

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

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“If you really think the economy is more important than the environment, try holding your breath whilst you count your money”

Dr. Guy McPherson

DECLARATION OF CANDIDATE

I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or a diploma in any university and to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text. More detail on the ethical considerations, is covered in **Chapter 1.8**.

Any opinion, findings, conclusions or recommendations expressed in this research material are those of the author and do not necessarily reflect the views of the South African Supreme Audit Institution (Auditor-General of South Africa) or the North-West University.

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The thesis is a product of an extensive career within the Auditor-General of South Africa and a determined attempt to advance understanding on the placement and contribution of public sector regularity auditing in enhancing environmental accountability in South Africa.

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On a personal level:

I dedicate this thesis:

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ABSTRACT

Contemporary civilisations are living unsustainably, rapidly depleting and degrading the world's natural capital or resource base through overexploitation, consumption and pollution. Governments act as custodians of the environment and must ensure the protection and sustainable use of environmental resources in order to sustain service delivery that benefits all. To a great extent, governments and organs of state, all over the world, including South Africa (SA), fail miserably in their quest to effectively administer or manage environmental impacts. Ineffective environmental governance often leads to confusion in environmental mandates and responsibilities, poorly structured or defined environmental policies and objectives, and ultimately, weak or ineffective environmental regulatory regimes that fail to act on blatant environmental destruction and regulatory non-compliance. The inclusion of environmental auditing at organs of state can be another effective tool to investigate and reinforce environmental governance, performance and oversight. Supreme Audit Institutions (SAIs) all over the world have become more aware of the role which they can play, with some that have already significantly reformed and expanded their traditional financial mandates to include environmental oversight, accountability and governance, through public sector auditing. The focal point of this research was to advance understanding of SAIs' public sector audit methodology processes, and where best to include environmental issues and risks, so as to enhance environmental accountability. The focus of the study was further devolved to a local, South African SAI context, interrogating the role and how public sector regularity auditing might assist in enhancing environmental accountability. The qualitative research design used a mixed method approach and initially explored the global public sector audit trends and rationale followed by SAIs through extensive literature reviews, a comparative analysis of the International Organisation of Supreme Audit Institution (INTOSAI), the Working Group for Environmental Auditing (WGEA)'s last 5 environmental audit survey results (covering the period 2004 – 2017) and some 21 survey questionnaires distributed to the INTOSAI WGEA Chair, the 6 regional WGEA secretariats and the International Centre for Environmental Audit and Sustainable Development (iCED). After interrogating global trends in the placement (choice of using a mandatory regularity- or voluntary audit approaches) and development of environmental issues and risks within the available public sector audit methodologies, it was narrowed down to a local, South African SAI (Auditor-General of South Africa) perspective, with locally focussed literature reviews, 27 face-to-face interviews and 113 survey questionnaires, conducted and distributed to selected internal and external stakeholders. The data obtained were analysed thematically and the research indicated that the placement of

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environmental issues and risks within public sector audit methodology processes may differ according to, or be dependent on, a wealth of variables, such as the effectiveness of environmental regulatory regimes, mandates of Supreme Audit Institutions (SAIs), available environmental audit resources and ultimately, the use and impact of reporting. Results from both the global and local research methodologies used recognised voluntary performance audits as the preferred placement for environmental issues and risks within SAIs' available public sector audit methodology processes. There was however also a strong tendency to also consider or follow a comprehensive approach for inclusion within both mandatory (financial and compliance) and voluntary (performance and other priority or special) audits. The study confirms how environmental inclusion and placement within the various public sector audit types, and particularly within mandatory regularity auditing, can enhance environmental accountability, within global and local South African perspectives. A noteworthy recommendation to SAIs includes exploration and capacitation of their regularity audit resource base, as another viable option, for continual assessment and reporting of significant environmental risks within the public sector.

Key words:

Global, International Organisation of Supreme Audit Institutions, Supreme Audit Institutions, Working Group for Environmental Auditing, Local, South Africa, South African SAI, Auditor-General of South Africa, Public Sector, Audit Methodology Processes, Environmental Auditing, Mandatory Regularity Auditing, Voluntary Performance Auditing, Environmental Accountability.

OPSOMMING

Die hedendaagse beskawing lewe onvolhoubaar en is vinnig besig om die wêreld se natuurlike kapitaal en hulpbronnens uit te put en te degradeer deur oorbenutting en gebruik. 'n Verskeidenheid van voortdurende besoedelaars maak ook 'n impak op die kwaliteit van lewe. Regerings tree op as bewaarders van die omgewing en moet die beskerming en volhoubare gebruik van omgewings-hulpbronne verseker ten einde dienslewering te handhaaf ten bate van almal. Tot 'n groot mate, misluk sekere regerings en staatsorgane klaaglik, insluitende Suid-Afrika (SA), in hul soeke na die effektiewe administrasie en bestuur van die omgewing. Oneffektiewe omgewingsbestuur lei gereeld tot onsekerheid van omgewings mandate en – verantwoordelikheid, swak gestruktureerde of omskryfde omgewingsbeleid en doelwitte en uiteindelik swak of oneffektiewe omgewings-regulatoriese regerings wat versuim om op te tree teen blatante omgewings-teenstrydighede en nie-nakoming van wetgewende vereistes. Die insluiting van omgewings-ouditering by staatsorgane kan as 'n effektiewe middel dien om regerings te ondersoek, omgewingsbestuur, optrede en oorsig te versterk. Die Hoogste Oudit Instellings (HOI) reg oor die wêreld het meer bewus geword van die rol wat hul kan speel met sommige wat reeds beduidende hervormings aangegaan het en hul tradisionele finansiële mandate hervorm en uitgebrei het om ook omgewingsoorsig, aanspreeklikheid en bestuur in openbare ouditerings in te sluit. Die fokuspunt van hierdie navorsing was om die begrip te bevorder in die HOI's se publieke sektor audit metodes en waar om omgewings aspekte en risikos in te sluit ten einde omgewingsverantwoordelikheid te bevorder. Die fokus was verder afgewentel tot 'n plaaslike, Suid-Afrikaanse HOI konteks, wat die rol en hoe publieke sektor reelmatigheidsouditering mag bydra tot die bevordering van omgewingsverantwoordelikheid ondersoek. Die navorsingsontwerp is kwalitatief en het 'n gemengde metode benadering gebruik, wat aanvanklik die globale openbare sektor audit tendense en rationaal gevolg deur HOIs ondersoek het deur uitgebreide literatuurhersiening, vergelykende analise van die Internasionale Organisasie vir Hoogste Oudit Instellings (IOHOIs), Werkgroep vir Omgewingsouditerings (WGOO) se laaste 5 omgewings audit opname resultate (wat die periode 2004 – 2017 dek) en 21 opname vraelyste versprei aan die IOHO WGOO voorsitter, die organisasie se 6 streeks-sekretariate en die Internasionale Sentrum vir Omgewingsoudits en Volhoubare Ontwikkeling. Nadat die globale tendens ondersoek is, was dit vernou tot 'n plaaslike, Suid-Afrikaanse HOI (OGSA) perspektief met plaaslik gefokusde literatuur hersiening, 27 gesig-tot-gesig onderhoude gehou en 113 opname vraelyste versprei aan geselekteerde interne- en eksterne belanghebbenes van die OGSA. Die data verkry is tematies geanaliseer en die navorsing dui aan dat die plasing van omgewingskwessies en risikos binne

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die openbare sektor ouditmetodologieprosesse mag verskil of afhang van 'n rykdom van veranderlikes, soos die effektiwiteit van regulatoriese regerings, mandate van die HOIs, beskikbare omgewingsoudit hulpbronne en uiteindelik die gebruik en impak van verslae. Resultate van beide globale- en plaaslike navorsingsmetodologieë gevolg, erken dat vrywillige prestasieouditerings die voorkeurplasing is vir omgewingsaspekte en risikos binne HOIs se beskikbare openbare sektor ouditmetodologie prosesse. Daar was ook 'n sterk gevoel om ook 'n omvattende benadering te oorweeg vir die insluiting binne beide verpligte (finansiële en nakoming) en vrywillige (prestasie en ander prioriteit en spesiale) ouditerings. Die studie beaam hoe omgewingsinsluiting en plasing binne die verskeidenheid oudittipes en veral binne reëlmatigheidsouditering, omgewings-aanspreeklikheid kan versterk, binne 'n globale en plaaslike, Suid-Afrikaanse perspektief. 'n Opmerklieke aanbeveling aan Hoogste Oudit Instellings sluit in die eksplorاسie en kapasitasie van die reëlmatigheidsoudit se hulpbronne, as 'n ander lewensvatbare opsie, vir aaneenlopende assessering en verslagdoening van beduidende omgewingsrisikos binne die openbare sektor.

Sleutelwoorde:

Globale, Internasionale Organisasie vir Hoogste Oudit Instellings, Hoogste Oudit Instellings, Werkgroep vir Omgewingsouditering, Plaaslik, Suid-Afrika, Hoogste Oudit Instelling van Suid Afrika, Ouditeur-Generaal van Suid-Afrika, Publieke Sektor, Ouditmetodologie Prosesse, Omgewingsouditerings, Verpligte Reëlmatigheidsouditerings, Vrywillige Prestasieouditerings, Omgewingsaanspreeklikheid.

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ACCA	Association of Chartered Certified Accountants
AFS	Annual Financial Statements
AFROSAI	African Organisation of Supreme Audit Institutions
AFROSAI-E	African Organisation of Supreme Audit Institutions (English speaking)
AG	Auditor-General
AGSA	Auditor-General South Africa
AM	Audit Manager
AMP	Audit Methodology Process
AOPI	Audit of Performance Information
AR	Audit Report
ARABOSAI	Arab Organisation of Supreme Audit Institutions
ARD	Audit Research and Development
ASA	Accountancy South Africa
ASB	Accounting Standards Board
ASOSAI	Asian Organisation of Supreme Audit Institutions
BE	Business Executive
BPK RI	Audit Board of the Republic of Indonesia
BU	Business Unit
CAROSAI	Caribbean Organisation of Supreme Audit Institutions
CE	Chief Executive
CEM	Centre for Environmental Management
CEO	Chief Executive Officer
CER	Centre for Environmental Rights
COF	Communication of Audit Findings
DAG	Deputy Auditor-General
DBE	Deputy Business Executive
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
ECA	Environment Conservation Act, Act 73 of 1989
EMI	Environmental Management Inspectorate
EMS	Environmental Management Systems

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EOSOC	Economic and Social Council of the UN
EUROSAI	European Organisation of Supreme Audit Institutions
GEG	Global Environmental Governance
GG	Government Gazette
GN	Government Notice
ICED	International Centre for Environmental Audit & Sustainable Development
IIA	Institute of Internal Auditors
IAPS	International Accounting Practice Standard
IKM	Information Knowledge Management
INTOSAI	International Organisation for Supreme Audit Institutions
ISA	International Standards on Auditing
ISACA	Information Systems Audit and Control Association
ISSAI	International Standards of Supreme Audit Institutions
ISO	International Organisation for Standardisation
GEG	Global Environmental Governance
MDGs	Millennium Development Goals
MFMA	Municipal Finance Management Act, Act 56 of 2003
MOU	Memorandum of Understanding
MR	Management Report
NDP	National Development Plan
NEMA	National Environmental Management Act, 107 of 1998
NGO	Non-governmental Organisation
NL	National Leader
NPC	National Planning Commission
MTSF	Medium Term Strategic Framework
NECER	The National Environmental Compliance and Enforcement Report
NWP	North West Province
NWU	North West University (South Africa)
OECD	Organisation for Economic Cooperation and Development
OLACEFS	The Organisation of Latin American & Caribbean Supreme Audit Institutions
PAA	Public Audit Act, Act 25 of 2004
PAAA	Public Audit Amendment Act, Act 5 of 2018
PASAI	Pacific Association of Supreme Audit Institutions
PFMA	Public Finance Management Act, Act 1 of 1999
RWGEA	Regional Working Groups on Environmental Auditing
SA	South Africa
SAS	Statistical Analysis System

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SAS	Specialised Audit Services
SAICA	South African Institute of Chartered Accountants
SAIGA	South African Institute of Government Auditors
SAIs	Supreme Audit Institutions
SALGA	South African Local Government Association
SDGs	Sustainable Development Goals
SEPA	Swedish Environmental Protection Agency
SETA	Sector Education and Training Authorities
SM	Senior Manager
SMART	Principle of Specific, Measurable, Achievable, Realistic, Time-bound
WGEA	Working Group for Environmental Auditing
WHO	World Health Organisation
WMO	World Meteorological Organisation
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
US	United States
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organisation

GLOSSARY OF TERMS

Definitions of key terminology are provided here to assist the reader with understanding and clarification of contrasting definitions of particular concepts.

<p>AGSA (Auditor-General, South Africa):</p>	<p><i>Also referred to as the Supreme Audit Institution of South Africa.</i> The Public Audit Act 25 of 2004 give effect to the provisions of the Constitution establishing and assigning functions to an Auditor-General. It is the only institution that audits and reports on the public sector expenditure of the South African taxpayer's money. Exists to strengthen the country's democracy, by enabling oversight, accountability and governance in the public sector through auditing.</p>
<p>Compliance Auditing:</p>	<p>This is a review of an organisation's adherence to laws and regulations. Management of public sector entities are accountable for operating in accordance with the provisions of the relevant laws, regulations and other authorities governing them.</p>
<p>Comprehensive Auditing:</p>	<p>An integrated approach that includes compliance, financial, environmental and performance auditing in the public sector.</p>
<p>Environmental Auditing:</p>	<p>Environmental auditing is a process whereby an organisation's environmental performance is tested against its environmental mandate, policies and objectives that need to be clearly defined and documented.</p>
<p>Environmental Governance:</p>	<p>Concerns the way in which government decides upon, manages, regulates and controls the environment.</p>
<p>Environmental issues and risks:</p>	<p>Refers to the environmental risks and impacts resulting from a lack of or ineffective environmental governance and weak or ineffective environmental regulatory regimes (all levels of government).</p>
<p>Environmental Management:</p>	<p>The management of the interaction and impact of human activities on the natural environment.</p>
<p>Environmental placement (or locus):</p>	<p>Refers to the audit methodology selected to consider, audit and report on environmental issues and risks within public sector auditing.</p>
<p>Environmental Regulatory Regimes:</p>	<p>The environmental bodies responsible for oversight, monitoring and enforcement of environmental legislation and subsequent regulations.</p>

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IAPS 1010:	International Accounting Practice Statement on the consideration of Environmental Matters in the Audit of Financial Statements.
INTOSAI:	This is the International Organisation of Supreme Audit Institutions, comprising of the supreme audit institutions of 194 states. It operates as an umbrella organisation for the external government audit community and aims to promote the exchange of ideas, knowledge and experience between its members around the globe, with other international organisations and stakeholders in the field of government auditing.
INTOSAI WGEA:	The (INTOSAI) Working Group for Environmental Auditing aims to encourage the use of audit mandates and audit methods in the field of environmental protection and sustainable development by SAIs.
ISSAI 5110:	International Standards for Supreme Audit Institutions in conducting audit activities with an environmental perspective.
ISSAI 5120:	Refers to Environmental Auditing and Regularity Auditing.
ISSAI 5130:	Refers to sustainable development and the role of SAIs.
Mandatory Audits:	An audit compelled or mandated by law.
MFMA & PFMA Audit Cycles:	Audits in the public sector are conducted in two cycles namely, the PFMA (national and provincial government), period 01 March – 28 February, and the MFMA (local government), period 01 July – 30 June, each year.
Performance Auditing:	Refers to independent examination of a programme, function, operation or the management of a government or non-profit entity to assess whether it is achieving economy, efficiency and effectiveness in the employment of available resources.
Placement (or locus): of environmental issues and risks	Refers to (the choice) where environmental issues and risks are currently included or located within the available public sector audit methodology processes of SAIs.
Priori Audit:	An audit that verifies the legality and budgetary allocation for acts, contracts or other instruments that generate expenditure or represent direct or indirect financial liabilities for entities of the Central Region, and Local Public Administration.
Public Sector Accountability:	Is this the hallmark of modern democratic governance? To hold those in power accountable to the public for their actions, non-actions, decisions, policies and expenditure.

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Public Sector Audit Methodology processes:	Public sector audit approaches and types available for SAIs to perform their audit mandates.
Regularity Auditing:	Entails auditing and expressing an opinion on whether financial statements are prepared, in all material respects, in accordance with applicable financial reporting frameworks and/or statutory requirements.
Special Audits	Special audits are usually performed on financial records of an auditee, following a directive or need. The government may order a special audit if there is evidence that its financial affairs are not run in accordance with proper accounting practice (sometimes referred to as non-regularity audits).
Supreme Audit Institutions:	Are national agencies responsible for auditing government revenue and spending. Their legal mandates, reporting relationships and effectiveness vary, reflecting different governance systems and government policies.
Voluntary Audits:	(Or discretionary audits). These are audits which are not compelled or mandated by law – exercised by choice (examples: investigations and special audits).

As extracted from Google Search definitions, INTOSAI, AGSA, accounting and auditing standards and guidelines

CHAPTER ONE: INTRODUCTION AND RATIONALE FOR THE THESIS

The purpose of this chapter is to set the scene as well as to provide background perspective on the need, locus and value-addition of environmental inclusion within public sector audit methodology processes of Supreme Audit Institutions (SAIs) worldwide. It narrows a global perspective down to a local, South African SAI perspective. The chapter consists of the Introduction (1.1), Background research, (1.2) Problem statement (1.3), Research questions (1.4), Research aim and objectives (1.5), Initiation, justification and significance of the research (1.6), Scope, limitations and key assumptions (1.7) and Ethical considerations (1.8). It concludes with a Research approach (1.9), a Thesis structure and chapter outline (1.10) and Concluding remarks (1.11).

1.1 Introduction

A continuous growing body of scientific evidence emphasise the fact that we are living unsustainably through the continual depletion, degradation and pollution of the earth's natural capital and resources. In his article, "**Depleting Earth's Resources**", Richardson (2018) states that experts agree on the severe impact and harm to the global environment caused by a continual population growth and a subsequent increase in the use and consumption of natural resources. Richardson (2018) continues, saying "**Yes, humans are depleting Earth's resources, but 'footprint' estimates don't tell the full story**". This rising demand from a world population exceeding 7 billion has resulted in the earth's inability to regenerate more natural resources than demand or consumption, depicted in **Figure 1** (Considerate Group, 2018).



Considerate Group, 2018

Figure 1: Earth Overshoot Day 2017

Looking at statistics and figures of consumption rates accessed on our planet, it is evident that the planet cannot sustain the ever-increasing demands on the earth's natural resources (The World Counts, 2014). Townsend and Burke (2019:1) in an article emphasised the rapid depletion and degradation of the earth's natural capital, stating that “**Earth will expire by 2050**” and “the planet is running out of room and resources”. This continual depletion of the natural environmental resource base through improper and unsustainable human activities, rapid population growth or developments, continually changing environmental conditions, weak environmental governance and regulatory regimes, as well as some ignorance on an environmental ethics worldview, threatens the need for promoting environmentally sustainable societies. The financial performance and delivery of some basic services of organs of state, are ultimately dependent on a healthy and sustainable natural environmental resource base (DEFF, 2019). It is therefore important that governments be assessed, monitored and reported on, with regard to their environmental oversight, mandates, roles and responsibilities, to ascertain sustainable communities and societies. Mandates of SAIs include examining public financial management and performance and to provide assurances that public resources are used judiciously and effectively for the benefit of all citizens. The questions arise on how and where SAIs should audit and report on environmental issues and risks within public sector audit types and methodology processes, to ultimately enhance public sector environmental accountability? These questions feed into the background of the research, **Chapter 1.2**, and particularly on SAIs' responses for the consideration and placement of environmental issues and risks, which will assist in clarification of the main area of interest for the research study.

1.1.1 Global response to environmental risks and challenges

In response to the depletion and degradation of earth's natural environmental resource base, the global environmental problems shifted the emphasis significantly towards governments and organs of state, to seek, develop and manage a more sustainable environment and align their related roles, responsibilities and performance towards their own local, national and international environmental standards, agreements, plans and commitments. The need for improved and sustainable environmental management, performance and related resources became more apparent in the public sector, especially where it impeded effective and continual service delivery. In their article, Woinarski and Garnett (2015) recognised that a “**21 St. century government must care for our nature and our future**”, stressing the need for governments not only to concentrate on living within their financial and economic capabilities and needs, but also within available and sustainable environmental resources. Although countries and their governments established various regulatory regimes to administer,

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manage, monitor and control the environment, there are demanding challenges impeding or preventing the effectiveness thereof. Capacity and/or resource constraints with related weaknesses in these regulatory regimes are some reasons for limited accountability or lack of consequences for environmental non-performance and/or non-compliance. Organs of state, responsible for important environmental management, or performing activities that may significantly impact on the environment, often neglect or disregard their environmental duties and their impact on the environment and society. In the current era where environmental impacts and issues are instrumental in decision-making processes, the role of auditing environmental issues and risks in public sector governance and oversight has continually evolved and become more significant to support and monitor environmental accountability, roles and responsibilities. To safeguard social development and economic growth, it becomes increasingly important to ensure that the natural resource base is protected through proper planning and other required governmental actions. A big challenge for public sector environmental management and governance (at all levels) is to find a balance between public interest, development and the continual legal and other structural reforms taking place.

Accountability is paramount in the effective performance of state functions and auditing by SAIs, not only to ensure oversight, accountability, governance and governmental compliance thereof, but also to ensure citizens' trust in the public sector (Munzhedzi, 2016). Furthermore, SAIs fulfil a supportive role to national governments, parliaments and other stakeholders, ensuring that taxpayers' monies entrusted to organs of state are well spent, being accountable, and to the benefit of all. The higher the level of accountability and transparency, the more credible governments are perceived to be. An article on the United Nations website refers to a statement where Mr. Sha Zukang links SAIs' auditing roles to **“play a major role in promoting sound financial management and overall accountability”**, arguing that **“without good governance, sustainable development will not be sustained”** (UNDESA, 2011). This should include oversight on the environmental mandates, roles and responsibilities of organs of state and SAIs. In this research, the role of the South African SAI to audit and report on these environmental performances, is further explored

Environmental audits are not done as regularly as required, or not always easily taken in the financial driven audit mandates of some SAIs, with some challenges to develop or expand the mandatory regularity audit mandates for including environmental issues and risks, raised at both the 6th and 7th INTOSAI WGEA meetings in Cape Town, SA in 2000 and Ottawa, Canada in 2001 (INTOSAI WGEA, 2004:i & ii). Although preliminary literature review (further detailed in **Chapter 2.3.1.1**) indicated that the placement within voluntary performance audits seemed to be the more popular approach and trend followed, it is clearly stated that a performance audit mandate is not always needed or the only option for SAIs to audit and report on

environmental issues and risks. This study identified the need to further explore and develop ways and means to include environmental issues and risks within current regularity (financial and compliance) audit methodology processes. Guidance was also provided in the INTOSAI WGEA paper “Environmental Audit and Regularity Audit” for SAIs and auditors, on how to do environmental audits within regularity audits (INTOSAI WGEA, 2004). As SAIs’ main human resource base, skills and experience lie within the auspices of regularity auditing, it might be more suitable or resource effective to perform within this mandatory regularity audit practice (INTOSAI WGEA, 2004:i). The perceived trend within global SAIs to only consider and include environmental issues and risks within their performance audit and reporting methodology, is therefore debateable, considering the benefits and value-addition of a mandatory annual regularity audit approach.

The current placement (or location) and developments of environmental issues and risks within the local, South African SAIs’ public sector audit methodology processes, will be the central argument and theme of this study’s research question/s, set out in Chapter 1.4.

Chapter 1.1 briefly alluded to the rationale behind and needs for SAIs to include environmental issues and risks within public sector auditing. However, as already stressed, there might be distinct differences between the effectiveness of a country’s environmental regulatory regime and oversight bodies responsible to monitor, enforce and follow-up on environmental issues and risks. Where strong or effective environmental regulatory regimes exist, the roles of SAIs may be limited, in which case environmental theme driven discretionary audits might be the more suitable approach (OECD, n.d.). In contrast, and as experienced during public sector environmental audits performed over the past 17 years in the South African SAI, yearly mandatory regularity audits and reporting may be more beneficial where environmental regulatory authorities are weak or non-effective in addressing, monitoring and enforcing environmental management, legislation and related requirements. SAIs, as auditors of organs of state, are perfectly placed to fill the oversight gap where regulatory regimes are weak or not performing their environmental monitoring and enforcement functions. Subsequently, SAIs have to adapt and find ways around their classical financially driven audit mandates, to include environmental auditing or focus as a mainstream activity, thereby “having a significant impact” on the way organs of state manage the “environment and sustainable development issues around the world” (INTOSAI WGEA, 2007:ix), which is also addressed in the justification and significance of the research, to be covered in **Chapter 1.6**.

1.1.2 The (local) South African response to the environmental risks and challenges

The South African SAI, in line with the world trend (INTOSAI WGEA, 2019), also successfully uses its current mandate to consider and include significant environmental issues and risks within its current and available public sector audit methodology processes. This therefore serves as another tool to assess and report on how government executes its mandated environmental roles and responsibilities, as well as its compliance to legislation and other regulatory requirements. The recent Public Audit Amendment Act (2018, 1:g) definition of material irregularities, makes provision to further elevate and take action on non-compliance with legislation resulting in substantial harm to the public. Finding the best fit or placement within the available audit types and processes will be no mean feat, considering country specific challenges. South Africa in particular faces the challenges presented by the historic background of the imbalances and inequities that characterised the previous apartheid regime and the need to transform service delivery with equal distribution, use and accessibility to the natural environmental resource base by all (Van Rensburg, 2014).

1.2 Background to the research

The main area of interest for this research was to interrogate the placement or locus of environmental issues and risks within public sector audit processes, and particularly, how the mandatory (day-to-day regularity) audits can enhance public sector environmental accountability in South Africa. The study's approach (to be detailed in **Chapter 1.9**), initially determines global context and tendency for this placement, whereafter it is narrowed down to a local, South African context. Environmental accountability refers to the good governance of legally mandated and assigned environmental roles and responsibilities at public sector institutions (Feris, 2010), whilst regularity auditing refers to the yearly mandatory financial audits at these institutions, including adherence to legislation and regulatory guidelines (INTOSAI WGEA, 2004). The **main argument or central point of the research** will be on how and where to include or place environmental issues and risks within current public sector audit methodology processes of SAIs globally and locally, thereby contributing to the continual improvement of public sector environmental accountability. Inclusion within yearly **mandatory** regularity audits will involve continual assessments and follow-up of the environmental risks and subsequent recommendations, whilst voluntary auditing will only be performed periodically (**by choice**), be theme- and time driven.

The study adds to the existing body of knowledge, since extensive public sector audit experience within the South African SAI, and reports scrutinised, indicated that current voluntary- and mandatory environmental audits are seldom commissioned within the public

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sector of South Africa, and where the SAI does not take up the challenge, sustained environmental losses or impacts will go undetected or unrecorded. As a developing country, which experiences multitudinous challenges to effectively monitor and enforce environmental regulatory requirements, the South African SAI may assist government and its regulatory regimes in identifying, auditing and reporting on significant environmental management issues and risks. Considering the current status quo, challenges and need for improved environmental oversight in South Africa, the yearly, mandatory public sector regularity audit approach will be a continual and viable option, assisting and improving the environmental accountability of government. The aim or ultimate goal of the research is to address the gap in current knowledge, on which audit type will be more suitable to include and improve public sector environmental accountability. The emphasis will be on the actors (global and local SAIs), to ultimately decide on how to address or resolve their roles in selecting the most suitable audit- and reporting processes to enhance public sector environmental accountability.

1.3 Problem statement

Initial literature reviewed, interaction within the INTOSAI WGEA and extensive public sector environmental audit experience within the South African SAI, currently suggest a voluntary (performance) audit approach, with some SAIs attempting an integrated approach, using financial, compliance and performance auditing disciplines as the base for their environmental related audits. The INTOSAI WGEA environmental audit survey results (1 – 9) indicated SAIs use all three options of financial-, compliance and performance to address environmental issues and risks (INTOSAI WGEA, n.d.a). There are some gaps, advantages and disadvantages within both the voluntary and mandatory public sector audit methodology processes, within each country's specific context, which **need to be further explored to determine the best, or most effective placement** to enhance environmental accountability (INTOSAI WGEA, 2007).

In South Africa, there is a perception that government and related departments are not always effective in performing their legally mandated environmental oversight, roles and responsibilities, with dire consequences, reported through various media, to the environment and life of citizens. This lack of or ineffective regulatory regime perceived and experienced during public sector audits performed, responsible to continually monitor, enforce and report on significant environmental non-compliance or non-performance, prompted the need for a habitual or characteristic change, to also include significant environmental issues and risks within the current audit methodology processes of the South African SAI. The question that arose is, whether the current periodic (once-off), theme driven voluntary environmental audits

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will serve the purpose to continuously and effectively address constant environmental risks and impacts?

Summary of the problem statement: Environmental issues and risks are not suitably located within the South African SAI's public sector audit methodology processes to effectively and continually enhance public sector environmental accountability.

Literature, supporting the problem statement, includes the nine INTOSAI WGEA environmental survey results, as well as the researcher's 33 years' audit experience within the South African SAI and public sector of South Africa.

Governments should be accountable for the impact or consequences of their actions or non-actions on the environment, sustainability thereof and subsequent service delivery. SAIs, and in particular the South African SAI, need to find the most effective place and means within their available public sector audit types and resources to hold government and/or organs of state accountable for their environmental responsibilities and performance. Global trend and results obtained by voluntary, periodic public sector audits and reports, is not always effective to continually assess, report and improve on significant environmental risks and impacts. The problem statement or focus point for the research study generated the following research questions to answer.

1.4 Research questions

The main research question emanates from the research need briefly introduced in **Chapter 1.2**, and problem statement, **Chapter 1.3**, in questioning the current placement or locus of environmental issues and risks, and particularly whether the placement within the mandatory regularity audit methodology processes of the South African SAI will not be a better fit to enhance public sector environmental accountability. Where the problem statement highlights the reservations on the current placement, the fundamental and sub-questions that follow are more specific on finding the current tendency and developments, within a global and local, South African SAI perspective. In order to achieve the research aim and objectives, **Chapter 1.5**, the main research, and subsequent questions are based on the problem statement, **Chapter 1.3**, and the fundamental core of the research study (golden thread), which guided the process of data collection, capturing and analysis thereof, as well as determining the most suitable research types and methods used (Rule & John, 2011:25; Miles et al., 2014:25), further detailed in **Chapter 2**. The following questions identify what the researcher aims to establish, giving the study a clear focus and purpose. The research questions were numbered in order of importance, with **1** and **2** applicable to the South African SAI (main focus of the study), whilst questions **3** and **4**, wanted to initially determine trend and options used to include

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and audit environmental issues and risks within public sector audits by global SAIs, before narrowing it down to the South African SAI perspective, as depicted in **Table 1**.

Table 1: Research questions

Main Research Question (1): <i>Local: South African Perspective</i> 	
(1)	Is the placement (or locus) of environmental issues and risks, within the public sector regularity audit methodology processes of the South African Supreme Audit Institution, enhancing public sector environmental accountability?
Sub-Research Question (2): <i>Local: South African Perspective</i> 	
(2)	Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African Supreme Audit Institution?
	Sub-Research Questions 3 and 4: <i>Global Perspective</i>  
(3)	Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?
(4)	What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?

Note: Sub-Research Questions 3 and 4 (global perspective) will be covered first in the study, then narrowed down to a local, South African perspective in Questions 1 and 2.

The main research question and subsequent questions will be instrumental in limiting the scope and focus on the particular information and data required, whilst also assisting with selecting relevant research types, methods and means. The abovementioned “research questions were informed by theory, practice and policy” (Rule & John, 2011:2-3), and will be further discussed in **Chapter 2**, with critical focus on selecting the most appropriate research methodology, in answering these questions. The reliability and validity of the research outcomes were ultimately based on the effective and appropriate selection of the research approach, followed with an appropriate design thereto, which was developed. This study commenced with **Sub-Research Questions 3 and 4** that looked at a broader, global context, of environmental placement and developments within current public sector audit methodology processes, whereafter they were narrowed down to the local, South African SAI perspective. The **Main Research Question 1**, provided the base for the research design and methodology, **interrogating placement** within regularity audit methodology processes, and is followed by **Sub-Research Question 2**, identifying the current placement within the South African SAI.

Hypothesis: This qualitative research does not include hypothesis testing (specific statement of prediction), but is rather designed around the problem statement, the subsequent research questions developed, the aim, objectives and research methodologies selected towards meaningful findings and conclusions that will contribute to knowledge within the public sector audit practice. It is designed to be exploratory with a possibility to further develop a hypothesis or prediction that may be used or tested in future research (Trochim, 2020).

1.5 Research aim and objectives

Considering the abovementioned problem statement, **Chapter 1.3** and subsequent questions, **Chapter 1.4** that flow from that, the research aim is particularly focussed on what the researcher wants to achieve, informing the reader of the value of public sector auditing, and specifically regularity auditing, in improving public sector environmental accountability in SA.

Aim of the study: To advance understanding of the placement and contribution of public sector regularity auditing in enhancing environmental accountability in South Africa.



Figure 2: Auditing and reporting on environmental accountability

The primary focus of the research is compiled in the above-mentioned aim of the study, **Figure 2**, followed by the objectives, where the objectives will be pertinent to how the aim can be accomplished or achieved by the research study. To properly conclude and contribute, the thesis aimed to, determine current placement, developments and trends of environmental issues and risks within global SAIs' public sector audit types and processes, and explore the developments and placement within the local South African public sector audits (and particularly the mandatory regularity audit option) and its contribution to enhance environmental accountability. The research will include a probe and comparison of all the available public sector audit types and processes and their contribution to enhance environmental accountability.

Objectives: (How?)

Essentially, to argue that mandatory public sector regularity auditing is a practicable or suitable option (of placement) for environmental issues and risks within the available public sector audit methodology processes of SAIs, and the South African SAI specifically, **the following objectives** guided the research methodologies selected and performed:

(1) Conduct desk-research to review literature on global practice, conduct online survey questionnaires (Google forms) to the INTOSAI WGEA Chair, Secretariat's and iCED and perform a comparative analysis between the INTOSAI membership countries' responses to the last five published environmental audit survey results, **in determining where environmental issues and risks are currently placed and the latest developments for inclusion within the global SAIs' public sector audit methodology processes;**

and

(2) Conduct desk-research to review literature on local practice, conduct face-to-face survey questionnaire interviews with selected internal- and external stakeholders of the South African SAI and online survey questionnaires (Google forms) to regularity- and supportive business units of the South African SAI, **to solicit responses on the placement and value of environmental issues and risks within its public sector regularity audit methodology processes, to enhance environmental accountability in South Africa.**

Overall, the aim of the study is focussed on what is hoped to be achieved, to comprehend the location and effectiveness of public sector auditing (and particularly, regularity auditing) to ultimately improve environmental accountability in SA, whilst the objectives search for answers (how) to the research questions, **Chapter 1.4**, by exploring current global and local placement, preference, developments and trends towards this determination. Both the aim and objectives steered the methods and means selected (and detailed in **Chapter 2**) in achieving meaningful results and contributions, with this research study. The thesis will be of practical and scientific relevance, providing new knowledge and comprehension of the study discipline.

1.6 Initiation, justification and significance of the research

Probing what initiated this research as well as the justification and significance thereof, will further sensitise the reader to the thesis theme selected. The problem statement, **Chapter 1.3**, alluded to the precarious location or placement of environmental issues and risks within

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public sector audit methodology processes, to enhance public sector environmental accountability, with a need to further explore the appropriateness and value-adding of both mandatory- and voluntary audit types.

1.6.1 Initiation of the research

My extensive experience (**33 years**) as a public sector regularity auditor within the Supreme Audit Institution of South Africa, also specialising in environmental management and finding ways and means to incorporate environmental issues and risks within the available audit methodology processes of the organisation, contemplated the expectation that mandatory regularity audits may be best placed to audit, report and ultimately enhance public sector environmental accountability. Personal interaction, discussions and attendance of workshops and presentations within the INTOSAI WGEA, as well as the South African SAI, the Auditor-General of South Africa (AGSA), indicated some lack of understanding or contradictory beliefs in where environmental issues and risks are placed or should be placed for ultimate value add, and to promote and improve environmental accountability in the public sector. Further literature reviewed on the role or potential role that SAIs can play to enhance environmental accountability through public sector auditing, stimulated my interest with the following quote by Professor Wangaari Maathai “**I am working to make sure we don’t only protect the environment, we also improve governance**” (BrainyQuote, n.d.). This in essence, summarises my observations and activities as a public sector regularity auditor (and recognised environmental subject matter expert), within the South African SAI. Other research quotes on environmental governance and accountability often link environmental governance and accountability with good decision-making, the value of accountability and seeking environmental justice. Peter Bakker, the CEO of the World Business Council on Sustainable Development, is quoted as saying “**Accountants will save the world**” (ASA, 2017), which is a significant statement to be embraced by the accounting and auditing profession.

Resulting from the abovementioned, the PhD study was initiated in 2018, with a purpose to investigate and promote regularity auditing, within the South African SAI, as the most viable way and means to enhance environmental accountability in the public sector of South Africa.

1.6.2 Justification of the research

SAIs all over the world are continuously reforming and expanding their audit mandates to consider or include environmental issues and risks within their public sector audit methodology processes. To the researcher’s knowledge and information on the INTOSAI WGEA website

and publications, there is limited information on the specifics or rationale behind current consideration and inclusion of environmental issues and risks within the audit of financial statements, required and stipulated in IAPS-1010 (International Auditing Standard Practice), as well as other associated standards on public sector environmental auditing. Previous studies relating to this research theme, seemed more focussed on SAIs' (voluntary or discretionary) performance auditing option and its role and contribution to enhance environmental accountability in the public sector. The arguments, advantages and disadvantages for inclusion within mandatory regularity auditing and the voluntary auditing processes, need to be further examined in both the global and the local South African context. The importance of SAIs to include, place and report on environmental management and performance at all levels of government seems to be gaining momentum, considering the challenges and weaknesses in environmental oversight, monitoring and enforcement from environmental regulatory regimes.

