Loubser & Freeman, 2011:41). The regulation of EAPs was initiated in May 1998 with the development of a system of voluntary certification for environmental practitioners. By June 1999, criteria were developed by Certification Advisory Committee for certification of EAPs. This was finalised in February 2001 under the Southern African Institute of Ecologists and Environmental Scientists (Loubser & Freeman, 2011:41).

It should be noted that the Environmental Assessment Practitioners' Association of South Africa (EAPASA), has applied to be recognised as a registration authority for EAPs in terms of section 24H of NEMA, (Loubser & Freeman, 2011:41). The application is still pending, however "once EAPASA is recognised, the Minister will publish a date by which all EAPs practicing in terms of NEMA must be registered" (Loubser & Freeman, 2011:43).

According to Panelist 7, integration is a way of achieving harmony between the specialist findings & the EIR (IAIAsa, 2015b). From Glasson' *et al.*, (1999), perspective, there is a need for team work as having integration meetings helps practitioners to sit with all specialists reports and use inputs of others around the table to integrate specialist findings to the report. The reason for this may be that during a face-to-face meeting it is easy to communicate the complexity of specialist studies' findings and important information compared to reading the actual report (Glasson, *et al.*, 1999). Panelist 7 further mentioned that, there is a problem of linking different studies as the work is done in isolation & different specialities are not communicating with each other (IAIAsa, 2015b).

The way information is presented in EIA reports makes it difficult to understand as sometimes confusing language and terminology is used (DEAT, 2004:8). Weaver *et al.* (1996:105) furthermore found that managing the inputs from various parties and communicating the information gathered in a consistent manner is a problem; however, this can be achieved by involving a process which they termed "integrative writing" which will allow EIA team to have integrative writing workshops (Weaver *et al.*, 1996:105). Panelist 1 was of the opinion that in order for integration to be established, EAPs should take leadership, however Panelist 2 felt that there is a need of coming together and forming a group leadership which includes both specialists & EAPs. Panelist 5 mentioned that since integration is time consuming & costly, it may be a problem to achieve it (IAIAsa, 2015b).

It can be gathered that an effective communication is required between different specialists involved in the EIA process (Glasson, *et al.*, 1999:88). Specialist inputs need to be managed, and the key to doing that lies in whether the EAPs can relate to the idea the specialist is bringing forth in an integrated manner (Weaver *et al.*, 1996:109). This was followed by research of Weaver *et al.* (2000:13-9) as well as Le Maitre *et al.* (1999:3): suggesting that clear terms of reference (ToR) should be established for specialists so that they may understand what needs to be conducted (Weaver *et al.*, 2000:13-9; Le Maitre *et al.*, 1999:3). Panelist 8 further reiterated that specialists most often get the ToR however they do their own thing besides what was ascribed to them (IAIAsa, 2015b).

Lack of interaction between different practitioners also plays a significant role in the problems faced by practitioners during EIA process. It is Münster's opinion that lack of interaction makes it difficult for practitioners to exchange information and findings which will help them to re-evaluate impacts and establish feasible action plans (Münster, 2005:17).

In order to ensure that the findings of each study are integrated, Barbour (2007) is of opinion that an EAP should facilitate interaction of other specialists with each other (Barbour,

2007:40). This should be done with careful consideration of different specialists' inputs to ensure that specialists integrate effectively and efficiently (Münster, 2005:24). This could also be done by having specialist studies reviewers who will ensure that the findings are written in a scientific manner have (Weaver *et al.*, 2000:13-9). This will result into an EIA report which is well documented.

An EIA report should ideally be an integrated document and it should be kept as brief as possible with the main aim of addressing necessary information. According to Glasson, *et al.*, (1999), in the context of the United States' (US), it is generally expected that the Environmental Impact Statement (EIS) should be less than 150 pages. On the other hand in the United Kingdom (UK) it is recommended that for less complex projects the EIS should be kept around 50 pages and for more complex projects the document may extend to 100 pages (Glasson, *et al.*, 1999:174). It was the opinion of the writers that as soon as the document starts to extend to 150 pages, there is a possibility for it to become clumsy and difficult to integrate.

With these documents being big, competence has proven to be a problem as irrelevant information is included in the reports during the compilation and integration of specialist studies to the reports (DEAT, 2004:8). Therefore, it is important that when conducting specialist studies, EAPs should provide relevant terms of reference (ToR) concerning the project to the specialists. DEAT (2004) identified that the availability of relevant information is becoming more of a problem as it influences the information provided by specialists (DEAT, 2004:8). Integration is also influenced by how environmental impacts are addressed (Glasson, *et al.*, 1999:173). Different specialists have their own ways of compiling their reports and using mitigation measures which may likely not be the same as to others.

Since some of the specialist studies are seasonal, allocation of sufficient time to conduct these studies has proven to be one of the major problems. Specialists find it difficult to conduct these kinds of studies in relevant seasons (Weaver *et al.*, 2002:13-8, Münster, 2005:17). Limited resources and budget also make it difficult to carry out detailed specialist studies. This may result in omission of important assessment phases which would have contributed in obtaining more credible and reliable information (Münster, 2005:17). Panelist 5 also mentioned that specialists are not given enough time to conduct their field work. Therefore enough time need to be given to practitioners to carry out specialists studies and integrate the findings thereof into the report (IAIASa, 2015b).

In order to achieve efficient integration of specialist studies into the EIA report, problems identified in this Chapter need to be addressed.

3.4 Concluding remarks

The review aimed to identify problems in literature regarding integration of specialist studies into EIA reports in South Africa. In light of the above, there is a need to find ways of integrating specialist studies in an EIA reports more effectively as practice in South Africa would appear to fall short of suggestions or expectations within the international literature.

The aim of this Chapter was to identify problems associated with the integration of specialist studies into EIA reports in South Africa. An EIA report should ideally be an integrated document and it should be kept as brief as possible with the main aim of addressing necessary information.

Lack of experience has proven to be one of the major problems as people from different fields without relevant experience start practising as EAPs. It should be noted that not anyone can be an EAP according to the criteria of EAPASA, thus regulatory bodies are required. Regulatory bodies may assist in proper training to be implemented. This will help in equipping people as well as creating a platform for them to learn and develop an acceptable way of integrative reporting. This will help as there is a great need of regulation of practitioners who compile the reports and can review the way specialist findings are presented in the report.

From the literature review and IAIA panel discussion, it is clear that when ToR is provided to specialists, it makes it difficult for them to address issues which are relevant thus EAPs may end up adding wrong information to the report, making integration less effective.

Limited budget allocated to carry out the EIA process leaves room for omission of important assessment phases. Therefore, it is important that resources and time should be managed in an effective way which will assist with granting an opportunity for integration.

The way inputs from different practitioners are managed and communicated in EIA reports makes it difficult to understand the contents of the report. Lack of interaction makes it difficult for practitioners to exchange ideas and findings, however if this is done it will help practitioners to sit down together and re-evaluate impacts.

This Chapter has served to identify different problems associated with integration. To further explore the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports, the perspectives of EAPs and specialists will be investigated in Chapter 4 with the use of self-administered questionnaires to gather data from the practitioners.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

In order to identify problems associated with the integration of specialist studies into EIA reports a literature review was conducted in Chapter 3. To further explore the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports, the perspectives of EAPs and specialists will be investigated in this Chapter.

This Chapter presents the results of the self-administrative surveys. Section 4.2 addresses demographics data then further used to address research Objectives 1, 2 and 3. When presenting the results for each question, the number of responses received for the particular question were indicated and also expressed as a percentage of the total number of responses received (n=21, 100%). These 21 responses were received from 6 EAPs and 15 specialists. It should be noted that for some of the questions, some practitioners did not answer.

4.2 Demographics data

Although demographics are addressed first in this Chapter, the demographic questions were located on Questions 3.1-3.4 of the survey questionnaire. The purpose of conducting a demographic section was to establish each respondent's expertise in the environmental sector. This will also highlight their experience and role in the field as it measured to what extent respondents are currently contributing to the South African EIA industry.

The demographics presented the role of practitioners in EIA and two major roles were identified. This was further expanded to identify their field of speciality as well as their work experience. In order to analyse data, it was easier to split some of the dataset into two groups consisting of responses of specialists and EAPs. The results obtained for demographics are reflected in Figure 4.2.1 to Figure 4.2.3 and discussed.

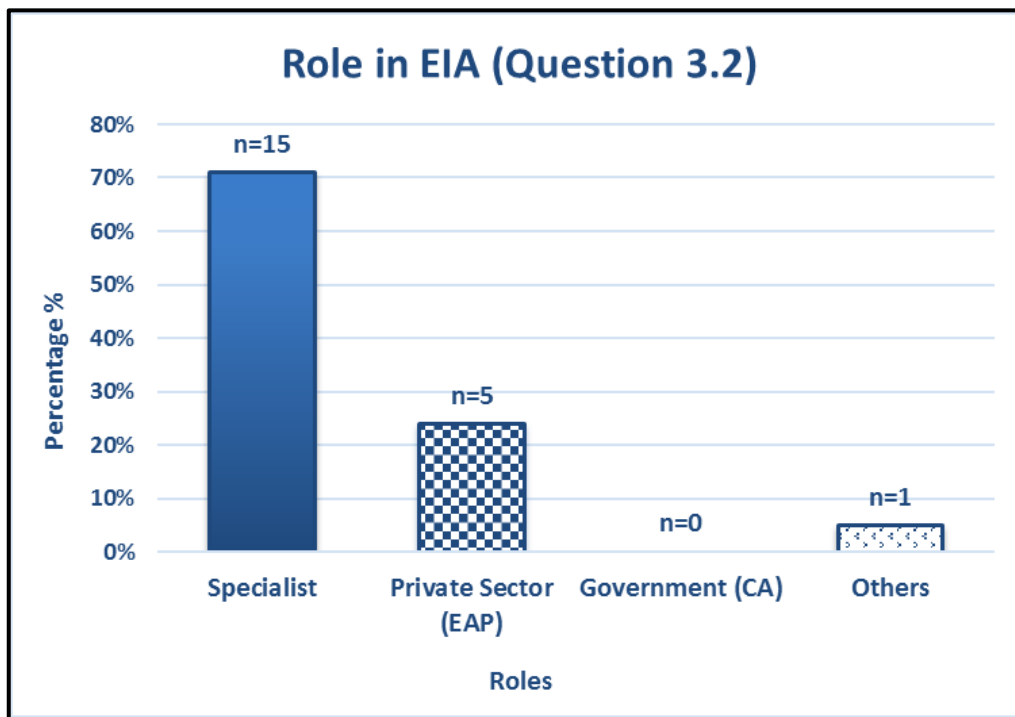


Figure 4.2.1: Description of role in EIA (Question 3.2)

The roles of surveyed practitioners who responded included fifteen (71%) specialists, five (10%) EAPs. None of the sampled practitioners were working for the government. One of the practitioners (5%) answered the survey by ticking on others; however, the practitioner described their field of speciality as being an EAP.

Depending on the nature of the project and the listed activities triggered, an EIA process need to conduct multiple specialist studies. Therefore, this study sampled different fields of speciality as represented in Figure 4.2.2.

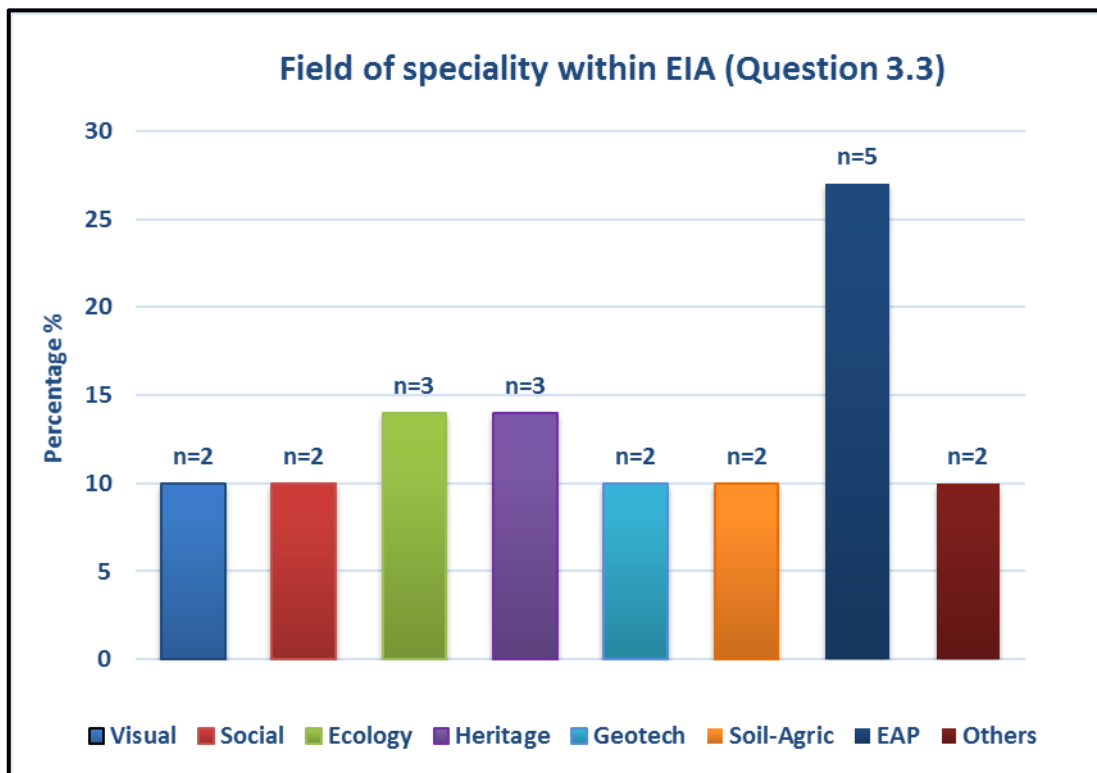


Figure 4.2.2: Field of speciality within EIA (Question 3.3)

Amongst the surveyed respondents were EAPs, Ecologists, Heritage Impact Assessors, Social Impact Assessors, Visual Impact Assessors, Geotechnical Impact Assessors, Soil- Agriculture assessors and other specialists. Regarding these speciality types and responses to the survey questionnaire, the views of EAP differed a lot in some of the questions compared to those of specialists.

Experience played a major role in the responses given as those with more experience could answer the survey questions in detail and identify more problems as compared to those with least experience. The different years of working experience in relation to EIA for practitioners is illustrated by Figure 4.2.3 below.

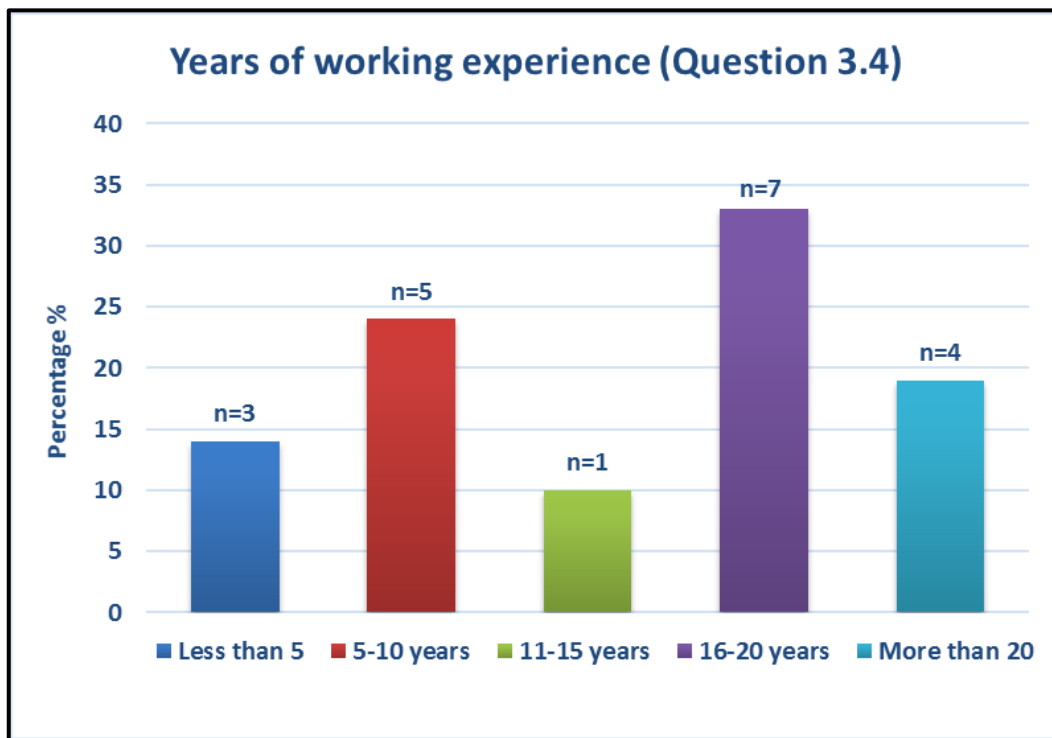


Figure 4.2.3: Years of working experience in relation to EIA (Question 3.4)

Generally speaking the survey questionnaire was completed mostly by experienced practitioners; seven (33%) had 16-20 years' experience, four (19%) had more than 20 years of experience and five (24%) had 5-10 years' experience. Seeing that more of the experienced practitioners answered the survey, this strengthens the validity of the research as more experienced practitioners' opinions may differ from those with less experience.

4.3 Objective 1 results and discussion

To further re-iterate on the findings of Chapter 3, question 1.1 of the survey was used to address Objective 1. This section provides practitioners' perspectives in terms of the greatest problems associated with the integration of specialist studies into EIA reports in South Africa. The problems are presented in numerical order in Table 4.3.1 below from the mostly frequently mentioned to the least frequently mentioned.

Table 4.3.1: Frequency Table with the most common problems (Question 1.1)

Problems associated with the integration of specialist studies	Frequency n=21
1. Lack of knowledge and experience	n=12 (57%)
2. Specialist studies are often misinterpreted	n=11 (52%)
3. Specialist do not get to see the final report	n=11 (52%)

Problems associated with the integration of specialist studies	Frequency n=21
4. Costs (detailed specialist studies are costly)	n=9 (43%)
5. Timing is a problem, often specialists are not really given enough time to get their work done	n=9 (43%)
6. When clients change their development plans it is not always communicated to the specialist	n=8 (38%)
7. Findings must be simplified	n=7 (33%)
8. Specialist reports are often received late	n=7 (33%)
9. Duplication of information	n=5 (24%)
10. Lack of expertise in writing the report	n=5 (24%)
11. Lack of provision of adequate information from the EAP to the specialist (lack of planning both EAP & Client)	n=5 (24%)
12. Understanding the content of specialist studies by EAPs	n=3 (14%)
13. Field seasonal studies don't fit in with the timing of the EAPs process	n=3 (14%)
14. Lazy thinking – copying and pasting without any critical thought	n=3 (14%)
15. Commenting authorities' views often vary with the findings of specialists	n=3 (14%)
16. Lack of independence from the projects	n=2 (10%)
17. No specific guidelines and registration bodies	n=2 (10%)

The findings in Table 4.3.1 confirm the results from the literature review. Practitioners felt that lack of experience was the greatest problem. The literature identified communication of information in documents as a problem since there is a lack of expertise in writing reports and practitioners alluded to the fact that specialist studies are often misinterpreted. Costs have implications on the work produced as limited budgets make it difficult to carry out detailed specialist studies. According to practitioners, literature and the IAIAsa 2015 conference Panelists, time plays a vital role; however, specialists are often not given enough time to do field work and compile their findings. The availability of relevant information when conducting a desktop study has also proven to be a problem in literature as there may be a lack of provision of adequate and relevant information from project proponents, EAPs and specialists.

There were findings which were deemed significant by literature, but were not mentioned by practitioners. For example, only two (10%) of the practitioners felt that there is a need of registration bodies to regulate practising practitioners whereas literature emphasised on this.

Certain findings were not mentioned in the literature, however, were raised by practitioners as well as by the IAIA 2015 conference panel members. These included that when compiling documents there is a lot of copying and pasting (which may lead to duplication of information without any critical thinking) making reports unreliable. According to Panelist 3 and 4 as well as the feedback from the poster session, copy and paste make it difficult to have a well-integrated report; therefore, integration will make a difference as it will help with the practice of copy and paste. One of the audience mentioned that integration will help with critical thinking and analysis on what needs to be included in the report (IAIA, 2015a; IAIA, 2015b). Another problem was that specialists do not get to see the final EIA reports. Other findings included the fact that the views of commenting authorities often differed from the findings of specialists. Below are two Tables 4.3.2 and 4.3.3 depicting views of EAPs and specialists numerically regarding problems associated with integration of specialist studies.

Table 4.3.2: Problems associated with integration of specialist studies: Specialist perspectives (Question 1.1)

Problems associated with the integration of specialist studies	Frequency n=15
1. Specialist studies are often misinterpreted	n=11 (73%)
2. Specialist do not get to see the final report	n=11 (73%)
3. Lack of knowledge and experience	n=10 (66%)
4. Timing is a problem, often specialists are not really given enough time to get their work done	n=8 (53%)
5. Costs (detailed specialist studies are costly)	n=6 (40%)

Table 4.3.3: Problems associated with integration of specialist studies: EAPs perspectives (Question 1.1)

Problems associated with the integration of specialist studies	Frequency n=6
1. Specialist reports are often received late	n=4 (67%)
2. Costs (detailed specialist studies are costly)	n=3 (50%)
3. Findings must be simplified	n=3 (50%)
4. Lack of knowledge and experience	n=2 (33%)
5. Timing is a problem, often specialists are not really given enough time to get their work done	n=1 (17%)

Table 4.3.1, recorded the most mentioned problems identified by specialists and EAPs then Table 4.3.2 and Table 4.3.3 depicted variations of responses among these two groups. Whilst they

exhibit similar views in terms of the costs of specialist studies, the matter of lack of knowledge, timing, and misinterpretation of specialist studies is all more strongly identified by specialists. Given the central role of EAPs to the EIA process, surveyed specialists raised a concern with not being able to see the final EIA report. EAPs felt that specialist studies are often received late and the findings are not simplified. Figure 4.3.1 and 4.3.2 illustrate views of specialists as well as EAPs on what they think are the greatest problems.