1.6.3 Significance of the research

This was a pioneer research study that particularly explored the current means and value of placing environmental issues and risks within the day-to-day (mandatory) regularity audit processes of the South African Supreme Audit Institution.

The research was timely in providing a comprehensive and transparent perspective on the placement of environmental issues and risks within public sector audit methodology processes and their contribution to enhance environmental accountability and ultimately environmental sustainability. Environmental pilot audits (and results) performed on environmental issues and risks within the public sector of South African SAI, 2004 – 2019, as well as periodic global public sector audits and reports with environmental focus, should be of importance to the accountancy and auditing profession, closing the knowledge gap and deliberations on the most suitable approaches to affect real change in public sector environmental accountability. The thesis aims to add value to current literature, improved ways and means to consider and include environmental issues and risks within mandatory public sector audit processes and resources, and ultimately, the value and impact of public sector audit reports by the inclusion of environmental accountability. The placement and developments of environmental issues and risks were explored, compared and expounded upon with a conscious effort to present evidence that supports or disconfirms the value of placing environmental issues and risks (golden thread of the thesis) within the South African SAI's public sector regularity audit methodology processes. The results from the survey study, summarised in **Chapters 3 - 6**, in

a sense supported the researcher's expectations, but also indicated that voluntary public sector audit methodology processes and/or following a comprehensive audit approach (including both mandatory and voluntary options) may also be effective options. However, the results did not clearly distinguish best options between developed and developing countries, and effective or weak environmental regulatory regimes experienced. This discovery further encouraged this investigation into the year-to-year public sector regularity audit processes of the South African SAI, with particular attention to the mandate, resources and benefits that can be derived from using this audit method.

1.7 Scope, limitations and key assumptions

During a postgraduate capacitation workshop attended, the presenter, Cassim (2019) emphasised the importance of the scope and limitations that need to include four questions: namely "what is within the scope of your research project; why is it inside; what is outside the scope of your research project; why is it outside". She further indicated that the "topic should be specific" and based on the "**SMART**" principle (of "Specific, Measurable, Achievable, Realistic and Time-bound"). The information on the scope, limitations and assumptions that follow, will be further alluded to in **Chapters 3 to 6**.

1.7.1 Scope

Goes and Simon (2015) refer to the "scope of the study" as framework and coverage of the study, which should be closely linked or connected to the problem statement. The scope of the study included both global and local coverage, linked to the research questions in **Chapter 1.4**, as well as the aim and objectives in **Chapter 1.5**. The global scope included literature reviews, a comparative analysis of the INTOSAI WGEA 5th – 9th environmental audit survey results and an online survey questionnaire distributed to the INTOSAI WGEA Chair, six associated Secretariats and iCED. The local, South African, scope included literature reviews, online survey questionnaires distributed to operational- and supported business units, as well as face-to-face interviews with selected business unit executives and selected external stakeholders of the South African SAI.

1.7.2 Limitations

Limitations are referred to as "influences that the researcher could not control" (Tanhueco-Tumapon, 2016) and are understood as constraints that may impact on the research and outcomes. During the planning phase, conducting the actual research and results, some

research limitations were identified, with a conscious effort to minimise or limit the impacts on the research design and results. Some methodological limitations as well as limitations on the researcher, (Wordvice, n.d.) are briefly alluded to in the final chapter, **Chapter 7**, of this research study. Where applicable, these limitations or aspects that hindered the study and findings, are included in the summary of findings or conclusions of each research chapter. Robson (2002:93) refers to “validity and generalisability” as “central concepts for making a study believable and trustworthy”. It is thus important, as a social researcher, to always acknowledge, consider and be aware of the limitations and risks pertaining to your data collected and results acquired from the selected study approach.

1.7.3 Key assumptions

Key assumptions are interpreted as what you believe to be true, without really testing or examining it, and they can impact on your thoughts and feelings and are referred to as “things that are somewhat out of your control, but if they disappear your study would become irrelevant” (Simon, 2011). Simon further stresses the importance of justifying the perceived truth thereof, for the study to progress. The key assumptions in this research study, **included:**

- the researcher’s experience in and conviction that mandatory, day-to-day regularity auditing is the best placement or locus to include environmental issues and risks, thereby enhancing public sector environmental accountability,
- that the global INTOSAI community prefers and uses the voluntary performance audit methodology processes to audit and report on environmental issues and risks,
- that the effectiveness of environmental regulatory regimes can determine which public sector audit methodology process will be more suitable to report and enhance public sector environmental accountability,
- the conviction that the data obtained and analysed through the research methodologies used, are a truthful reflection from respondents and their respective organisations.

These key assumptions were developed over an extensive period of time, performing public sector auditing within the local South African SAI, as well as interaction within the global SAI fraternity. The assumptions on the best fit or placement of environmental issues and risks within SAIs’ available public sector audit methodology processes, to enhance public sector environmental accountability, will be compared, scrutinised and assessed against benefits and values of a regularity audit approach, within the South African SAI.

1.8 Ethical considerations

Ethics formed a crucial part of this research study and defined as “norms for conduct that distinguish between acceptable and unacceptable behaviour” (Resnik, 2015). “Ethical issues in research” fall into one of “four categories: protection from harm, voluntary and informed participation, right to privacy and honesty with professional colleagues” (Leedy & Ormrod, 2013:104). Being employed by and conducting research within the South African SAI’s structures, resources and audit methodology processes, required compliance with confidentiality and ethical requirements. It was therefore important to consider the implications of the research, whilst not compromising the fundamental ethical requirements of all employees of the organisation. In this regard, the researcher considered and followed some guidance from Leedy & Ormrod (2013:109-110), as well as Resnik (2015).

The study complied with requirements for ethical clearance at the North West University. A letter from the Scientific Committee of the Sub-programme Environmental Sciences and Management in the Unit for Environmental Sciences, dated 30 July 2018 indicated that the research proposal is in accordance with scientific methods and adheres to the required standards as set out in the “Academic Rules for Master’s and Doctoral Students” at the North West University. It furthermore indicated that there were no discrepancies with ethical compliance at my current employer, the Auditor-General of South Africa. A Memorandum was prepared, Reference no. 1/12/2018, dated 12 December 2018, signed for approval by my line manager on 14/12/2018, the Provincial Business Executive, 20/12/2018 and the Deputy Auditor-General, 17/01/2019. **The researcher further ensured:**

- that the nature and goals of the study were properly explained for all involved to comprehend and understand,
- proper introduction to all selected participants, including the reason for selection, voluntary participation and the role of their input in the research aim and objectives,
- honesty, objectivity and integrity with all information obtained, analysed and interpreted,
- respect of intellectual property, and only used permitted data with acknowledgement and references to all contributions and intellectual data,
- that only data and records in the public domain were used (South African SAI and other global SAI information), always considering confidentiality as well as internal and external legal and ethical requirements,
- findings and results were not falsified and were a true reflection of the current status quo,
- all information and evidence, substantiating the findings and results, are available and summarised in the chapters to follow.

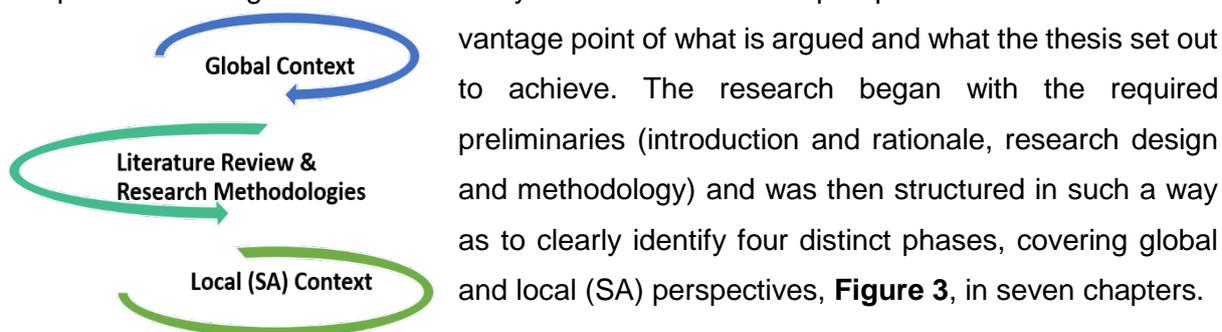
I am confident that this research study, design and methodologies used are honest, fair and a true reflection of current and proposed placements of environmental issues and risks within SAIs' audit methodology processes and their value to enhance public sector environmental accountability, within both the global and the local (South African) perspective.

1.9 Research approach

The approach followed a logical sequence, connecting the research data, results and conclusions with the initial research aim and objectives. The research questions, **Chapter 1.4**, aim and objectives, **Chapter 1.5**, formulated and described, as mentioned, required a type of mixed method or combined approach, a methodology used for conducting research that involves the collection, analysis and integration of qualitative and quantitative research. The problem statement in **Chapter 1.3** calls for both qualitative and quantitative data. Kroll and Neri (cited in Creswell, 2003:15) refer to the definition that reads "for the research to be considered a true mixed methods study, there must be genuine 'integration of the data at one or more stages in the process of the research'" (Creswell, 2003:15). They furthermore state that it "requires a research methodology" in which the researcher collects, analyses and mixes "both quantitative and qualitative data in the same research project". This mixed method approach was best suited for the different methodologies identified and used towards the aim and objectives of this research study. It emphasises the need to do some extensive literature reviews on current and preferred environmental audit placement and to analyse and compare the public sector audit types and methodology processes, within a global and local (South Africa SAI) perspective. This approach and the thesis structure to follow will further inform the reader on the scope, methodology, aim and objectives. More detail and background on the body of the research design and methodology is compiled in **Chapter 2**.

1.10 Thesis structure and chapter outline

The structure of the research and chapter outline was predetermined as guidance, regularly adapted and changed where necessary. The structure developed provides the reader with a

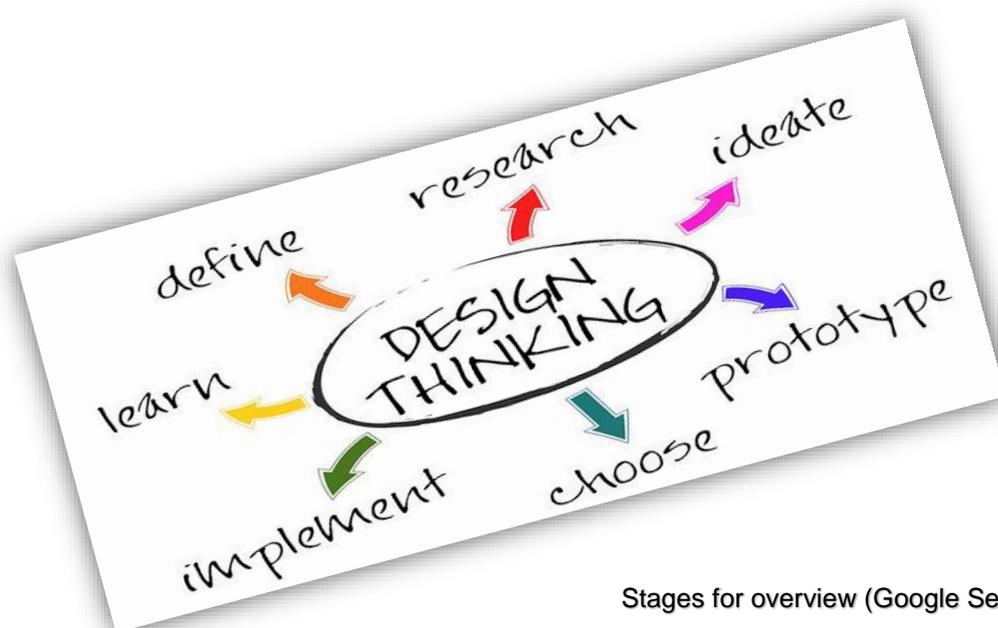


vantage point of what is argued and what the thesis set out to achieve. The research began with the required preliminaries (introduction and rationale, research design and methodology) and was then structured in such a way as to clearly identify four distinct phases, covering global and local (SA) perspectives, **Figure 3**, in seven chapters.

Figure 3: Establishing global- to local (SA) perspective

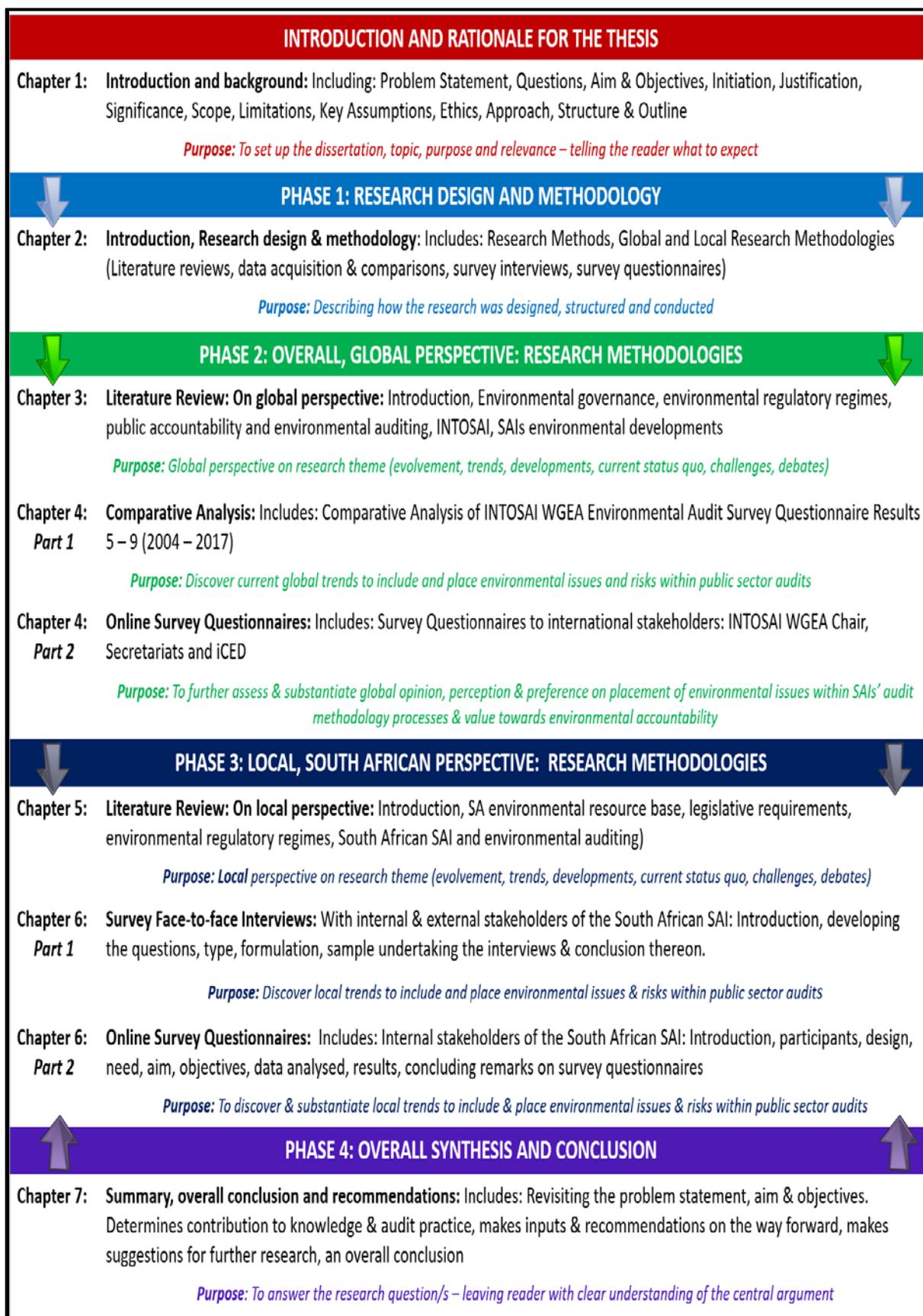
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These phases of the research are compiled in a summarised thesis structure depicted in **Figure 4** (Smith, 2020), which includes the seven chapters, the purpose thereof and the main body of content. Each of the phases and chapters are schematically conveyed for background purposes and to set the scene on the research design and methodology to follow in **Chapter 2, Table 2**. The mixed method approach followed and schematically laid out in **Chapter 2, Figure 6**, again gives perspective on how the research evolved from a global trend of considering and placing environmental matter within SAIs' public sector audit methodology processes, to where it best fit within the local (South African) context to enhance public sector environmental accountability. This ultimately required exploration, discovery and assessment of global public sector audit types and processes to fit the need, narrowing it down to establish the current placement and value to enhance public sector environmental accountability within the (local) South African SAI's audit methodology processes.



Great reliance was placed on extensive public sector audit experience and interactive processes (within global SAI forums) gained at the South African SAI. The literature review and selected research methodologies also consider the maturity of environmental regulatory regimes in both developed and developing countries to emphasise the need for SAIs to fulfil any regulatory voids. Furthermore, contrasting views on the placement of environmental issues and risks within public sector audit methodology processes of SAIs will be explored to ascertain the value, advantages and disadvantages thereof. The thesis concludes with a summary of the findings from the research methodology processes applied and advanced understanding of the developments, placement and contribution of environmental issues and risks within current audit methodology processes of the South African SAI.

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Figure 4: Thesis Structure (also refer to Figure 6, which includes questions and objectives)

The structure of the research in **Figure 4** is clear on the theme selection and rationale thereto, **Chapter 1**, expansion of the research methods and means, **Chapter 2** and then the methodologies used in **Chapters 3 to 6**, to summarise, conclude and recommend in **Chapter 7** on the placement of environmental issues and risks within public sector regularity auditing, to ultimately enhance public sector environmental accountability.

1.11 Concluding remarks

This chapter was instrumental in introducing the problem statement and justifying the reason for, need and significance of the study. The **problem statement** is the prime focus (and established a golden thread throughout the thesis) with the aim and objectives of the research compiled through a main question and three sub-questions, with the goal to obtain global and local perspective on the selected research theme. The scope (for focus), limiting factors and key assumptions necessary to enable and conduct the study, within global and local perspective, was referred to and/or documented. Reference was also made to the ethical considerations, within the selected research methodology processes, that included both internal and external stakeholders of the South African SAI. The final part of the chapter included the approach followed with a detailed thesis structure and chapter outline. The research methodologies used are divided into two focal points (that include four distinct phases), firstly to research and analyse within a global SAI perspective, whereafter it is narrowed down to a local (South African SAI) perspective.

Chapter 2 will introduce **Phase 1** of the thesis structure and will describe and justify the research design and methodology that will support the reader to sensibly link and navigate the thesis from the problem statement, aim and objectives and questions formulated with the research methods and means depicted in **Table 2**.

CHAPTER 2: RESEARCH DESIGN AND METHODOLOGY

The purpose of this chapter is to describe and justify the research approach, philosophy and research methods used throughout the study. The research design and methodology are introduced, and the reasons therefore and contribution to the study are briefly compiled. Proper planning and design are required to systematically obtain, assess, interpret and capture relevant data and information relevant to the research aim and objectives. The chapter consists of an introduction (2.1), research design and methodology including the chapter outline (2.2), the research methods (2.3), alluding to global and local research methodologies used (2.3.1), and the literature review as a research method (2.3.1.1). The study is distinctly divided between a global and local focus (perspective) to firstly include a global perspective – additional research methodologies (2.4), global data acquisition and comparative analysis (2.4.1), a global survey questionnaire (2.4.2), culminating in concluding remarks on the global research (2.5). The global perspective is then narrowed down to a local (South African) perspective – additional research methodologies (2.6) that include local data acquired and analysed (2.6.1), as well as local survey interviews (2.6.2), a local survey questionnaire (2.6.3) recapped with concluding remarks on the local research methods (2.7). The chapter concludes with an overall summary of the research design and methods applied in the study (2.8).

2.1 Introduction

Chapter 2 builds upon and moves on from the introduction, rationale and structure for the thesis, covered in **Chapter 1**, to the design developed, that will attend to the research aim and questions covered in **Chapters 1.4** and **1.5** respectively. The design and approach followed, attempted to guide the research in a logical sequence and process of identifying the research data, collecting and capturing the information and data through relevant research methodologies, and thereafter analysing and interpreting the data towards findings, results and solutions. Prior to detailing the research design and methodology, the themes and methodological designs of similar or comparable studies were accessed, to extract relevant learning, and ensure that no prior research had been performed on this research topic. The studies obtained and reviewed were however not specific to this research theme, or SA specific, and focussed more on overall developments and performance of environmental auditing within government auditing. The INTOSAI guidelines “on conducting audits of activities with an environmental perspective”, (INTOSAI WGEA, 2001 and 2003), were useful in guiding public sector auditors within the available audit types, whilst the INTOSAI WGEA, (2004) was specific on environmental audit and regularity auditing. Various international

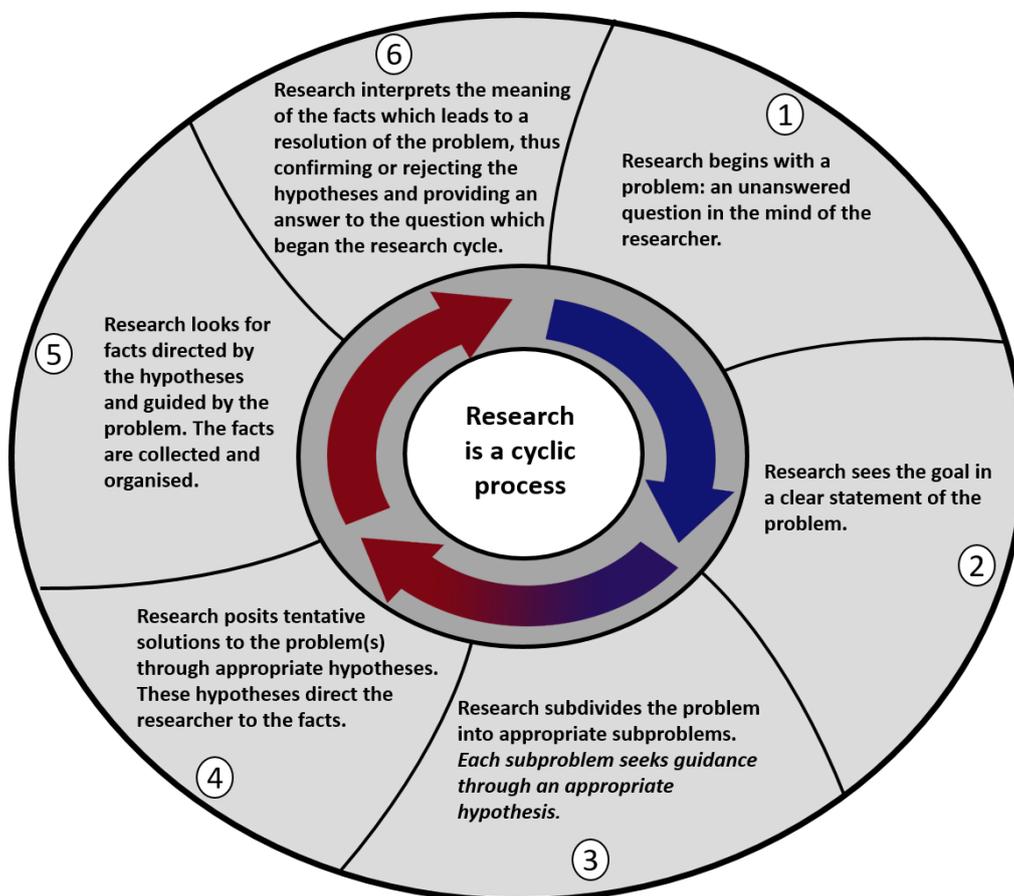
auditing standards were developed by INTOSAI, guiding the consideration and inclusion of environmental matter in audits, with the most relevant being IAPS 1010, n.d. "Consideration of environmental matters in the audit of financial statements", INTOSAI, ISSAI 5110, 2016, "Guidance on conducting audit activities within an environmental perspective" and INTOSAI, ISSAI 5120, 2016a "Environmental auditing in the context of financial and compliance audits". No specific research was found on the placement of regularity auditing and its contribution to enhance public sector environmental accountability in SA. INTOSAI, WGEA, 2007, as well as the environmental survey questionnaires (latest, 9th survey results), INTOSAI, WGEA, 2019, however give some detail on the trend and developments followed in the INTOSAI regions and SAIs, without proposing the best placement or methodology to enhance environmental accountability. Resulting from this lack of research covering SA, within a developing country perspective, and comparing the advantages and disadvantages of the available public sector audit methodology processes of SAIs, to serve as a blueprint for this research design, was not available for use in the study. To the researcher's knowledge, no similar research has been conducted on the research theme of "Enhancing environmental accountability through public sector regularity auditing: A South African perspective". Information within the INTOSAI fraternity will however be rigorously explored within the literature reviews and some research methodologies selected.

Chapter 2 further outlines the thesis structure, introduced in **Figure 4**. The research cycle, **Figure 5**, clearly state the steps followed in the research approach. The mixed method methodology approach and design was set out in **Figure 6** and **Table 2**, and ensured that they are aligned with **Table 1**, or vice versa. This chapter provides a clear reference point to steer the reader through the thesis and processes to be followed.

2.2 Research design and methodology (and chapter outline)

The theoretical framework for the thesis introduces, describes and supports the theory, explaining why the research problem for this study exists, and what the approach will be. Research design is defined or viewed as the rationale that links the data or information to be collected with the research question/s and refers to the logical order of the study, from the initial research aim and objectives to the findings and conclusions, the choice of approach and research methods to be used (Yin, 2009:24-27). In their research, David and Sutton (2011:631) also refer to "the logical sequence that connects empirical data (collection and analysis) to a study's initial research objectives and, ultimately, to its conclusions". The research design and methodology (overall approach) selected, will be the axis of the research plan, guiding the choice of research, methods, techniques and tools intended for use and to

analyse the data (Grant *et al*, 2013). This research design and methodology attempts to follow such a logical sequence, connecting the study's problem statement, research questions, aim and objectives with the identified relevant data, analysis and results. The research follows the steps of Leedy & Ormrod (2013:6), **Figure 5**, that include a cyclical process of identifying the problem and defining the problem statement, **Chapter 1.3**, including the un-answered question/s particular to the problem, **Chapter 1.4**, postulating solutions through theory, gathering and organising relevant data related to the theory and research problem and then analysing and interpreting the data towards a resolution of the problem that will ultimately support or oppose the theory or core elements. Additional or new problems that may emerge will also be identified for further options and/or recommendations. The aim and objectives, **Chapter 1.5**, will also be instrumental to what the researcher wants to achieve, guiding the theory and the solutions sought.



Leedy & Ormrod, 2013:6

Figure 5: The research cycle

A schematic presentation of the research design and approach followed is set out in **Figure 6**. The figure bespeaks the process followed with the study, from probing environmental placement within SAIs globally, to a local South African perspective. The research objectives and methodology used are linked to the research problem and questions, **Chapters 1.3** and

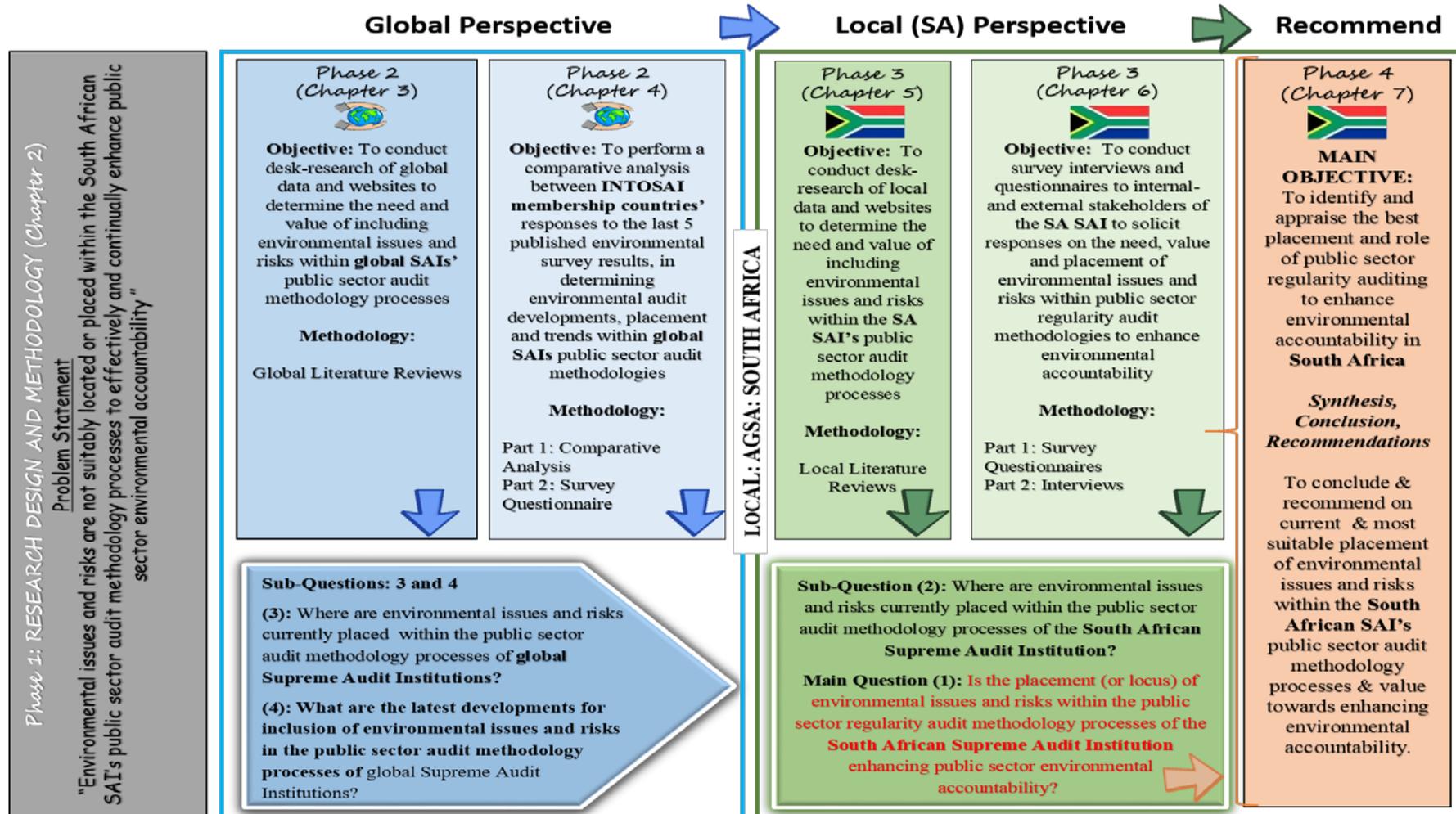
1.4, ultimately – to find the best placement for environmental issues and risks within the public sector audit methodology processes of the South African SAI. The approach and design applicable to this research, firstly aimed to gather and analyse global and local data available on the research topic, through literature reviews, and then make use of selected mixed method means for further interrogation and research. Mixed method research entails a process whereby the “researcher collects, analyses and mixes both quantitative and qualitative data in the same project” (Creswell, 2003:15). This research design, which includes a mixed method research approach, identifies the suitability of the research methods used, **Table 2**, in ensuring that the research aim and objectives, set out in **Chapter 1.5**, are attained. The research methodology selected describes the action to interrogate and investigate the research problem, **Chapter 1.3**, the research questions, **Chapter 1.4** and the reasoning behind the procedures and techniques used for the reader to comprehend and be able to critically evaluate the study’s validity and reliability and include the ways and means of data collection and ultimately how it was analysed (Kallet, 2004). For any research study to be successful, as already alluded to, it is important to ensure that the desired methods selected and used are set out in a logical and easy to follow layout (clearly reproduced in **Figure 6** and **Table 2**. Bloomberg and Volpe (2008:65) allude to the “various interrelated elements” and “sequential nature” required in a research design. This research study design also considers the referenced guidance, together with the steps from Leedy and Ormrod (2013:6), to ensure that the reader comprehends the links between the purpose of the study, and the research questions, approach and methods selected, with the intention to **answer the following questions** (McCombes, 2019):

- **where** (location where the research will be conducted),
- **when** (period of time over which the research will take place),
- **who** or **what** (the sample or who or what will be examined), and
- **how** (the research approaches and methods used to collect and analyse data).

The research design and methodology, **Figure 6** and **Table 2**, detail the content of each chapter. The particular steps, choice of research design, sampling selection and methods and efforts to enhance the dependability and reasonableness of the data obtained and used, are further elaborated on in **Chapters 4** and **6**. **Chapters 3** and **5** include the literature reviewed that assisted in the choice and justification of the research methods selected and used. The literature reviewed focussed on the central theme (or golden thread) of the research study, and that is to interrogate the placement of environmental issues and risks within current public sector regularity audit methodology processes of the (local) South African SAI, to enhance public sector environmental accountability.

Methodology: Mixed Method Approach Followed

(Aligned to Figure 4 and Table 2)



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Figure 6: Mixed methodology approach used for the research study

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The chapter outline and the four distinct phases of the thesis, schematically laid out in **Figure 6** and **Table 2**, are now briefly discussed.

Chapter outline: Chapter 1: The purpose of the first chapter is to introduce and expound upon the logical basis for the thesis and explain how and why the research theme was selected (rationale) and the purpose for pursuing the research. It introduces both global and local responses to environmental issues and risks and challenges, and gives background to the research, commencing with a problem statement, research questions, the aim and objectives, the justification, initiation and significance of the study, the scope, limitations and key assumptions, ethical considerations, the thesis structure and the chapter outline. The structure and outline is divided into **four phases** and includes the methods used, interlinked with a global to local (South African) perspective. This chapter is finalised with a summary and concluding remarks.



Phase 1: The second chapter, **Chapter 2**, identifies and expands on the research methods and means selected to ensure that the research aims and objectives, **Chapter 1.5** are attained and are successful in addressing the research questions, **Chapter 1.4**. It provides the reader with expanded detail on the research design, and the means and methodology followed and applied. This chapter is therefore more detailed and descriptive of the methodological design and further evolved from the brief introduction and background covered in the first chapter. The research methods, starting with an introduction to the literature review as a research method, are followed by global and local (South African) research methodologies selected, that include data acquisition and comparison analysis, survey questionnaires and interviews used to research the placement (locus) and developments of environmental issues and risks within current audit methodology processes of SAIs (globally and South Africa specific) and the contribution to enhance public sector environmental accountability. Concluding remarks summarise and emphasise the intent and value of the research design and methodologies used in the study.

Global perspective



Phase 2: This phase includes both **Chapters 3** and **4**. **Chapter 3** explores and establishes a background and theoretical framework for the research topic and provides further justification for the research undertaken to cover the global (overall) literature review, starting with an introduction to the environment, the natural resource base and the impact on the life and needs of citizens. This is followed by the exploration, profiling and establishment of global content and context towards environmental governance (public sector), including the evolvment,

current trends and future directions in this regard. The pillars and need for good environmental governance and effective environmental regulatory regimes are established and considered against the impact on SAIs' voluntary and mandatory public sector environmental audit involvement. The terms and relationship between public accountability and environmental auditing follows, and includes the latest INTOSAI developments, commitments, accounting and auditing standards applicable to public sector environmental auditing. SAIs' mandates, roles and functions to consider and include environmental issues and risks within their audits and reporting processes, as well as the main challenges for effective public sector environmental auditing are explored and compared to the current placement and trends within these audit methodology processes. Global debates on the current placement and trends of environmental issues and risks to enhance public sector environmental accountability are the focus of the chapter and properly explored, compared and documented. Although the bulk of the literature review focusses on the global perspective, some reference is also made to the local (South African) perspective, further analysed in **Chapter 5**. This chapter ends with a conclusion and summary of the literature reviewed.

Global perspective continues...



Phase 2: Chapter 4 is divided into two parts, that include the global research methodologies selected for this research study. It starts with an introduction to the global research methodologies and supplemented with results from the global literature review in **Chapter 3**. **Part 1** focuses particularly on the comparative analysis between the INTOSAI WGEA Environmental Survey Questions (results 5 – 9). The results, 1 – 4, prior to the year 2000, were not included in the study. This part introduces and details the methods of data used and analysed, contribution of the results to analyse and compare, with concluding remarks on the method and perceived results. Detail on the INTOSAI WGEA Survey Questionnaire 5 – 9 Results, the analyses and findings thereof, and the overall conclusion follow. **Part 2** includes the global survey questionnaire to the INTOSAI WGEA and associates, starting with an introduction, identification of the participants, design of the questionnaire, the need, aims and objectives of the survey questionnaire, data analysed and ultimately the results of the survey questionnaire. **Part 2** ends with concluding remarks on the survey questionnaire used and analysed. **Phase 2** also briefly and collectively gives overall remarks on both research methodologies (comparative analysis and the survey questionnaire) used.

The findings and summary of **Chapters 3** and **4** set the basis for global placement and developments to audit and report on environmental issues and risks within public sector audit

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methodology processes and their contribution to enhance public sector environmental accountability.

Local (South African) perspective



Phase 3: This phase includes both **Chapters 5** and **6**. From **Chapter 5**, the research is narrowed down to a local (South African) perspective with an introductory part, detail on the South African environmental resource base, as well as stresses and impact on the life of citizens. Legislative requirements (compliance) for environmental management in South Africa are reviewed, and furthermore environmental governance and regulatory regimes in the country are explored. The South African Supreme Audit Institution and environmental auditing, being a crucial part of the research study, follows. This includes an introduction, detail of the structures, resources and audit methodology processes, the need to consider, audit and report on environmental issues and risks within the public sector audits, environmental involvement, approach and placement within the SAI's public sector audit methodology processes. The phase ends with a summary of the chapter and the literature reviewed.

Local (South African) perspective continues...



Phase 3 (continues) with **Chapter 6**, divided into two parts, covering the local research methodologies of survey interviews and survey questionnaires selected and used. The chapter starts with an introduction to both these local research methodologies. **Part 1** starts with the survey interviews, and includes an introduction, identifying the research interview questions, the type of interview, formulation of the interview questions, confirmation and review of ethical compliance, selection (sample) of interviews, undertaking of the interviews (recording and summary), and ending with the concluding remarks. **Part 2**, includes the survey questionnaires, starting with an introductory section and continuing with selecting the participants for the local (SA SAI) survey questionnaire, the design, need, aim and objectives thereof, the survey questionnaire data analysed and results of the analysis. This part ends with concluding remarks. **Chapter 6** is completed with overall remarks on the local (SA) research methodology used.