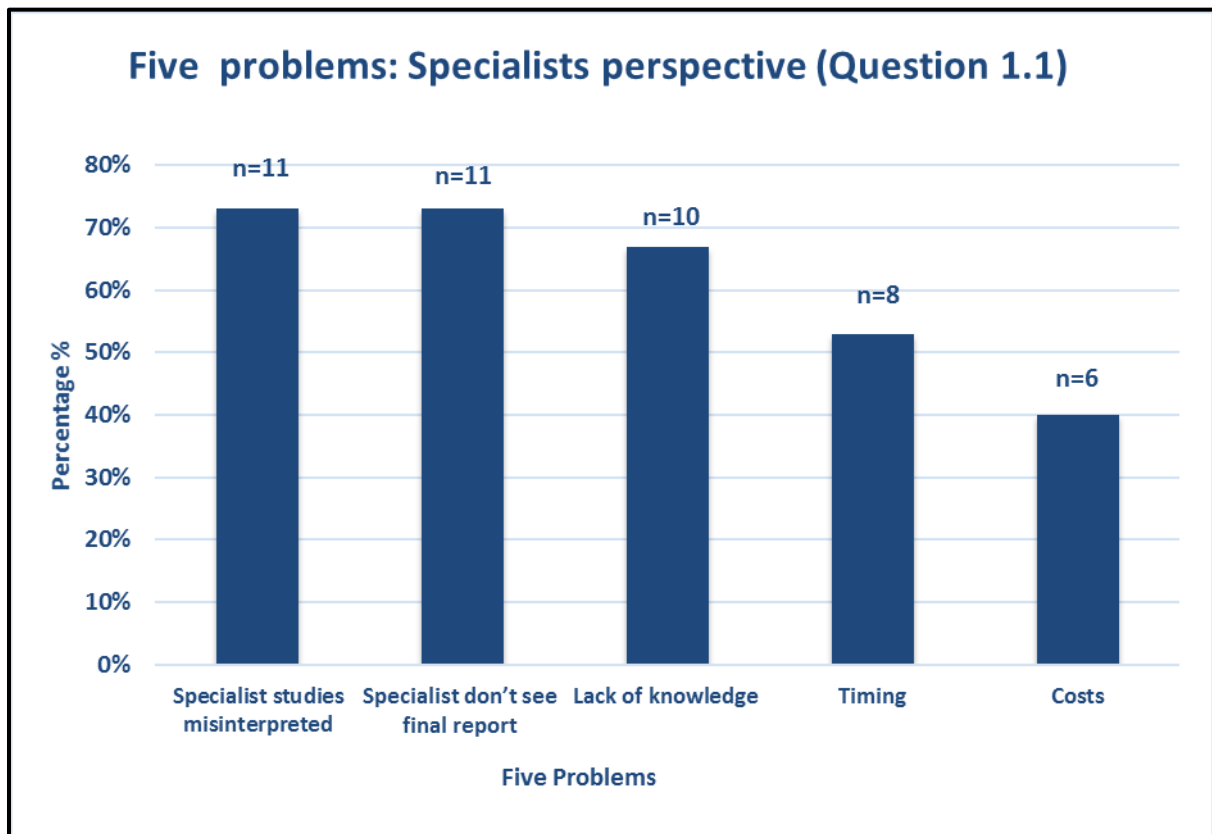


Figure 4.3.1: Five problems associated with the integration of specialist studies into EIA reports: Specialists perspective (Question 1.1)

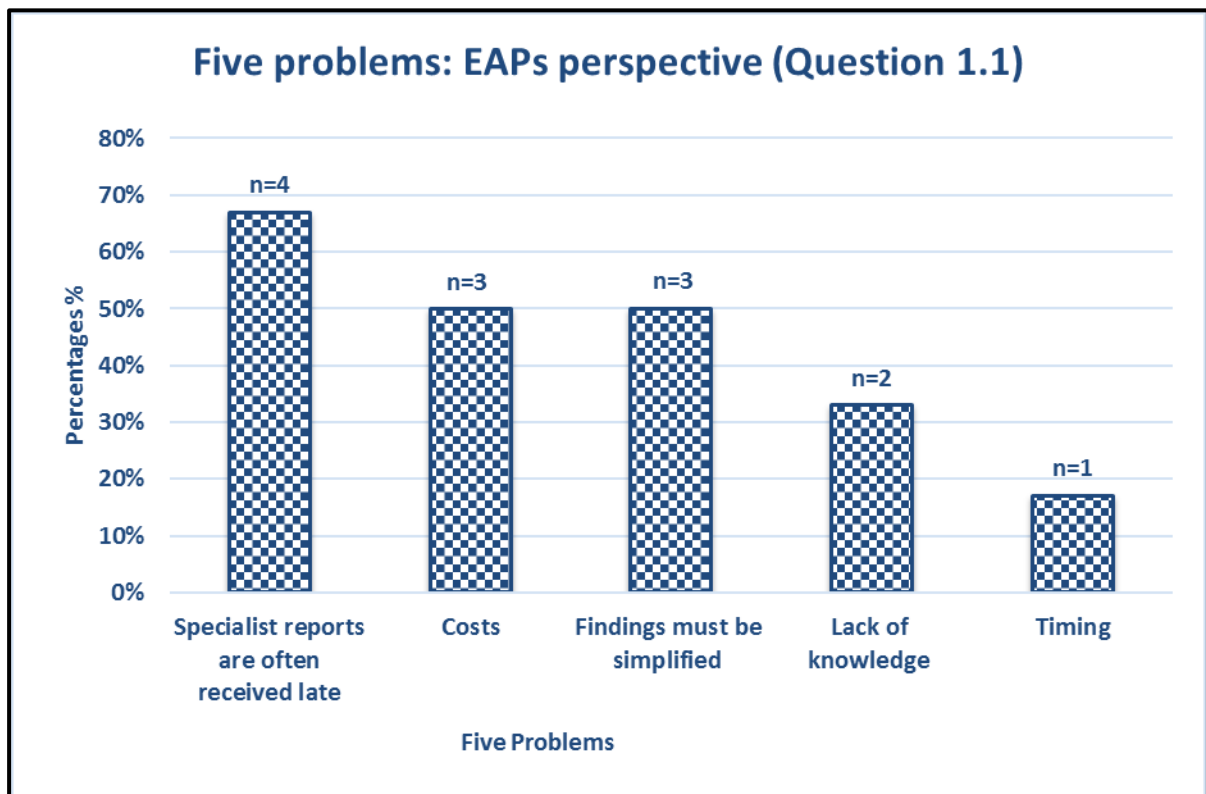


Figure 4.3.2: Five problems associated with the integration of specialist studies into EIA reports: EAPs perspectives (Question 1.1)

Eleven (73%) specialists and two (33%) EAPs were of the opinion that lack of knowledge is one of the problem for integration of specialist studies is faced with. This may often result in specialist studies being misinterpreted when they are incorporated into the reports, thus making eleven (73%) of specialists to believe that misinterpretation is another problem. Different opinions were evident amongst practitioners concerning specialist being able to see the final report and specialist studies being often misinterpreted.

In the same way, costs of detailed specialist studies have proven to have an influence on the integration of specialist studies into EIA reports in S.A as six (40%) specialists and three (50%) EAPs felt that they are not given enough resources to carry out proper work. This is also influenced by seasonal work. Since some specialist work is seasonal, provision of time allocated is often not enough thus giving limited time to EAPs to integrate specialist studies into the EIA report.

Interestingly, EAPs were of the opinion that integration is affected by late receipt of specialist studies reports and the findings of the specialists must be simplified. They further suggested that other role players which may encourage successful integration.

It is understood that EAPs need to be given enough time to incorporate findings of specialist studies to the report but if they do not get enough time to do so, they may leave out important findings. That is why this was identified as a greatest problem (IAIASa, 2015a)

Different role players should be used to avoid these problems and this is addressed in section 4.4.

4.4 Objective 2 results and discussion

In question 1.2, practitioners were asked to list ways which may aid in successful integration of specialist studies into EIA reports. Their responses (Table 4.4.1 and 4.4.2) are tabulated in numerical order from the most frequently mentioned to the least mentioned.

Table 4.4.1: Successful ways of integrating specialist studies: Specialists perspective (Question 1.2)

Most successful ways of integrating specialist studies	Specialists n=15
1. Having integration meetings which can be used to integrate specialist findings to the report	n=10 (67%)
2. EAPs understanding the work of specialists	n=7 (47%)
3. Having clear ToR	n=7 (47%)
4. Independence (not having any financial or other interest in the project)	n=6 (40%)
5. Sharing an executive summary amongst specialists with important findings	n=4 (26%)
6. Allowing specialists to review their part in EIA report	n=3 (20%)
7. Specialists should have access to each other's reports	n=2 (13%)
8. Learning to interpret specialist studies' findings	n=2 (13%)
9. Good communication between the lead EAP and the specialists	n=2 (13%)

Table 4.4.2: Successful ways of integrating specialist studies: EAPs perspective (Question 1.2)

Most successful ways of integrating specialist studies	EAPs n=6
1. Allowing specialists to review their part in EIA report	n=2 (33%)
2. Sharing an executive summary amongst specialists with important findings	n=2 (33%)
3. EAPs understanding the work	n=1 (17%)
4. Having integration meetings which can be used to integrate specialist findings to the report	n=1 (17%)

Most successful ways of integrating specialist studies	EAPs n=6
5. Independence (not having any financial or other interest in the project)	n=1 (17%)
6. Specialists should have access to each other's reports	n=1 (17%)
7. Having clear ToR	n=0 (0%)
8. Learning to interpret specialist studies' findings	n=0 (0%)
9. Good communication between the lead EAP and the specialists	n=0 (0%)

Practitioners made several recommendations as to how to achieve successful specialist studies integration. These included having integration meetings where practitioners will have time to sit with all reports and use inputs of others around the table to integrate specialist findings to the report. The reason for this may be that during a face-to-face meeting it is easy to communicate the complexity of specialist studies' findings and important information compared to reading the actual report. This will allow specialists to review their parts in EIA reports and give the EAP an opportunity to understand the work. Clear ToR as well as good communication from lead EAPs should be established to assist specialists. This may be achieved by practitioners if they learn to interpret specialist studies' findings. It was also recommended that specialists should share their executive summaries amongst each other which could reflect important findings.

The three frequently mentioned recommendations are illustrated in Figure 4.4.1 and Figure 4.4.2 with the views of specialists and EAPs respectively. Specialists felt strongly about all three recommendations whereas EAPs were neutral.

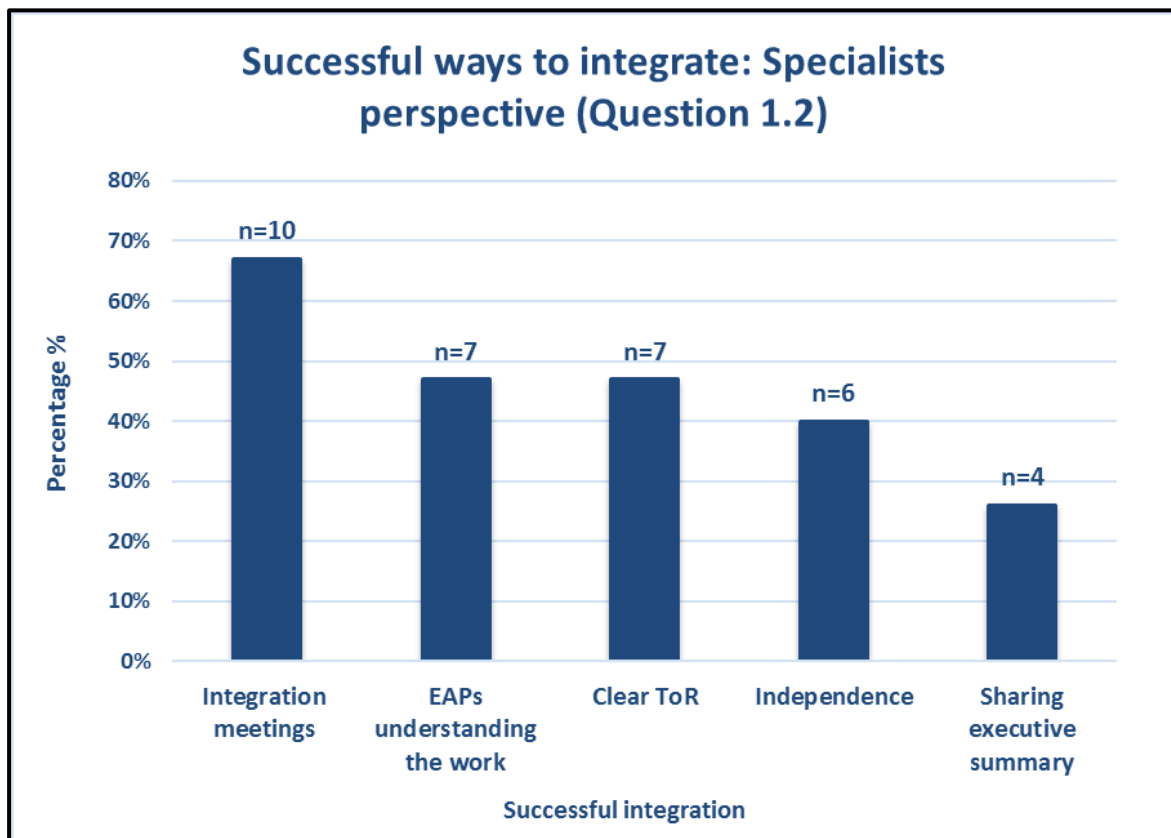


Figure 4.4.1: Most successful ways of integrating specialist studies into an EIA reports: Specialists perspective (Question 1.2)