The findings and summary of **Chapters 5** and **6** set the basis for the placement and developments within the South African SAI to audit and report on environmental issues and risks and their contribution to enhance public sector environmental accountability. Both global and local research methodologies applied are synthesised and concluded in the final **Chapter 7**, with the overall aim of the research being locally (or South African) specific.

Local (South African) perspective continues...



Phase 4: The final chapter, **Chapter 7**, is devoted to answering the research questions and providing concluding remarks on the research aim and objectives achieved. It begins with an evolvment from the problem statement, followed by a revisit of the research aim and objectives (and subsequent questions developed), and then addresses the aim and objectives, as well as the research questions. This chapter concludes with detailing the contribution to knowledge and audit practice, inputs and recommendations on the way forward, suggestions for further research and ultimately, an overall conclusion.

The suitability of this selected mixed method research approach and design was properly analysed in answering the main research question, and subsequent questions, and ultimately, ensuring the reliability and validity of the results. Kimberlin and Winterstein (2008), refer to the “reliability and validity of the measures” as instrumental in determining the quality of a measuring instrument. This defines reliability as determining the stability and internal consistency of the instruments used for the testing and agreement on the reliability of the results, whilst validity is understood as the degree to which the meaning of the results tested are justified. Particular to this qualitative research, the methods and means used, which include global literature reviews, comparative analysis of INTOSAI WGEA environmental survey results, survey questionnaires forwarded to INTOSAI WGEA secretariats and associates, local literature reviews, survey interviews with internal and external stakeholders of the South African SAI, and survey questionnaires to internal and external stakeholders of the South African SAI, were tested against the requirements of reliability and validity that assisted in producing trustworthy results. The different methods applied to each research methodology and questions developed, are clearly depicted in **Table 2** and **Figures 4** and **6**.

The mixed method research method was adopted as the most appropriate for this study, where the global INTOSAI WGEA Environmental Survey Results (2004 – 2017) were supported with survey questionnaires (to the INTOSAI WGEA and associates) and literature reviews. This provided the required perspective on global placement and developments of environmental issues and risks within public sector audit methodology processes. The local (South African) focussed methodologies used included survey interviews and survey questionnaires to both internal and external stakeholders of the South African SAI, supported with literature reviews. These responses again provided perspective on local placement and developments at the South African SAI. Acceptable participatory action was received from both global and local stakeholders selected and included in the research study.

Table 2: Research design (from introduction and research methodologies)

Smith, 2020

(Chapter 1): Introduction and rationale for thesis (Chapter 2): Research design and methodology				
Local/Global	Research Questions	Method (what, how & who)	Aim/Objective	Chapter
Sub Research Question (3) Global Perspective	(3) Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?	Global Literature Reviews * The environment and natural resource base * Environmental governance * Pillars and need for effective environmental governance and regulatory regimes * Public accountability and environmental auditing * INTOSAI developments in environmental auditing * International commitments, accounting and auditing standards on environmental auditing * SAIs' environmental mandates, roles and functions * Main challenges for effective environmental auditing by SAIs * Current placement and trends for environmental inclusion in audits * Global debates on the best placement or locus to enhance public sector environmental accountability	To determine the need and value of including environmental issues and risks within global SAIs' public sector audit methodology processes	3 
Sub Research Question (4) Global Perspective	(4) What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?	PART 1: Comparative Analysis * Comparative analysis between INTOSAI WGEA 5th – 9th surveys: - data used and analysed – results – review ethical compliance - conclusion PART 2: Survey Questionnaires * 21 Survey Questionnaires to INTOSAI WGEA / stakeholders * Participants identified * design of the survey questionnaire: - need, aim and objectives – data analysed – results of the survey questionnaire – review ethical compliance	To determine the latest developments and trends for inclusion of environmental issues and risks in the public sector audit methodology processes of global SAIs	4 
Global to local perspective/determination				
Sub Research Question (2) Local (SA) Perspective	(2) Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African SAI?	Local Literature Reviews * The SA environmental resource base, stresses and impacts * Legislative requirements towards environmental management * SA environmental governance and regulatory regimes * The South African SAI and environmental auditing: - structures, resources and audit methodology processes – need to consider, audit and report on environmental issues and risks - environmental evolution, approach and placement	To determine the need and value of including environmental issues and risks within the South African SAIs public sector audit methodology processes.	5 
Main Research Question (1) Local (SA) Perspective	(1) Is the placement (or locus) for environmental issues and risks within the public sector regularity audit methodology processes of the South African SAI enhancing public sector environmental accountability?	PART 1: Survey Interviews: 27 Local Interviews: Identify survey interview questions – Type of interviews – Formulate interview questions – Review ethical compliance - Selection of interviews – Undertaking interviews – Concluding remarks PART 2: Survey Questionnaires: 113 Survey Questionnaires to internal stakeholders of the SA SAI: Participants identified for the survey questionnaire: - Design of survey questionnaire – need, aim and objectives thereof – survey data analysed – Survey questionnaire results	To solicit responses on the need, value and placement of environmental issues and risks within public sector regularity audit methodology processes to enhance environmental accountability To advance understanding of the placement and contribution of public sector regularity auditing in enhancing environmental accountability in SA	5 
(Chapter 7): Synthesis and conclusion				

The structure in **Table 2**, demonstrates the approach to firstly determine the **global** perspective and trend on the placement and developments of environmental issues and risks within SAIs' public sector audit methodology processes, and then establish effectiveness of environmental governance in **South Africa** (perceived as a developing country) and essence of the study, prompting the need and best placement of environmental issues and risks within the South African SAI's current public sector audit methodology processes.

2.3 Research methods

After the structure and design introduced, the selected research methods are now briefly discussed and linked to the research questions, initially from a global (SAI) perspective and then narrowed down to the **local**, South African SAI perspective. As clearly depicted in **Figure 4** (Structure), **Figure 6** (Approach), and **Table 2** (Design), the methods selected include literature reviews, data acquisition and analysis and survey questionnaires, to gain global perspective, whilst literature reviews, survey interviews and survey questionnaires are used for local perspective. The concepts of validity and reliability, alluded to in **Chapter 2**, were considered throughout the research, to ensure that the data and capturing process that follows, are reliable and suitable to address the research questions developed.

2.3.1 Global and Local Research Methodologies

The first method identified, namely the literature reviews, with relevant data obtained and analysed, was performed within both the global (international SAIs), and the local, South African SAI milieu, and was used as a base for relevant information and to augment the other research methods to follow. The process followed distinguished between information needed and analysed for global focus, and then directed or narrowed down to a local, South African focus.

2.3.2 The literature review as research method

Chapter 1.1 briefly introduced literature reviewed on global and local responses to environmental issues and risks from SAIs. Literature normally stresses what is currently known about the thesis theme and research question/s, and also what has been written on it by researchers, experts and scholars. Relevant to this research study, the literature was continuously revisited and updated with prior and current literature. With this literature review, the researcher aimed to establish (relevant to all the research questions) where environmental issues and risks are currently placed in the public sector audit methodology processes of

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global SAIs, the developments thereof and their contribution to enhance public sector environmental accountability. The literature is then further restricted to determine whether the current placement (and developments) within the local South African SAI is conducive to enhance environmental accountability. Contrasting views and critique on the trends, preference and value of current placement were also interrogated through survey questionnaires and interviews, with the aim of understanding the specific placement and contribution of public sector regularity auditing in enhancing environmental accountability.

According to Leedy and Ormrod (2013:51), literature reviews are based on previous research findings, to review other similar topics or investigations that will ultimately inform or give more perspective relating to the topic. The “review should be written from a particular standpoint, to fulfil certain aims or express certain views on the nature of the research topic and how it is to be investigated, and the effective evaluation of documents in relation to the research being proposed” (Hart, 1998:13). Hart furthermore states that conducting literature reviews “is a means of demonstrating the author’s knowledge about a particular field of study, including vocabulary theories, key variables and phenomena, and its methods and history”. Students are also informed “of the influential researchers and research groups in the field when conducting a literature review”. “As the researcher, you should ultimately know the literature related to your topic very, very well: the more you know about investigations and perspectives related to your topic, the more effectively you can address your own research problem” (Leedy & Ormrod, 2013:51). Literature reviews are thus instrumental here to bestow the researcher with insight, available knowledge and theories particular to the research topic.

The main feature and focus of this study’s literature reviews, as they evolved and are detailed in **Chapters 3 and 5**, relate to the current and best locus or placement of environmental issues and risks within global and local South African SAIs’ public sector audit methodology processes. Although SAIs around the world, including the South African SAI, already used or expanded their mandates to include environmental issues and risks within either their mandatory or voluntary audit processes (INTOSAI, WGEA, 2007), the common trend or placement is arguable, in the quest to add value and enhance public sector environmental accountability. Furthermore, the onus or emphasis on SAIs to audit and report on environmental issues and risks might differ between developed and developing countries, hence their capacity and resources to perform. Environmental governance and the competencies and effectiveness of environmental regulatory authorities to monitor, enforce, report and improve on significant environmental issues and risks, might play an instrumental role in SAIs’ decision of placement within mandatory or voluntary audit types. Therefore, the coverage of comparable international and local literature assisted in determining current global

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perspective, best practice and guidance, ultimately narrowed down to determine the best fit or placement within a South African (developing country) perspective.

The literature review (as research method) provided a background of the global natural resource base and its need and impact on the life of citizens, **Chapter 3.2**. This is to emphasise the importance and need for environmental monitoring and enforcement (auditing and reporting by SAIs). It is also important to gain perspective on global environmental governance, **Chapter 3.3**, followed by the effectiveness and need thereof, **Chapter 3.4** to support or enhance public sector environmental accountability. Public accountability and environmental auditing, as a tool to improve public sector environmental accountability, is explored, with the purpose to determine the potential value thereof and the contributing roles SAIs play or can play in identifying, reporting and making governments (or related authorities) accountable towards their environmental mandates, roles and functions, **Chapter 3.5**. The next logical step is to review the INTOSAI's latest and past developments in environmental auditing, **Chapter 3.6**, to strengthen and support through international commitments, the accounting and auditing standards developed and applicable to environmental auditing, **Chapter 3.7**. This will ultimately assist in determining the mandates, roles and functions SAIs play or should play to consider and include environmental issues and risks within their public sector audit methodology processes, **Chapter 3.8**. There are obvious challenges for SAIs to ascertain and implement effective public sector environmental auditing within their audit methodology processes, **Chapter 3.9**. The most pivotal relates to the problem statement, **Chapter 1.3** and aim and objectives, **Chapter 1.5** of the research in identifying and debating current placement or locus best fitted to enhance public sector environmental accountability, **Chapters 3.10** and **3.11**. This part of the study (literature review) is foremost to determine global best practice or trends followed in the consideration and placement of environmental issues and risks within SAIs' public sector audit methodology processes, reasons therefor and contribution towards enhancing public sector environmental accountability. This literature review, the data acquired and analysed and information obtained through survey analysis and questionnaires, developed that which follows and aimed to determine the current global status quo and trends followed by SAIs and to answer **Sub-Research Questions 3** and **4**. The initial focus of the literature reviewed in **Chapter 3**, is on the placement and development of environmental inclusion in global SAIs' audit methodology processes (within a developed and developing country perspective).

The local literature review includes the South African environmental resource base, stresses and impacts on the life of citizens, **Chapter 5.2**, followed by legislative requirements on environmental management in South Africa, **Chapter 5.3** and South African environmental

governance and regulatory regimes, **Chapter 5.4**. The second part of the local literature review is pertinent to the South African Supreme Audit Institution and environmental auditing, **Chapter 5.5**, which includes the structures, resources, audit methodology processes, need to consider audit and report on environmental issues and risks and ultimately, the environmental involvement, approach and placement within its public sector audit methodology processes. This literature reviewed, the data acquired and analysed and information obtained through survey interviews and questionnaires, aimed to determine the current local status quo and trends followed by the South African SAIs and to answer **Sub-Research Questions 1 and 2**. The latter part of the literature reviewed in **Chapter 5**, is adapted to a local, South African SAI perspective.

2.4 A global perspective: Additional Research Methodologies

This part of the thesis aims to briefly introduce the reader to the global research methodologies selected (additional to the literature reviewed) for the research study, with the detailed processes, findings and results presented in **Chapter 4**.

2.4.1 Global data acquisition, comparison and analysis

As indicated in the thesis structure, **Figure 4** and research design, **Table 2**, the research commenced with a world or global perspective on the extent and location (placement) of environmental issues and risks' inclusion within SAIs' current audit methodology processes. The next step was now to identify and compare the most relevant global data (that will answer the research sub-questions applicable to gaining or elaborating on this global perspective on the environmental placement and developments followed by SAIs).

If we look at what data entails, it is perfectly captured in the book by Antonius (2003:12), stating "that the word points to information that is collected in a systematic way and organised and recorded to enable the reader to interpret the information correctly". This entails some science of thought to understand and validate the information collected. Schostak and Schostak, (2008:10) define the soul of data capturing, stating that "data is not given as a fixed, but is open to reconfiguration and thus alternative ways of seeing and finding answers to questions which one wishes to answer". In their book, Marshall and Rossman (1999:150) define data analysis as "the process of bringing order, structure and meaning to the mass of collected data". It further states that "the main task during data analysis is to identify common themes in peoples' description of their experiences" and is a timeous process. Within "qualitative research the potential sources of data are limited only by the researcher's open-mindedness

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and creativity”, according to Leedy and Ormrod (2013:146 & 151). For further refinement, qualitative data analysis is described by Cohen *et al.* (2007:461) “as the process of making sense from research participants’ views and opinions of situations, corresponding patterns, themes, categories and regular similarities”. The qualitative approach to obtain and analyse data is not so structured or standardised with a wide variety of options of approaches and data analysis. With this thesis and research methodologies selected, the intention was to acquire and interpret global audit methodologies used to include and place environmental matter within INTOSAI’s current audits and reporting processes, and the contribution thereof to enhance public sector environmental accountability within both a developed and developing country perspective.

As a qualitative research, the global and local data were obtained from various sources through literature reviewed, Google and other social media websites, environmental surveys conducted with its results, and survey interviews and questionnaires relating to the research topic and the problem statement. According to Leedy and Ormrod (2013:152), “qualitative researchers” are often “intentionally non-random in their selection of data” and yet “their sampling is purposeful”. The authors further state that the selection of sampling in qualitative research reiterates that the size of the sample should be carefully selected and **suggest:**

- that samples should include “typical” and “non-typical” samples,
- the inclusion of various hierarchies and perspectives,
- the inclusion of cases that can likely dishonour evolving hypotheses and theories.

This is precisely the approach followed with the sample selection process, where working groups and facilities were selected to potentially afford the most relevant detail or information relating to the topic investigated. For the global perspective, the data analysed and compared are briefly alluded to in **Table 3**. Qualitative comparative analysis is basically interpreted as a data analysis technique to ascertain the logical conclusions that the specific data supports, and for this study, this is particular to the global INTOSAI WGEA environmental survey results. Ragin (n.d.) provides four answers to the question “**what is qualitative comparative analysis**, namely:

- a method that bridges qualitative and quantitative analysis,
- a method that provides powerful tools for the analysis of causal complexity,
- a method that is ideal for small-to-intermediate-N research designs,
- a method which brings set-theoretic methods to social inquiry”.

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This research study intended to compare countries' or regions' environmental audit placement and developments within their various audit types (audit methodologies) used. The reason for using examples within both the developed and developing country perspective, is the concise shift in importance of SAIs, to audit and report on environmental matters, and fill the gap whereas there is no, or weak environmental governance and/or regulatory regimes.

The global data acquired, analysed and compared (fed by the literature review) particularly addressed **Sub-Research Questions 3** and **4**, but also contributed to answering the **Main Question (1)** and its related **Sub-question 2**, or parts thereof, **Chapter 1.4. Sub-Research Questions 3** to **4** focused on the global perspective, whilst the **Main Research Question 1** and **Sub-Research Question 2** are South Africa specific, and focused on the local South African SAI and its public sector audit processes. The global data identified for analysis (INTOSAI WGEA Environmental Survey 5th – 9th Results (2004 – 2017) is relevant, and the most recent detail on the placement and developments within the international (global) fraternity SAIs. The questions relevant to attain global perspective, are briefly alluded to, for focus in the global milieu:

Global Perspective: Relevant sub-questions.

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“Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?”



Sub-Research Question 3

As soon as the current placement thereof is determined, the research study explored the latest developments and trends between the INTOSAI memberships (SAIs).

“What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?”



Sub-Research Question 4

The placement and development of environmental issues and risks were further interrogated within the global SAIs' audit and subsequent reporting processes to seek their contribution in strengthening public sector environmental accountability. Answering these questions acted as a basis for the context specific design of the literature reviewed that determined the holistic, global trend of SAIs to consider and include environmental issues and risks within their audit methodology processes and preferred locus or placement. This was ultimately compared with

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the norm followed and preferred choice or placement within the South African SAI, particularly as depicted in **Chapter 6**. The literature reviewed included exhaustive research of selected SAIs' databases, and various key words relating to public sector auditing and the environment. Furthermore, data and reports from the INTOSAI WGEA, other regional and language bound environmental working groups and the South African SAI contributed to the majority of the literature scrutinised. Harrington, (2009:179) describes "information literacy as an integral component of the quest for knowledge" and further emphasises the critical importance of identifying, obtaining and using the relevant information and resources in the research. This guidance was used to identify the resources pivotal for this research. The literature reviewed, **Chapter 3**, and the global research methodologies, **Chapter 4**, explore the global context, whilst **Chapters 5** and **6** are more specific on the literature used within a local, South African public sector auditing perspective. **Chapter 7** summarises, concludes and recommends on the research cycle (process followed).

The most important role-players identified within the worldwide community to contribute and make significant inputs on the best placement of environmental issues and risks within the audit methodology processes of the external government audit community (SAIs) are INTOSAI, INTOSAI WGEA (and Secretariats) and iCED. The global data acquired, analysed and compared for this study includes the INTOSAI WGEA Environmental Survey 5th – 9th Results, **Table 3**, covering a 49% response rate from the INTOSAI membership countries:

Table 3: INTOSAI WGEA environmental audit survey responses selected

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No Survey	Period	INTOSAI Population	No SAIs completed	Response Rate
Report Date	Covered	Survey distributed to INTOSAI Members	Per Survey Summary	Overall %
9 (2018)	Jan 2015 - Dec 2017	192	60	31%
8 (2015)	Jan 2012 - Dec 2014	192	58	31%
7 (2012)	Jan 2010 - Dec 2012	190	112	62%
6 (2009)	Jan 2007 - Dec 2009	189	106	59%
5 (2006)	Jan 2004 - Dec 2006	186	119	64%
Total				49,4%

Note: Environmental Audit Surveys 1 – 4 not included for this thesis research study.

This environmental survey data obtained and analysed, followed on the literature review, **Chapter 3** and is further interrogated through a Global Survey Questionnaire, **Chapter 4.3**, developed and forwarded to INTOSAI WGEA audiences. It is covered in the next section.

2.4.2 Global Survey Questionnaires

Surveys are a special research tool and are defined as “the collection of information from a sample of individuals through their responses to questions” (Check & Schutt, 2012:160) and allow for various methods to identify participants and instrumentation and to collect the relevant data. Another well-structured definition from Groves *et al.* (2009:2) reads that “a survey is a systematic method of gathering information on a specific phenomenon for the purpose of examining or describing the phenomenon studied”. The 5th Edition (Fowler, 2013) presents the latest methodological knowledge on surveys and in the preface states that “surveys are fundamentally a matter of asking a sample of people from a population a set of questions and using the answers to describe that population”. It furthermore indicates how a “sample is selected, which questions are asked, and the procedures used to collect the answers all have the potential to affect how well the survey is likely to accomplish its goals”. An example where surveys were effectively used, refer to the published INTOSAI WGEA periodic environmental audit surveys, that wanted to determine environmental auditing developments within individual sites and membership countries, INTOSAI WGEA, 2019. The research questions developed for the online survey questionnaires were used in this study as one of the primary data collection methods and followed on extensive literature reviewed, data and reports analysed relating to the research theme. Alvesson and Sandberg (2013:29) refer to the term “gap spotting”, where the researcher analyses current and available literature to ultimately formulate the research questions. The advantages and disadvantages of using survey questionnaires were reviewed and considered, to ensure the usefulness and proper planning of the information required, the participants and the accuracy of their informative responses received (Leedy & Ormrod, 2013:191). For the purpose of this research study, the “guidelines for constructing your questionnaire” (Leedy & Ormrod, 2013:196) were used to ascertain that the information obtained is relevant, possible to interpret and the desired response rate achieved. A comprehension of the current status quo, methods and means used to include environmental issues and risks within public sector audit types and processes is required to provide global trends and best practice followed. To achieve this, the survey method was used, which included a questionnaire to the INTOSAI WGEA REGIONAL WGEAs and iCED. **Annexure D** refers to these international stakeholders selected for the global survey questionnaire. A semi-structured survey questionnaire was developed, see **Annexure A, Part 1**, that focussed on global stakeholders and inputs. This survey questionnaire intended

to gather further opinion and input, subsequent to the INTOSAI WGEA 5th to 9th Environmental Survey Results from participating membership countries that were acquired and analysed, **Chapter 2.4.1. Table 4** summarises the global stakeholders identified, for input to the global survey questionnaire developed, analysed and concluded on in **Chapter 4.3**.

Table 4: Global Stakeholders for (online) Survey Questionnaires

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INTOSAI WGEA Stakeholders selected	Surveys sent
INTOSAI WGEA: Secretariat (Chair)	1
PASAI: Secretariat	2
ASOSAI: Secretariat	4
AFROSAI: Secretariat	2
EUROSAI: Secretariat	4
ARABOSAI: Secretariat	3
OLACEFS: Secretariat	3
iCED: INTOSAI WGEA Training Facility	2
Total	21

The actual analysis and outcomes of both the comparative analysis of the INTOSAI WGEA survey results and survey questionnaires developed and forwarded to the INTOSAI WGEA chair, regional secretariats and the iCED training facility are described in **Chapter 4**. The combination of the survey methods and inputs provided enough conviction that the results obtained is adequate, and more or additional sampling will not yield different results.

2.5 Concluding remarks (global research methodologies)

The preliminary literature reviewed, global data and information identified and selected, that prompted the research methods to be used (more comprehensive literature views on global, INTOSAI specific information, data acquisition and comparative analysis of environmental audit survey results and survey questionnaires to selected INTOSAI WGEA members) gave background and perspective on the preference, development and contribution of public sector auditing (overall) in enhancing environmental accountability within membership countries. These methodologies were linked to the research objectives as well as the **Sub-Research Questions 3** and **4** that were particular to the global SAI fraternity, and will eventually

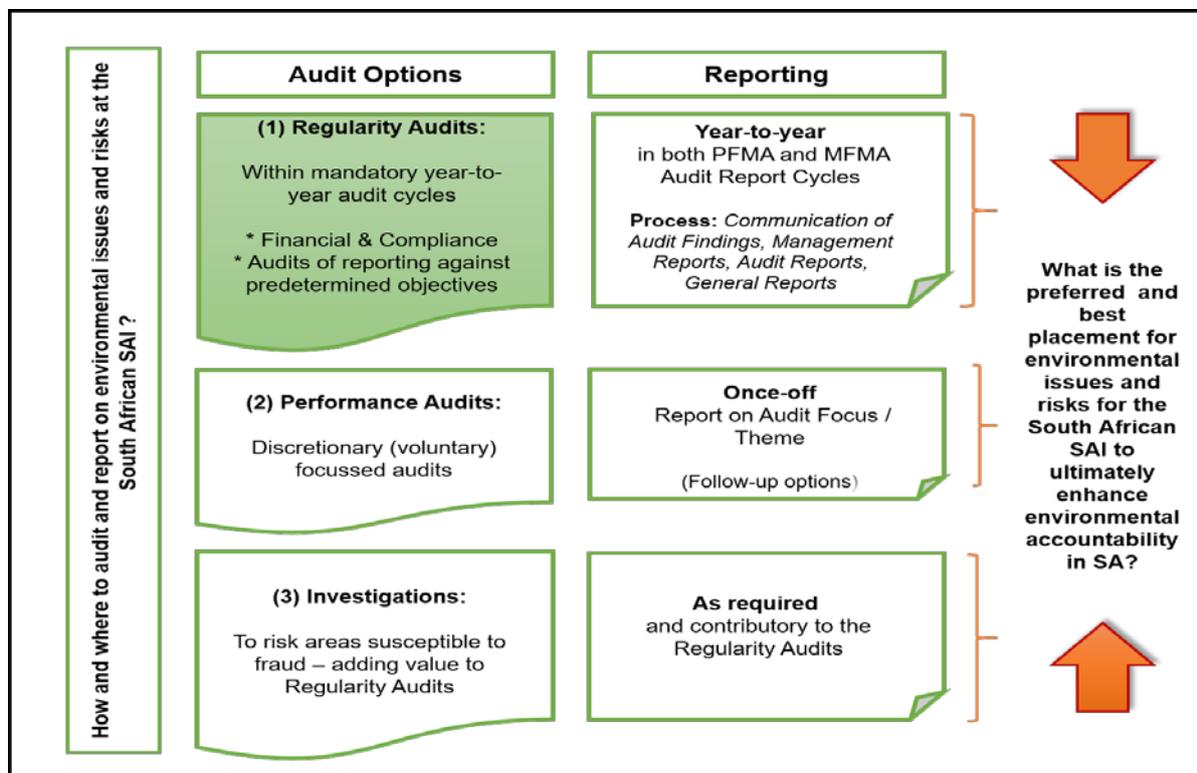
contribute towards understanding of the South African SAI placement and its contribution to enhance environmental accountability. This global perspective and best practice were further devolved to a local (South African) perspective, also emphasising the selected research methodologies.

2.6 A South African perspective: Additional Research Methodologies

This part of the thesis aims to briefly introduce the reader to the local research methodologies selected (additional to the literature reviewed) for the research study, with the detailed processes, findings and results represented in **Chapter 5**.

2.6.1 Local data acquisition (through literature reviews and other available sources)

As indicated in the thesis structure, **Figure 4**, and research design, **Table 2**, the research theme is pertinent to interrogate and advance understanding of the placement of environmental issues and risks within the South African SAI's public sector regularity audit methodology processes and its contribution to enhance environmental accountability. This is schematically laid out in **Figure 7**.



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Figure 7: Assessment of environmental issues and risks within the regularity audit option of the South African SAI.

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The data acquired, attained and scrutinised through local literature reviews includes information on current environmental governance structures and organs of state responsible to manage, administer, monitor and enforce environmental roles, responsibilities and legislative compliance. This data and information analysed accentuated the perceived and required role of the South African SAI to consider, audit and report on significant environmental issues and risks. Experience within SA public sector auditing and reference to an immature or weak environmental regulatory regime, (Department of Environment Affairs, responsible to manage, oversee and monitor the environment), the South African SAI may fulfil this oversight gap, identified during public sector environmental audits, or play a contributing role towards improved environmental accountability. The current placement and contribution of environmental issues and risks within the local, South African SAI's available audit methodology processes needed to be critically assessed and compared to establish an advanced understanding and to propose the best suited placement or best audit type to use.

Data instrumental to this research study included information on the AGSA mandate, structures, resources, audit methodology processes and latest developments in environmental auditing, as depicted on its website and intranet, and public sector audit reports in the public domain (within both mandatory and voluntary audit methodology processes). The latest report available (from the Department of Environmental Affairs) on their capacity, resources and environmental monitoring and enforcement, was also deemed relevant for the intended purposes of the research. The idea was to establish where environmental issues and risks are currently placed within the public sector audit methodology processes of the South African SAI, **Sub-Research Question 2 refers**, and then to determine whether a mandatory regularity placement will improve or enhance public sector environmental accountability, **Main Research Question 1** refers. The data selected and used contributed to answering the research questions, as well as elucidating the research aim and objectives alluded to in **Chapters 1.4** and **1.5** respectively. This data acquired and analysed particularly addressed the local (South African perspective) research question.

South African (local) perspective: Relevant Sub-research question.

Smith, 2020

Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African SAI?



Sub-Research Question 3

The placement, **Sub-Research Question 2**, within the local South African SAI's audit methodology processes and the effectiveness thereof, **Main Research Question 1**, were also briefly compared against the maturity and performance of the environmental regulatory regimes (to ascertain the needs and required involvement from the South African SAI). The maturity and effectiveness of environmental regulatory regimes to manage, monitor and report on environmental issues and risks, discrepancies and compliance, is often perceived as a grave concern in some countries (particularly developing countries). This might impact on the need and involvement required from SAIs. It is therefore important to determine the effectiveness and maturity of the local South African environmental regulatory regimes, which might also have a bearing on the most suitable placement of environmental issues and risks within the South African SAI's mandatory and voluntary public sector audit methodology processes.

This local data reviewed and scrutinised is then further interrogated through local interviews for better understanding and probing the environmental placement options within the South African SAI's audit methodology processes to enhance environmental accountability.

2.6.2 Local Survey Interviews

Interviews necessitate more than just mere questions with careful planning to ensure that the questions and responses actually provide the information needed for the research (Leedy & Ormrod, 2013:194) and they also identify specific guidelines, which were followed in this quantitative research study. Kvale (1996) contends that "qualitative research interviews seek to describe the meanings of central themes in the life world of the subjects. The main task in interviewing is to understand the meaning of what the interviewees say". Kvale (1996) furthermore stresses that "a qualitative research interview seeks to cover both a factual and a meaning level, though it is usually more difficult to interview on a meaning level. Interviews are particularly useful for getting the story behind a participant's experiences. The interviewer can pursue in-depth information around the topic". Interviews can therefore be practical to follow up certain responses on questionnaires, or further investigate these responses (McNamara, 1999). It is very important to pre-determine the information required for the research, where the researcher wants to test opinion or substantiate the study results with facts (or both) towards the research aim and objectives. In qualitative research, interviews are often perceived as open-ended, addressing the key issues, but also diverging in different directions for particular participants. "In a structural interview, the researcher asks a standard set of questions", without any further elaboration. "In a semi-structured interview, the researcher may follow the standard questions with one or more individually tailored questions

to get clarification or probe a person's reasoning" (Leedy & Ormrod, 2013:190). The authors also stress that the qualitative study (and questions) follow a more informal or cordial approach in contrast with the more formal and emotionally neutral quantitative approach.

A semi-structured face-to-face interview approach was followed to also establish personal feel, preference and experience in the placement and value-add of environmental issues within public sector audit methodology processes. A local, South African perspective target group was selected that included internal and external stakeholders of the South African SAI, **Table 5**. This research method (interviews), aimed to attract subjective opinion on the environmental governance challenges, the need, role, why and how the South African SAI should include environmental issues and risks within their available public sector audit methodology processes, the maturity of environmental regulatory regimes, as well as the need to also be involved or contribute to international environmental commitments, treaties and agreements. It addresses or answers the **Main Research Question 1** and **Sub-Research Question 2**.

South African (local) perspective: Main research question.

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Is the placement (or locus) of environmental issues and risks within the public sector audit methodology processes of the South African SAI, enhancing public sector environmental accountability?



Main Research Question 1

The interviews identified were selected from a range of important internal and external stakeholders of the South African SAI. **Annexures H** and **I** refer to the local (South African SAI) internal and external stakeholders selected for interviews and questionnaires, whilst **Annexure J** documents the detail of the actual interviews undertaken. The internal stakeholder selection, **Table 5a**, started from a leadership (executive) group, with the purpose to get some input and perspective from management on the status quo and need to include environmental issues and risks within current public sector audit methodology processes. The executive selections (for interviews) included the current Auditor-General, the Deputy Auditor-General, the National Leader, and important national business executives and units that are contributory in the development of resources, policies, plans, procedural developments and working papers (from the planning, execution and reporting processes of the audits). The Performance Business Unit of the South African SAI is responsible and tasked to manage and further develop environmental focus and processes within the organisation. The North West Business Unit of the South African SAI performed environmental pilot audits (between 2012 –

2019) on selected environmental management risks within its current day-to-day regularity audit and reporting processes, emphasising the need for the South African SAI to also consider and include pertinent environmental issues and risks within their mandatory audits. Preference and placement of environmental issues and risks within voluntary (performance) audit types and processes of the South African SAI are questioned, given the resource limitations.

Table 5: Interviews: With selected stakeholders of the South African SAI

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(a) Internal Stakeholders		18
AGSA: Executive Leadership (AGSA, DAG, NL, Executive)		4
AGSA: Performance Audit Business Unit (BU) , Business Executive (BE) and 2 x Managers		3
AGSA: PFMA: National BU's (A – F) , BE's		6
AGSA: Supporting BU's , Information Knowledge Management (IKM) and Audit Research and Development (ARD)		2
AGSA: North West Province BU , BE and 2 x Deputy BEs		3
(b) External Stakeholders		9
AFROSAI-E (Secretariat within the South African SAI), Environmental Manager		1
SALGA (National and Provincial (NWP), Managers		2
JB Marks Local Municipality (NWP), Environmental Manager		1
Contracted Audit Firms: Maseng Viljoen, Moore and Stevens, Managers		2
North West University (Unit - Business Administration and Governance)		1
Environmental Regulatory Authority (National), 2 x Managers		2

The external stakeholders, relevant and accessible for interviews, **Table 5b**, included AFROSAI-e, representing the African English-speaking SAI's, instrumental South African environmental governance and oversight institutions such as the DEA, the DWS and SALGA on national and provincial level, selected audit firms (where audits are contracted in or out by the South African SAI) and a selected local authority, where environmental issues and risks are included in the regularity audit and reporting processes. The process (interviews) includes operational audit Business Units (of the South African SAI) within all spheres of government,

ultimately probing the placement of environmental issues and risks within the audit methodology processes, to enhance environmental accountability. **Annexure G** includes background to the interviewees (prior to the interviews conducted), and **Annexure H** includes the local (South African) internal and external stakeholders of the South African SAI that were selected for the interviews. **Annexure I** contains details of the actual interviews undertaken and **Annexure J** summarises the main points within their responses, whilst **Annexure K** refers to the interview questions asked (similar to the survey questionnaires forwarded). The survey interviews and questions, as a research method, **Chapter 6.2**, was pertinent to South Africa, aiming to obtain the local information on the aim and objectives, **Chapter 1.5**. The importance of operational audit teams for inputs cannot be over-emphasised, as they are responsible for performing the audits and reporting thereon, and are aware of the options and best fit for environmental issues and risks within the available audit types and methodologies.

2.6.3 Local Survey Questionnaires

From a local perspective, the main role-players identified for survey questionnaires only included the internal stakeholders (operational audit business units) of the South African SAI, **Table 6**. These role-players, (operational audit teams), are best placed for subjective opinion on the operational needs and challenges to audit and report on environmental issues and risks within mandatory public sector regularity audits and contribution to enhance public sector environmental accountability. Due to the business unit locations within each province of South Africa and limited access to the operational audit teams, a survey questionnaire was deemed the most appropriate mechanism to further substantiate the (internal) interviews conducted and alluded to in the previous section. Internal stakeholders selected for the online survey questionnaires are detailed in **Annexure L**, with **Annexure M** the online survey responses.

Table 6: Online survey questionnaires to internal stakeholders of the South African SAI

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	113
AGSA: National BU's (PFMA Audits: Relevant Departments)	32
AGSA: Regional BU's (MFMA Audits: District and local municipalities)	36
AGSA: Regional BU's (MFMA Audits: Metropolitan municipalities)	21
AGSA: Product Champions (Technical audit specialists per BU)	24

Note: The Public Finance Management Act (PFMA) included the departments listed in Schedules 1 and 2 of NEMA, 1998. The Municipal Finance Management Act (MFMA) included 1 District Municipality and 1 Local Municipality per province and all the Metropolitan Municipalities. All AGSA Product Champions (technical specialists).

A comprehension of the current status quo, views, means and preference, to include environmental issues and risks within public sector audit types and processes of the South African SAI was required to provide local trend and current practices followed. To achieve this, the surveying method used was included in the online survey questionnaire referred to and forwarded to each province (nine business units). Due to the size of the office, and the audit teams and auditees responsible, the focus was limited to the Business Executives, Product Champions and one selected operational audit team (Senior Manager and Audit Manager) within each business unit (province), referred to in **Table 6**. A semi-structured survey questionnaire was developed, **Annexure K**, with **Part 2** focussing on local (internal) stakeholders and inputs, **Table 7**. This questionnaire (survey) intended to gather further opinion and input on the value and effectiveness of current placement of environmental issues and risks within the local South African SAI's audit types or methodology processes, **Sub-Research Question 2**, ultimately addressing the **Main Research Question 1**. This survey questionnaire followed on the interview results from identified internal and external stakeholders selected, **Chapter 2.6.2**.

2.7 Concluding remarks (local research methodologies)

The preliminary literature reviewed, and local data and information identified and selected that prompted the research methods used (more comprehensive literature view on SA and the South African SAI specifically, survey interviews and questionnaires) gave background and perspective on the placement and contribution of public sector regularity auditing in enhancing environmental accountability in SA, as well as the needs and developments thereto. These locally focussed methodologies were linked to the research aim and objectives as well as the **Main Research Question 1** and **Sub-Research Question 2**, particular to SA.

2.8 Overall Summary (research design and methodology)

The research design, outline and selected methods applied in the study were presented in this chapter. This included detail on the preliminary literature reviewed and compared to the research theme, aim and objectives. The distinct phases of the entire research study were briefly introduced and outlined. The methods selected and applied were relevant and most suitable to gain insight to the initial problem statement, current developments and preferred placement of environmental issues and risks within **(global)** SAIs' audit types and methodology processes, and then applied to a **local**, South African SAI perspective.

The application of these research methodologies and their ensuing results are covered in **Chapters 3 to 6**, and synthesised and concluded upon in **Chapter 7**.