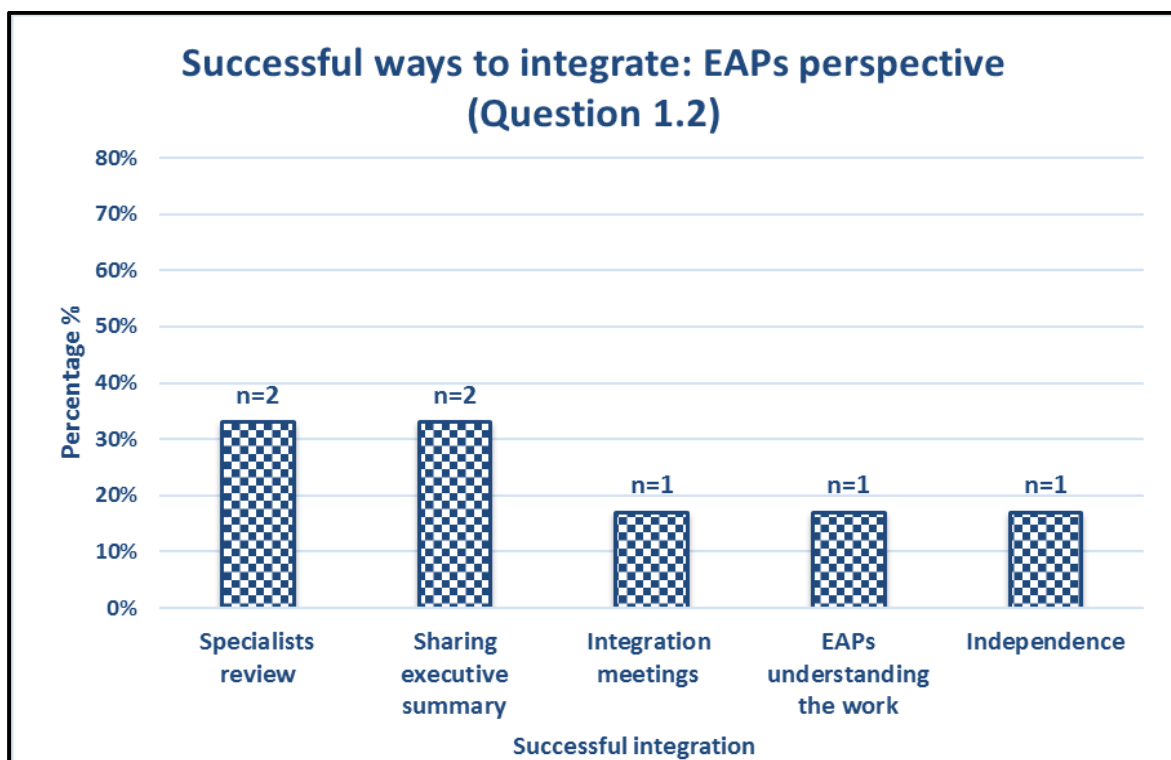


Figure 4.4.2: Most successful ways of integrating specialist studies into an EIA reports: EAPs perspective (Question 1.2)

From the practitioners' perspectives, ten (67%) of specialists and one (17%) of EAPs are of the opinion that the most successful way of integrating specialist studies into EIA reports is to have integration meetings which can be used to integrate specialist findings to the reports. This may help in early stage identification of key issues and unintended consequences which could then be dealt with timeously. Seven specialists (47%) and one (17%) of EAPs also mentioned that people carrying out the task of compiling specialists report should understand the work. However, only seven (47%) of the specialists recommended that ToR should be clear and this was one of the recommendations in literature. Both specialists and EAPs mentioned that independence is important were neither the EAP nor specialists have vested interest on the project financially or otherwise.

EAPs (33%) recommended that if specialists get time to review the EIA report after integration of specialist studies then this will encourage successful integration. They also deemed that sharing of executive summaries with important findings may make it easier for the EAPs during the integration phase.

This section provides results and discussion of survey question 1.3 on who can encourage successful integration to investigate the perspectives of South African environmental practitioners on the integration of specialist studies into EIA reports. Practitioners identified different role players who can assist in encouraging successful integration. Their responses are tabulated in numerical order (Table 4.4.3 and Table 4.4.4) from the most frequently mentioned to the least mentioned.

Table 4.4.3: Role players to encourage successful integration: Specialist perspective (Question 1.3)

Who can encourage successful integration? (Question 1.3)	Specialists n=15
1. Experienced & qualified practitioners as well as trained consultants	n=11 (73%)
2. Project developers	n=8 (53%)
3. Specialists	n=6 (40%)
4. Project managers	n=5 (33%)
5. Competent authorities	n=3 (20%)
6. Commenting authorities (stakeholders)	n=1 (8%)
7. Registration bodies	n=1 (8%)

Table 4.4.4: Role players to encourage successful integration: EAPs perspective (Question 1.3)

Who can encourage successful integration? (Question 1.3)	EAPs n=6
1. Specialists	n=4 (67%)
2. Project developers	n=3 (50%)
3. Project managers	n=3 (50%)
4. Experienced & qualified practitioners as well as trained consultants	n=2 (33%)
5. Competent authorities	n=1 (17%)
6. Commenting authorities (stakeholders)	n=1 (17%)

A total of thirteen (both EAPs and specialists) practitioners alluded to the fact that experienced, competent, qualified and trained practitioners can encourage successful integration of specialist studies into EIA reports in South Africa. Eight (53%) specialists and three (50%) EAP mentioned that project developers could also be of great assistance to carry successful integration. Six (40%) specialists and four (67%) EAPs are of the opinion that specialists can also encourage successful integration.

Accordingly, practitioners are of the opinion that project managers, competent authorities, stakeholders and registration bodies may play a vital role in encouraging successful integration. Figure 4.4.3 and Figure 4.4.4 illustrated who can best encourage successful integration of specialist studies in EIA reports with respect to proportions of responses by specialists and EAPs respectively.



Figure 4.4.3: Who can encourage successful integration of specialist studies in EIA reports: Specialist perspectives? (Question 1.3)

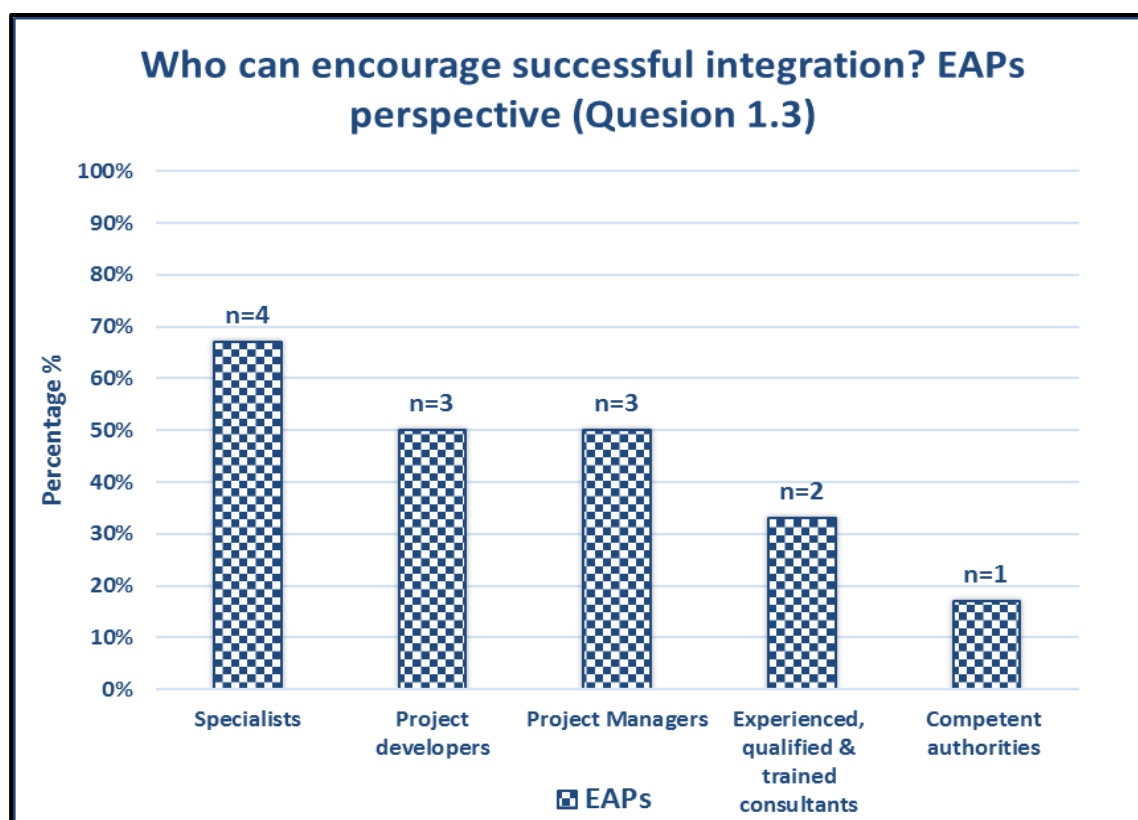


Figure 4.4.4: Who can encourage successful integration of specialist studies in EIA reports: EAPs perspective? (Question 1.3)

It is evident that specialists feel strongly about the need of experience, qualifications and proper training. A total of eleven (73%) specialists and two (33%) EAPs were of the opinion that experienced, competent and qualified people, including trained consultants, would contribute to and encourage successful integration of specialist studies in EIA reports. This may be due to the fact that specialists have to undergo training and acquire certain skills before they can specialise, therefore they see this to be befitting for EAPs as well.

Specialists can assist in encouraging successful integration of specialist studies in EIA reports as they can provide EAPs with simplified findings. Interestingly both specialists and EAPs were of the opinion that project proponents also need to be engaged throughout an EIA process so that integration must be a success.

Eight specialist (53%) and three EAPs (50%) were of the opinion that project developers can also assist in encourage successful integration. This can often be by providing relevant project information to the EAPs and specialists so that a clear ToR can be established before an EIA can be conducted. This will avoid vague studies to be conducted which will in turn be a problem to integrate.

According to EAPs and specialists, competent authorities as well as project managers can also encourage successful integration.

To further explore the practitioners' perspective, a likert scale was used and this is addressed in section 4.5 which deals with question 2.1-2.4 of the survey questionnaire.

4.5 Likert scale (Question 2.1 to 2.4)

The purpose of this section was to provide the respondents with a list of fixed answers to select from. To answer question 2.1 to 2.4 of the survey questionnaire and to further address Objective 2, a likert scale was used to indicate whether practitioners agree, strongly agree, disagree, strongly disagree or are unable to judge statements.

Practitioners were asked whether they thought specialist studies were successfully integrated into EIA reports. For question 2.2 and 2.3, it should be noted that only five EAPs answered the question and for question 2.4 only fourteen specialists answered.

Practitioners were asked whether they think specialist studies are successfully integrated to EIA reports and Figure 4.5.1 and 4.5.2 depicts perspectives of EAPs and specialists respectively.