CHAPTER 3: GLOBAL LITERATURE REVIEW

This chapter continued from the initial literature review (Chapter 2.3.1.1) and literature review as a research method (Chapter 2.3) and seeks to introduce a theoretical world-wide perspective and understanding of environmental inclusion and developments within public sector audits of Supreme Audit Institutions. The literature reviews mostly contributed to Sub-Research questions (3 and 4) developed in Chapter 1.4, as well as the subsequent objective (1) of doing desk-research on global data and websites to determine the need and value of including environmental issues and risks within SAIs' public sector audit methodology processes (depicted in Chapter 1.5). The chapter starts with an introduction (3.1) followed by detail of the environmental resource base and impact on life of citizens (3.2). Environmental governance and public sector auditing are briefly explored (3.3). The pillars and need for good environmental governance were discussed (3.4), with the link between public sector accountability and environmental auditing defined (3.5). Extensive focus and emphasis are placed on current INTOSAI developments in environmental auditing (3.6). SAIs mandates and expectations to audit and report on environmental issues and risks follows (3.7), with the main challenges for effective public sector environmental auditing briefly reviewed (3.8). The next important consideration for appraisal were on SAIs current placement of environmental issues and risks within their public sector audit methodologies, compared with the various available options (3.9). The latter part of the chapter looks at INTOSAI's preference and guidance of the best suited placement of environmental matter to enhance public sector environmental accountability (3.10), and concludes with an overall summary of the chapter (3.11).

3.1 Introduction to the global literature review

This chapter aims to particularly review and interrogate where environmental issues and risks are currently placed within the public sector audit methodology processes of global SAIs and the latest developments of this inclusion or placement. The global literature review will assist in gaining perspective towards answering **Sub-Research Questions 3 and 4** (developed in **Chapter 1.4**):

Sub-Research Question 3: Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?

Sub-Research Question 4: What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?

Preliminary literature reviewed and introduced in **Chapter 1.1.1**, already alluded to and gave some perspective on the global response to the environmental challenges, the need for effective environmental governance, the challenges to ascertain environmental accountability in the public sector, and the perceived role and impacts of environmental audits by SAIs. There seemed to be some consensus on the importance of SAIs to assist governments in assessing and reporting on environmental performance, but there are differences in opinions, ways and means regarding the audit type and process used or believed to be best suited to enhance environmental accountability. This links to the aim of the study, **Chapter 1.5**, to gain better understanding of the placement and contribution of environmental issues and risks within these various public sector audit types and methodology processes.

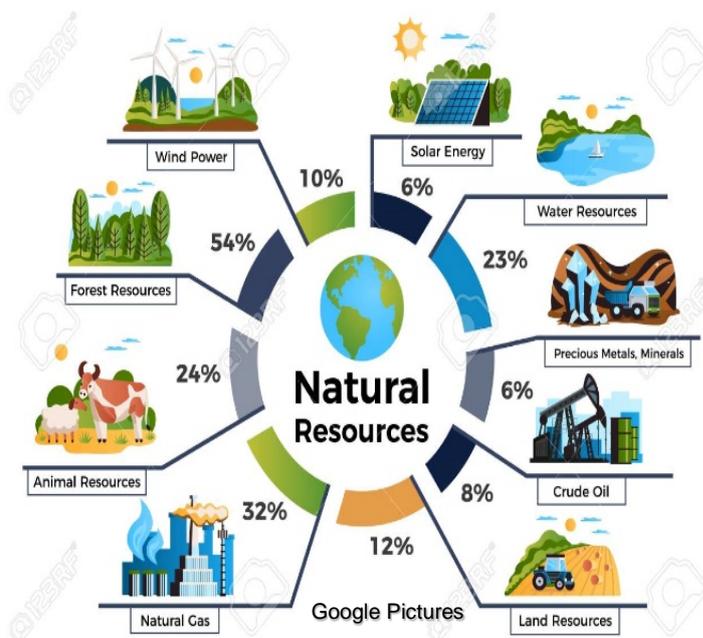
3.2 The environment and natural resource base: Impact on lives of citizens

The continual evolving role of SAIs to ensure public sector accountability has been considerably explored, but the inclusion and placement of environmental issues and risks within the available public sector audit methodology processes and their contribution to enhance environmental accountability **are still argued, with some authors agreeing or disagreeing on the best fit or placement** (INTOSAI WGEA, 2004a) (INTOSAI, 2016). The **need for SAIs to get involved**, and to audit and report on the depletion and degradation of the earth's natural capital, wasteful and unsustainable resource use, **is becoming more important**, considering **governments' reported failures** to fulfil or perform their environmental oversight, mandates, roles and responsibilities, (INTOSAI, WGEA, 2007a). In this part of the research study, the reader needs to be sensitised to what the environment entails, major problems and efforts towards effective and sustainable environmental governance, and ultimately, **how and where SAIs can include this focus (environmental issues and risks) in their audits to enhance public sector environmental accountability in their respective countries.**

In their book, Tyler Miller and Spoolman (2012: 5-11), stated that the environment basically includes everything, the living and non-living things, for example air, water and energy. It is everything to interact and connect with in the world in which we live. Natural and environmental resources include all elements that are available in nature, essential and useful to humans. Sustainability again refers to how these elements and resources can adapt and survive, for current and future generations, against the current rate of use and need from the natural capital supplying it. There are resources that are renewable, such as forests, fish populations, fertile topsoil and more, but they should not be used on a faster trend than nature can renew. Non-renewable resources are again more fixed in nature, and although renewable over a very

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long time-span, they can be depleted much faster than nature's ability to reproduce or form them. Examples, **Figure 8**, include coal, oil (energy resources), copper, aluminium (mineral resources), salt and sand (non-metallic mineral resources), according to Tyler Miller and Spoolman (2012:11). The World Health Organisation (1992), stressed the importance to consider the impacts of population numbers and its consumption rates, when discussing any issues of health, the environment and development, as the population and its consumption rates largely determines what the impact of the human population will be on the environment. The world is living unsustainably, depleting, consuming and degrading our natural resources



much faster than they can be replenished, replaced or repaired. Over-population (also ever-increasing in Africa), and together with unsustainable life-styles, is a continual threat to the natural resource base and the environment. According to Alexandratos (2016), the expanding human race with its insatiable needs has a major effect on the economy and ultimately the environment.

Figure 8: Natural resources under threat due to over-population and resource depletion

As our ecological footprint that affects the earth continually grows, topped with an ever-expanding human race, the need for nature's resources and the ability to increase capacity is under severe stress, Tyler Miller and Spoolman (2012:12). The global resource depletion and subsequent environmental limits to economic growth evolved from the shortages in environmental sources and/or the lack of capacity to absorb wastes and overflows that negatively impact or harm the environment. Other causes of environmental resource depletion, subsequent to overpopulation, consumption and pollution, include deforestation, destruction of ecosystems (causing biodiversity loss), mining of oils and minerals, technological and industrial development and erosion. The world's resource problems, with reference to both renewable and non-renewable resources, are real and will only regress or worsen under current practices and political economic systems (Magdoff, 2013:1). It is therefore non-negotiable to effectively plan, prioritise and manage our natural resources to ensure a sustainable future to the benefit of all. Depletion or misuse of natural resources may

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also impact on government's capacity to fulfil their service delivery roles and responsibilities, that will ultimately impact on the life of citizens. Khosla (2017) notes that **two priorities** to manage the environment and achieve sustainability are **(i)** to making sure that citizens have access to the required means of satisfying their basic needs and **(ii)** to further develop practices that safeguard, repair and sustain a healthy and productive environmental resource base. The author further identifies the need for international communities and public governments to work towards efficiency (as primary means of reducing the pressure on natural resources, particularly by reducing waste) and sufficiency (as an accepted goal to ensure that citizens have access to enough resources for a decent life and without transgressing the planetary limits, (Khosla, 2017). The most well-known means to assist communities in saving natural resources, should include efforts to reduce, reuse and recycle, that should be incorporated in any sustainable efforts and means by governments.

One's quality of life can be severely impacted by the quality of the physical environment. Streimikiene (2015) believes that environmentally responsible behaviour or management may **include various ways and means to:**

- ensure saving of resources and energy,
- use alternative renewable energy sources rather than fossil fuels,
- ensure good and effective waste-water management and disposal practices, and/or,
- ensure waste recycling.

These indicators can be seen as the main drivers of environmental quality and directly impact on the quality of life, according to Streimikiene (2015). Everybody, in private and public sectors, is instrumental in the quest to protect and safeguard the environment and its natural resource base. Countries, governments and organs of state should develop, implement, maintain and monitor environmental mandates, roles, responsibilities and performances through means of accountability and reporting thereof. Although many countries have good environmental policies, plans and legislation, there is sometimes a gap or need between implementing or effecting these policies and plans, as well as enforcing legislative and related requirements to ultimately enhance public sector environmental accountability. Weak or ineffective environmental governance (and regulatory regimes) may have an impact or direct the role for SAIs in auditing and reporting on significant environmental issues and risks. The next section will explore the SAIs' mandates and roles to affect or improve environmental governance.

3.3 Environmental Governance and Public Sector Auditing

Whilst the previous section alluded to the current environment and natural resource base and how it can impact on the life of citizens, the role of government and governance trends should be further explored, given its significance to SAIs and the quest to improve public sector environmental accountability.

The global environment affects human wellbeing (WHO, n.d.), whilst human activities have severe impacts on the environment and need to be properly managed and governed (Kulin and Sevä, 2019). The concepts of governance and environmental governance need to be briefly explained. **Governance** is generally known as the action or manner in which an organisation or state is managed and governed, well-defined and referred to in a journal article “as a useful vehicle for conveying the existence of elaborate institutional mechanisms whose purpose is to consistently influence the actions of players in the political arena, both domestic and international” (Mushkat, 2011:3). Although a myriad of definitions is available, according to a research report, the concept governance consistently refers to “how power and authority are exercised and distributed, how decisions are made, and to what extent citizens are able



to participate in decision-making processes” (Wingqvist *et al.*, 2012:13). According to Weis (2010), government is seen as the institution or administrative machinery effecting policy, whilst governance refers to the outcomes or quality produced. **Environmental governance** also fits into this category, but is particular to decision-making institutions and processes that ultimately affect the

environment. To properly govern the environment, the decision-making processes should be aligned to set environmental goals and their pursuit of sustainability, (Savage and Osborne, 2020).

“Global Environmental Governance (GEG) is the sum of organisations, policy instruments, financing mechanisms, rules, procedures and norms that regulate the processes of global environmental protection.” (Najam *et al.*, 2006:16)

Considering environmental governance’s evolvment, trends and developments, for the purpose of this study, we need to also consider and look at when and how **environmental auditing** evolved, and how it responded to the new legislative enactments and subsequent

developments towards improved environmental management by governments or organs of state. Literature reviewed, **Chapter 2**, introduced the emergence of environmental auditing in the late 1970's, and the early 1980's saw established companies introducing internal environmental auditing as part of their quest towards effective environmental health and safety programmes. These programmes further evolved to environmental management systems (EMS) in the early 1990's, that not only focussed on compliance auditing, but also included issues such as training, education, awareness, waste and pollution minimisation and community involvement, as examples. In 1996, the ground breaking "International Organisation for Standardisation (ISO) 14001, International Standard for Environmental Management Systems" was published, that included "guidelines" on the "principles, systems and supporting techniques" to use in the design and implementation of an EMS (ISO 14004). These documents were since revised twice, and steered environmental management as well as compliance assurance programmes (ISO, 2004) (Naden, 2015). External certification audits resulted, whereas companies and their activities are assessed against these set requirements and principles adopted, according to Hall (2009:4-6). Although SAIs are not performing such certification audits, they provide guidance and direction to effective public sector governance. Continual evolvement in public sector auditing, as an additional tool to ascertain effective environmental performance and compliance assurances within organs of state, place more emphasis on SAIs to include and report on significant environmental issues and risks within their public sector audit methodology processes.

3.4 The pillars and need for good environmental governance

Looking at the main environmental concerns, continual evolvement of environmental management and means, shifts in emphasis and latest trends (e.g.), emphasis on good public sector environmental governance and accountability cannot be underestimated. Good environmental governance, sometimes referred to as democratic governance (Murombedzi, 2013), is critical and needs a collective and co-operative approach to address global and cross-border environmental concerns, with the aim to: "ensure inclusive participation, making governing institutions more effective, responsive and accountable, and respectful of the rule of law and international norms and principles" (Lister, 2010:6).

"Good Governance promotes equity, participation, pluralism, transparency, accountability and the rule of law, in a manner that is effective, efficient and enduring" (Williams, 2015).

During the UNFCCC Conference in Copenhagen (07 – 18 December 2009), emphasis was placed on the increasingly complex challenges faced by governments to effectively govern

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and sustain the rich and diverse natural resource base through legislation, policies, plans and strategies that direct human interaction with the environment (UNEP, 2009:2-3). Cooperation or co-operative measures are needed from all role-players, in and outside government, in achieving a more sustainable future (DEA, 2014). The key principles of good governance should also be applied within governments' efforts to protect, safeguard and sustain the environment, for current and future generations to come. The rule of (environmental) law, compliance to (environmental) legislation and related requirements, as well as (environmental) accountability, are key terms for SAIs to consider and report upon within their public sector audit mandates. Good environmental governance or management is inextricably linked with good governance and its key principles. In a report from SETA, the following key principles of good governance were identified, **Table 7**, (Wingqvist, *et al.* 2012:15).

Table 7: Key principles of good governance

Wingqvist, *et al.* 2012:15

Key principles	Needs (<i>summarised</i>)
Effectiveness and efficiency	“Effective, results driven institutions and processes providing the needs through best use of resources
Responsiveness	Institutions and processes be inclusive/responsive to changes
Coordination, integration and coherency	Should enhance and promote coordinated and holistic approaches for integration of policy, institutional areas, various stakeholders
Rule of law and impartiality	Fair legal framework, enforces impartially with equity and in non-discriminatory way. All people to be treated equally/fairly with equitable access to opportunities, services and resources
Accountability	All decision-makers (government, private and civil sector) be responsible to execute their powers properly and be accountable therefor
Transparency	Free, accessible information to all concerned
Participation	All citizens to have voice and opinion on any decision-making and subsequent processes affecting them. Governments to follow an inclusive approach for participation
Integrity	All behaviour and action to rest on moral and ethical principles and standards (as deterrent for corruption)”.
The key principles of good governance are also applicable on environmental governance, need to be part of all decision-making processes and to consider the role of all involved or impacting on the environment.	

Environmental governance is not necessarily the responsibility of government alone, as it includes various and diverse actors and role-players within public, civil and private sectors

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responsible to manage, protect and conserve the environment and its resources (BOS, 2016). Any governance system requires that the processes of decision-making and formulation of public policy be transparent and accountable. It should be inclusive of proper and effective public participation, presence of rule of law and an independent judicial system, introduction and use of checks and balances where powers bestowed and effective oversight and monitoring agencies exist. Every country has their own unique environmental risks and challenges to govern or manage the environment, but differences between developed and developing countries may be indicative of weak environmental governance and/or regulatory regimes. Najam and Halle (2010:1) emphasise that “accountability – or lack thereof – is a fundamental challenge confronting improved global environmental governance”. Najam and Halle (2010:3-6) further state the most significant reasons why the culture of unaccountability is really overcome with **Global Environmental Governance (GEG) as:**

- GEG is declaratory rather than regulatory, wanting to manage and govern through rules. The regulatory approach will rather serve through regulation and include mechanisms of accountability,
- GEG became a negotiation system, rather than a system of implementation. It involves a system of many negotiators and not the desired implementers, resulting in limited actual improvements,
- The most important actors responsible to shape or impact on the environment are often excluded in the international decision-making process,
- The severity of our environmental problems and challenges surpassed GEG ambitions and institutional capabilities,
- The optional rather than obligatory commitments of GEG is an obstacle to implement real disincentives where not implemented and conformed to.

Worker (2015) refers to “4 Real-World Challenges to Environmental Democracy” **that include:**

- “public access to environmental information is still lacking,
- many governments don’t release pollution information from individual operators,
- public disclosure of environmental impact assessments for proposed projects is limited,
- The majority of countries assessed that courts are hearing public interest environmental cases – and this is a good thing – but other obstacles remain”.

Poor environmental management or governance is synonymous within many developing countries faced with other basic challenges, needs and priorities. Wingqvist, *et al.* (2012:16)

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lists typical environmental management challenges and risks in, **Table 8**, experienced by developing or so-called traditional countries. The reduction of these and associated risks have become part of current and future (planned) economic development processes (Wingqvist, *et al.* 2012:11). Literature reviewed is however also indicative of the higher resource use and pollution from the high industrialised or developing countries, with its growing activities and subsequent pressure on the natural resources. An example of this is described by the European Commission (2006), indicating a double environmental effect, where past environmental problems, such as deforestation and soil degradation remains, whilst new emerging challenges such as rising greenhouse gas emissions and water pollution is escalating. The more the challenges or obstacles, the greater the pressure on governments to manage, monitor and enforce. This might also be applicable to SAIs, whereas weak or ineffective regulatory regimes may warrant their (SAIs) involvement to assist in assessing and reporting on environmental performance and accountability in the public sector. Good environmental governance needs to be backed by sufficient and effective oversight bodies and regulatory regimes.

Table 8: Typical environmental management challenges in developing countries

Adapted and summarised from: Wingqvist 2012:16

Provisional challenge	Risks and impacts associated
Environment = low priority	<ul style="list-style-type: none"> - Lack of funding and other resource needs, - Limited support from government and political leaders
No or limited understanding between the links of environment – poverty – and development	<ul style="list-style-type: none"> - Environment is often seen as barrier to development and other objectives, - Uninformed decisions may obstruct sustainable development
Weak rule of law, high corruption risks, lack of transparency and lack of participation	<ul style="list-style-type: none"> - Implementation of legislation limited, - Natural resources misused, - Impacted and vulnerable groups have no say, - Lack of information or data
Weak environmental – and/or regulatory authorities (in some cases financed through external, project based funding)	<ul style="list-style-type: none"> - Project proposals based on international rather than own, unique challenges and priorities, - Project management instead of strategic governance, - By-passing of country systems and processes, - Accountability is rather on external financiers than on citizens
Cross-sectoral coordination low	<ul style="list-style-type: none"> - Incoherent and uncoordinated policies, - Overlaps and gaps in responsibilities

Regularly reported challenges through various media also refer to rapid urbanisation, population growth, ineffective or insufficient governance, corruption and shortage of investments.

3.5 Public sector accountability and environmental auditing

After looking at the pillars and needs for good governance, the next step was to consider public sector accountability and the inclusion of the environment within public sector auditing.

Public accountability is best described as “obligations of public enterprises and agencies (who are entrusted with public resources) to be answerable for fiscal and social responsibilities, to those who have assigned such responsibilities to them” (Business Dictionary, n.d.). This refers to the openness and accessibility to all citizens regarding the spending of public monies, and the managing and exercising of public authority under public legislative requirements. The term is closely linked to and requires good governance in both public and private sectors. “Public accountability is not just the hallmark of democratic governance, but also a *sine qua non* for democratic governance” (Bovens, 2003:13). The most important functions are listed in his paper as “1) democratic control, 2) integrity of public governance, 3) to improve performance, and 4) to maintain and enhance the legitimacy of public governance” (Bovens, 2003:14).

Environmental accountability within the public sector, according to Orozco (n.d.:8), refers to mechanisms and processes instituted by governments to manage, monitor and report on the regulatory framework followed by both the public and private sectors on environmental matters. It is a development urged to ensure environmental responsibility supported by environmental accounting, reporting and auditing. Orozco (n.d.:8) furthermore identifies three reasons, **Figure 9**, as to why governments should get involved in environmental accountability and to ensure a balance between acceptable conservation and protection of the environment, as well as sustainable economic development:



Orozco, n.d:8

Figure 9: Why governments should participate in environmental accountability

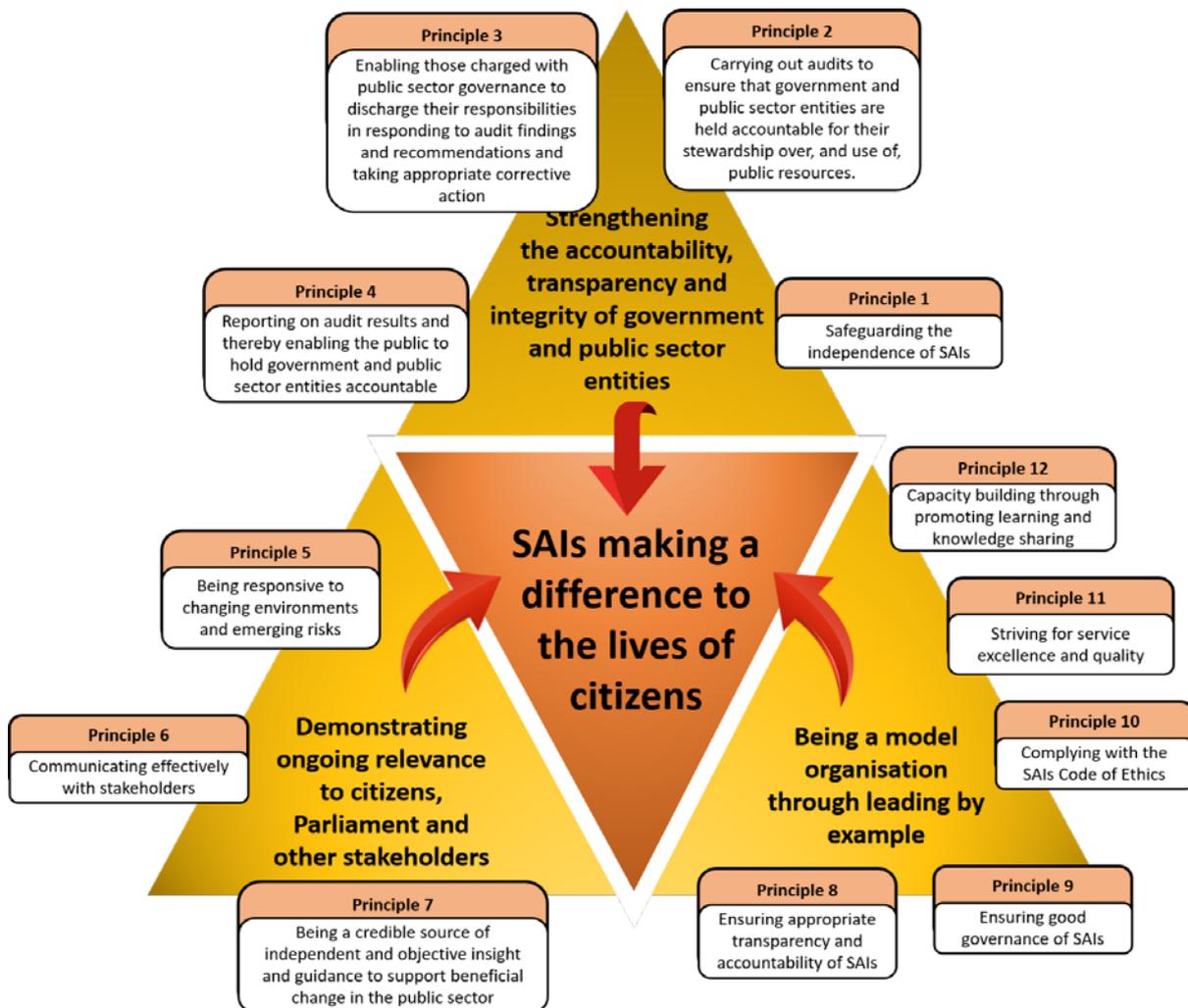
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Environmental auditing was already alluded to in the introductory phase of this thesis, but is again interpreted as an environmental management tool that identifies, audits and reports on the threats and effects that activities have on the environment, against established criteria or applicable standards. From a government perspective, it evaluates commitment to good environmental governance, as well as conformance to set environmental policies, plans and strategies. It is a measure of keeping the general public informed on government actions and performance, and ensuring that the environment and sustainability of environmental resources is properly considered during decision-making processes that may impact or affect the environment. Environmental auditing is a useful tool for entities to demonstrate their care and concerns for impacts on the environment and subsequent principles for improved environmental legislative compliance. The use of environmental auditing as an environmental governance instrument, within both regulator and regulated scenarios, will typically seek to ascertain public sector environmental legislative compliance, whilst also attempting to improve environmental practices and operational efficiencies (Van Rooyen, 2016). A released media article refers to “Environmental Auditing and Sustainable Development” as concise efforts to “improve the use of the current audit mandate in the fields of environmental protection and sustainable development by SAIs of all countries” (Boso, 2010), and shifts the emphasis on SAIs to also consider and include environmental sustainability pursuits within their public sector audits, thereby contributing towards improved environmental management and sustainable practices. As the general public became more conversant with and aware of the need to safeguard and protect the environment and its natural resources, so too did their expectations on governments’ roles and initiatives in this regard, (Kulin and Sevä, 2019). Terence Nombembe, previous Auditor-General of SA, quoted on future directions in the Office of the Auditor General, **“We as SAIs have a particularly important role to play to ensure that our governments are accountable, responsible and responsive to ensure that issues of environmental sustainability are at the center of our development initiatives”** (INTOSAI WGEA, 2007:55). Another value for inclusion of environmental issues and risks within audit methodologies includes **“Environmental auditing supports better governance and management”** (INTOSAI WGEA, 2012). INTOSAI WGEA (2012) refers to the contributions of national auditors (or SAIs) through meticulous assessments or audits on how environmental and sustainability programmes, legislation, regulations and set targets are managed, the implementation and performance thereof, on both national, and international levels. The roles of SAIs alluded to entail overseeing management of public funds, compliance of laws and regulations by public entities, as well as the performance of programmes, policies and other commitments of government. A briefing note lists the value and benefits of SAIs to their countries as **“(i)** strengthening the accountability, transparency and integrity of government and public sector entities, **(ii)** demonstrating ongoing relevance to citizens,

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Parliament and other stakeholders, and (iii) being a model organisation through leading by example” (INTOSAI WGEI, 2018:3-4). These three objectives can be achieved through pursuing the twelve principles set out in **Figure 10**, - obtained from ISSAI 12 (INTOSAI WGEI, 2018:3-4).

The role that SAIs can play is already alluded to in the introductory phase of this thesis, but to advance understanding of the placement, developments and contribution of public sector auditing towards environmental accountability, (**Chapters 1.4 and 1.5** refer), these 12 principles, **Figure 10**, are most relevant. Principle 3, namely “enabling those charged with public sector governance to discharge their responsibilities in responding to audit findings and recommendations and taking appropriate corrective action” and Principle 4 “reporting on audit results and thereby enabling the public to hold government and public sector entities accountable” both stress the possibilities with environmental inclusion.



INTOSAI WGEA, 2018:4

Figure 10: The principles of the value and benefits of SAIs under these objectives

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Reports from SAIs (in the public domain) also continually emphasise the importance of public confidence that can only be strengthened where leaders and officials in the public sector perform their duties legally, effectively, efficiently and in conformance with set rules and regulations, examples in documents (AGSA, 2019). Accountability should be enforced, whereas material instances of non-compliance occur within all spheres of government. This should be similar for environmental management in the public sector, where environmental non-compliance and impact needs to be continually monitored and reported on. These requirements to strengthen public confidence is lacking in many countries, including SA. Where weak regulatory regimes manage, monitor and enforce environmentally related legislation and set standards or requirements, SAIs may fulfill this oversight role in auditing, reporting and making recommendations in enhancing environmental accountability (OECD, n.d.). The Organisation for Economic Cooperation and Development refers to the fact that SAIs may vary regarding differences in legal, financial and political traditions, thus operating within their own unique socio-political context (OECD, 2010:16 & 23). This guide also emphasises the challenges that some SAIs face, especially in developing countries, where there is a void between what is legally expected, and on the other hand, what is allowed in practice. Some SAIs are not so restricted to perform and expand their audit mandates to include environmental focus, whilst others are limited through their legal mandates. SAIs' roles are generally aimed towards holding governments to account, examining whether public funds are spent economically, efficiently and effectively, within rules and regulations, and in line with set national priorities and standards. Their audit mandates are predominantly financially driven with an option to either include environmental issues and risks within their yearly mandatory regularity or discretionary (performance) audit processes. It is thus imperative that this research design and methodology explores the authority of SAIs to perform environmentally related audits and their legal mandate thereto. Jamtsho (2005:25-26) states that "environmental audits are either performance audits or a combination of a regularity and performance audit", that may be referred to as a comprehensive audit approach. The researcher's own experience in performing environmental management audits, following both regularity and performance audit methodology processes within the public sector of South Africa, resulted in indecisiveness or doubt about where it is best suited to achieve maximum value in enhancing public sector environmental accountability.

Most SAIs have already expanded their legislative mandates to include environmental management risks within their current mandatory and voluntary audits performed at various levels of government (INTOSAI WGEA, 2004b). Although the audit types and methodology processes may differ per SAI, Jamtsho, (2005:21) refers to the "XVII 2001 Guidance on Conduction of Audits of Activities with an Environmental Perspective" which state that

environmental auditing should be considered and included within a comprehensive regularity and compliance process. Although there might be some challenges or barriers to public sector environmental auditing, should organs of state, audited by SAIs, be held accountable for their mandated roles, responsibilities and performance on the environment that include administering the environment or where their activities impact the environment? SAIs can thereby add more pressure on the public sector and cover the void where environmental regulatory authorities or those in power are not effective or not performing their overall monitoring and enforcement functions. Although it seems that the enforcement dimension of environmental laws and the use and effectiveness thereof varies per country, is there some confusion or uncertainty amongst role-players on SAIs' contribution, through auditing and reporting, to ensure governments comply and perform towards environmental legislation and related requirements. All levels of government cannot avoid their roles and responsibilities, being accountability to safeguard, protect and sustainably management the environment. Although SAIs predominantly oversee the management of public finances, the performance of government programmes, policies and compliance with laws and regulations with regard to environmental accountability, is gaining much momentum through ways and means within current and available public sector audit methodology processes (Orozco, n.d.). SAIs, through auditing, play an important role in assuring environmental oversight as well as assessment of the performance and achievement of set environmental goals, targets and commitments. The following section further probe the continual evolvement of environmental auditing with INTOSAI and its 192 associated (SAI) countries.

3.6 INTOSAI: Developments in public sector environmental auditing

This section started with the early, prior 2000, evolvement of environmental audits in INTOSAI, followed through to the latest trends and placement of environmental matter within the available public sector methodology options.

3.6.1 Evolution and trends

Developments in environmental auditing indicated that, since the late **1970's**, governments became more aware and improved their management of the environment and subsequently also increased their budgeting and funding thereof (INTOSAI WGEA, 2007:16) to achieve and support good governance. Van Leeuwen (2004: 163) reiterated this improved awareness, gaining further momentum in the late **1980's**, where SAIs also advanced their understanding and awareness of their roles and responsibilities to audit and report on the environment. Governments in most countries adopted some sort or form of environmental policy, which the

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SAls needed to consider and address, within their available mandatory- or voluntary public sector audit methodology processes. Although the environmental audit focus is mostly driven by national compliance, is it also adding value when considering and including international environmental obligations and commitments. The evolvement or origins of the global environmental agenda paved the way for various relevant scientific research and policy analysis. Already forming in the **1960's**, with particular reference to the United States (US), there were emerging focus and developments on environmental concerns, which included issues such as air and water pollution, hazardous waste dumps, oil spills, to name a few (NRC, 2011). These environmental risks lead to environmental policy developments, monitoring and protection agencies, passing of new environmentally related acts (**1969** onwards), with the first "Earth Day" held in **1970**, followed by continual publications with a planetary perspective, defining and promoting the global environmental agenda (this needs at least 3 references of Acts, policies etc.). The "Global Change Agenda" emerged and was shaped and framed during the **1970's**, with various treaties, agreements and conventions that followed which set the stage for environmental developments since (as well as a magnitude of seminal global environmental reports). From the mid **1980's** a new international environmental agenda emerged, with emphasis on collective ways and means to consider and address environmental risks or issues. In the latter part of the **1990's** the most pertinent global environmental challenges became part of major international actions, treaties, plans and other initiatives. In **1972**, Keith Caldwell published his book "In Defense of Earth", just prior to the UN Conference on the Human Environment in Stockholm, making various recommendations and proposals supporting international institutional cooperation and innovations to improve global environmental quality (Wertz, 2014:268). He had by then already warned that "we are in the present and the Earth is in danger" (Wertz, 2014:268). This conference was instrumental in legalising environmental policy and establishing common interest on essential processes of the atmosphere and sustainability thereof, both on national and international level. Examples of some important environmental conferences and meetings, from **1970** onwards, **include, but are not limited to, Table 9:**

Table 9: Environmental Conferences and Auditing (INTOSAI) developments

INTOSAI WGEA, 2007 and UN, 2018

Date	Event (examples)
1972	Stockholm Conference on the Human Environment
1977	International Conference on Desertification
1987	World Commission on Environment and Development

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Date	Event (examples)
1992	Rio Earth Summit for Sustainable Development
1997	General Assembly Special Session on the Environment
2000	UN Millennium Development Goals
2002	World Summit on Sustainable Development
2012	UN Conference on Sustainable Development
2015	UN Sustainable Development Summit
Date	INTOSAI developments (examples)
1953	INTOSAI founded with 34 countries
1967	INTOSAI receive non-governmental organisation status
1970 – 1980	INTOSAI receive special UN consultative status Birth of UN Environment Programme
1980 – 1990	INTOSAI Development Initiative established
1990 – 2000	Global Environment Facility established INTOSAI WGEA founded with 12 membership countries Environmental auditing theme at XV INCOSAI INTOSAI WGEA Environmental Audit Surveys 1 – 2 South American and European Regional WGEA's established
2000 onwards	Arabic, Asian, African Regional WGEA's established INTOSAI WGEA Environmental Audit Surveys 3 – 9 INTOSAI has 192 membership countries (2019) INTOSAI WGEA currently have 77 membership countries (2019)



During these conferences various agreements were adopted and multilateral treaties implemented. Although progress was made on effective environmental management and governance efforts, some of the threatening environmental global trends of the past are still a concern or have regressed. Notwithstanding some successful implementation of policies, plans strategies and other commitments to collectively manage, safeguard and conserve the environment, the lack of action is often the main concern. The biggest challenges of most environmental legislation and treaties signed, include vague agreements, minimal requirements, improper objectives and targets, inadequate funding and a lack of monitoring and enforcement. From a global perspective, the world is however still moving towards the common goal of sustainability. According to Speth (2004:11), the main drivers of environmental deterioration however threaten to derail the efforts and processes to improve environmental governance and safeguard environmental assets.

3.6.2 Developments in Environmental Auditing by SAIs

Table 10, refers to SAI developments in environmental auditing from **1993** to the new millennium, **2000**, Van Leeuwen (2004: 163-172). These developments emphasized the initial efforts of SAIs, to reconsider their focus and the role they can play in supporting government to assess, report and improve on significant environmental risks and impacts, thereby seeking environmentally sustainable societies. It goes further, stating that the initial challenges of environmental inclusion within current public sector audit processes of SAIs were particular to their mandates, whereas there was no initial or explicit mandate to audit and report on environmental issues. Most SAIs however extended their traditional audit roles aiming to ascertain some oversight and assist governments with environmentally related issues.

Table 10: Developments in Environmental Auditing by SAIs

Van Leeuwen, 2004:163-172

Subject in survey	Timeframe	SAIs (country specific) Environmental Development
Policy (reference the policy or applicable legislation)	1993	83% of responding SAIs indicate that their governments have formulated some sort of environmental policy.
	2000	93% (most countries) have established some sort of environmental policy
		<i>Rapid growth in environmental plans and programmes by governments between 1993 – 1996</i>
Mandates of SAIs (ref the legislation)		<ul style="list-style-type: none"> • Tasks & mandates of SAIs = defined in national constitutional / governments' account acts • SAIs indicated that their general mandate can be applied to all sectors in government (including environment) <p><i>Where policy or money spent on environmental issues – SAIs are authorised to audit it</i></p>
		Most SAIs have a general mandate that can be applied to all sectors of the government and environmental sector
ENVIRONMENTAL AUDIT ACTIVITIES OF SAIs Environmental Audits	1993	42% of corresponding SAIs conducted environmental audits / 8 average no of reports per SAI (past 3 years)
	1996	60% of corresponding SAIs conducted environmental audits / 10 average no of reports per SAI (past 3 years)
	1999	57% of corresponding SAIs conducted environmental audits / 9 average no of reports per SAI (past 3 years)
		<i>Growing number of SAIs became active in environmental auditing</i>

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Subject in survey	Timeframe	SAIs (country specific) Environmental Development
ENVIRONMENTAL AUDIT ACTIVITIES OF SAIs Audit Mandates	1994 – 1996 1997 - 1999	Shift from regularity auditing to performance auditing 20% Regularity Audits / 44% Performance Audits 16% Regularity Audits / 54% Performance Audits 30% Combination of Regularity and Performance Audits <i>Performance Audits: Implementation of environmental programmes / compliance with national environmental laws and regulations / government environmental management systems – theme driven</i> <i>Regularity Audits: Operating funding of plant and equipment / compliance with national rules and regulations / other</i>
ENVIRONMENTAL AUDIT ACTIVITIES OF SAIs International Agreements & co-operation	1998	First INTOSAI Guidance dealing with “How SAIs may co-operate on the audit of international environmental accords” INTOSAI, 1998 <ul style="list-style-type: none"> Majority of SAIs = interested in cooperation with other SAIs to audit international environmental agreements Several SAIs performed joint or coordinated audits Other forms of international cooperation occurred
<i>(Summarised)</i>		<i>SAIs can contribute to international environmental cooperation by auditing such obligations and commitments</i>

Since its inception in **1992**, the INTOSAI WGEA was instrumental in fostering and clearing the way for continual growth and development in environmental auditing, INTOSAI WGEA, 2001. The INTOSAI WGEA is the largest working group of the (INTOSAI) world organisation, aiming to encourage the use of current SAI mandates and audit methodology processes in protecting the environment and achieving sustainable development, (INTOSAI WGEA, 2007). The new millennium (**2000**), saw environmental auditing within SAIs further evolved, with rapid growth in environmental related focus, developments in related audit methodologies, expansion of SAI structures to include environmental audit matter, as well as the establishment of international and regional environmental audit working groups, co-operative audits and arrangements on transboundary or international environmentally related audit focus and challenges, (INTOSAI WGEA, 2007). The INTOSAI WGEA, 2004 also developed a guidance paper on Environmental Auditing and Regularity Auditing for regularity auditors to use in their mandated day-to-day regularity audits. This paper indicates and also emphasises that environmental audits can also be performed either within a performance or regularity mandate. In November **2007**, SAIs had already completed more than 2000 environmentally related audits contributing to improved environmental management and/or improved environments.