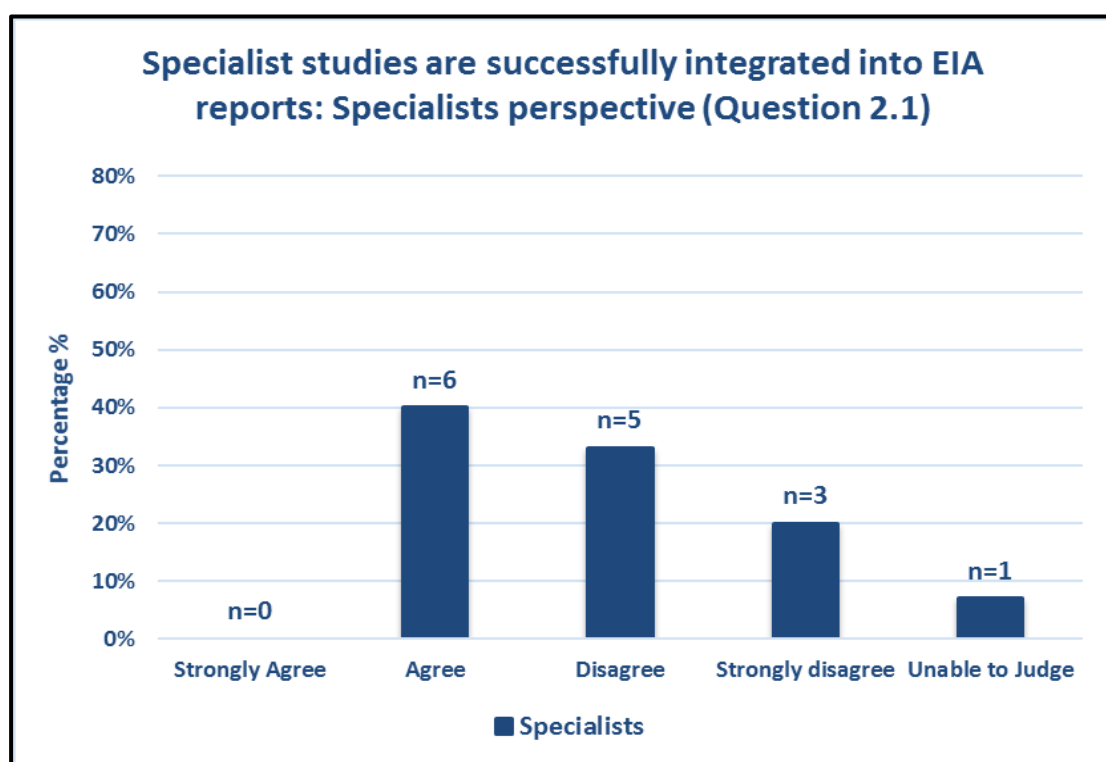


Figure 4.5.1: Specialist studies are successfully integrated in EIA reports: Specialist perspectives (Question 2.1)

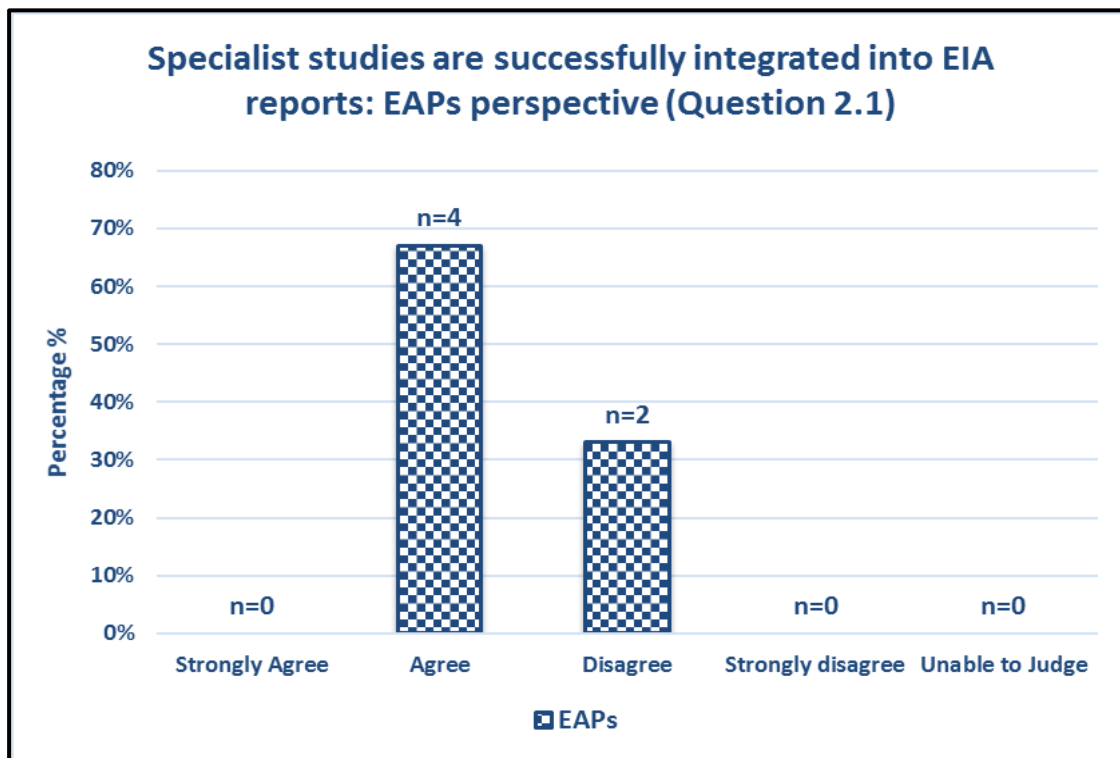


Figure 4.5.2: Specialist studies are successfully integrated in EIA reports: EAPs perspectives (Question 2.1)

The results illustrate some form of subjectivity as four (67%) EAPs agreed that specialist studies are successfully integrated into EIA reports; however, five (33%) specialists disagreed and three strongly disagreed. These results may not be a surprise as EAPs may feel that they are doing effective work in integrating, whereas specialists do not think so. One (7%) of specialist was unable to judge whether specialist studies are successfully integrated in EIA reports.

Practitioners were of the opinion that important information is sometimes omitted from EIA reports. It is evident that perspectives vary significantly between the specialists and EAPs as denoted in Figure 4.5.3 and Figure 4.5.4.

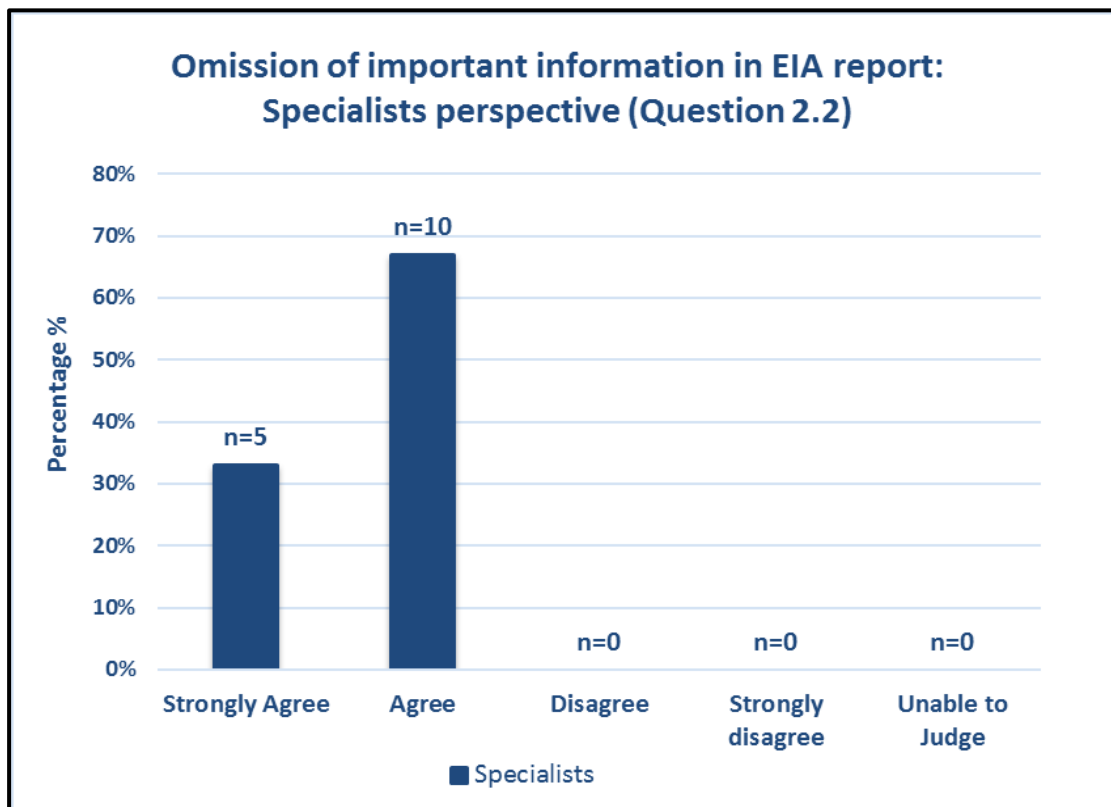


Figure 4.5.3: Important information in specialist studies is sometimes omitted in EIA reports: Specialist Perspectives (Question 2.2)

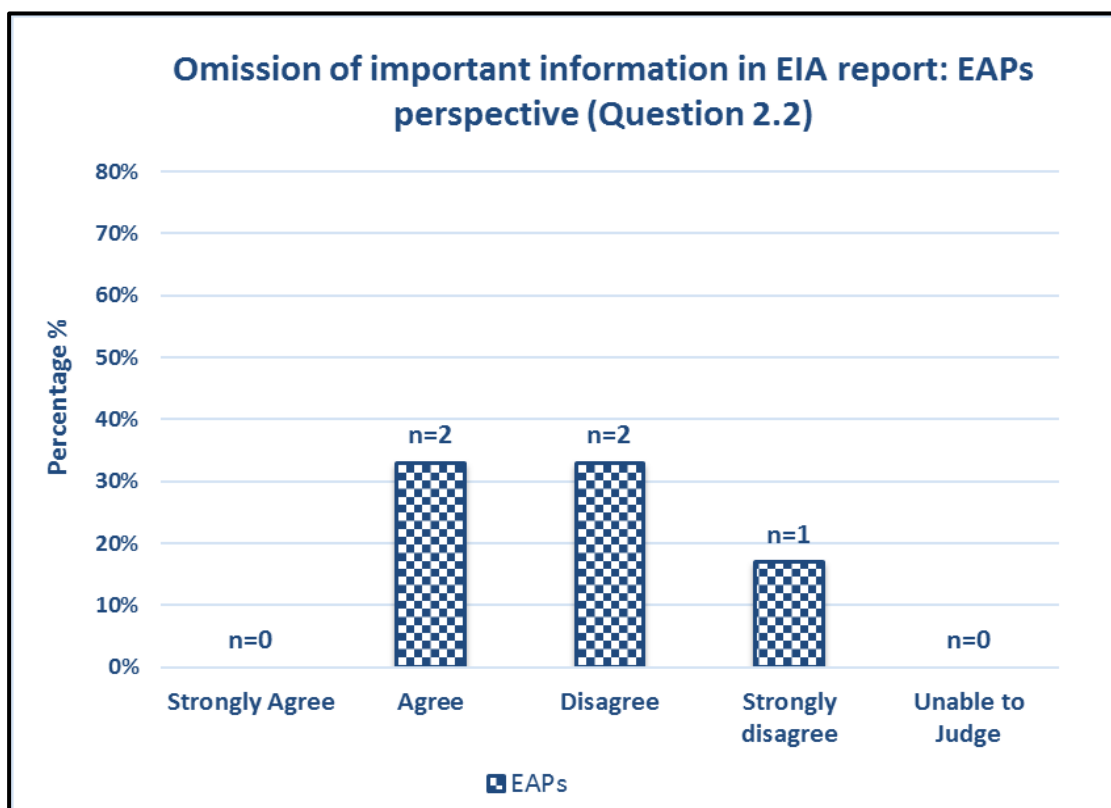


Figure 4.5.4: Important information in specialist studies is sometimes omitted in EIA reports: EAPs perspective (Question 2.2)

From the literature, one of the reasons that may result in omission of important information may be the allocation of limited budget to conduct detailed specialist studies. The fact that specialist studies are received late by EAPs makes it difficult for EAPs to find enough time to go through the whole report while integrating the findings of specialists to the EIA reports. Practitioners also referred to this problem that was identified by literature and ten specialists (67%) agreed and five (33%) strongly agreed that important information in specialist studies was sometimes omitted from EIA reports. However, one EAP (17%) disagreed and two (33%) strongly disagreed that important information is often omitted in EIA reports.

Seeing that important information is sometimes omitted, specialists felt more strongly that information was not communicated accurately and none of the EAPs agreed with this. However, majority of the EAPs were of the opinion that information was communicated accurately. This is depicted by Figure 4.5.5 and Figure 4.5.6.

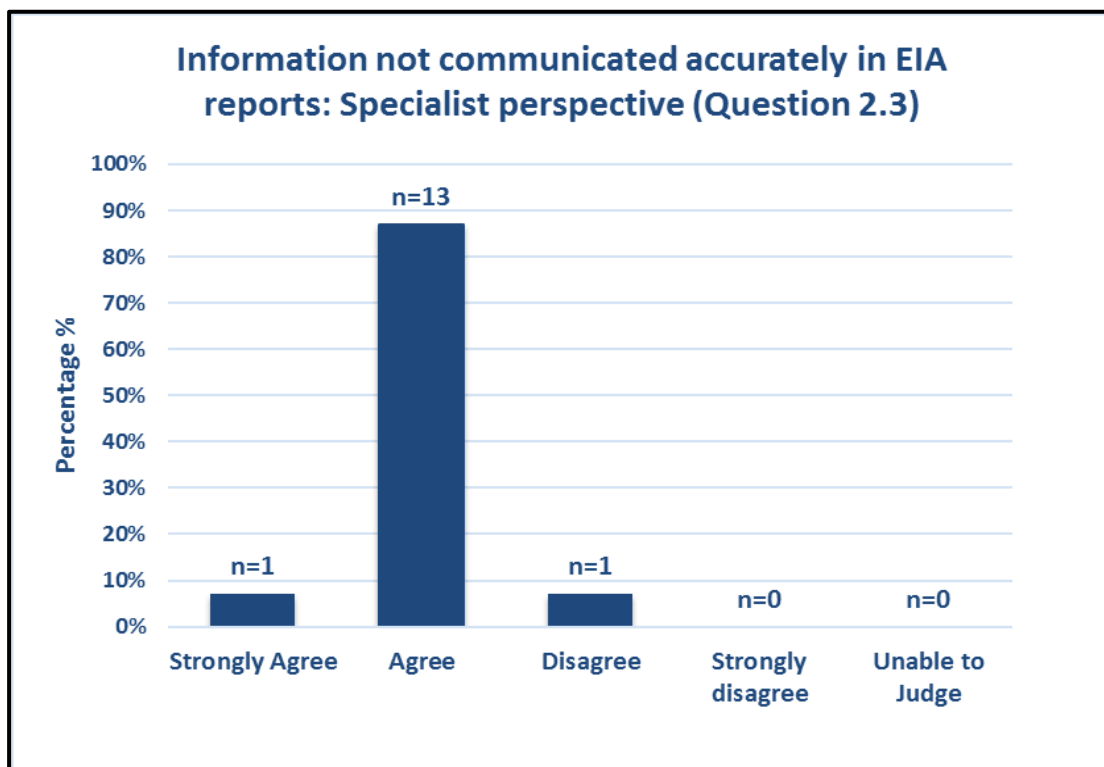


Figure 4.5.5: Information not communicated accurately in EIA reports: Specialist Perspectives (Question 2.3)

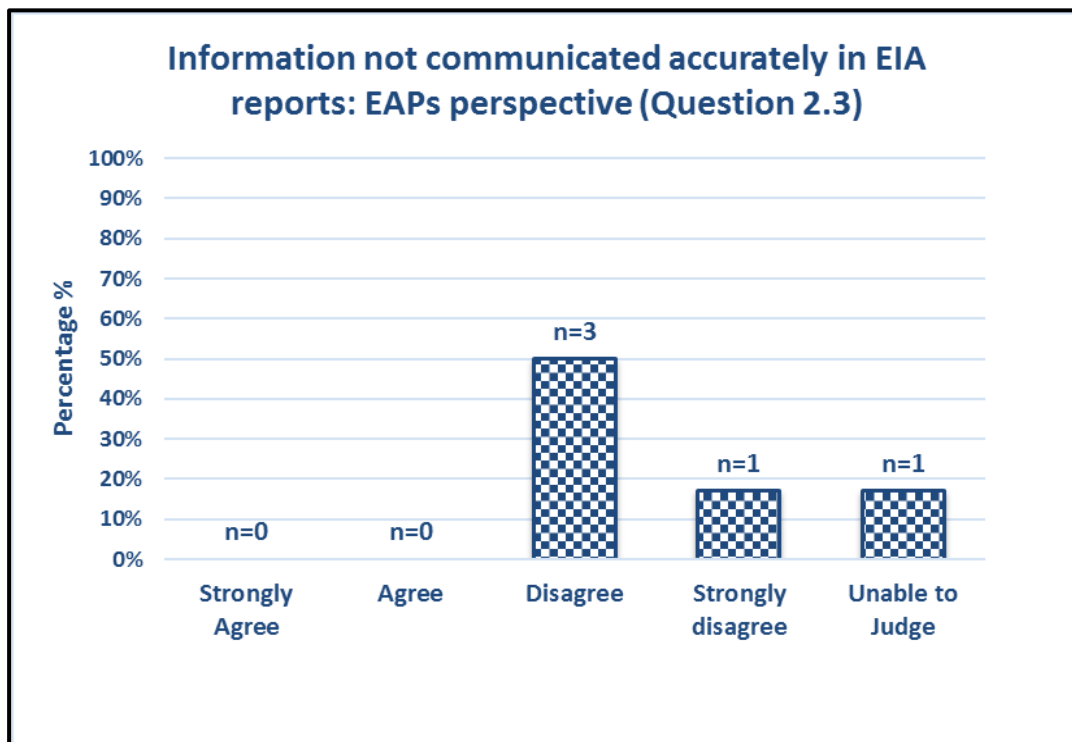


Figure 4.5.6: Information not communicated accurately in EIA reports: EAPs Perspectives (Question 2.3)

Practitioners were asked if they think information is not communicated accurately in the EIA reports (Figure 4.5.5 and 4.5.6). The results showed that EAPs unanimously disagree with the statement. This may be influenced by the fact that they are the ones compiling the EIA reports, therefore they feel that information is communicated correctly. On the other hand, since specialists are not involved after the submission of their specialist studies to the EAP, they may feel that their findings are not addressed adequately in EIA reports. In Figure 4.4.5, thirteen specialists (87%) agreed that information is not communicated accurately in the EIA reports and literature identified this as one of the problems.

One of the problems which specialists identified in section 4.3 was that they do not get to see the final EIA report. It is also evident on Figure 4.5.7 and Figure 4.5.8, as the majority disagreed that they had access to the final report to see how their studies had been incorporated into the report. However, four of the EAPs agreed that specialists always have access to the final EIA report.

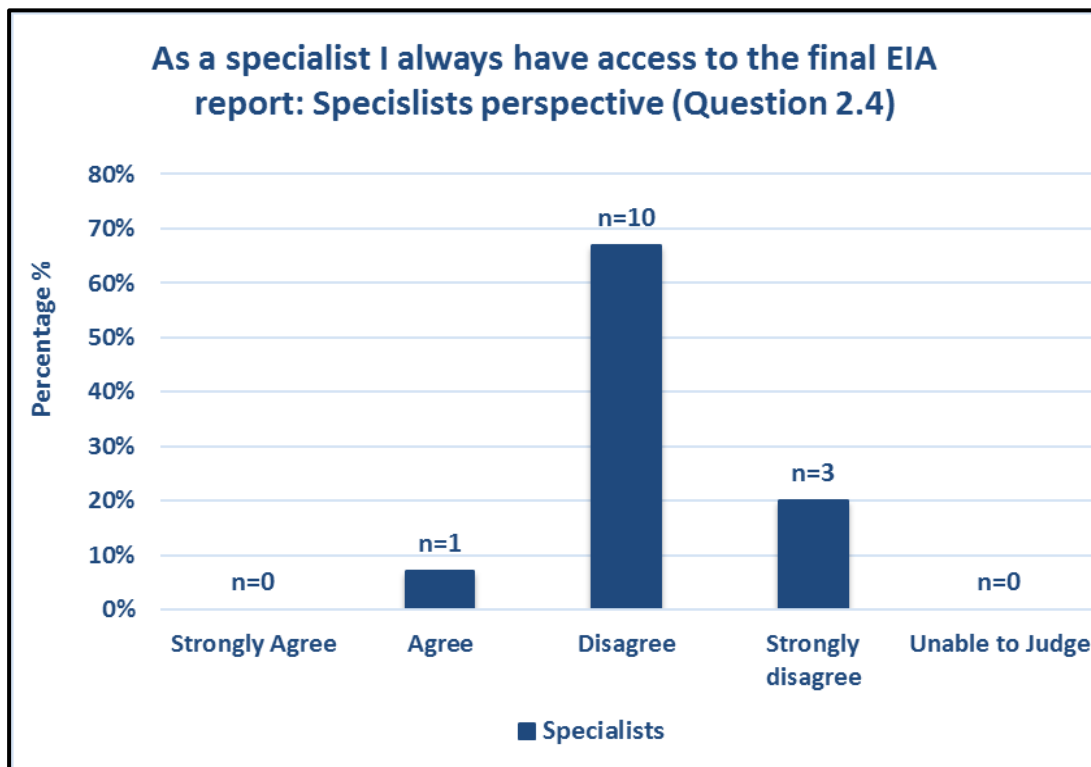


Figure 4.5.7: Specialist always have access to the final EIA report: Specialists perspective (Question 2.4)

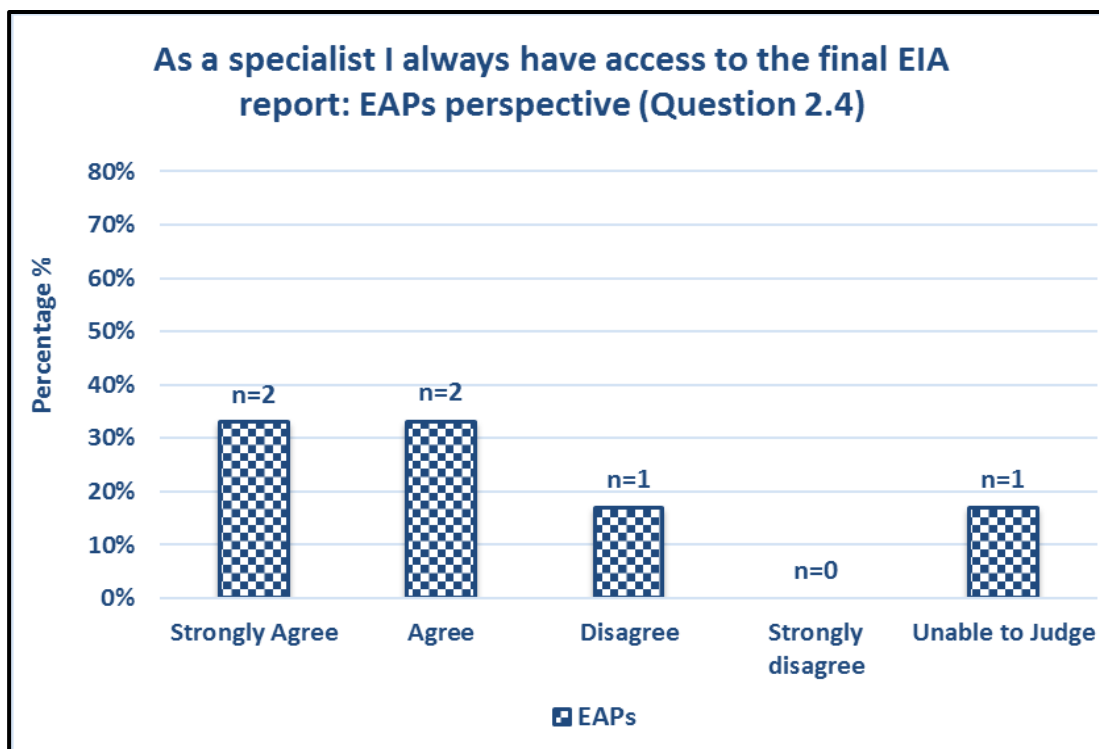


Figure 4.5.8: Specialist always have access to the final EIA report: EAPs perspective (Question 2.4)

Ten specialists (67%) disagreed and three (20%) strongly disagreed that they always have access to the final EIA report - meanwhile two (33%) EAPs strongly agreed that specialists always have access to the final EIA report.