The role of SAIs and their environmental audit activities continually extended, and between **1993** and **2011** more than 100 national audit offices had already performed more than 3,200 audits (compliance, financial and performance driven) on environmental performance and compliance. These initial and expanding audits resulted in value adding and improved action and management in environmental governance. Notwithstanding these positive developments, there still remain major challenges and much to be done in environmental governance and SAIs' contribution to environmental accountability. In **2010**, the SAI of India established the International Centre for Environmental Audit and Sustainable Development (iCED), focussing on the role of a national auditor in the environment and related auditing. The INTOSAI WGEA continually seeks to build capacity amongst SAIs to conduct environmental audits, hence the decision to make iCED the global training facility for the WGEA. Various training and development have resulted since this move, with various trainers and audit methodology adopted from international resources (ASSOSAI Journal, n.d). This Asian Journal of Government Audit also refers to the latest capacity building and developments in environmental audit (ASSOSAI Journal, n.d). An example of such a development, is the resolution, No. A / RES / 70 / 1 of 2015, of the UN, that was titled "Transforming our world: the 2030 Agenda for Sustainable Development", that was adopted in its Seventeenth Session, 25 September 2015, (UN, 2015). These Sustainable Development Goals (SDG's) were launched in **2016** and followed on the "Millennium Development Goals (MDG's)" which ended in December **2015**. The 17 SDG's and their 169 targets serve as a management tool assisting countries to develop and implement their strategies and resources towards sustainable development. The Paris Agreement also included some nationally determined environmental contributions to be complied with and implemented by membership countries (UN, n.d.).

3.6.3 Environmental subjects under international agreements

Environmental awareness (within SAIs and their stakeholders) also increased substantially since the new millennium, and in particular the need to consider the environment in continual and expansive developments (OECD, 2010). The importance of sustainable development now forms part and parcel of the international, regional, national and local government agenda to protect and conserve the environment and its natural resource base. The increase of human activities and related impacts on the environment is now well identified with a sincere effort to find balance between economic development and needs, social equity and ultimately the environment (UN, 2016). Various international collective and co-operative agreements evolved with the purpose to achieve developmental progress, but also to conserve and protect the environment. The environmental auditing survey results, conducted by the INTOSAI WGEA, are indicative of the fact that governments are committing more on environmental

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auditing through international environmental agreements, treaties and signatories, with some SAIs that have already planned being involved in, or are in collaboration with other SAIs on environmental audit matters (INTOSAI WGEA, 2019). Although standards (auditing and accounting) applicable to public sector environmental auditing were not always considered or included within these public sector audit methodology processes, it is still a continually evolving and improving process, where SAIs need to find the best ways and means, within their mandates and country specific legislative requirements, to audit and report on environmental issues and risks to enhance environmental accountability. Since the “Stockholm Conference and establishment of the United Nations Environment Programme (UNEP)” in **1972**, more than 500 international environmental agreements were reached relating to the following subjects and totals illustrated, **Table 11**, (Vidal, 2012).

Table 11: Subjects under International Agreements (since 1972)

Vidal, 2012

Subject of agreement	Number of agreements
Water	196
Chemicals and Waste	179
Biodiversity	155
Atmosphere and Climate Change	61
Land Use	46

The “United Nations Environmental Programme (UNEP)”, in partnership with the INTOSAI WGEA, in **2010** published guidance on “Auditing the Implementation of Multilateral Environmental Agreements (MEAs): A Primer for Auditors” (UNEP, 2010). In the foreword (III) of this guidance, mention was made of the rapid developments within global environmental policies and politics since the early **1970’s** that included hundreds of environmental agreements that rule some or other aspect of the environment. Already in **2009**, UNEP identified more than 280 MEAs with particular focus on environmental protection (UNEP, 2009). The role SAIs can play to implement the MEAs and also evaluate their government’s tools to manage and protect the environment was emphasised. The World Meteorological Organisation (WMO) “Statement on the State of the Global Climate Change” in **2018** (WMO-No. 1233) referred to the sustained international efforts to report, analyse and understand the continuous year-to-year variations and trends of climate change (WMO, 2019).

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It is important for individual countries to continually assess and report on their international agreements and commitments. Auditing standards provide the necessary guidance for auditors to ascertain the required quality, as well as the objectives to be achieved. To improve the effectiveness and efficiency of an audit, standardisation is required (Tidwell, 2015). Although environmental audits in the public sector started and intended to ensure regulatory compliance, they evolved and expanded towards a much more comprehensive approach that also includes financial, performance and related matters. How SAIs should audit and report on environmentally related matters is set out in the booklet “Guidance on Conducting Audits of Activities with an Environmental Perspective”, adopted at the XVIIth INCOSAI Meeting in Seoul **2001** (INTOSAI WGEA, 2001:4-6) with ISSAI 5110 specifically developed in this regard. This guide assists SAIs with the basic understanding and nature of environmental auditing within the governmental sphere and a tool to discharge environmental audit responsibilities and develop environmental practices within the SAI. Furthermore, it is clearly indicated that SAIs may perform environmental audits as part of their current regularity audit mandate (financial and compliance), or within their performance audits designated in the “INTOSAI Auditing Standards” (INTOSAI, 2001:4-6). The most suitable placement of environmental matters within SAIs’ audit methodology processes may differ and depend on various issues such as their capacity and resources (skills and experience), as well as the need and expectations of weak environmental regulatory regimes.

3.6.4 INTOSAI’s current developments in environmental auditing

Due to the importance of INTOSAI, its efforts to improve government auditing worldwide, and the subsequent establishment of a working group focusing on and developing environmental auditing within the INTOSAI community (membership SAIs), was it necessary to briefly explore the latest developments and trends with regards to environmental auditing.

The latest available INTOSAI WGEA Survey (9th) Results for environmental auditing indicate some of the most significant developments within INTOSAI, **Table 12**, (INTOSAI WGEA, 2019:10-11).

Table 12: The latest significant environmental developments by SAIs

INTOSAI WGEA, 2019:10-11

Focus in survey questionnaires	Significant developments (since prior 8 th survey of 2015)
Auditing Mandate	Almost half of the 60 participating SAIs (47%) had legislative mandates specifically referring to environmental auditing. Vast majority had legislative

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Focus in survey questionnaires	Significant developments (since prior 8 th survey of 2015)
(Chapter 1) of the Survey Questionnaire	mandates to conduct performance (93%), compliance (88%) and financial audits (87%) on environmental issues.
Environmental Audits (Chapter 2)	Performance audits - the most common type of environmental audits with almost half of the respondents also conducting financial audits. Nearly half of responding SAIs (48%) indicated plans to increase environmental audits.
UN – SDG’s (Chapter 3)	High priority in strategic work plan of most SAIs (68%). Almost half of SAIs (48%) mentioned impact of UN 2030 Agenda for Sustainable Development on their audits and (51%) conducted audits thereon.
Impacts of Environmental Audits (Chapter 4)	Almost all SAIs had measured impact of environmental audits and (72%) did follow-up audits and monitored implementation of recommendations, findings. (73%) of SAIs tracked implementation of recommendations by follow-up audits. Audit reports on WEB most popular way to communicate audit results. Main challenge measuring impact of environmental audits: insufficient data/information .
Environmental Auditing Capacity (Chapter 5)	More than half (55%) of SAIs had a specific department or section working full-time on environmental audits. Average % of the number of auditors compared to all employees in each country = 1.63% worked full time on environmental audits. On average number of employees per country (28%) have environmental degree with almost (30%) previous experience.
Cooperation between SAIs (Chapter 6)	(65%) of the SAI respondents indicated experience in cooperation with another SAI. Lack of resources was the main barrier for other SAIs to get involved in cooperative audits. Most SAIs involved in exchange of information . (Summarised)

The findings and observations documented in the SAIs environmental audits performed, **Table 12** refers, indicated gaps and weaknesses in governments’ action, co-operative needs and challenges, financial or budgetary constraints and a lack of proper and reliable databases. Although the environmental findings and challenges seemed consistent within the country reports, there were also some additional root causes and challenges within a developing country perspective, which will be further elaborated in **Chapter. 3.8**.

3.6.5 Most pertinent standards and practices to consider for environmental matters in public sector auditing

It is important that auditors should obtain an understanding of the control environment of the auditee, which should also include environmental matters. Where there are significant environmental impacts, the auditor should include or expand procedures on environmental matters to determine what is the extent of the risks (INTOSAI, 2016). There are a number of accounting and auditing practices and standards applicable to SAIs for consideration and use when auditing environmental matters. International Auditing Practice Statement 1010 (IAPS

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1010), gives guidance to auditors for “The Consideration of Environmental Matters in the Audit of Financial Statements” and particularly to the reporting thereof (IAPS 1010, n.d.:150). This statement provides specific guidance in audits of financial statements that includes environmental matters as well as possible impacts that environmental issues have on financial statements (IAPS 1010, n.d.:150-154). In terms of the IAPS 1010 Statement, environmental “responsibilities during the course of a regularity audit” require that “auditors should identify and assess the completeness and accuracy **of the following**” (IAPS 1010, n.d.:153-154):

- “Initiatives to prevent, abate or remedy damage to the environment and the conservation of renewable and non-renewable resources,
- The consequences of non-compliance to environmental law and regulations,
- Consequences of environmental damage to others or natural resources,
- The consequences of vicarious liability imposed by the state, ISSAI 5110 - Guidance on conducting audit activities with an environmental perspective, par. 125, 204 (INTOSAI, 2016) & ISSAI 5120 - Environmental Audit and Regularity Audit par.22 (INTOSAI, 2016a).”

ISSAI 100 (INTOSAI, n.d.) includes the fundamental principles to be considered and applicable within all public sector audits. The audits to be performed can be financial, ISSAI 200 (INTOSAI, n.d. a), performance, ISSAI 300 (INTOSAI, n.d. b) or compliance, ISSAI 400 (INTOSAI, n.d. c), related, or a combination of the afore-mentioned, as and how required in their mandates.

The ISSAI framework, **Table 13**, guides INTOSAI members and other interested parties with a general overview and a common understanding of its (INTOSAI’s) auditing standards and guidelines through 4 levels, starting with (1) the founding principles (ISSAI 1 – 9) and (2) the pre-requisites for functioning of SAIs (ISSAI 10 – 99). Levels 3 (100 – 999) and 4 (1000 – 4999) include the fundamental auditing principles and general auditing guidelines respectively. Guidelines on specific subjects are included in ISSAIs 5000 – 5999, (INTOSAI, n.d).

Table 13: International Standards of Supreme Audit Institutions (ISSAI 1 – 5999): Levels and principles (*summarised*)

INTOSAI, n.d.:5

Level	Principles	ISSAI
1	“Founding principles (Lima Declaration)	1 - 9
2	Pre-requisites for the functioning of SAIs	10 - 99

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Level	Principles	ISSAI
3	Fundamental auditing principles	100 - 999
4	General Auditing Guidelines: <i>for Financial Audit; Performance Audit, Compliance Audit</i> <i>Guidelines on Specific Subjects”</i>	1000 – 4999 5000 – 5999

The most pertinent accounting and auditing standards relevant to audit activities with an environmental perspective (in the public sector) include (but are not limited to), **Table 14:**

Table 14: Most pertinent standards and practices to consider for environmental public sector auditing

Smith, 2020

ISSAI 100:	Fundamental principles of public sector auditing <i>(summarised from standards)</i>
ISSAI 200:	“Fundamental principles of financial auditing
ISSAI 300:	Fundamental principles of performance auditing
ISSAI 400:	Fundamental principles of compliance auditing
ISSAI 5110:	Guidance on Conducting Audits with environmental perspective
ISSAI 5120:	Environmental audit on regularity auditing
ISSAI 5130:	Sustainable Development: The role of SAI’s
ISSAI 5140:	How SAIs may co-operate on the audit of international environmental accords
IAPS 1010:	The Consideration of Environmental Matters in the Audit of Financial Statements: IAPS 1010 provides practical assistance to auditors by describing: Auditor’s main considerations in audit of financial statements with regard to environmental matter; Examples of possible impact of environmental matters on AFS; Guidance when exercising professional judgement in this context to determine nature, timing and extent of audit procedures with regard to: *Understanding the Entity, its Environment and assessing Risks of Material Misstatement (ISA 315 , 2009) * Consideration of laws and regulations (ISA 250 , 2009) * Other substantive procedures (ISA 620 , 2009) and some others”

Environmental audits within SAIs (globally) seem to be mostly conducted as performance audits, following the “ISSAI 300 fundamental principles of performance auditing”. Where a performance audit approach is followed, environmental audits generally include consideration “of environmental indicators, programmes and policy decisions to determine if activities were performed and completed economically, efficiently and effectively”. Ultimately, “the role of a

SAI is to respond to the expectations of citizens by providing independent, credible and objective verification of the information provided by the government agencies with respect to their activities and their impact on the environment” (INTOSAI WGEA, 2004:54).

3.6.6 Environmental considerations within public sector regularity audits

With the study focus pertinent on regularity auditing, the main standards and practices applicable to SAIs were reviewed. The objective of a regularity audit is to allow the auditor to “express an opinion as to whether the annual financial statements are prepared in all material respects, in accordance with an applicable reporting framework” (ISA 200, 2009:72). The mandate of regularity auditing complying with the ISAs “requires a risk based approach” where “auditors should identify material misstatements relating to the disclosures in the financial statements (financial audit) and non-compliance with laws and regulations (compliance audit)”. As part of a regularity audit (with environmental compliance focus), it is thus important that auditors identify environmental non-compliance with laws and regulations (and also consider material effects on the financial statements), although an audit cannot be expected to detect non-compliance with all relevant laws and regulations, should compliance with existing environmental laws or regulations in the focus areas be considered and included in the audit and reporting process.

In recent times environmental auditing is **not considered as a nice to have or do anymore**, hence the fact that it is included in most SAIs’ audit and reporting processes (INTOSAI WGEA, 2007). Although this section is not inclusive of all INTOSAI’s developments in environmental auditing, with just some major developments emphasised, is it clear that awareness of environmental issues has improved substantially, with concerted efforts to link and manage developments with the environment. SAIs should play an integral part to improve environmental governance and accountability.

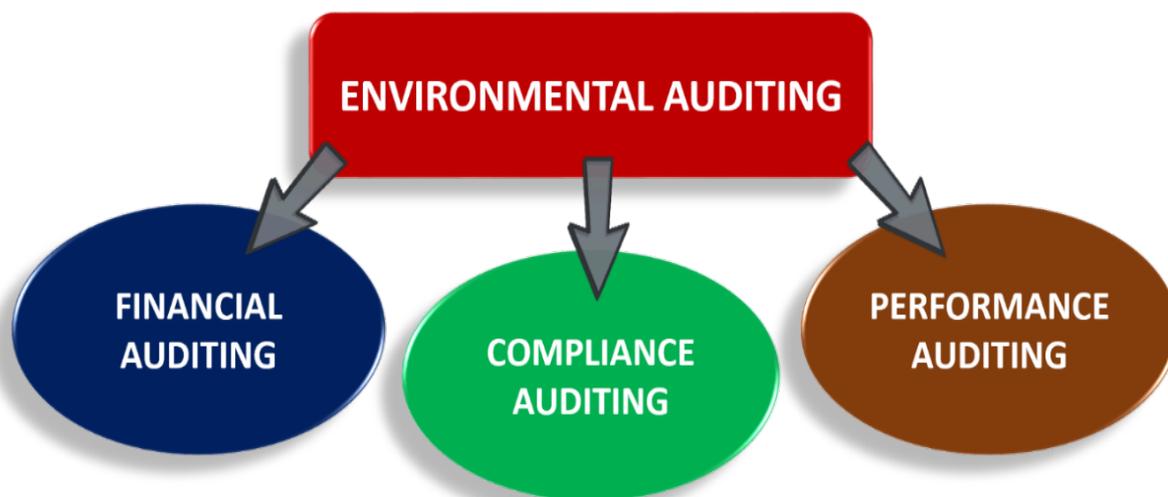
3.7 SAIs: Mandates and expectations to audit and report on environmental issues and risks

The next step in the literature review, was to look at the mandates of SAIs, in considering the accounting and auditing standards, and what is expected from SAIs, so as to pursue the available public sector audit methodology processes and where to fit in environmental issues and risks.

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The responsibility to protect the environment and natural resource base, as well as to ascertain sustainable development, is placed in both private and public sector domains (or within partnerships). The roles of public sector departments, entities or institutions cannot be underestimated to achieve balanced economic growth, environmental protection and sustainable development. Often government's public sector programmes, developments, environmental policies, plans and management systems may have significant weaknesses or constitute serious risks to and impacts on the environment. SAIs can play a significant role to audit and report on these environmental discrepancies, recommending or influencing governments' environmental roles, responsibilities and/or related policies and management systems. According to Kourtellis (1999:14) "it is the duty of governments and SAIs to protect the environment and enhance environmental accountability".

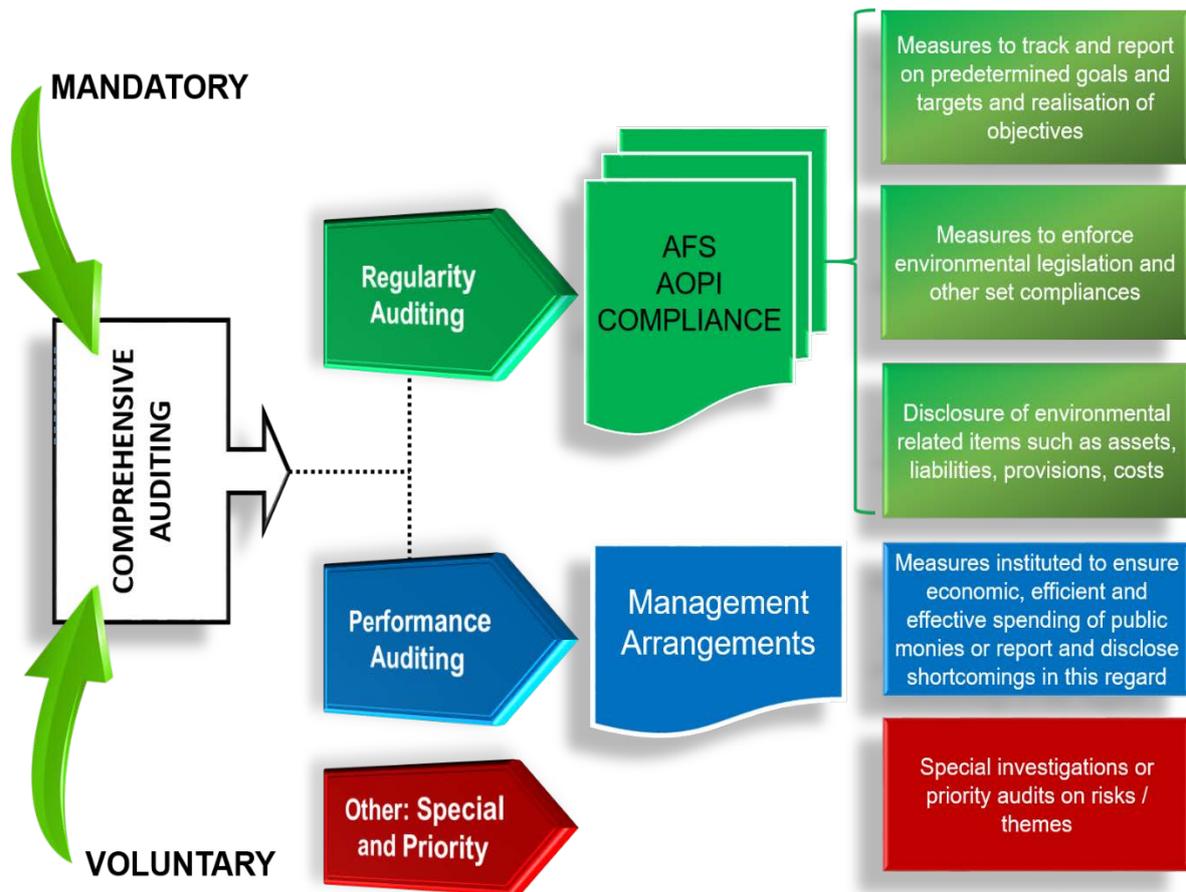
SAIs perform their mandated public sector audit functions within their own national constitutional arrangements and/or as regulated in subsequent country specific legislative requirements. Mandates of SAIs generally include provisions on audit functions and tasks particular to their roles and responsibilities in public sector auditing, or within the context of its jurisdiction and mandate. SAIs may consider and take their own strategic decisions to respond to or effectively perform their mandated and other legislative requirements. Although SAIs' legal mandates may be restricted to financial matters and the environment is not specifically included, SAIs around the world did significantly reform and affect mandate expansions to also consider and include environmental issues and risks (INTOSAI WGEA, 2019). Currently, it is the prerogative of the SAI, on how to and where to include issues or activities with an environmental perspective. As already alluded to in the previous section, environmental audits can be performed within a financial or compliance perspective, within theme driven performance audits or a comprehensive audit approach followed (see **Figure 11**). SAIs agree to a great extent that environmental auditing is not a different type of auditing, and it can be part of the mandatory (day-to-day) regularity audit, that could encompass a compliance and financial focus or be part of the voluntary performance, or special audit processes.



Smith, 2020

Figure 11: Audit types and environmental focus

The ability of the SAIs' available and expert resource base, may impact on the most suitable process to follow in contributing to environmental accountability in the public sector. There is a tendency to follow a comprehensive approach, which covers both mandatory and voluntary public sector audit methodologies in more detail, as portrayed in **Figure 12**. Van Leeuwen (2004), refers to the INTOSAI WGEA framework definition, stating that environmental auditing is similar to normal auditing and can be comprehensive to include all types (financial, compliance and performance audits). Governments have developed frameworks, national strategies, environmentally related legislation and other means in pursuit of environmental and sustainable development objectives. Safeguarding the environment and sustainable development has been applied to the individual policies and programmes of government, which offer opportunities for SAIs to audit and report upon. Clarity is needed on the fact that SAIs are not performing audits on the environment specifically, but rather on how the government or organs of state manage or respond to environmental risks, impacts and challenges. It is important for the audit team to have a proper understanding of the environment and environmental threats, before assessing government's responses and actions in mitigating or addressing environmental risks. This will often guide the public sector auditors' approach and assist in selecting the most suitable audit and reporting option. Public sector auditors could play a significant role in establishing good environmental governance, and SAIs have a mandate to give government and the public the information required to govern wisely and hold government accountable for their environmental actions and performance.



Smith, 2020

Figure 12: Comprehensive audit approach to include environmental issues

There are many challenges that may prevent or limit the effectiveness of SAIs' roles and efforts to audit and report on environmental issues and risks within their available public sector audit methodology processes.

3.8 SAIs main challenges for effective public sector environmental auditing

This section will explore the general obstacles and challenges preventing or impeding effective environmental inclusion, audit and reporting experienced by SAIs worldwide. There are various obstacles facing environmental audit, particularly within public sector environmental auditing. Considering SAIs' expertise, capabilities and knowledge of the subject matter, auditees are often sceptical and challenge the audits, findings and subsequent reporting thereof. Furthermore, solutions to environmental risks and challenges are more factual and there is not always agreement between experts on solutions. Proper conclusions or subsequent recommendations by auditors may therefore be challenged. Many countries, as also experienced through environmental audits performed in South Africa, involve various

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multiple agencies involved or responsible to manage and/or administer the environment and it is sometimes difficult to identify accountability or ownership of critical environmental concerns (ASOSAI, 2009:8).

The publication of INTOSAI WGEA (2007:13-14) alludes to the “Evolution and Trends in Environmental Auditing” with more than 2000 environmental audits already performed by SAIs and the findings or observations “frequent to environmental auditing, but not unique to the environment”, as stated in INTOSAI WGEA (2007:13-14):

- **Gaps and weaknesses in government actions:** There are clear gaps in policies on paper and in practice. Furthermore, there are legislative gaps within existing laws and regulations, in identifying or determining environmental risks, as well as in the details of environmental regulations within broader environmental mandates. Gaps in resources (reliable data and inadequate enforcement and inspection) were identified in most of the audit results,
- **Difficulties of, and collaboration required, in environmental governance:** In most cases, environmental issues and management cuts across various departments or agencies, creating some difficulties with communication and reporting. The need to harmonise issues and findings between the various responsibilities is a challenge (or to establish adequate coordination and cooperation between them),
- **Inadequate monitoring and enforcement (inspections):** Findings include a lack of required monitoring and enforcement from environmental regulatory (or mandated) authorities, internal control weaknesses, as well as low compliance with relevant environmental legislation and standards,
- **Financial management weaknesses:** The findings include improper funding of environmental programmes, as well as non-conformance to various funding and administrative processes,
- **Findings and recommendations on the dependability of data and the lack of comprehensive information:** The weaknesses and deficiencies of available data,
- **Environmental governance has extended in responsibility:** This resulted in more policy tools, strategies and processes and subsequent auditing of environmental issues and risks,
- **SAIs had to increase the number of audit topics as well as the methods used for these audits:** Environmental auditing responsibilities increased substantially for SAIs,
- **Elaboration of environmental audits in global and INTOSAI community:** SAIs’ environmental focus and subsequent audits in the 1980s mostly focused on environmental

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departments or ministries' local responsibilities, but expanded to include all governmental role-players, within local, regional and global spheres.

These trends, specific to the environment, clearly indicate a significant shift in the expectations, efforts and means of government to establish or pursue public sector environmental accountability. To achieve that, governments had to adopt and amend laws, policies, procedures and efforts to conserve the environment and its natural resource base, whilst also promoting and balancing sustainable development needs and economic growth. The emphasis therefore also increased on SAIs (as oversight bodies) to ensure that governments effectively perform their mandated environmental roles and responsibilities in accordance with legislative requirements and/or other agreements and arrangements. With regard to weak environmental regulatory regimes, the SAI can fulfill the role of environmental monitoring and reporting, or exercise enough pressure on all departments and authorities to fulfil their environmental functions.

Although there are various challenges, globally and locally, to implement effective and value-adding public sector environmental auditing and accountability, various SAIs already adapted to address these challenges and through innovative efforts and means reformed to include environmental matters within their current mandates and audit methodology processes. It was however clear that the challenges would differ per country, region and SAI – where the natural resource base (stresses and sustainability challenges), as well as the effectiveness of governments and subsequent regulatory regimes to manage, monitor and enforce environmental roles, responsibilities and compliances would determine the need and extent of SAIs' environmental audit involvement.

3.9 SAIs current placement of environmental issues and risks within their public sector audit methodology processes

Looking at the current placement of environmental matters within public sector audit methodology processes, the researcher, firstly explored the world trend and then examined the South African context. This placement or audit type selected to audit environmental issues and risks is particular to the problem statement, **Chapter 1.3**, the main research question and subsequent Questions 2 to 3, **Chapter 1.4**, and ultimately to the research aim and objectives, **Chapter 1.5**. This aims to firstly interrogate or look at the trend and practices followed within the INTOSAI fraternity (associated SAIs), and then look at the South African circumstances, what is the best option/s, considering the past, current status quo and developments taking place.

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The world is constantly changing and SAIs also need to keep up with the latest developments. “Strengthening Supreme Audit Institutions”, a guidance for improving performance, reiterates that SAIs need “to balance being responsive to their environments, while avoiding change management fatigue” (INTOSAI, n.d. e.). SAIs must adapt to the latest trends and developments, without changing just for the sake of it. During the 17th Commonwealth Auditors General Conference, data reference was made to the XV INCOSAI (Cairo) Conference in that environmental auditing “is an independent external audit and includes the disclosure of environmental assets and liabilities, compliance with legislation and conventions, both national and international, and such measures instituted by the audit entity to promote economy, efficiency and effectiveness” (Kourtellis, 1999:5).

The research aim is specific: to advance understanding on the placement (locus) and contribution of environmental issues and risks within the public sector audit methodology processes of SAIs to enhance environmental accountability. This section will however just briefly introduce the (global) options to SAIs for placement of environmental matters within their public sector audit types and processes, whilst **Chapter 3.11** will look at differences on the placement or preferred locus of environmental matters within public sector auditing to ultimately enhance environmental accountability. **Chapter 4** will in more detail explore and involve global research methodologies to determine to what extent and where environmental matters are included within global public sector audit methodology processes and impact upon enhancing environmental accountability.

The Working Group of Environmental Auditing states in their guide, “Guidance on Conducting Audits of Activities with an Environmental Perspective”, that “environmental auditing encompasses all types of audits” which includes “regularity (financial and compliance)” as well as “performance audits” (INTOSAI WGEA, 2003:5). The 8th ASOSAI Research Project emphasises this encompassing approach and also reiterates that “sustainable development can be part of environment audits, only if it is a part of the government policy and/or programme to be audited” (ASOSAI WGEA, 2007:7), also indicating that ASOSAI member nations to date have conducted numerous environmental audits, which are specifically compliance and performance driven. Literature alluded to – and particularly environmental reports issued through public sector auditing, indicates that environmental matters are mostly placed within established performance audit business units and related audit processes of SAIs, although compliance testing (environmentally related) also features strongly within regularity audit procedures and/or auditing of performance information. Environmental auditing does not always or easily fit into SAIs’ audit mandates, and particularly within the regularity or financially driven mandates. INTOSAI WGEA (2004:22) refers in their document

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to how material aspects of financial statements “can be directly linked to environmental costs, obligations, impacts and outcomes”, whereas it is more suitable to consider environmental issues as part of the regularity process. This study finds it useful to distinguish between the various options or audit types within public sector auditing and particularly the current trends followed for inclusion or placement of environmental matters. INTOSAI WGEA (2004:2) refers to the three main audit types for environmental inclusion as financial, compliance and performance audits, but also reiterates that environmental audits can be a combination of these types or occur within other arrangements, **Table 15**.

The mandate of the SAI will normally identify the audit types available and guide the audit team with the necessary tools and needs for the specific audit. Where there is no clear mandate or reference to the audit of environmental issues and risks, is it not uncommon for SAIs to combine aspects of financial, compliance and performance audits in performing these audits. Results from SAIs’ involvement and reports, as assessed on the INTOSAI and INTOSAI WGEA websites, demonstrate that notwithstanding the differences or lack of clear mandates to audit environmental matters, the SAIs can and have found ways and means to incorporate environmental focus into their audit work. Understanding or finding the best audit type (or audit methodology) to use will help governments with environmental assessments and ultimately contribute towards enhancing environmental accountability. This is covered in this research study.

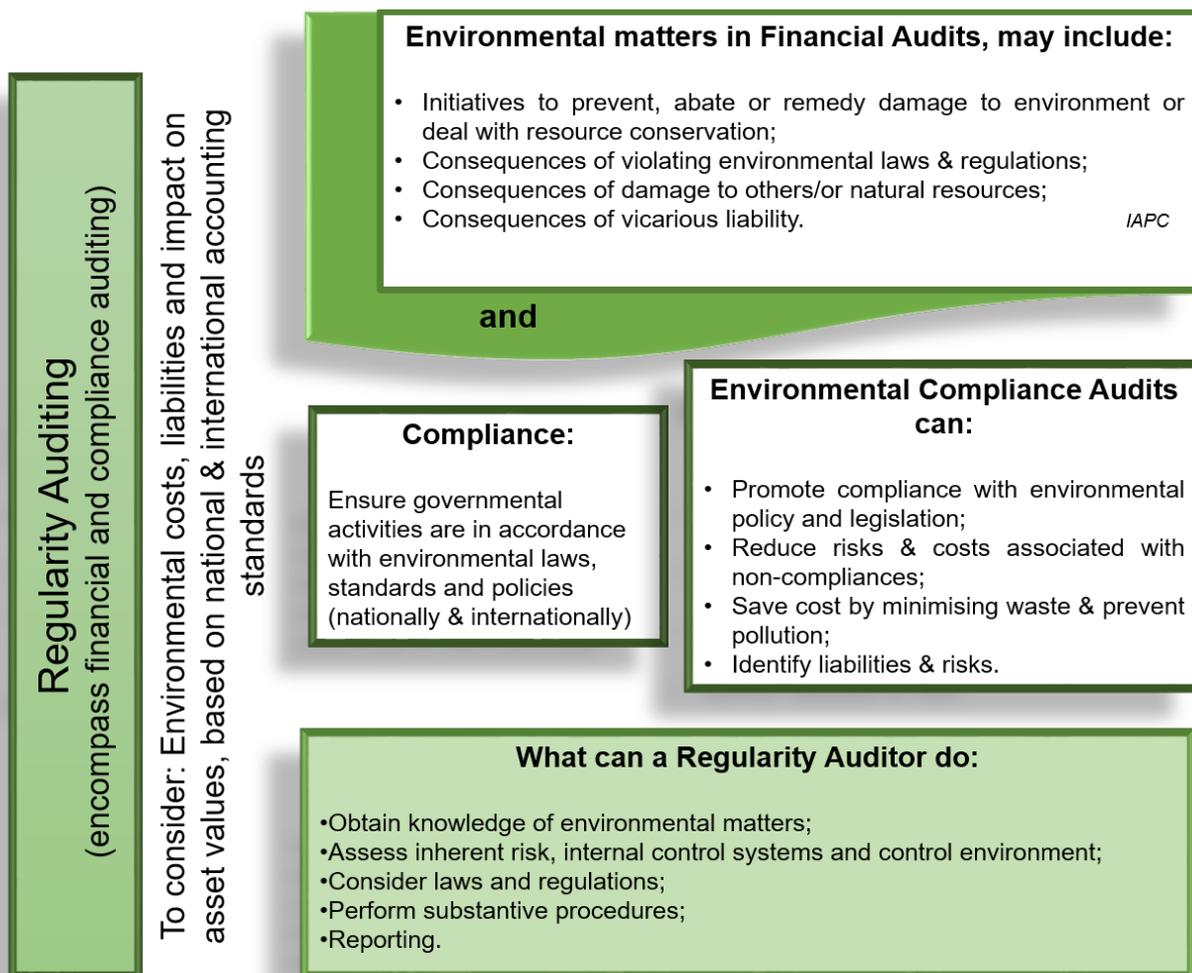
Table 15: Public sector audit types

INTOSAI WGEA, 2004.

<p>Regularity (financial) Audit Environmental Inclusion Comprehensive Audit Approach</p>	<p>Audits: * Environmental impacts on Financial Statements * Compliance with environmental laws & regulations * Environmental pre-determined objectives</p>	<p><i>Obtaining sufficient & appropriate audit evidence to enable the auditor to express an opinion as to whether the financial information includes environmental matter that is free from material misstatements due to fraud and error.</i></p>
<p>Compliance Audit</p>	<p>Audits: If a particular environmental subject matter is in compliance with authorities identified as criteria or whether activities, financial- and environmental transactions and information are in all material respects in compliance with authorities which govern the audited entity.</p>	<p><i>This is to ascertain that the environmental rules, laws & regulations, budgetary resolutions, policy, established codes, agreed terms of the general principles governing sound public sector financial and environmental management and conduct of public officials is conformed to.</i></p>
<p>Performance Audit Environmental Inclusion Theme Driven (focus)</p>	<p>Independent auditing process to: Evaluate: the measures instituted by management to ensure that resources have been procured economically and are used efficiently and effectively and in an environmentally friendly manner.</p>	<p><i>Audit and report on whether interventions, programmes & institutions are performing in accordance with the principles of economy, efficiency, effectiveness, and environmental sustainability. To answer key environmental questions and to provide recommendations to improve.</i></p>
<p>Combined Audits / other arrangements Environmental Focus (particular to mandates, roles and responsibilities to manage and steer environmental governance)</p>	<p>SAIs may: Carry out specific environmental audits or engagements on any subject relevant to the responsibilities of management and those charged with environmental governance and the appropriate use of public resources.</p>	<p>Audits may include reporting on environmental quantitative outputs, outcomes of the entity's environmental service delivery activities, sustainability reports, future resource requirements, adherence to internal control standards, real-time audits of environmental or other matters.</p>
<p>Combined audits incorporating financial, compliance and/or performance aspects</p>		

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It is important to further examine this encompassing approach and distinguish the two main approaches followed by SAIs to include or audit environmental issues. The focus in financial auditing, **Figure 13**, is to determine whether the “entity’s financial information is presented in accordance with an applicable financial reporting and regulatory framework”. To determine this, according to ISSAI 100 (INTOSAI, n.d.), sufficient and “appropriate audit evidence needs to be obtained” and audited for “the auditor to express an opinion on whether the financial information is free from material misstatement due to fraud and error” (INTOSAI, n.d.)