When the practitioners had chosen answers from the likert scale, they were asked to give suggestions and recommendations on their thoughts on integration of specialist studies into EIA reports in South Africa. These are addressed in section 4.6 of this research.

4.6 Objective 3 results and discussion

To achieve Objective 3, this section sought to provide recommendations on integration of specialist studies into EIA reports in South Africa.

Some of the recommendations were obtained from Question 1.4 which required any other comments from practitioners concerning integration. It should be noted that only five of the twenty-one practitioners (24%) answered this question.

They mentioned that involvement of specialists may play a major role throughout the EIA process as specialists tend to 'disappear' once they have submitted their report. This will also grant them an opportunity to comment on issues raised and directed to them by competent authorities during the review process.

Practitioners are of the opinion that new 2014 EIA regulations timeframes also make it difficult to get the desired reports and do not allow enough time for integration and communication; therefore, these may need to be revised. According to Panelist 4 to help with integration, there is a need for integration plans to be drafted which gives a guideline on how effective integration may be achieved. She mentioned that integration meetings may also play a significant role by allowing between specialists & EAPs to come together & find a way to integrate the specialist studies into an EIR (IAIASa, 2015b).

Some of the perspectives given in this Chapter are similar to the ones identified by literature. Therefore, this shows that there is a serious problem regarding integration of specialist studies in an EIA report.

4.7 Concluding remarks

This Chapter had three Objectives which were to identify problems associated with the integration of specialist studies into EIA reports, investigate the perspectives of South African environmental

practitioners on the integration of specialist studies and to make recommendations on integration of specialist studies into EIA reports in South Africa.

Most of the results obtained in this Chapter correlates with the findings of literature review in Chapter 3. Despite the development of EIA in this country, there are still areas where improvement is needed. The results from this Chapter suggest that problems associated with integration of specialist studies into EIA reports may need urgent attention.

A clear similarity of problems was found across literature and survey questionnaire responses. In some of the questions both groups may be trying to defend their roles to some extent or perhaps prove a point and infer that they were not responsible for the problems at hand.

From the specialists' point of view, the five greatest problems associated with integration are lack of knowledge, limited allocation of budget to carry out specialist studies, time, misinterpretation of specialist studies and specialists not having access to the final EIA report. However, EAPs were of the opinion that receiving specialist studies reports late and complex findings is one of the major problems. Practitioners further suggested that experience and qualified consultants, project developers, specialists and project manager may encourage successful integration.

Specialists disagreed that their studies were successfully integrated into EIA reports. This may be because important information is often omitted from the EIA reports. The omission may result into information being inaccurately communicated in the report. Nevertheless, EAPs mentioned that specialist studies were successfully integrated and information is accurately communicated into EIA reports.

From all of this, it can be concluded that to achieve an effective integration of specialist studies into EIA reports, there needs to be clear communication.

The finding of the IAIA session was that integration is an important tool which may assist in the quality of the report and bringing together different scientific backgrounds in harmony to compile an EIR.

It was therefore recommended that in order to have a successful way of integration, then a clear ToR should be given to specialist so that they may address the relevant needed information for the EIA report which will make it easier to integrate in the report. EAPs recommended that specialists should get time to review the EIA report after integration and share executive summaries with important findings to EAPs during integration. There should be integration meetings to create a platform for easy communication and give practitioners an opportunity to share their findings, re-evaluate impacts and establish an action plan. It will also help if specialists get time to review the EIA report after specialist studies has been integrated.

Integration of specialist studies into EIA reports in South Africa has a positive future; however, there are weaknesses to be addressed and improved on, therefore some recommendations are made in Chapter 5.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

EIA is an important tool used globally to integrate environmental concerns of project planning and development. Even though it dates back to 1997 (ECA era) in South Africa, there has been an improvement over the years.

The purpose of this Chapter is to summarise the findings of the study and to provide recommendations for future research. The main aim of this study was to investigate South African environmental practitioners' perspectives on the integration of specialist studies into EIA reports. The Objectives of the study were to identify problems associated with the integration, investigate perspectives of practitioners on the integration and make recommendations on the integration of specialist studies into EIA reports in South Africa.

Chapter 1 and 3 stated that there is limited published research on practitioners' perspectives on the integration of specialist studies in EIA reports. Chapter 3 was conducted to identify current problems whereas Chapter 4 was used to investigate practitioners' perspectives on integration of specialist studies in EIA reports.

5.1 Conclusions

An EIA report should ideally be an integrated document and it should be kept as brief as possible with the main aim of addressing necessary information. The aim of this research was to investigate South African environmental practitioners' perspectives on the integration of specialist studies into EIA reports. From a practitioners' perspective, integration of specialist studies into the EIA report in South Africa has a positive future ahead if identified problems may be addressed first to achieve integration of specialist studies in EIA reports in South Africa.

Objective 1 was to identify problems associated with integration of specialist studies in EIA reports in South Africa. From literature, lack of experience was the key finding problems associated with integration of specialist studies in EIA reports in South Africa. Practitioners were of the opinion that inexperienced people start practising as EAPs and due to their lack of proper training, integration becomes problem. However, this problem may not be solved unless regulatory bodies like EAPASA may come to effect as to implement proper training and criteria for those who would want to practice as EAPs and conduct an effective integration. Literature also stated that unclear ToR is provided to specialists is a problem as it makes it difficult for them to address relevant

issues. Therefore, if the ToR is clear, it will give specific guidance to specialist as to what is needed for the report.

Inputs from different practitioners need to be managed and communicated in EIA reports by allowing interaction between practitioners to exchange ideas and findings; therefore in order to achieve cohesive integration integrative writing workshops may be introduced. From literature, survey questionnaire and IAIA panel discussion costs and time are a very valuable resource in EIA. When a project is allocated limited budget, it may compromise important assessment phases. It is important that financial resources and time should be managed effectively.

From the literature review, survey questionnaire and IAIA panel discussion it is evident there are problems which need to be addressed first to achieve integration of specialist studies in EIA reports in South Africa. It can be concluded that Objective 1 was achieved. Thus, Objective 2 and 3 were investigated.

When Objective 2 was investigated with the use of survey questionnaire, specialists stated that lack of knowledge, limited allocation of budget to carry out specialist studies, insufficient time, misinterpretation of specialist studies and not having access to the final EIA report is their five greatest problems associated with integration also literature findings. EAPs differed with two problems as they were of the opinion that receiving specialist studies reports late and complex findings from specialists is one of the major problems.

Since literature identified that one of the problems is lack of experience, practitioners were of the opinion that experience and qualified consultants may be needed to encourage successful integration. Literature identified lack of experience as one of the problem as well. From practitioners' perspective and literature, in order to achieve effective integration of specialist studies into EIA reports, clear communication and ToR should be established. This suggested that problems associated with integration of specialist studies into EIA reports need to be addressed. Therefore, Objective 2 of this research was achieved.

Objective 3 sought recommendations from practitioners and some of the recommendations were that EIA timeframes need to be adjusted. Literature, survey questionnaire and IAIA panel discussion recommended that there is a need for integration meetings. It was also recommended that specialists should share their executive summaries amongst each other which could reflect important findings so that it will make it easier for EAPs to integrate the necessary information to the EIA report. Since the role of EIA practitioners is crucial in determining the overall efficiency of an EIA process, an effective communication channel between the EAP and all the specialists involved would be able to assist considerably in the integration of specialist studies into EIA

reports. It was recommended that specialists should have continual involvement in the EIA process

It can be concluded that despite the development of EIA in this country, there are still areas of improvement, therefore Objective 3 of this dissertation was achieved.

5.2 Future recommendations

The following is recommended for integration of specialist studies into the EIA report in South Africa.

- EAPs, specialists and all the involved role players should take charge of their own work in a manner that is presented professionally and shows best practice.
- EAPs should introduce integrative writing meetings where everyone can focus on integration. Overall this will help in having different and effective role players to integrate specialist studies into EIA reports.
- An accredited registration body should be established to ensure that practising practitioners prepare accurate, comprehensive and well documented reports.
- It is recommended that when the draft Environmental Impact Assessment report (EIAR) and Environmental Management Programme (EMPr) is circulated, with specialists' inserts, specialists should also get this so that they may get an opportunity to look at the document before its final submission to the competent authority (CA). This will make sure that specialists continuously involved throughout the EIA process

Given South Africa's specialist studies integration problems, the aim of this study was to shed some light on the problems experienced in the integrating of specialist studies into EIA reports. This may help to create awareness about successful integration of specialist studies into EIA reports.

It can be concluded that in order to achieve an effective integration of specialist studies into EIA reports, problems identified through literature and from the results on the survey need to be addressed.

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ANNEXURE A (SURVEY QUESTIONNAIRE)

INVESTIGATING SOUTH AFRICAN ENVIRONMENTAL PRACTITIONERS' PERCEPTIONS ON THE INTERPRETATION OF SPECIALIST STUDIES IN EIA REPORTS

I am a Masters candidate in Environmental Management at North West University in Potchefstroom, under supervision of Dr Jan-Albert Wessels. As part of my research, I am conducting a survey to investigate South African environmental practitioners' perceptions on the integration of specialist studies into an EIA report. For the purpose of this research, Environmental Practitioners refers to all specialist involved in the EIA process as well as EAPs. This research only considers the EIA process up until the approval decision.

Your input is essential to this research and I appreciate your participation

For any further questions and information contact:

Ms Percy Sehaole on 083 382 1735; masterscandidate@hotmail.com or

Dr Jan-Albert Wessels on 018 299 1477; janalbert.wessels@nwu.ac.za

Thank you

Percy Sehaole

Please note that your response/opinion will be treated confidentially and solely for this study.

PART 1: VIEWS AND OPINIONS

1.1 Based on your experience, what are the **5 greatest challenges** associated with the integration of specialist studies into an EIA report (Please list in order of priority with 1 as the highest priority)

1.

2.

3.

4.

5.

1.2 What would be the **three most successful ways** to integrate specialist studies into an EIA report? (Please list in order of priority with 1 as the highest priority)

1.

2.

3.

1.3 Who in your opinion do you think can encourage a successful integration of specialist studies in an EIA report? (Please list 3 where 1 is the highest priority)

1.

2.

3.

1.4 Do you have any other comments to make about the integration of specialist studies in an EIA report?

PART 2: REFLECTIONS

Please rate each of the statements below *in relation to current EIA practices in South Africa in your own experience* according to the supplied response scale (strongly agree, agree, disagree, strongly disagree, unable to judge).