“Quoted and summarized from INTOSAI WGEA, 2004”

INTOSAI WGEA, 2004

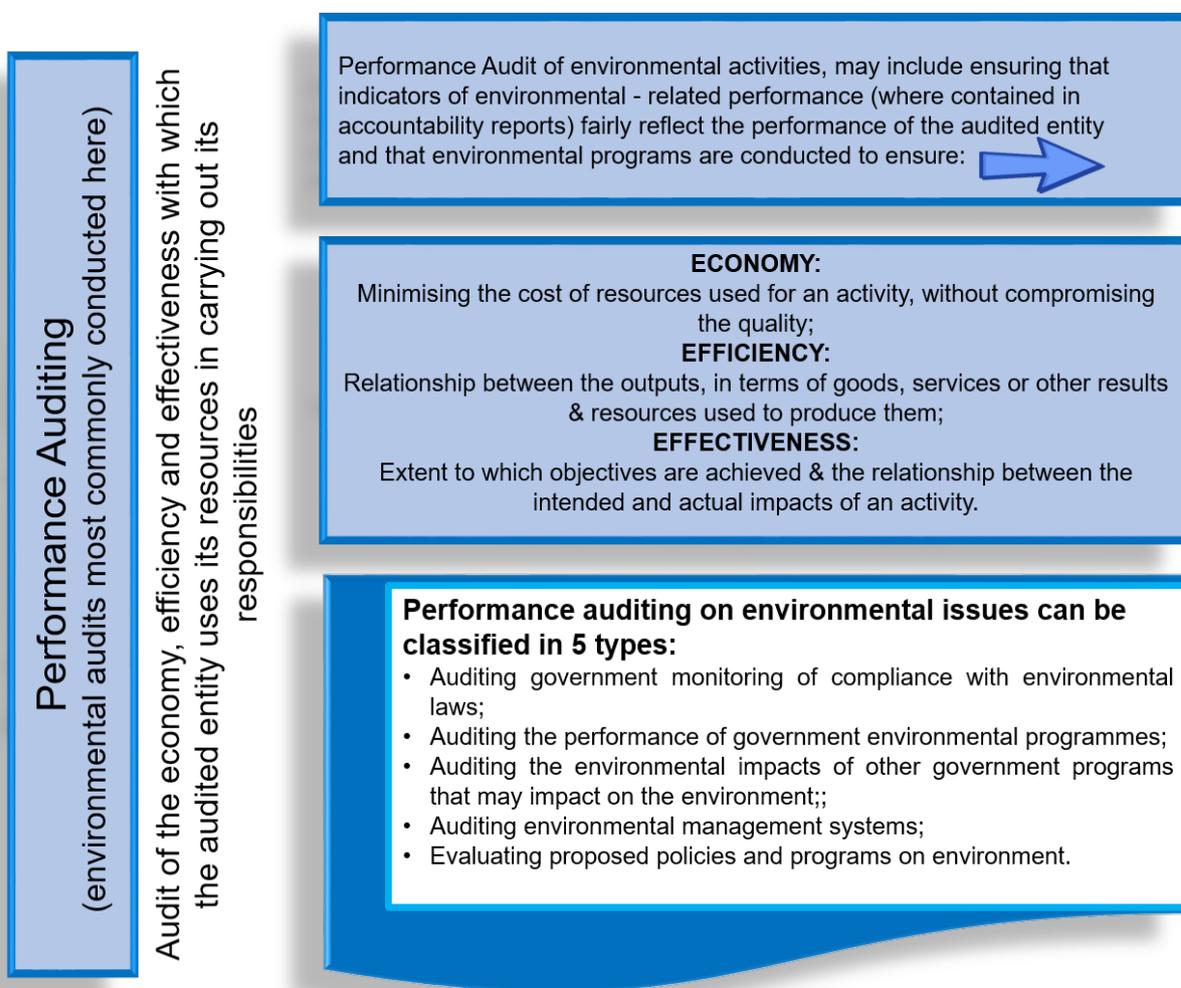
Figure 13: Environmental auditing within regularity auditing practice

The value of including environmental matters within the regularity audit process relates to SAIs’ main (human) resources, as well as the encompassing approach (that focusses on financial, compliance, performance information and internal controls). It will therefore not be necessary to have separate budgets or additional resource requirements, but rather to

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consider and include within the planning, risk identification and procedural development processes of these audits. Furthermore, regularity audits are an annual process, whereas environmental performance, progress and compliance can be continually assessed, reported and followed up on. Compliance focus forms part, or can be included in the regularity audit focus and processes of SAIs.

Performance audits again focus on “whether interventions, programmes and institutions are performing in accordance with the principles of economy, efficiency and effectiveness and whether there is room for improvement”. Performance is audited “against suitable criteria, **Figure 14**, and the causes of deviations from those criteria or other problems are analysed”. According to ISSAI 100 (INTOSAI, n.d.), the “aim of performance audit is to answer key questions and provide recommendations” for input (INTOSAI, n.d.).



“Quoted and summarized from INTOSAI WGEA, 2004”

INTOSAI WGEA, 2004

Figure 14: Environmental Auditing within Performance Auditing Practice

The value of performance audits on environmental matters lies in the fact that they not only audit or assess environmental circumstances, but also compliance to relevant environmental legislative requirements, whilst also considering the economic use, efficiency and effectiveness of public funding for implementation of environmental policy, plans and strategies. They also audit how efficient environmental management systems are. SAIs and auditors performing environmentally related audits need to be informed and aware of the trends, not only in their government (or mandated auditees), but also in the private sector, the trends and developments within accounting and auditing standards, trends and movements within environmental governance and/or commitments, as well as foreign aid. The WGEA emphasises the improved and increased trends and efforts within SAIs to improve environmental governance through public sector auditing. SAIs now seem more aware of the priorities, needs and actions within both international and local environmental governance (INTOSAI WGEA, 2007:xi - xii). Globally, each country will have their own unique environmental legislation and related requirements, as well as international commitments and standards to consider when performing environmental audits, or where environmental matters are included in current public sector audit types and audit methodology processes.

The mandate of the SAI and country specific background and situation will to a great extent determine the responsibility and audit types to use or follow with environmental inclusion. The best placement is debateable and will also depend on the country's reporting platforms and processes followed.

3.10 INTOSAI's preference and guidance of the best suited placement of environmental matter to enhance public sector environmental accountability

The previous chapter, **Chapter 3.9**, briefly looked at current placement, whilst the best or preferred placement of environmental issues and risks within SAIs' available audit methodology processes will now be further explored. Although environmental auditing particular to the public sector is still considered a new and progressive approach, many SAIs, worldwide, have already explored and reformed in order to use and expand their mandates to include significant environmental risks. Public sector auditors (or SAIs) are perfectly placed to audit and report on environmental matters and to fill the oversight gap left by weak or ineffective environmental regulatory regimes. Although INTOSAI gives clear reference and guidance to auditors on environmental auditing in the public sector, is it by no means prescriptive, with individual SAIs to consider their own mandates and country specific legislation. The Consolidated Guideline on Regularity Audits with an environmental focus indicated that around 95% of SAIs' resources resort within regularity audit and that it will be

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beneficial to integrate environmental issues within these regularity processes (AFROSAI-e, 2009). Specific guidelines were developed that are in conformance with international audit standards for regularity auditors to follow, so as to include non-financial information, which includes environmental matters, in a consistent and systematic manner.

INTOSAI WGEA encourages the use of SAIs' individual audit mandates, methods and means aimed at environmental protection and enhancing sustainable development. The INTOSAI WGEA Secretariat has conducted nine surveys since 1992, in order to give some perspective on the trends, types and challenges during environmental audits performed by SAIs (INTOSAI WGEA, 2019:9). Looking at the two most recent survey questionnaire periods and results, **Table 16**, both the 8th and 9th Survey Questionnaire targeted the types and the volume of environmental audits conducted by SAIs from 1 January 2012 – 31 December 2017 (INTOSAI WGEA, 2015:18-37 & INTOSAI WGEA, 2017:22-47). Besides a definite increase in environmental audits conducted by SAIs (survey comparisons), performance audits and compliance audits were identified as the most common type of environmental audits conducted. An interesting statistic from the survey was that almost half of the respondents indicated that they conducted financial audits that included environmental considerations. These statistics are indicative of SAIs' preference and trends followed (comprehensive) to consider and include environmental issues and risks within their current audit methodology processes.

Table 16: Total number of Environmental Audits conducted by Individual SAIs in 2015 and 2018

INTOSAI WGEA, 2019:22

Types of Audit	Total no in 2015	Total no in 2018
Performance Audits	500	458
Compliance Audits	238	122
Financial Audits	105	59
Priori (other) Audits	54	2

} Sometimes combined

When comparing the responses on the question “Does your SAI have a legislative mandate referring specifically to environmental auditing”, results indicated that 47% had a legislative mandate, with 50% not and 3% responded not applicable. An interesting comparison is the increase from 22% in 2015 to 47% in 2018 (INTOSAI WGEA, 2019:12). The survey questionnaires (responses) are indicative of a global trend to continually develop and expand

audit mandates, means and processes for inclusion of environmental issues and risks within SAIs' public sector audit methodology processes.

Chapter 4 includes more detail, with data acquisition and comparative analyses between the last five survey results (from INTOSAI respondents) and will contribute to the search for the understanding of and preferred placement of environmental issues and risks within SAIs' (globally) available public sector audit methodology processes, further narrowed down to a local, South African perspective.

3.11 Overall Summary

The global literature reviewed through the various available media, assisted the researcher in answering **Sub-Research Questions 3 and 4** on where environmental issues and risks are currently placed within the public sector audit methodology processes of global SAIs, and the latest developments in this regard.

Developments in environmental auditing are continual, with SAIs expanding their environmental capacities, audits and co-operative arrangements within national, regional and international terrains. SAIs' numerous audits performed on the environment to date have resulted in value-adding and improvements towards environmental management and governance. Improved environmental awareness has also ensured that sustainable development, as well as the protection and conservation of the environment and natural resource base, are now included in the international, regional, national and local government agenda towards these objectives. There is thus also an emphasis on individual countries committed to co-operative or collective agreements to continually assess and report on their performance and progress in achieving set targets and goals. Auditing and Accounting standards, statements and practices are established and followed by SAIs to include or consider when auditing environmental issues and risks.

This (global) literature review, **Chapter 3**, set the tone for the rest of the mixed methodology research approach to follow. The global determination of environmental placement and developments within the public sector audit methodology processes of SAIs worldwide, is further pursued in **Chapter 4**, through (INTOSAI) environmental audit survey data acquired, compared and analysed, and further supported with survey questionnaires to the INTOSAI WGEA secretariats and iCED.

CHAPTER 4: GLOBAL RESEARCH METHODOLOGIES: COMPARATIVE ANALYSIS, SURVEY QUESTIONNAIRES

This chapter is divided into two parts with the focus on global trends, perspective and preference to include and place environmental issues and risks within public sector audits and reports of SAIs (within the INTOSAI fraternity), and its value to environmental accountability assessed. The research methodologies selected, comparative analysis of INTOSAI WGEA survey results **Part 1** and INTOSAI WGEA survey questionnaire **Part 2**, aim to particularly answer Sub-questions 3 and 4, in determining where environmental matters are currently placed and the latest developments on this inclusion within the current audit public sector audit methodology processes of global SAIs. The chapter starts with an introduction to the global research methodologies briefly covered in **Chapter 2**, and are particular on the comparative analysis and online survey questionnaire selected and used in global domain (4.1) and is then further divided into the two parts that cover and expand on both the global research methodologies used. The **first part**, includes the comparative analysis performed between the INTOSAI WGEA's last five survey results, starting with an introduction to the INTOSAI WGEA comparative environmental survey analysis (4.2), the qualitative data analysis (4.2.1), the structure of the qualitative data acquisition and analysis (4.2.2), the global data identification and collection (4.2.3), the global data to analyse (4.2.4), ensuring and review of ethical compliance (4.2.5), the analysis of the global data (4.2.6) and the global data analysis results (4.2.7). The first part ends with concluding remarks (4.2.8). The **second part**, starts with an introduction to the global INTOSAI WGEA research questionnaire (4.3), the participants selected (4.3.1), the design of the survey questionnaire (4.3.2), as well as the need, aims and objectives thereof (4.3.3), the survey questionnaire responses analysed (4.3.4) and the results (4.3.5), followed by concluding remarks (4.3.6). The chapter concludes with overall remarks on both research methodologies used, findings and value towards the research aim and objectives (4.4).

4.1 Introduction to the comparative analysis and survey questionnaire as research methodologies in global domain

This chapter aims to substantiate the literature reviewed, **Chapter 3**, and gain more perspective and background on the placement and development of environmental issues and risks within INTOSAI's (global) public sector audit types and methodology processes followed. The structure and design depicted in **Chapters 1.10** and **2.2** respectively, clearly describe the

process initiated from this global status quo, where after it is narrowed down to the local, South African SAI position, **Chapter 5** and **6**.

This globally directed research is intended to assist in addressing the following sub-research questions (developed in **Chapter 1.4**):

Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?

- *Sub-Research Question 3* -

and

What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?

- *Sub-Research Question 4* -

The data referred to in this chapter alludes to the comparative analysis of the last five INTOSAI WGEA published surveys on environmental auditing and online survey questionnaire sourced information from the selected INTOSAI WGEA stakeholders. According to the INTOSAI WGEA, these environmental survey results are instrumental for comparative purposes, emphasising the role and developments within SAIs, to include and address environmental and sustainability issues. The published results provide valuable information on global SAIs' audit mandates, their capacity, environmental audits and impacts, co-operative arrangements and developments regarding environmental auditing (INTOSAI WGEA, 2019). The survey questionnaire results contributed in determining the choice of environmental placement within the available audit types and methodologies of SAIs.

PART 1: Comparative analysis of INTOSAI WGEA environmental audit survey results

After gaining some global (INTOSAI) background and input through the literature reviews (covered in **Chapter 3**), the process was followed with analysing and comparing global INTOSAI WGEA data selected, that was particular to the environmental placement and developments within the responding SAIs' public sector audit methodology processes.

4.2 Introduction to the INTOSAI WGEA comparative analysis

The entire process of identifying, structuring, analysing, and comparing results from the research data, informs the recommendations of this study on the placement and developments for including environmental issues and risks within global (INTOSAI) public sector audit methodology processes.

4.2.1 The qualitative data analysis

According to McLeod (2019), qualitative datum are an experience or event that one can observe but not quantify or measure. In his presentation, Dr Sunday (n.d.) from the University of the Western Cape, referenced (Pope & Mays, 1995:42-45), stating “that qualitative research is the development of concepts which help us to understand social phenomena in natural (rather than experimental) settings, giving due emphasis to the meanings, experiences and views of participants”. He furthermore lists qualitative data as “transcripts of individual interviews and focus groups or field notes, copies of documents, audio and video recordings from observation of certain activities, data related to concepts, opinions, values and behaviours of people in a social context, data that is not easily reduced to numbers”. The types of qualitative data used in this research study include structured text, INTOSAI WGEA environmental survey questionnaire inputs and results, which seek to explore the global current status quo and trends followed by international SAIs to consider, include and report on environmental issues and risks within their public sector audit methodology processes. Furthermore, it also aims to test some additional INTOSAI WGEA viewpoints, ultimately seeking the current placement or locus (rationale) of these environmental issues and risks within the various public sector audit types and processes, and their contribution to enhance environmental accountability. The aim (and point of focus) for using this research method was to gain subjective group-shared ideas and experiences from INTOSAI, by analysing and comparing their inputs (on the selected 5th – 9th environmental surveys). A deductive approach was followed in grouping the global data and then looking for similarities and differences.

In defining qualitative data analysis, Flick (2013:5) gives “a general definition of qualitative data analysis” as “the classification and interpretation of visual material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it”. In layman’s terms, it entails the process where the data collected is now examined for understanding and attaching meaning to the data or material for accurate interpretation to the material and representation thereof. Bowen (2009:4) refers in an article to data or document analysis as a systematic process to review, examine and interpret documents to evoke meaning, understanding and enhance understanding and further identify the advantages and disadvantages (Bowen, 2009:8 – 9). Considering the global pursuit, it was an effective means of research and gaining understanding of the mandates, developments and current status quo of SAIs’ environmental inclusion within their current public sector audit methodology processes. The advantages found in this study pursuit **include:**

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- **Time efficient:** It was easier and less time consuming to extract the summarised INTOSAI WGEA environmental audit survey results (than most other research methods),
- **Availability:** The INTOSAI WGEA results were available in the public domain and although permission for extraction was not required, the INTOSAI WGEA was informed of the research and methodology processes followed,
- **Costs incurred:** It is a relatively cheap and easy process where data can be obtained as a desktop exercise using the internet and other available media,
- The **data** extracted is **stable**, has been **researched** and **referenced** already and provided a **broad coverage** (and time-span) for selection.

The possible flaws or disadvantages, in particular with regard to the INTOSAI WGEA environmental survey analysis, **include:**

- Inputs on the survey results might include some different interpretations and respondents over the survey periods covered,
- Some amendments to the survey questions within the periods covered,
- Insufficient detail, in that not all SAs participated or responded to the survey questionnaires,
- Some bias in the survey selections (or cover), where only 5 of the 9 INTOSAI WGEA environmental audit survey results were selected.

The advantages of this research methodology (data analysis) however outweigh the constraints and provided this researcher with a very suitable and comprehensive representation and information on the INTOSAI (global) public sector environmental audits and related developments. How to identify and generate the most appropriate data and inputs and be true to the INTOSAI and the participants, was considered the most important part of this global data acquisition and analysis.

In order to ensure proper structure, the process to obtain, compare and analyse data in the quest to determine global trends and perception, this chapter is divided into **two sections**, namely data acquisition (and interpretation) and comparative analysis of (INTOSAI) stakeholder's inputs on the survey questionnaire results.

4.2.2 Structure of the qualitative data acquisition and analysis

The process or steps in this qualitative data analysis followed the guidance from Sutton and Austin (2015:2 – 6) and the presentation from Dr Sunday (n.d.), that **includes:**

- Data identification and collection,
- Organising the data,
- Identifying the framework and sorting the data into the framework,
- Data analysis,
- Data synthesis,
- Summary and conclusion.

Information from Creswell & Plano Clark (2011:204 – 211) on converting the raw data into a user-friendly analysis, interpretation of the findings and results, and also the validation of the information, assisted in the entire process towards the final conclusion.

4.2.3 Data identification and collection

The first step was to identify representative, appropriate and relevant data (sources) to assess global trends and perspective within SAIs' current public sector audit methodology processes to consider, include, audit and report on environmental issues and risks, the development thereof and contribution towards improved public sector environmental accountability. To ascertain global perspective and trends used by SAIs, secondary data sources previously gathered and available in **Chapter 2**, were sufficient, whilst the determination of a local, South African perspective would again involve a more primary research collection, **Chapter 6**.

Data identified: INTOSAI is an international umbrella organisation with the overall purpose to assist SAIs in developing, enhancing and improving their external government audit methodology processes through interaction, sharing of knowledge, experience and resources, to ultimately ensure improved government auditing that is in line with the latest needs and developments. The INTOSAI membership currently (2019) includes: Full Members: 192; Associated Members: 5; Affiliate Member: 1; SAIs of Supranational organisations: 1 (INTOSAI, n.d. d). The INTOSAI WGEA (n.d.), with its 77 member SAIs, again seeks to promote and expand current audit mandates and methodology processes specific to improved and effective safeguarding of the environment, its related resources and sustainable development within a global context. This is done through continual assistance, the sharing of

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information and audit experiences, as well as the development and availability of information and guidelines in environmental audits and focus. The power and impact of public sector audit and reporting is acknowledged and used as a base to protect, improve and sustain the environment, its natural resource base, to ultimately benefit the health and prosperity of current and future generations all around the world (INTOSAI WGEA, n.d.). The INTOSAI WGEA with its support and development of environmental auditing practices globally, and within its associated membership countries, was identified as the best means of secondary data sources to determine current world trends to include and develop environmental issues and risks within their current public sector audit methodology processes, and find or propose best placement and the effectiveness thereof (enhancing environmental accountability).

Data collected: To determine the trends, developments, most preferred and effective placement of environmental issues and risks within global public sector audit methodology processes was challenging, considering the extensive and continual evolvement and developments within global SAIs, as well as the improvement and availability of information and data in this regard. To date, nine surveys on environmental auditing have been conducted by the INTOSAI WGEA between 1993 – 2017 (with the Survey 9 results only published in 2019). The main aim of these surveys was to assess the progress and extensive developments of environmental auditing within regional SAIs. These surveys are conducted over three-year periods amongst all regions and membership SAIs. Due to their inclusive focus on the types, placement and developments of environmental issues and risks within public sector auditing and reporting processes, they were considered as most suitable to analyse and compare when determining global context in preferred locus (placement) and developments that incurred. The reason for excluding the 1st – 4th Survey results was based on directing the scope from the new millennium (year 2000 onwards) and the infant phase of SAIs' environmental audit evolvement and developments prior to that. **Table 17**, refers to the focus period (15 years) selected that represents the last five surveys (5th – 9th) between 2004 – 2017, with 455 survey questionnaire responses (from the 949 sent out) completed and submitted (INTOSAI WGEA, n.d. a) that were analysed and compared by the researcher.

Organising the data: The data (surveys) extracted from the internet was printed and filed according to the executive summaries, main focus areas and subsequent questions. The data were also electronically summarised for the transcription and eventual comparative analysis.

Table 17: Surveys on environmental auditing results: Surveys 5 – 9: Focus period 2004 – 2017.

INTOSAI WGEA n.d. a

No Survey	Period	INTOSAI Population	No SAIs completed	Response Rate
Report Date	Covered	Surveys to INTOSAI	Per Survey Summary	Overall %
9 (2018)	Jan 2015 - Dec 2017	192	60	31%
8 (2015)	Jan 2012 - Dec 2014	192	58	31%
7 (2012)	Jan 2010 - Dec 2012	190	112	62%
6 (2009)	Jan 2007 - Dec 2009	189	106	59%
5 (2006)	Jan 2004 - Dec 2006	<u>186</u>	<u>119</u>	<u>64%</u>
		949	455	49,40%
4 (2003)	Jan 2001 - Dec 2003	185	114	61%
3 (2000)	Jan 1998 - Dec 2000	180	110	61%
2 (1996)	Jan 1995 - Dec 1997	175	88	50%
1 (1993)	Jan-93	175	83	47%

Note: Surveys 1 – 4: Focus period 1993 – 2003, not included in this study.

The sample (focus) selected: The data analysed and compared (5 environmental audit survey questionnaire results) represented 49,4% of the total INTOSAI membership countries (192) with the 455 responses, submitted for the five, three-year survey periods (2004 – 2017).

Annexure D, gives a schematic presentation of the international stakeholders selected for the environmental survey questionnaire.

Framework for the data: The next step covered the most relevant data (within the five survey periods selected) particular to Sub-Research Questions 3 and 4, to be analysed and compared and provides the framework to firstly explain the data, and then explore the data, contributing to the aim and objectives, **Chapter 1.5**, of the research study. It includes arrangement of the survey responses into focus areas and identification of similarities, differences and recurrent themes.

4.2.4 Global data to analyse

A convenience and opportunistic sampling of the INTOSAI WGEA structured text Surveys (5 – 9) on Environmental Auditing, together with the literature reviewed, **Chapter 3**, were used and compared to get a global perspective on the extent, where and how effective the current placement of environmental matters within public sector audit methodology processes are and covers Sub-Research Questions 3 and 4, **Chapter 1.6**. Only the INTOSAI WGEA survey questions (17), relevant to the aim and objectives of the study, were selected, compared and analysed pertaining to the main aim and objectives, **Chapter 1.5**. **Figure 15**, refers to the main focus areas addressed in the INTOSAI WGEA environmental audit surveys.



(INTOSAI WGEA, n.d. a)

Figure 15: Main focus areas (INTOSAI WGEA) environmental audit surveys

Although there were amendments and changes over the course of the INTOSAI WGEA Survey Questionnaires on Environmental Auditing (first to the last survey), the following focus areas and questions were selected, **Figure 16**, to assess trends, developments and challenges of SAIs, to audit and report on environmental issues and risks.

INTOSAI WGEA: SURVEYS ON ENVIRONMENTAL AUDITING: “QUESTIONS SELECTED TO DETERMINE GLOBAL TRENDS” (questions numbered 1 – 17 for this research study)

FOCUS: AUDITING MANDATE: 

- (1) “Does your SAI legislative mandate refer specifically to environmental auditing?”
- (2) Does your SAI have a legislative mandate to audit environmental issues within the audit methodologies?
- (3) Has your SAIs’ environmental auditing mandate changed since the previous survey period?

FOCUS: ENVIRONMENTAL AUDITS: 

- (4) Which of the following types of environmental audit have your SAI conducted since the previous survey?
- (5) Indicate the number of audits your SAI has completed related to environmental matters since the previous survey?
- (6) Since the previous survey, how is the total number of environmental audits conducted in your SAI compared?
- (7) Evaluate whether there is a need in your SAI for developing the environmental auditing practice and or resources. What are the developments regarded as necessary in your SAI?
- (8) Evaluate whether there is a need in your SAI for developing the environmental auditing practice and or resources. What are the necessary developments already planned in your SAI?

FOCUS: IMPACT OF ENVIRONMENTAL AUDITS: 

- (9) How does your SAI track the implementation of the recommendations of environmental audit?
- (10) What level of impact have the environmental audits conducted had in helping government departments?
- (11) Assess whether communicating results of environmental audits helped your SAI to increase impacts thereof?

FOCUS: ENVIRONMENTAL AUDIT CAPACITY: 

- (12) Does your SAI have a specific department or section working full time on environmental audits?
- (13) How many auditors are involved with environmental auditing in your SAI?
- (14) Which barriers has your SAI experienced in executing environmental audits since the previous survey period?

FOCUS: CO-OPERATION BETWEEN SAIs: 

- (15) Since the previous survey, has your SAI cooperated with other SAIs in local or international environmental audits?
- (16) Why has your SAI not been engaged in cooperative audits since the previous survey period?
- (17) Specify what types of cooperative activities your SAI has experienced since the previous survey period?”

FOCUS: UN SDG’s: INCLUDED IN THE LAST (9th) SURVEY AS A SEPARATE CHAPTER (FOCUS AREA)

**Note: Question numbers differ per survey period*

(INTOSAI WGEA, n.d. a)

Figure 16: The most relevant questions selected, Surveys 5-9, for this research study

The next step after selection of the survey focus areas and most relevant questions, was to interrogate each of the 17 questions over the 5 selected environmental audit survey results,

as well as analyse and compare, to identify trends, developments and most recent options (2017) of considering, auditing and reporting on environmental issues and risks, within the current audit mandates and methodology processes of SAIs world-wide.

4.2.5 Ensure and review ethical compliance (for both the data used and analysed as well as the survey questionnaires forwarded to the INTOSAI WGEA stakeholders).

Ensuring ethical compliance with this research study, the researcher interacted (e-mail) with the INTOSAI WGEA Chair and Secretariat, informing them of the study, and both research methodologies of analysing the INTOSAI WGEA 5th – 9th Environmental Audit Survey Results and the survey questionnaires intended for the other INTOSAI WGEA Regional Secretariats. **Chapter 1.8**, refers to the initial ethical compliance, prior to commencement of the study. The research needed to be ethically sound to protect the NWU, the employer, the researcher and all participating or contributing towards the research and outcomes. Research on ethical issues in qualitative research identifies various ethical challenges also considered and addressed in the research methodologies selected for this study, and includes that an informed process of consent needs to be followed, in the relationships between the researcher and participants, as well as confidentiality and/or anonymity and also considering the risk-benefit ratio (Houghton *et al*, 2010:15-25).

4.2.6 Analysing and comparing the global data

The data analysis provided some meaning to the research topic and involved an involving view of the entire INTOSAI WGEA environmental audit survey results reported in 2006, 2009, 2012, 2015 and 2017 respectively. This included the summaries of the INTOSAI WGEA Environmental Survey Results (5 – 9) compared, whilst responses from the surveys (selected 17 questions) were compiled in comparative graphs per region (total of 7 regions), see **Annexure D**, for the stakeholders selected. These comparisons were then further analysed between the 5 survey periods and regional inputs. A total of 259 comparative graphs were prepared within this exercise, with a summary of 18 graphs selected and relevant across all regions (included in **Tables 18 – 30**) to follow. In **Annexure F**, results from the executive summaries of the surveys, focus areas and selected questions were initially used to identify and compare the trends and developments of environmental auditing within SAIs world-wide. The results were indicative and clearly show mandates which include environmental auditing and/or some reforms and amendments. The majority of the mandates allow for a comprehensive audit approach to include financial, compliance and performance audits.

Initially the SAIs tended to follow the performance audit route, but within the last 3 survey periods, more reference was made to both performance and compliance audit options used to include environmental issues and risks. There is a steady growth in environmental audits and focus within SAIs in the focus period (2004 – 2017) and most SAIs in the process intend to increase their environmental audits. **Tables 18 – 30**, provided detail in this regard. Most of the SAIs also consider the impact of their environmental audits and follow-up government responses believed to assist government with their environmental policies and programmes. Some SAIs established environmental units, whilst others increased their environmental capacity. Issues such as insufficient data on the environment, lack of skills, experience and expertise, insufficient monitoring and reporting systems, were listed (by how many) as the main barriers to audit and report on environmental matters. Co-operation between SAIs on environmental auditing also increased, where the lack of resources, partners and inadequate mandates were listed as reasons for a lack of co-operation. The most common type of co-operative activities were the exchange of audit information and audit experiences during environmental audit involvements (again a figure). After review and comparison of the executive summaries, a conventional content analysis was followed, whereby information was pursued directly from the text data and categorised according to the aim, main and sub-questions of the research and only the most relevant or pertinent information identified. Bowen (2009:9) references Strauss and Corbin (1998), in stating that the researcher should prove the ability to identify the most important and useful information and then separate it from the rest.

Although all of the questions may be directly or indirectly relevant to the research questions, it was important to narrow it down to the main aim and objectives, so as to firstly determine global trend and perspective on the preference and placement of environmental issues and risks within current public sector audit methodology processes, and secondly, to narrow it down to a local South African SAI (AGSA) perspective, in determining the best suited placement thereof to improve or enhance environmental accountability.

4.2.7 Global data comparative analysis results

The main focus areas and selected questions summarised from the INTOSAI WGEA regional responses and inputs on the last four (5 – 9) survey questionnaire's results, are included in **Tables 18 to 30**, and the graphics basically substantiate the findings in the executive summary analysis of all regions, **Annexure F**. The results can be linked to the initial problem statement and are relevant to the global objectives and questions developed for this study, which focused on the placement and development of environmental issues and risks within global public

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

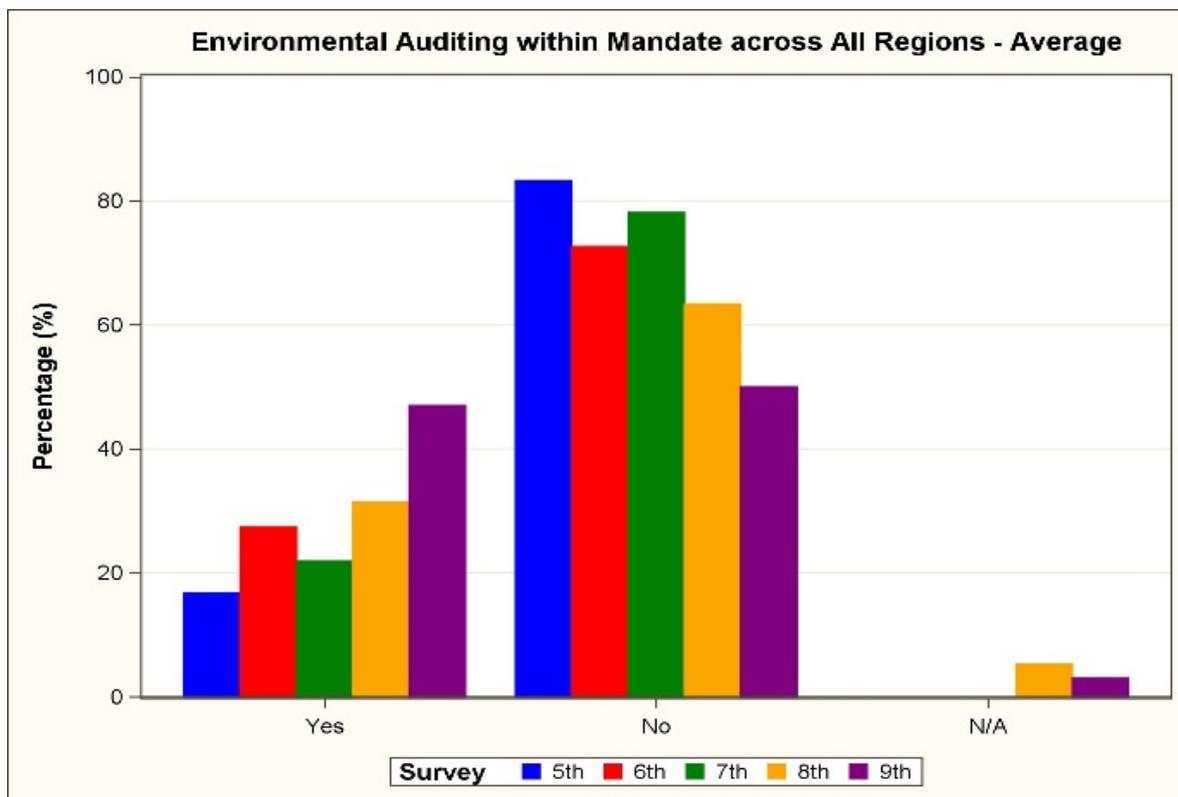
sector audit methodology processes, also interrogating whether the current placement is perceived to be conducive to enhancing public sector environmental accountability. The **Tables** (graphs), **18 - 30** to follow, looked at information across all 7 INTOSAI WGEA regions from auditing mandates to international co-operative arrangements by SAIs. Each of the graphs are linked to the selected INTOSAI WGEA environmental audit survey questions and depicted in **Figure 16**, and enquires:

- whether SAIs' have a legislative mandate specifically referring to environmental auditing,
- whether SAIs' have a legislative mandate to audit environmental issues,
- SAIs' environmental audit mandate changed by surveys,
- listing the types of environmental audits SAIs' have conducted;
- listing the total number of environmental audits conducted by SAIs',
- listing the number of environmental audits conducted by SAIs', compared to prior surveys;
- listing SAIs' necessary and planned developments of environmental by practice', between surveys,
- tracking of the implementation of environmental audit recommendations by SAIs',
- encompassing audit impacts increased due to the communication of environmental results by SAIs',
- listing full-time environmental departments or sections by SAIs',
- listing numbers and percentages of SAIs' auditors involve with environmental audits;
- providing experience in co-operation with another SAI and reasons why not engaged in cooperative audits,
- providing co-operation related to international accords, any environmental subject, on transboundary issues, and exchange of audit information on environmental experiences by SAIs'.

The focus areas and tables structured should be read with the other achievements of the INTOSAI WGEA since establishment in 1992, to get a real sense of the developments, trends and value for members to draw from. The summary plots (for the graphs) were generated using SAS software, Version 7.13 of the SAS Enterprise Guide for Windows. Copyright © 2016 SAS Institute Inc. (SAS, nd). "SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of the SAS Institute Inc., Cary, NC, USA". (SAS, nd).

These tables should be linked to **Annexure F** (Executive Summaries) for more detail.

Table 18: SAIs’ legislative mandates referring specifically to environmental auditing: Environmental audits across all regions, average (5th – 9th survey results): 2006 - 2018
Smith, 2020



Note: The dates of the surveys include: 5th 2006; 6th 2009; 7th 2012; 8th 2015 and 9th 2018

The graphics in **Table 18** display the auditing mandate of SAIs and particularly whether SAIs’ legislative mandate includes and refers specifically to environmental auditing. *Survey Question 1 asked and addressed:*

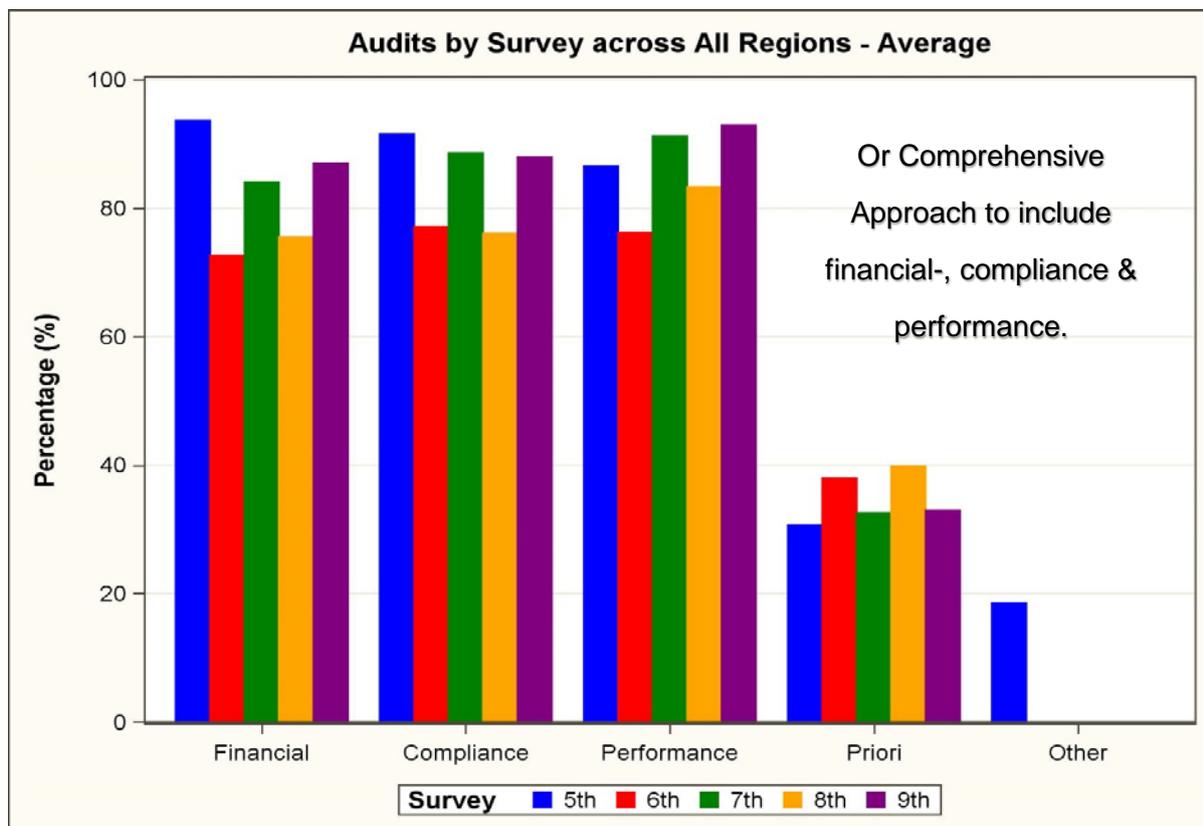
“Does your SAI have a legislative mandate referring specifically to environmental auditing?”

The comparison indicates that there is a steady increase in SAIs including, reforming or amending their legislative mandates to specifically refer to environmental auditing (from less than 20% in the 5th survey results to 47% in the latest, 9th survey results). The no option is however not indicative of SAIs not performing environmental audits, rather not referred or legally mandated to do so. Where specifically referred to or included in their mandates, SAIs may be obligated to audit and report on environmental issues and risks. The not applicable option were selected by less than 5% of the respondees in the latest, 9th survey results.

Table 18, focussed on the reference to environmental auditing in SAIs mandates, whilst the following table, **Table 19**, looks at whether the respective SAIs have a legislative mandate to include and audit environmental issues.