2.1 *Specialist studies are successfully integrated into an EIA report?*

Strongly Agree ☐	Agree ☐	Disagree ☐	Strongly Disagree ☐	Unable to Judge ☐
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2.2 *Important information of specialist studies is sometimes omitted in EIA report?*

Strongly Agree ☐	Agree ☐	Disagree ☐	Strongly Disagree ☐	Unable to Judge ☐
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2.3 *Information of specialist studies is not communicated accurately in EIA report?*

Strongly Agree ☐	Agree ☐	Disagree ☐	Strongly Disagree ☐	Unable to Judge ☐
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2.4 *As a specialist I always have access to the final EIA report?*

Strongly Agree ☐	Agree ☐	Disagree ☐	Strongly Disagree ☐	Unable to Judge ☐
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PART 3: DEMOGRAPHIC DATA

3.1 Organisation where you are employed?

3.2 *What best describes your role in EIA (choose 1 only)*

Specialist ☐	Government ☐	Private Sector ☐	Cooperate ☐	Other (specify)
-------------------------------------	-------------------------------------	---	------------------------------------	--------------------------------------

3.3 *What is your area of specialty with respect to EIA? (choose 1 only)*

Visual ☐	Social ☐	Ecology ☐	Heritage ☐	Geotech ☐	Soil & Agric ☐	EAP ☐	Other
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3.4 *How many years of working experience do you have as a specialist in relation to EIA? (choose 1 only)*

Less than 5 ☐	5-10 ☐	11-15 ☐	16-20 ☐	More than 20 ☐
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Thank you for completing the survey

ANNEXURE B (DATA VALIDITY SURVEY QUESTIONNAIRE)

INVESTIGATING SOUTH AFRICAN ENVIRONMENTAL PRACTITIONERS' PERCEPTIONS ON THE INTEGRATION OF SPECIALIST REPORTS IN EIA

I am a Masters candidate in Environmental Management at North West University in Potchefstroom, under supervision of Mr Jan-Albert Wessels. We are conducting a survey to assist in fulfilling a Masters degree and we recognised your expertise as one of those that may add a significant value to this research.

The aim of this research is to investigate South African environmental practitioners' perceptions on the integration of specialist reports into an EIA.

Your input will be valuable to this research and I thank you for the time that you spent on this questionnaire.

Sincerely

Percy Sehaole

masterscandidate@hotmail.com

Masters Candidate

North West University (Potchefstroom campus)

Please note that your response/opinion will be treated confidentially and solely for this study.

PART 1: VIEWS AND OPINIONS

1.1 Based on your experience, what are the 5 greatest challenges associated with the integration of specialist reports in an EIA (Please list in order of priority with 1 as the highest priority)

1.

2.

3.

4.

5.

1.2 What would be the three most successful ways of integrating specialist reports in an EIA? (Please list in order of priority with 1 as the highest priority)

1.

2.

3.

1.3 Who in your opinion do you think can encourage a successful integration of specialist reports in an EIA? (Please list 3 where 1 is the highest priority)

1.

2.

3.

1.4 Do you have any other comments to make about integration of specialist reports in an EIA?

PART 2: REFLECTIONS

Please rate each of the statements below *in relation to current EIA practices in South Africa in your own experience* according to the supplied response scale (strongly agree, agree, partly agree, partly disagree, disagree, strongly disagree, unable to judge).

2.1 *Specialist reports are successfully integrated into an EIA report?*

Strongly Agree

Agree

Disagree

Strongly Disagree

☐☐☐☐

2.2 *Important information in specialist reports is sometimes omitted in EIA?*

Strongly Agree

Agree

Disagree

Strongly Disagree

☐☐☐☐

2.3 *Information in specialist reports is communicated differently in EIA?*

Strongly Agree

Agree

Disagree

Strongly Disagree

☐☐☐☐

PART 3: DEMOGRAPHIC DATA

3.1 Organisation where you are employed?

3.2 *What best describes your role in EIA (e.g. consultant, EAP)*

3.3 *What is your area of specialty with respect to EIA?*

3.4 *How much working experience do you have as a specialist in relation to EIA? (choose 1 only)*

Less than 5 years ☐ 5-10 years ☐ 10-15 years ☐
15-20 years ☐ More than 20 years ☐

3.5 *Approximately how much of your working time do you spend directly on your specialist activities?*

None of my working time ☐ Between 25 and 50% ☐ Between 75 and 100% ☐
Up to 25% ☐ Between 50 and 75% ☐ 100% ☐

Thank you for completing the survey

ANNEXURE C (IAIA CONFERENCE POSTER)

Investigating South African Environmental Practitioners' Perceptions on the integration of Specialist Studies in EIA Reports

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INTRODUCTION

Environmental Impact Assessment (EIA) is an important tool used globally to manage activities of humans on the environment, by identifying, predicting, evaluating and introducing mitigation measures for a sustainable development (IAIA, 1999; Sánchez and Morrison-Saunders, 2011). Despite its many benefits, EIA experiences many challenges including being inadequately detailed and the poor quality of EIA reports (Cashmore, 2004; Shan, 2013).

One reason for the poor quality of EIA reports is the inadequate integration of information from specialists into EIA reports. This study investigate perceptions of Environmental Specialists and Environmental Assessment Practitioners (EAPs) to identify challenges associated with the integration of specialist studies into an EIA report.

RESEARCH AIM & OBJECTIVES

The aim of this research is to investigate South African environmental practitioners' perceptions on the integration of specialist studies into an EIA report. Specifically it seeks to:

- Identify challenges associated with the integration of specialist studies into an EIA report
- Investigate the perceptions of environmental practitioners on the integration of specialist studies into an EIA report
- Make recommendations on integration of specialist studies into an EIA report

METHODOLOGY

- Following an initial literature review a questionnaire was developed to collect qualitative and quantitative data for "investigating the perceptions of environmental specialists on the successful integration of their reports in EIA" (Robson, 2002:228).
- 30 Surveys questionnaires (Box 1) were sent to specialists and EAPs with 18 received back.

Box 1: Survey on specialist studies in EIA

PART 1: VIEWS AND OPINIONS

- 1.1 Based on your experience, what are the 5 greatest challenges associated with the integration of specialist studies into an EIA report? (Please list in order of priority with 1 as the highest priority)
- 1.2 What would be the three most successful ways to integrate specialist studies into an EIA report? (Please list in order of priority with 1 as the highest priority)
- 1.3 Who in your opinion do you think can encourage a successful integration of specialist studies in an EIA report? (Please list 3 where 1 is the highest priority)
- 1.4 Do you have any other comments to make about the integration of specialist studies in an EIA report?

PART 2: REFLECTIONS

Please rate each of the statements below in relation to current EIA practices in South Africa in your own experience according to the supplied response scale (strongly agree, agree, disagree, strongly disagree, unable to judge).

- 2.1 Specialist studies are successfully integrated into an EIA report?
Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Unable to Judge ☐
- 2.2 Important information in specialist studies is sometimes omitted in EIA report?
Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Unable to Judge ☐
- 2.3 Information in specialist studies is not communicated accurately in EIA report?
Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Unable to Judge ☐
- 2.4 As a specialist I always have access to the final EIA report?
Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ Unable to Judge ☐

PART 3: DEMOGRAPHIC DATA

- 3.1 Organisation where you are employed?
Specialist ☐ Government ☐ Private Sector ☐ Cooperative ☐ Other (specify)
- 3.2 What best describes your role in EIA (choose 1 only)
Visual ☐ Social ☐ Ecology ☐ Heritage ☐ Geotech ☐ Soil & Agric ☐ EAP ☐ Other
- 3.3 How many years of working experience do you have as a specialist in relation to EIA? (choose 1 only)
Less than 5 ☐ 5-10 ☐ 11-15 ☐ 16-20 ☐ More than 20 ☐

PRELIMINARY RESULTS & DISCUSSION

According to Weaver *et al.*, (1996), specialists studies need to be managed and the key to doing that lies in whether the Environmental Assessment Practitioner (EAP) can relate to the idea the specialist is bringing forth in an integrated manner.

To address part 1 on the survey, EIA practitioners identified the following (table 1) that may affect successful integration of specialist studies into an EIA report

Table 1: Results for part 1 of the survey

	Description	Priority	No. of times mentioned
1.1	Lack of knowledge	2	6
	Lack of experience	2	4
	Lack of understanding on the content of specialist studies by EAPs	3	3
	Timing as most often specialists are not really given enough time to get their work done	4	4
	Inconsistent terms of reference (TOR)	5	3
1.2	Specialist must be independent	1	5
	Clear TOR	2	4
	Sharing of executive summary with important findings before report submission	3	4
	EAP	3	5
	Project proponents	2	3
1.3	Specialists	3	4
	It was suggested that EAPs should have workshops to learn an effective way of integrating specialist reports in an EIA		
1.4	Specialists should have a registration body which can clearly guide on how to compile a technical report		

Figures 1-4 depicts practitioners perception on the integration of specialist studies into an EIA report

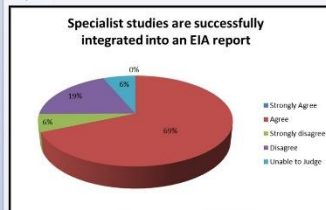


Figure 1: Specialist studies are successfully interpreted into an EIA report

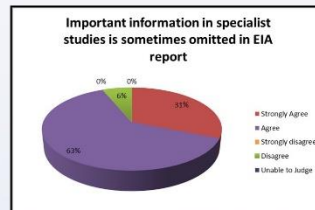


Figure 2: Omission of important information in EIA report

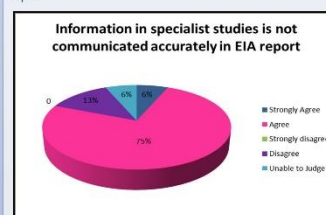


Figure 3: Information not communicated accurately in an EIA report

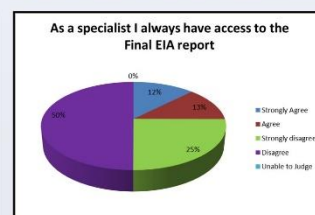


Figure 4: Specialists have no access to final EIA report

Preliminary results show that 69% of environmental practitioners agreed that specialist studies are successfully integrated into an EIA report, however 19% of the participants disagreed (Figure 1). Figure 2 shows that 63% of the participants agreed and 35% strongly agreed that important information is often omitted in the EIA report. 75% of the participants agreed that information is not communicated accurately in an EIA report (Figure 3). 50% of the participants disagreed that they have access to the final EIA report and 25% of the participants strongly disagree (Figure 4).

33% of the practitioners owned their own companies and 78% described their role in EIA as specialists with 28% of the participants being EAP's (Figure 5). Generally speaking the survey was completed mostly by experienced practitioners; 39% had an experience of 16-20 years (Figure 6).

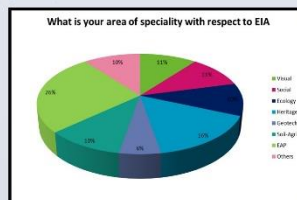


Figure 5: What is your area of specialty with respect to EIA

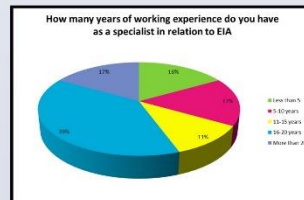


Figure 6: How many years of working experience do you have as a specialist in relation to EIA

CONCLUSIONS

Environmental practitioners mostly feel that their studies are successfully integrated in an EIA report, however some information is not communicated accurately and important information is often omitted.

The research findings to date shed some light on the challenges experienced with of integrating specialist studies into EIA reports and create awareness about successful integration of specialist studies into EIA reports.

It is hoped that further input from EIA practitioners can be obtained in completing this research.

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