Table 19: SAIs' legislative mandate to audit environmental issues within the audit methodologies - across all regions, average (5th – 9th survey results): 2006 - 2018

Smith, 2020



The graphics in **Table 19** display the auditing mandate of SAIs within the audit methodology processes selected and used to include or perform environmental audits. *Survey Question 2* asked and addressed:

“Does your SAI’s legislative mandate refer specifically to environmental auditing?” (*Within the public sector audit methodology processes*).

Between 2004 and 2017, the majority of respondents (mid 70% – lower 90%) made use of both regularity (financial and compliance) and performance in conducting environmental audits. Priority or special audits as an option remained relatively steady between 30% - 40%, with no other options indicated for the last four survey results. These survey results indicate that responding SAIs used their current mandates and available audit methodology processes to include environmental matters. SAIs however, might have opted for a comprehensive approach by selecting more than one option, which was not always clear in the survey results.

Table 20 aims to determine whether SAIs’ environmental auditing mandates changed since January 2004.

Table 20: SAIs' environmental auditing mandate changes: Environmental audits across all regions - average (5th – 9th survey results): 2006 - 2018

Smith, 2020

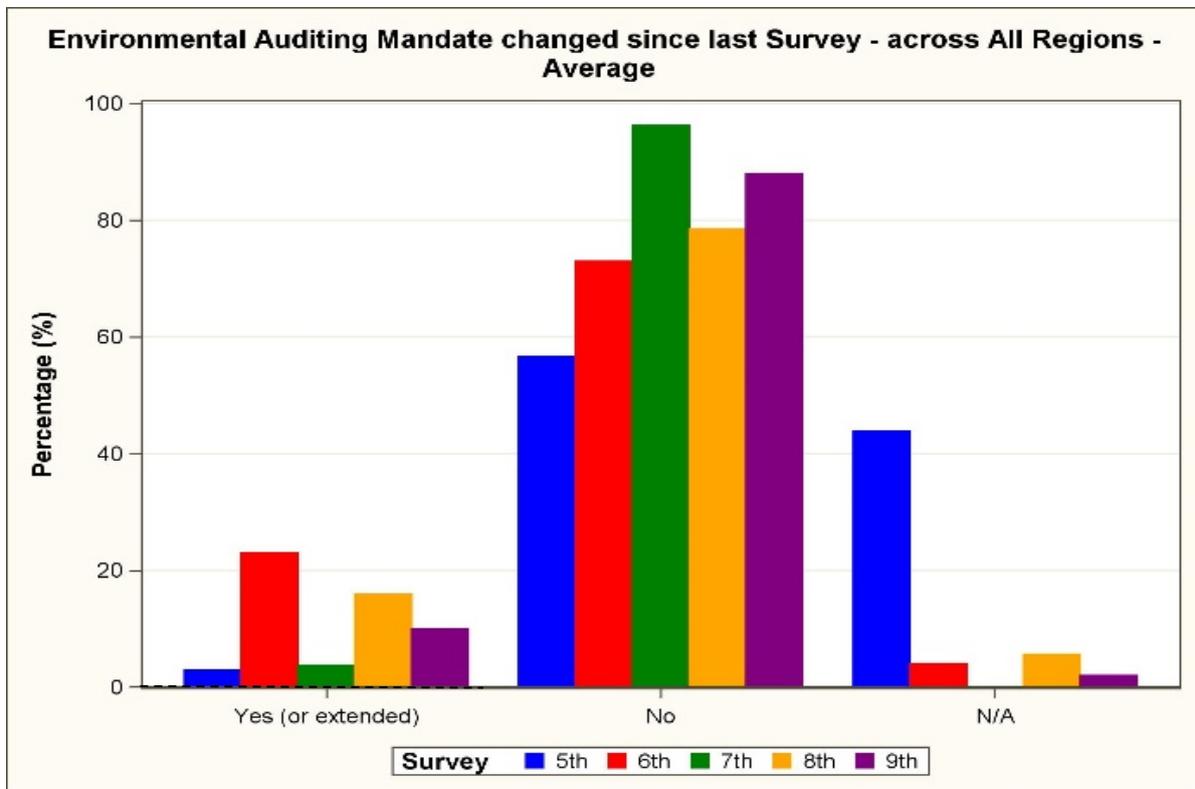


Table 20 expands on the audit mandate and methodologies used and analysed and determines whether there were any changes in SAIs' mandates for inclusion of environmental auditing. *Survey Question 3* asked and addressed:

“Has your SAIs' environmental auditing mandate changed since the previous survey period?”

Although most respondents indicated that their (SAIs') environmental auditing mandate did not change (upper 50% in the 5th survey period to 88% in the 9th survey period), the positive (yes) responses in the 6th, 8th and 9th (between 10% to mid 20%) are significant, considering the complicated processes involved to affect any mandate changes.

To summarise the auditing mandates, the 5th – 9th INTOSAI WGEA Environmental Audit Survey Results indicated that close to half of the responding SAIs specified that their legislative mandates specifically refer to environmental auditing, whilst most make use of financial, compliance and performance audit methodology processes, to include or audit environmental issues. There are periodic environmental auditing mandate changes at SAIs.

The focus with the following graphs depicted in **Tables 21** and **22** is on the total and types of environmental audits performed between the 5th and 9th INTOSAI WGEA survey periods on environmental auditing.

Table 21: Environmental audit types SAIs have conducted by survey across all regions - average (5th – 9th survey results): 2006 - 2018

Smith, 2020

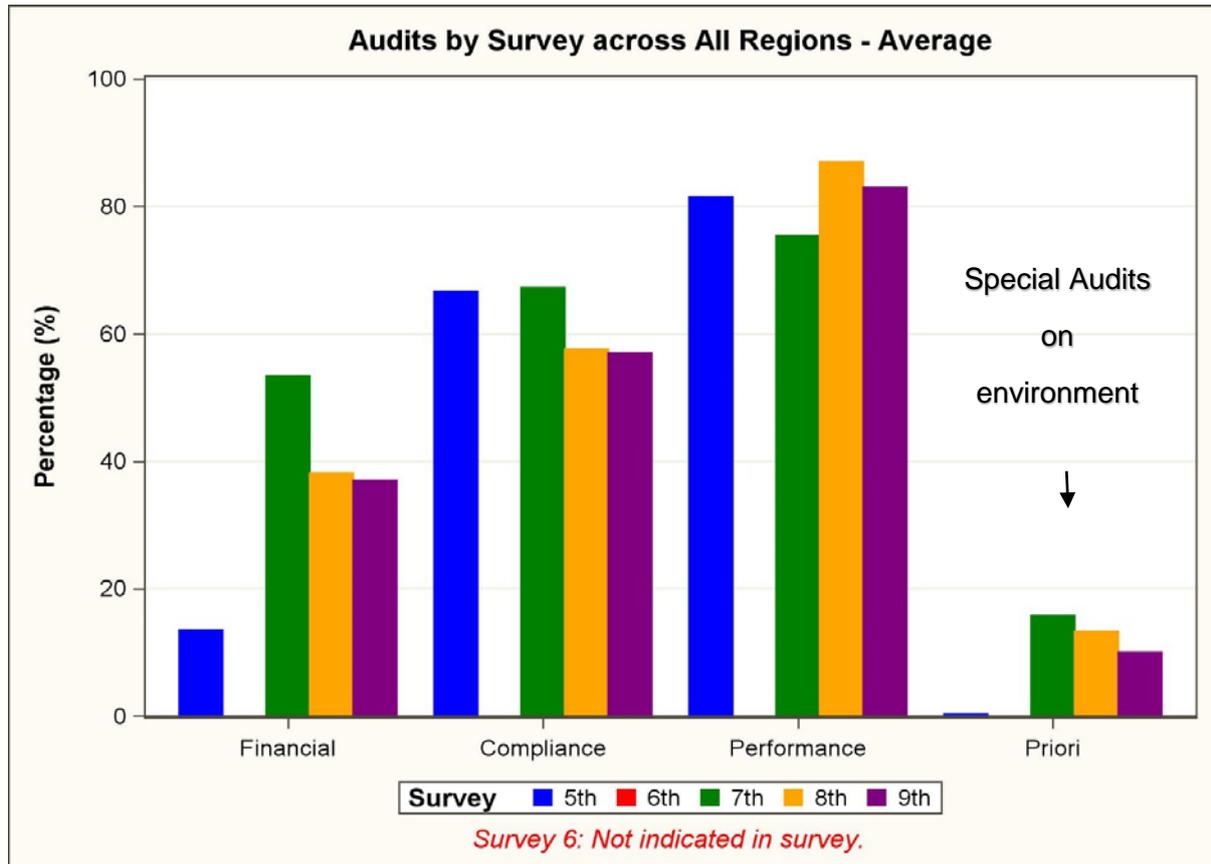


Table 21 looks at the environmental audits performed, as well as which audit types were performed and contributed to determining the preferred audit methodologies used and/or placement thereof. *Survey Question 4* asked and addressed:

“Which of the following types of environmental audits have your SAI conducted?”

Most of the environmental audits performed, between the 5th, 7th, 8th and 9th surveys, were performance driven (upper 70% – mid 80%), followed by compliance (upper 50% – mid 60%). Although financial audits reflect a range between the mid 10% to the mid 50%, the fact that financial audits can also include a compliance focus influenced these responses. Priori or special audits ranged between the mid to upper 10%. The audit types or methodologies followed were not clearly indicated in the 6th Survey results. This graph again indicated

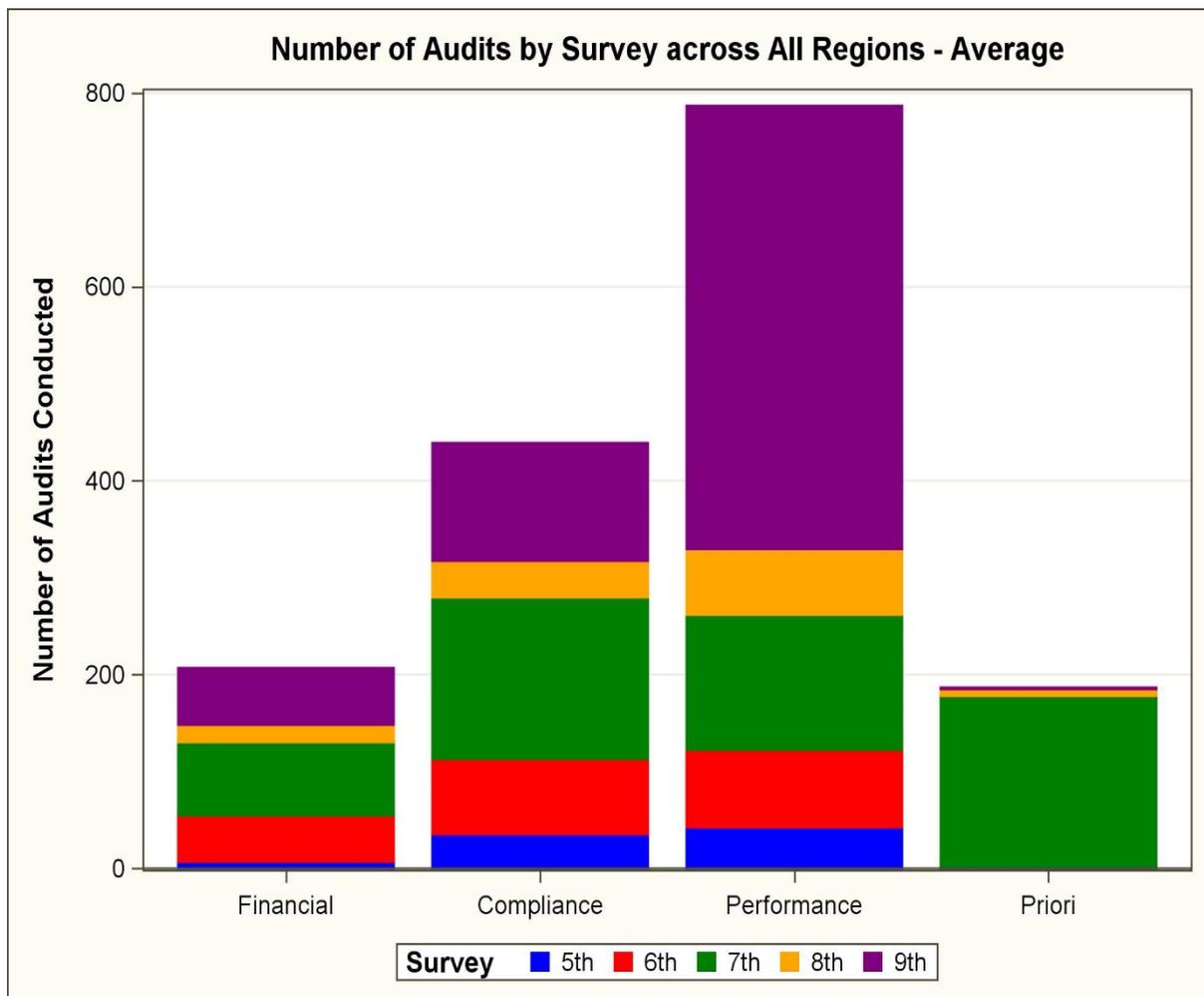
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performance as the preferred option, but between the upper 30% to mid-60% of the respondents also used the financial, compliance or a comprehensive approach.

Table 22 outlined the number of environmental audits conducted within the available audit methodology processes of SAIS, between the 5th to 9th survey periods.

Table 22: Total number of environmental audits conducted by survey across all regions - average (5th – 9th survey results): 2006 - 2018

Smith, 2020



The focus with **Table 22** is more on the number of audits performed, that included environmental matters within the available audit methodology processes followed. *Survey Question 5* asked and addressed:

“Indicate the number of audits your SAI has completed related to environmental matters, from previous audits?”

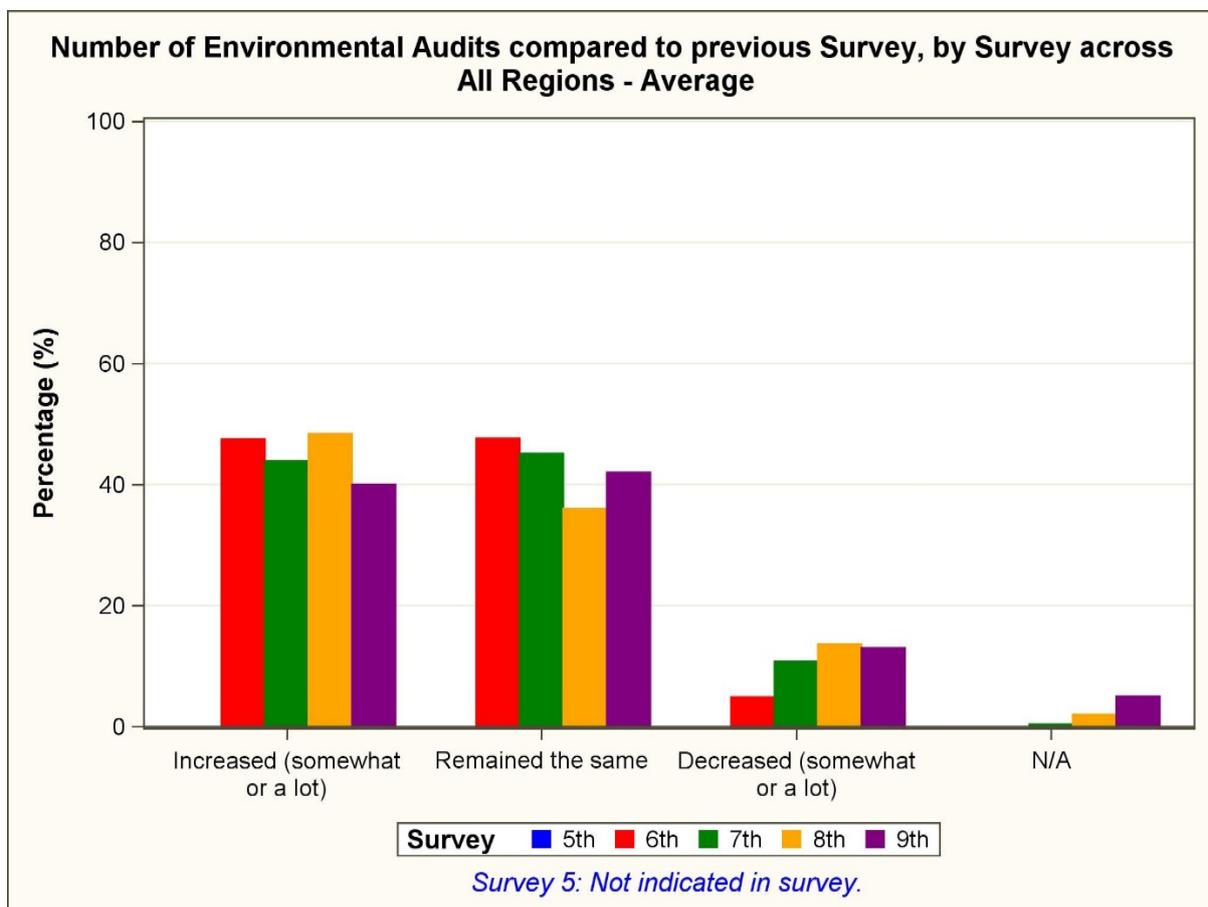
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The total number of performance audits increased substantially from less than 50 in the 5th survey responses to close to 800 in the 9th environmental survey results. There were also notable increases in the compliance audits (less than 50 to the mid 400) and financial audits (around 10 to just over 200) between the 5th and 9th environmental survey periods. An interesting observation is that a number of the audits followed the priori (verifying the legality and budgetary allocations for acts, contracts or other instruments that generate infrastructure or specialised audit option increased from 0 to around 200) between the 7th and 9th survey periods. Around 2/3 of the environmental audits performed between the 5th and 7th survey periods were included in either the performance or compliance audit methodologies. The significant increase in environmentally related audits performed in all 3 spheres of financial, compliance and performance auditing, emphasises the importance and the shift in SAIs' predominantly financially driven focus. This graph shows that options can be focus-driven, considering the particular risks and impacts.

The next **Table 23**, explores the total audits (movements and comparisons) performed.

Table 23: Number of environmental audits (increase, same, decreased) compared to previous surveys across all regions - average (5th – 9th survey results): 2006 - 2018

Smith, 2020



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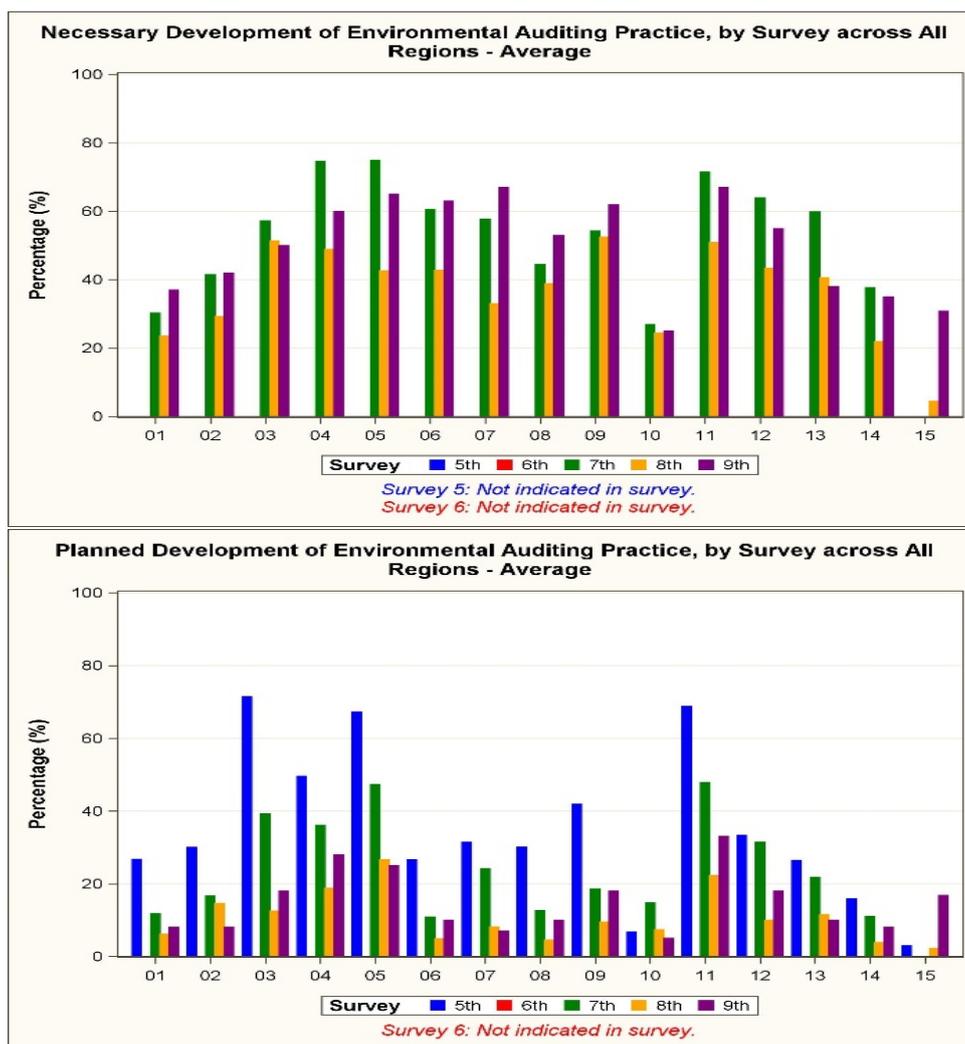
Table 23 focuses more on the comparative number of audits performed between the 5th to 9th survey periods (results). *Note – not indicated in Survey 5. Survey Question 6 asked and addressed:*

“Since the previous periods, how is the number of environmental audits conducted in your SAI compared to the latest assessment period?”

The survey results indicated that around 40% - 50% of the respondents stated that their environmental audits increased (somewhat or a lot). The upper 30% to around 50% responded that it remained the same, with a few inputs (lower to mid 10% plus) on decreases (somewhat or a lot) that occurred. This prompted the following questions of necessary - and planned - developments of environmental audit practice envisaged in **Table 24**.

Table 24: Necessary and planned development of environmental auditing practice by survey across all regions - average (5th – 9th survey) results: 2006 - 2018

Smith, 2020



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In **Table 24**, SAIs responded to their necessary and planned developments with environmental audits and practices followed. *Survey Questions 7 and 8 asked and addressed:*

“What are the environmental developments that you regard as necessary in your SAI?”

“What are the environmental developments you have already planned in your SAI?”

The options were **(01)** “creation of a department focusing on environmental audit within our SAI **(02)** creation of a pool of environmental auditors **(03)** integration of environmental issues in other audits **(04)** training in environmental issues **(05)** training in environmental auditing **(06)** development of environmental performance indicators in audits **(07)** more attention to quality and reliability of information **(08)** more measurement of effectiveness policy **(09)** evaluation of the impact of audits and ways to improve the impact **(10)** development of new products that are not environmental audits **(11)** exchange of knowledge with other SAIs **(12)** external expert advice **(13)** peer review by other SAIs **(14)** evaluation by external experts (for instance universities) **(15)** other”.

From the graphs in **Table 24**, respondents regarded the integration of environmental issues in other audits, training in environmental issues and auditing, development of environmental performance indicators in audits, more attention on quality and reliability of information, more measurement of effectiveness policy, evaluation of the impact of audits, exchange of knowledge with other SAIs, and external expert advice and peer review by other SAIs as the most necessary developments in their SAI (50% and above responses over the last 3 survey periods). Focus on the SDGs was added in the last (9th) survey, and was also identified as necessary by 55% of the respondents. This question was only applicable in the latest (7th to 9th) survey results – *not included in the 5th and 6th surveys*. The planned developments mostly indicated within the 5th to 9th survey results included “integration of environmental issues in other audits, training in environmental issues” and auditing, exchange of knowledge with other SAIs, and the latest focus on the SDGs as the most selected options. These options and information were not included in the Survey 6 questions and responses. All SAIs indicated some necessary and planned developments to assist in auditing and reporting on environmental matters within their available public sector audit methodology processes. The next **Table 25**, focusses on tracking the implementation of environmental audits.

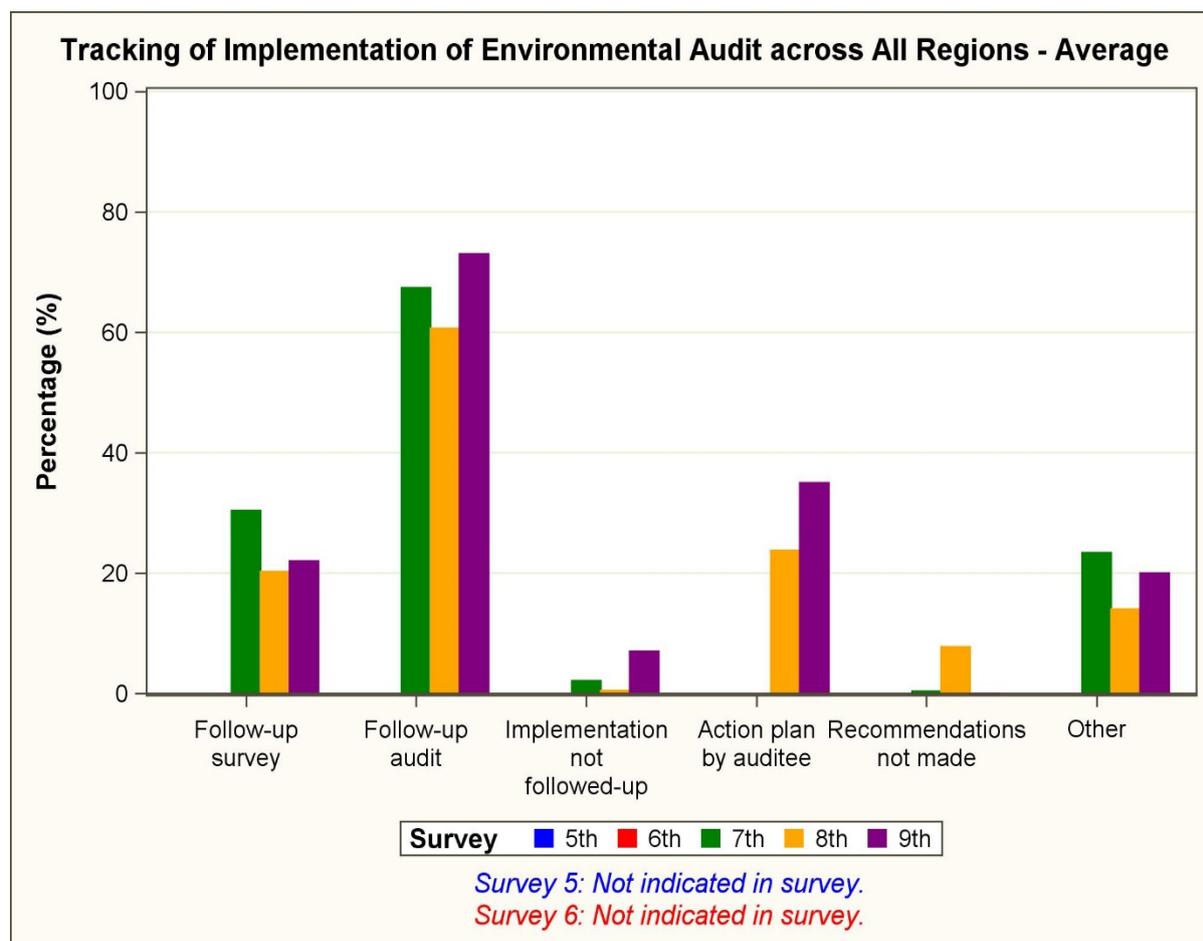
To summarise the auditing types, numbers and developments, the 5th – 9th INTOSAI WGEA Environmental Audit Survey Results indicated that most SAIs followed the performance option for conducting environmental audits, followed by compliance and/or a collaborative approach that also includes financial audits. The total number of performance audits increased substantially, again, followed by compliance and some increment in financial

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audits. There was also a significant increase in priori (or special) audits between the 5 survey periods analysed. Around half of the respondents indicated some increases in their environmental audits, with most others indicating that it remained the same. All SAIs listed planned and necessary developments in selected areas to include audit and report on environmental issues. The focus with the following graphs in **Tables 25** and **26** is on the impacts of environmental audits between the 5th and 9th INTOSAI WGEA survey periods.

Table 25: Tracking of implementation of environmental audit recommendations across all regions - average (5th – 9th survey results): 2012 - 2018

Smith, 2020



The next question and response area is on the determination of how environmental findings and responses are tracked and followed up. *Survey Question 9* asked and addressed:

“How does your SAI track the implementation of the recommendations of environmental audits?”

The questions and responses were only applicable to the last three (7th to 9th) surveys. Several ways and means were followed to track the implementation of environmental audit

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recommendations. More than 60% to 73% of the responders indicated follow-up audits as their preferred choice. Follow-up surveys were next (around 20% to 30%), with the action plan by the auditee increasing as a choice (within the 8th and 9th surveys) of between the lower 20% to mid-30%. Other, as an option, ranged from around 20% (but not clear on what). Implementation not followed-up and recommendations not made, were the least selected options from the survey results. *The tracking was not included in the Survey 5 to 6 results.* Survey Question 10 was just briefly explored, to consider possible impacts on government departments. *Survey Question 10 asked and addressed:*

“What level of impact have the environmental audits had in helping government departments?”

The latest (9th survey results) listed improving the functioning of policies and programmes, generation of their environmental indicators, performance measures, monitoring systems or other policy information to evaluate environmental policy, as well as the formulation of legislation as the highest impact in helping governments. Other limited impacts also referred to include developing their environmental management systems, producing their environmental reports and evaluating their capacity to develop and implement environmental policies or programmes, **Figure 17** refers.

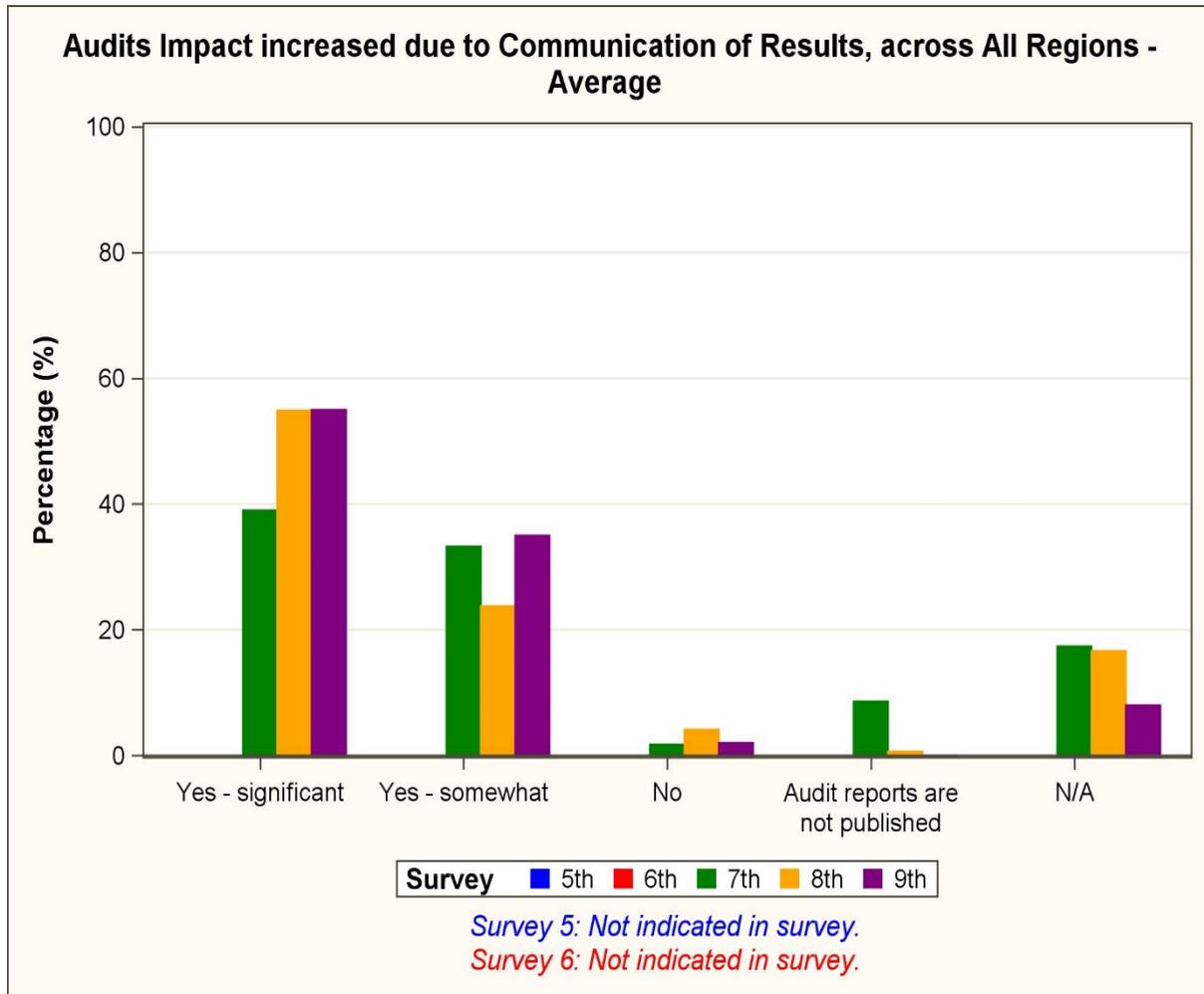


INTOSAI WGEA, 2019:91

Figure 17: Impact that the environmental audits (by SAIs) had in helping governments

Table 26: Audit impacts increased due to communication of environmental results across all regions - average (5th – 9th survey results): 2012 - 2018

Smith, 2020



The graph in **Table 26** focusses on the impacts of audits where environmental results were communicated or reported to the auditees. *Survey Question 11 asked and addressed:*

“Assess whether communicating the results of environmental audits has helped your SAI to increase the impact of these audits?”

Regarding how communicating the results of environmental audits helped SAIs to increase the impacts thereof, the latest three (7th, 8th and 9th) survey results indicated the yes-significantly option within the 40% to upper 50% of the responses received, whilst mid 20% to upper 30% indicated the yes-somewhat option. The other options selected were all limited to less than 20%. NA was indicated as close to 20% and might be interpreted to include SAIs not performing environmental audits. Most respondents agreed that audits’ impacts are increased

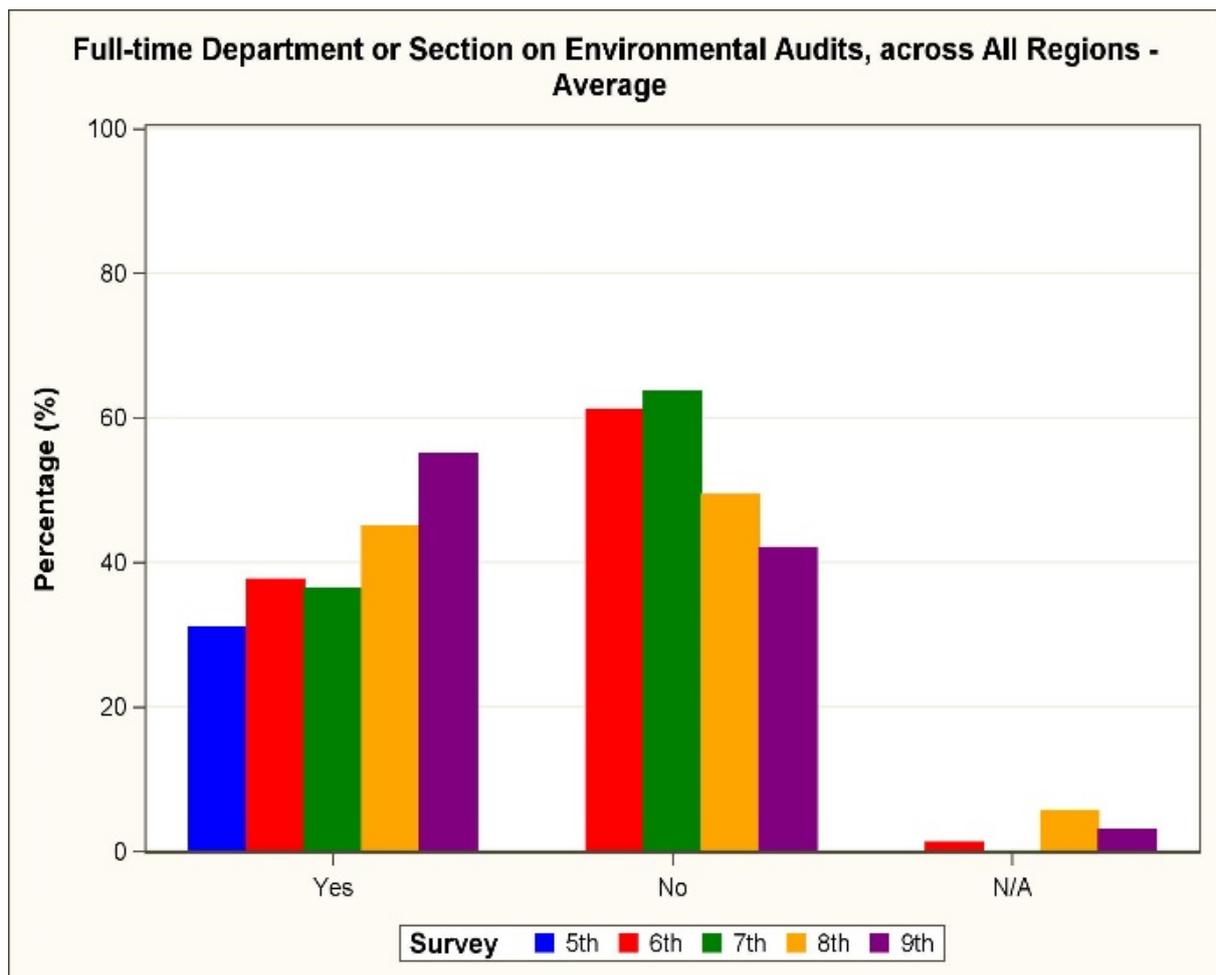
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due to communication of the results. *This question and responses were not included within the 5th and 6th survey questionnaires and results.*

To summarise the impact of environmental audits, follow-up audits and follow-up surveys are the main choices to track the implementation of environmental audit recommendations. Most SAIs indicated the impacts of the environmental audits in helping governments as medium – high and agreed that communicating the results of the environmental audits significantly or somewhat helped to increase the impact of these audits. The next focus is on environmental audit capacity, **Table 27**, and particularly whether SAIs have a department or section working full-time on environmental audits and how many auditors are involved with environmental audits and the barriers faced by SAIs to perform environmental audits.

Table 27: Full-time department or section on environmental audits and auditors' involvement with environmental audits across all regions - average (5th – 9th survey results): 2006 - 2018

Smith, 2020



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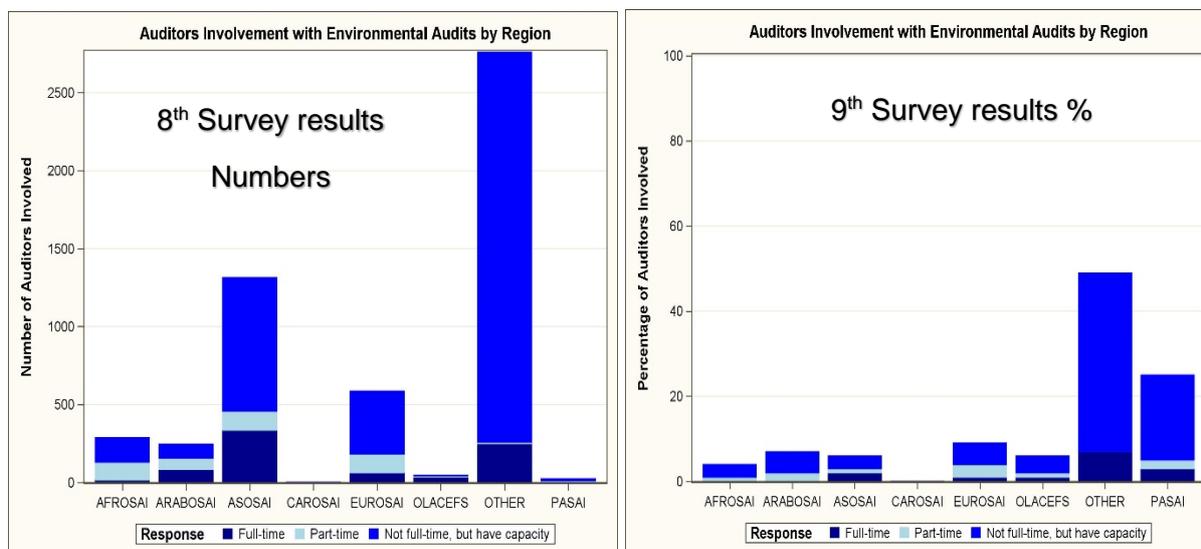
SAIs' capacity is further assessed in **Table 27**, determining whether they have full-time departments or sections that only perform environmental audits and how many auditors are involved in environmental audits. *Survey Question 12* asked and addressed:

“Does your SAI have a specific department or section working full time on environmental audits?”

Between the lower 40% to the lower 60% (last 3 survey results) SAIs indicated that they don't have a full-time “department or section working full-time on environmental audits”. An interesting observation is the mid 30% to upper 50% that indicated that they do have such a full-time capacity. Some SAIs seemed to develop or establish departments (or particular expertise) within their available audit teams and audit methodologies. **Table 28** looks at the auditors involved (8th survey indicated the *number of auditors* involved, whilst the 9th survey indicated the *% of auditors* involved) in environmental audits.

Table 28: Auditors' involvement with environmental audits across all regions - average (8th and 9th survey results): 2015 - 2018

Smith, 2020



Note: Results depicted within the various INTOSAI regions (bottom of the graphs)

These graphs focus on the auditors' involvement with environmental audits by region where environmental results were communicated or reported. *Survey Question 13* asked and addressed:

“How many auditors are involved with environmental auditing in your SAI?”

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In the 8th Survey, the results indicated that the number of auditors not working full-time on environmental audits, but have the capacity to do so are mostly within the other regions (not included within the regional working groups), followed by ASOSAI and EUROSAI. The 9th Survey also indicated that the % of auditors not working full-time on environmental audits, but having the capacity to do so, are mostly within the other regions, but are now followed by PASAI. Most full-time auditors are within the ASOSAI regional group, again followed by other, whilst the CAROSAI, AFROSAI, OLACEFS and PASAI have a very small number of full-time auditors focusing only on environmental matters. Auditors who are only part-time on environmental audits, are limited within the regions, with none indicated in CAROSAI.

A brief look at and review of the barriers or challenges to SAIs to do environmental audits followed. *Survey Question (14) asked and addressed:*

“Which barriers has your SAI experienced in executing environmental audits in the survey periods?”

Working through the main barriers that SAIs experienced in executing environmental audits between the 5th and 9th Environmental Survey Results revealed the most significant **as:**

“Lack of skills or expertise and training within SAIs * lack of human and technical resources * insufficient formulation of government environmental policy, such as: goals that are not measurable, absence of a strategy, or insufficient regulatory framework * lack of environmental programmes * insufficient monitoring and reporting systems * difficulty in validating reported data and lack of established environmental norms and standards”.

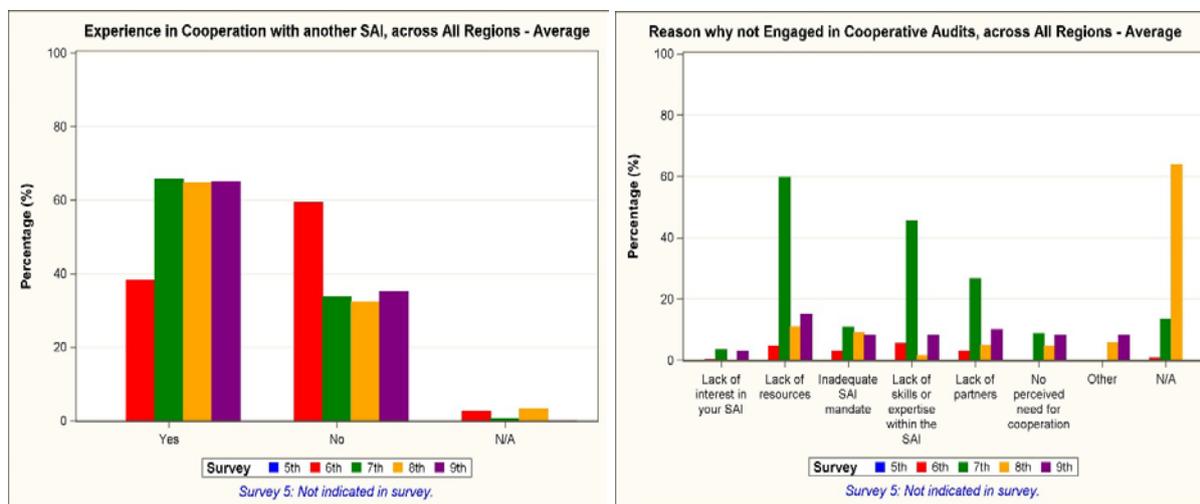
Other barriers include: “* Absence of SAI mandate * Access to data * Lack of technical resources (insufficient equipment, poor internet connections)”.

To summarise the environmental audit capacity of SAIs, more than half of the responses indicated no full-time department or section within SAIs doing environmental audits on a full-time basis. Whilst most auditors are not working full-time on environmental audits, they do have the capacity to do so. Various barriers or challenges prevent SAIs from effectively implementing and performing environmental audits within their SAIs.

The next information that needed to be obtained through the survey questionnaires and results was on the co-operation between SAIs, **Table 29**. This section specifically looks at the experience in co-operations, reasons why they were not engaged and types of co-operation.

Table 29: Experience in co-operation with another SAI and reasons why they were not engaged in cooperative audits across all regions - average (5th – 9th survey results): 2009 - 2018

Smith, 2020



The questions in **Table 29**, focused on the environmental audit experiences between SAIs and also the reasons where SAIs did not engage in such activities. *Survey Questions 15 and 16 asked and addressed:*

“Since (the previous survey periods), has your SAI had any experience in cooperation with another SAI, whether it is in the local or international level in environmental auditing issues?”
 “Why has your SAI not been engaged in cooperative audits since (the previous survey periods)?”

The latest (7th to 9th) survey results indicated that most respondents (upper 30% to mid-60%) had experience in environmental audit cooperation with another SAIs. There has been some significant improvement compared to the 5th survey results. *The question and related results are not included in the 5th Survey.*

The reasons why SAIs are not engaged with environmentally related cooperative audits varied, where Survey 7 was adamant on a lack of resources, a lack of expertise within SAIs or lack of partners. The latest (Survey 8 and 9 results) are similar, but to a much lesser extent, and also included the inadequate SAI mandate, lack of resources, lack of partners, lack of skills, no need for co-operation and other as reasons why they are not engaged in cooperative audits. *This question and results were not indicated in the 5th Survey.* The final focus area selected, aims to establish cooperation between SAIs on an international level, **Table 30**.

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Table 30: Co-operation related to: international accords, any environmental subject, transboundary issues, exchange of audit information on environmental experiences across all regions - average (5th – 9th survey results): 2009 - 2018

Smith, 2020

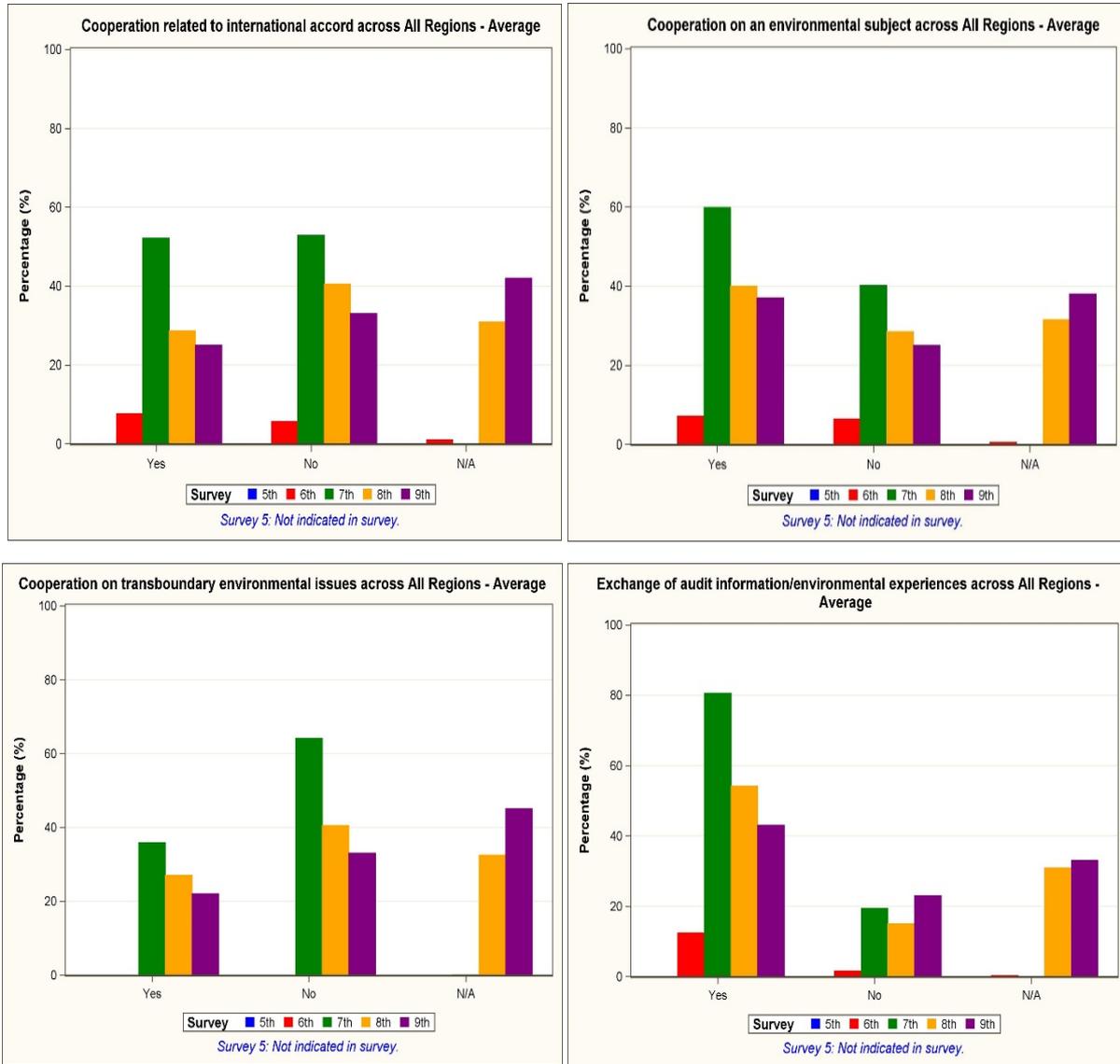


Table 30 (graphs) focused on cooperation and sharing of information and experiences between the SAIs. *Survey Question 17* asked and addressed:

“Specify what types of cooperative activities your SAI has experienced since (the previous survey periods)?”

The respondents indicated some, lower 10% to mid-50% cooperation on international accords between the 6th and 9th survey results. Between upper 40% to 60% indicated cooperation on

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environmental subjects and mid 20% to upper 30% on cooperation on transboundary environmental issues within the last three (7th to 9th) survey results.

Exchange of audit information was a popular response, whereas the lower 40% to 80% responded positively with the last three surveys (7th to 9th). *This survey question and subsequent results were not included in the 5th Survey done.*

To summarise the co-operation between SAIs, there was a continual increase in SAIs' cooperation and experience with other SAIs. There are however reasons or challenges preventing proper cooperation such as the lack of resources, skills, expertise and partners being the main ones selected. Most SAIs cooperate on environmental subjects or the exchange of such information.

In **Annexure F**, the researcher summarised the 5th – 9th INTOSAI WGEA Environmental Audit Survey Responses on the focus areas and 17 questions selected as most relevant to this research study theme and outcomes. Only the 9th Survey included the SDGs as a separate (individual) chapter in the survey questionnaire and responses for the period 2015 – 2017.

SDGs as focus area: Although a chapter for SDGs was *only included within the 9th Environmental Audit Survey*, and was not analysed in graph format by the researcher, the following insight (on the responses) was relevant to the placement and developments within SAIs' audit methodology practices:

*Only 10% of SAIs indicated that SDGs have a high priority in their SAI's strategic work plan * SDGs assisted SAIs mostly with choosing audit topics, focusing on preparedness to implement the SDGs used as criteria in audits * 40% of SAIs already received or audited the preparedness of their national government to implement the SDGs * 52% of SAIs conducted audits relating to the SDGs or the 2030 Agenda * Clean water & sanitation and affordable and clean energy the most selected topics performed over the past 5 years (and also planned for the next 3 years) etc.*

The SDGs are very important and relevant for governments and SAIs to manage and sustain the environment and improve environmental accountability.

4.2.8 Concluding remarks (on INTOSAI WGEA 5th – 9th Environmental Audit Survey Results analysed and compared)

Part 1 of this chapter compared and analysed the 5th - 9th INTOSAI WGEA Environmental Audit Survey Questionnaire and Results to assist in answering Sub-Research Questions 3 and 4, determining where environmental issues and risks are currently placed in the public

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sector audit methodology processes of global SAIs, and their latest developments for inclusion.

Performance audit is regarded as the most popular placement, with compliance audit following (or part thereof). There is however a growing move within SAIs to also use a comprehensive approach (to include financial, compliance and performance) in considering or conducting environmental audits. The number of performance audits on environmental issues increased substantially between the 5th and 9th survey periods, but there was also a growing trend within the compliance, and financial audits. Almost 2/3rd of environmental audits were however performed within the performance and compliance audit methodologies.

Most SAIs (respondents) indicated an increase in environmentally related audits, with developments identified as needed and planned for to audit and report thereon. Follow-up audits and follow-up surveys are regarded as the most popular ways to track the implementation of environmental findings. Communicating the environmental results helped SAIs to increase the impacts of these audits, whilst also assisting government departments with their environmental roles and responsibilities. Around half of the responding SAIs don't have a full-time department or section on environmental audits, but there are significant developments in establishing such departments or sections. Most auditors are not working full-time on environmental audits, but have the capacity to perform these audits. Some barriers or constraints impede SAIs' efforts and means to execute environmental audits. There are co-operation efforts and means on environmental audits, as well as international commitments, treaties and transboundary audits with other SAIs. The UN 2030 SDGs are receiving special attention with clear efforts and means from SAIs and their government to audit and report on these commitments. The value is in the identification or choosing of environmental topics as a focus area and for governments to assess environmental progress with other countries.

Current placement and latest developments to consider and include environmental issues and risks within global SAIs' audit methodology processes are further explored and substantiated through survey questionnaires to the Secretariats of the Regional WGEA's and iCED.

PART 2: Survey Questionnaires (developed as research method)

4.3 Introduction to the global survey questionnaires

Although the data acquisition and comparative analysis covered in **Part 1** of this chapter included INTOSAI WGEA membership inputs (through the 5th to 9th Environmental Audit

Survey Results), the regional secretariats were also seen as instrumental in contributing to information on the global trend and developments of environmental matters within SAIs' public sector audit methodology processes. This information will be supportive or will substantiate the findings and conclusions in **Part 1** of the chapter.

4.3.1 Participants for the global survey questionnaire

The reason for using this survey questionnaire as a selected research methodology in this research study, was to ensure that the INTOSAI WGEA environmental survey data collected, analysed and compared is further corroborated from a (global) regional perspective. **Annexure D**, includes details on the INTOSAI and all regional WGEAs identified and included for the surveys. Only the six Regional Working Groups on Environmental Auditing that were established within the INTOSAI regions were included in the survey questionnaire. This excludes the CAROSAI, which did not establish a WGEA (and secretariat) within their region. The WGEA Chair and iCED (WGEA) global training facility also included the environmental training and developments within these global SAI fraternities. Getting inputs from sources that are involved full-time with SAIs' environmental auditing and developments in the public sector was seen as another means to support or further expand on the aim and objectives developed in **Chapter 1.5**, and questions, **Chapter 1.4**, of the research study.

4.3.2 Design of the survey questionnaire

Detail and background on the global data acquisition survey questionnaire were already alluded to in **Chapter 2.4.2** of this qualitative research study. Farnsworth (2019) identifies six distinct steps in designing a good questionnaire which **include**:

- identifying the aim and goal of the questionnaire,
- defining your target group,
- developing your questions,
- choosing the most suited question type,
- designing the sequence and layout of the questions, and
- performing a test or pilot thereon.

The researcher followed these steps in the design and structure of the questionnaire to be forwarded to the identified INTOSAI WGEA respondents, **Annexure C, Part 1**, and the

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guidance from Rugg & Petre (2007) was also instrumental in choosing the questions and responses required.

(a) Aim and objectives of the questionnaire: Prior to designing the format and questions, it is important to establish the main objective and what information is sought with your questionnaire.

The survey questionnaire was designed to determine the global perspective on SAIs' public sector audit mandates, the current placement and extent of environmental issues and risks within their audit types and methodology processes, where these environmental issues and risks are perceived to be best placed, and the needs for SAIs to audit and contribute to improved public sector environmental accountability.

(b) Defining your target group: The target population in this research questionnaire is additional to the INTOSAI WGEA environmental survey respondents and only included the INTOSAI WGEA Chair, the iCED training facility and regional WGEAs. These respondents and groups were identified for further inputs and insights on the above-mentioned aim and objectives. **Annexure D** gives a pictorial version of the global target population included in this survey questionnaire.

(c) Developing the research questions: The questions developed in **Annexure A, Part 1**, were constructed in such an order to firstly establish knowledge on environmental sustainability and the challenges to ascertain environmentally sustainable societies. As SAIs are mandated to audit organs of state, on all levels of government, and are responsible to manage and safeguard the environment, it was necessary to ascertain that respondents understood the concept of environmental sustainability and the main challenges thereto. This can be linked to SAIs' efforts to improve the life of citizens through public sector audits and reporting.

The next focus was on SAIs' legislative mandates and their use thereof to include or perform environmental audits. Referring back to the aim and objectives of the research, **Chapter 1.5**, this global research methodology (survey questionnaire) selected was to further substantiate the WGEA environmental survey results analysed and compared in determining global placement and development of environmental matters within SAIs' audit methodology processes. Preference of placement for environmental issues and risks, as well as the extent of inclusion, was a further focus to eventually compare, determine and propose best global and local (South African) placement to enhance public sector environmental accountability.

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The questionnaire concluded with inputs on the importance of SAIs to audit and report on environmental issues and risks.

(d) Choosing the question type: Within the global explorative questionnaire, open- and closed-ended questions were firstly aimed at gaining more understanding and input on the research topic, and secondly, at ascertaining that respondents interpret and answer the questions in the same way. **Questions 1 and 8** and the follow-up questions that required further input were open-ended, whilst **Questions 2 – 7** were closed-ended, with selected responses from which to choose.

(e) Designing the sequence and layout of the questions. The sequence followed was to ascertain whether respondents understood the environment and its challenges, whereafter their current placement, preferences and audit methodology processes used to include and develop environmental issues and risks were further explored.

(f) Perform a test-run on the questions: To ascertain that the questions were understandable and correctly interpreted, they were piloted with audit managers of the South African SAI. During the pilot, some questions and follow-up questions were further refined for the desired inputs and information.

4.3.3 The need, aim and objectives of the survey questionnaire

Although the data acquisition and comparative analysis through the WGEA environmental survey inputs gave some valuable perspective on where global SAIs are and are going with environmental auditing, the INTOSAI WGEA and Regional WGEAs are instrumental in further inclusion and developments within the SAI perspective. These organisations seek to assist and capacitate their associated SAIs through training, interaction and progress within their public sector audit and reporting processes. This global survey questionnaire aimed to collect further input on the status quo with regard to environmental auditing and developments at INTOSAI level, the short, medium and long-term plans within the various regions, and ultimately, what are the best options and means to enhance environmental accountability through public sector auditing.

4.3.4 The survey questionnaire data analysed

The background to the questionnaire, **Annexure B** and the questionnaire developed and attached as **Annexure C, Part 1**, were electronically forwarded to the INTOSAI WGEA Chair,

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Indonesia, the INTOSAI WGEA training facility, iCED, and the regional WGEA's. Google forms were used to develop, forward and receive the responses. Only 5 (23%) responses were received from a total of 22 surveys forwarded. **Annexure E** gives more detail on the online processes and responses. Respondents to this global survey questionnaire **included**:

Table 31: Online Survey Questionnaire completed by the following WGEA and associated respondents

Smith, 2020

Region	Respondent
New Zealand (Office of the Auditor-General)	Senior Solicitor Sector Manager
Estonia (National Audit Office)	Estonia Head of EUROSAI WGEA, secretariat
Indonesia, BPK (SAI of Indonesia)	Auditor
Indonesia, BPK (SAI of Indonesia)	Auditor
State Audit Bureau (SAI of Kuwait)	Associate Auditor

A total of 8 questions were presented to the INTOSAI WGEA target group. **Questions 2 to 7** (closed-ended) were pertinent to the SAIs' mandates, inclusion and placement of environmental issues and risks within the public sector audit methodology processes to enhance public sector environmental accountability. **Questions 1 and 8** (open-ended) aimed to briefly test the understanding of environmental sustainability and the importance of SAIs to get involved in auditing and reporting on environmental issues and risks. The questions submitted to the international stakeholders were also slightly amended towards an overall (global) perspective. The responses, to a great extent, corroborate the inputs covered in the INTOSAI WGEA Environmental Audit Survey 5th to 9th Responses, that were covered in **Part 1** of this chapter.

Table 32: Questions to INTOSAI WGEA on global trends and placement of environmental issues and risks within respective SAIs' audit methodology processes

Smith, 2020

Question	Question	Follow-up question
1	Very briefly, what is an environmentally sustainable society?	What do you perceive to be the three most pressing environmental challenges to ascertain sustainable cities and communities?

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Question	Question	Follow-up question
2	Does your organisation's (and membership countries or SAs) public sector audit mandates allow for the consideration, audit and reporting of environmental issues and risks?	Briefly refer to the most common legislative mandate used to include or perform environmental audits?
3	Are environmental issues and risks currently included within your organisation's (and membership countries or SAs) public sector audit methodology processes?	If not, briefly explain the reason for the exclusion?
4	If applicable, where are environmental issues and risks currently placed or located within your SAI's public sector audit methodology processes (types)?	Please indicate they are where located and explain why?
5	To what extent are environmental issues and risks considered and included within your SAI's current public sector planning, audit and reporting processes?	Briefly explain (or elaborate on) the extent of involvement?
6	In your opinion, are environmental issues and risks best suited within the regularity or performance audit methodology processes of SAs (or other)?	Briefly explain why?
7	In your opinion, is the current environmental placement (locus) within your organisation's (and membership countries or SAs) audit methodology processes conducive to enhancing public sector environmental accountability?	Briefly explain your answer?
8	In one sentence, explain why you think SAs are essential in the quest to audit and report on environmental issues and risks in their respective countries?	No follow-up question. See Annexure B and C (Part 1)

Note: Four online responses were received, with only ARABOSAI responding via e-mail. The results, within the INTOSAI WGEA community, are briefly depicted in the following **Chapter 4**. The results, from the 5 responses received, are individually analysed and compared in the following section.

4.3.5 The survey questionnaire results

Looking at the individual responses to the questions and follow-up questions posed in the survey questionnaire developed and forwarded, **Table 33**, and pie charts used in a schematic

representation of the options selected on the closed questions posed, **the following summaries and conclusions were made:**

Question 1: The focus was on environmentally sustainable societies and communities and the main challenges to achieve such communities and societies. **Figure 18** summarises the five responses on what is perceived as an environmentally sustainable society, followed with inputs on the most pressing challenges to ascertain sustainable cities and communities.

The responses included:



Smith, 2020

Figure: 18: INTOSAI WGEA Regional Secretariat's inputs on what is an environmentally sustainable society

Main challenges to achieve sustainable cities and communities included: Circular economy, environment pollution, land degradation (human and nature), climate change, renewable sources of energy, sustainable energy production and distribution, biodiversity, clean water and water management, sanitation, waste, population growth. The responses indicated a clear understanding of what environmentally sustainable societies are and the threats or challenges to achieve such sustainability.

Question 2: This question aimed to confirm whether respondents' particular SAI public sector audit mandates can be used to consider, audit and report on environmental issues. *The follow-up question* that referred to the most common legislative mandate used, ranged from specific inclusion within performance and/or to include within comprehensive (financial, compliance and performance) option. Where government uses state budget for environmental roles and

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responsibilities, there is an obligation to consider this within the regularity audit and reporting processes. Reference was also made to the constitutional and government regulations (that include environmental matters) that need to be complied with. It is interpreted that it is included, to a great extent, and cannot be ignored within the various available public sector audit methodology processes of SAIs.

Question 3: Where Question 2 looked at whether SAIs' mandates allow for environmental inclusion in particular, this question sought input on the actual inclusion of environmental issues and risks within these public sector audits. The *follow-up question* referred to the reason/s for inclusion or exclusion. It was indicated that environmental audit is not part of the standard audit methodologies in PASAI, but environmental topics can be taken into account in planning discretionary work (performance audits). The Audit Board of the Republic of Indonesia (BPK RI) has the mandate to conduct audit related environmental issues, where these issues and risks are included in the audit methodology for the special purpose audits and performance audits related to environmental matters or SDGs. For financial audit, the environmental issues and risks are not included in any specific direction. The responses indicate inclusion or partial inclusion within the current public sector audit methodology processes. The SAIs that included environmental issues and risks within their public sector mandates and audits seemed more conversant and prepared to consider and include within both their public sector mandatory and voluntary audit and reporting processes.

Question 4: With this question, the focus now shifted to the current placement or location of environmental issues and risks within the SAIs' available public sector audit methodology processes. All 5 responses opted for the performance audit location. *This question was followed up*, seeking elaboration on why this option was selected. Inputs varied and included the opinion that environmental audit is largely a discretionary activity, using performance audit mandates for performance audits that allow the best approach to complex environmental issues. Reference was made to the principal questions in environmental audits that are generally the same as those in performance audits, posing the questions of have the right things been done, have they been done in the right way, and if not – what are the causes? The option between compliance and performance audits involves assessing government compliance with environmental legislation or regulations, where performance audits again assess governments' efforts to improve the environmental sustainability and the impact to society and the economy.

Question 5: This question aimed to look at the extent that environmental issues and risks are included within the selected public sector audit methodology processes of the SAIs (with

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further elaboration on the extent in the *follow-up question*). Reasons varied from the environmental audits approach, whilst the other audits were only to be used in exceptional cases. There are mandates and the authority to audit all government programmes, including environmental issues. SAIs align the strategic programme with the National Plan, so that the audit topic will not differ from the National Plan. For the financial audit, the environmental issues and risks are not considered and included specifically in the audit methodology processes, because this type of audit focusses on financial statements, internal control systems and compliance. The environmental issues and risks are considered and included in environmental audit, both for special purpose audit and performance audit. Reference is also made that performance audit is concerned with environmental issues, with environmental teams established within all sectors of the SAIs, cooperating on the matter with other SAIs.

Question 6: This question sought inputs on the respondents' opinion for preferred placement of environmental issues and risks within their available public sector audit methodology processes. Four of the five respondents selected the performance route, with one selecting the regularity route. Further probing into the reason for the selection (*follow-up question*) again emphasised that performance audit allows greater focus than annual financial audits that cover many aspects of performance. One respondent felt that the way in which environmental auditing works is similar to the way in which performance auditing works. It was also stated that environmental audits always have considerable aspects of regularity audits, which can easily be part of performance audit, and it would be more difficult to have regularity audit with a performance audit approach. Further detail given on why the performance was selected was because it is related to environmental audit. Sometimes we need to explore more detail about the root cause of environmental problems, and in many cases the government has already implemented all the regulations or the criteria, but the environmental problem still occurs. By using the performance audit, the SAI can give recommendations that have different points of view from the government. To give good recommendations, auditors must find the root cause problems and discuss the action plans with the government. Sometimes one of the recommendations is creating a new regulation or standard operational procedure. The selection of environmental issues within the regularity audit methodology processes of SAIs was substantiated through input that environmental, social and economic issues are the whole package of Sustainable Development Goals.

Question 7: The impact or value of the current environmental placement to enhance public sector environmental accountability was posed in this question, with some elaboration thereof in the *follow-up question*. Reasons or inputs given included that members would take account of environmental matters and concerns when planning performance audits, but they compete

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with other topics for priority. Different organisational solutions can be used in different SAIs. There is probably no possibility to have one solution fitting all mandates. In conducted environmental audits, the SAI always aligns the audit topic with the National Plan. The audit report will become one of key success indicators of the National Programme/Target, so the audit will encourage the government to reach their programme/target, especially in environmental accountability. Based on regulations, the SAI will submit the report to the President and Parliament, and the government must follow up on the recommendations from the audit report. After the SAI sends the report to the President and Parliament, it becomes a public document, so the public can access it. The current environmental inclusion is perceived to be conducive to improve environmental governance and enhancing public sector environmental accountability. Environmental issues and risks have become a matter of considerable concern for both the governments and SAIs. Emphasis and trends are growing to audit and hold governments accountable for their environmental mandates, roles, responsibilities and performance.

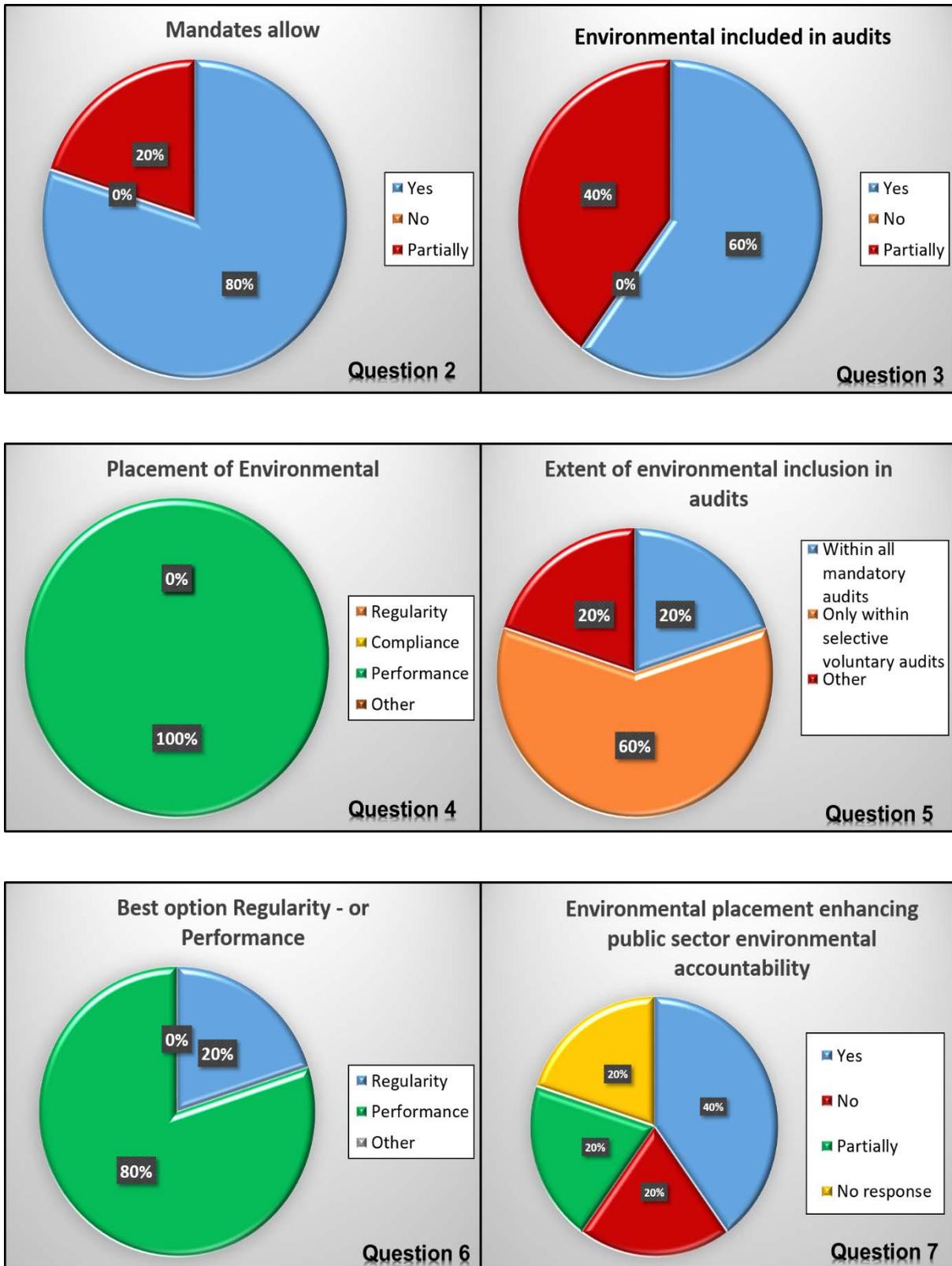
Table 33 includes schematic charts of the INTOSAI WGEA responses (on-line and via e-mail) on the questions and options posed in the survey questionnaires forwarded, with particular focus on:

- If the SAIs mandate allows for the inclusion of environmental issues and risks,
- the inclusion of environmental in audits performed by SAIs,
- placement of environmental within the available public sector audit methodology processes of SAIs,
- the extent of environmental inclusion within SAIs audits,
- the best option (or choice between regularity-, performance and other audits),
- if the current environmental placement or option used enhancing public sector environmental accountability.

Note: The INTOSAI WGEA Secretariat's represents the membership countries within their perspective regions. Their inputs may be subjective and not necessarily represents the status quo or inputs of all individual and affiliated countries (SAIs).

Table 33: Inputs INTOSAI: Global placement and trend to include environmental issues and risks within SAIs public sector audit methodology processes: INTOSAI WGEA Secretariats and iCED Survey Questionnaire inputs

Smith, 2020



Question 8: The questions were concluded with gaining input on the importance for SAIs to audit and report on environmental issues and risks within their respective countries. **The responses thereto included:**

- to hold governments to account for the effectiveness of the programmes and spending on environmental outcomes or matters that affect the environment,
- SAIs are well placed to point out shortcomings and attract public attention to drive the change,
- SAIs should participate in conducting environmental audits (in accordance with their mandate) to support the creation of a sustainable environment,
- SAIs have important roles through their recommendations,
- the importance of the subject and to preserve the environment from pollution, because it affects the short and long term (human health, climate change, marine organisms etc.).

The results from this brief survey and responses analysed have great similarity to the inclusion of environmental matters within SAIs' current audit mandates, available audit methodology processes, the value thereof and latest trends and developments.

4.3.6 Concluding remarks (Survey Questionnaires to INTOSAI WGEA Secretariats and iCED)

Part 2 of this chapter attained inputs through a survey questionnaire developed and forwarded to INTOSAI WGEA Secretariats and iCED. Their responses also contributed to answering Sub-Research Questions 3 and 4, determining where environmental issues and risks are currently placed within the public sector audit methodology processes of global SAIs, as well as their latest developments for inclusion.

Looking at their responses, there was clear understanding of what environmental sustainability means and the challenges in achieving sustainable societies and communities. Most respondents believed that their mandates allow for environmental inclusion and/or have already performed such audits. There was consensus on performance as the best option for placement within their audits and particularly the selective voluntary audits. Respondents had mixed feelings on the contributions of their SAIs' environmental audits to enhance environmental accountability in the public sector. The responses however emphasised the importance and need of SAIs to audit and report on environmental issues and risks, holding

governments accountable for their mandated roles and responsibilities and to support sustainable environments.

4.4 Overall remarks on the global research methodologies used (comparative analysis and survey questionnaire)

Chapter 4, (Part 1 and 2), addressed the questions on global trend and placement, by asking where environmental issues and risks are currently placed and included within global public sector audit methodology processes, and what are the latest developments for inclusion of environmental issues and risks in global public sector audit methodology processes? It also contributed to the aim of the research, by advancing understanding of the placement and development of environmental issues within SAIs' audit types and means, through the comparative analysis of the INTOSAI membership countries' responses to the last 5 published environmental survey results and online survey questionnaires forwarded to the INTOSAI WGEA Secretariats and iCED. The ethical considerations, **Chapter 1.8**, included informative action and correspondence with the INTOSAI WGEA Chair – also exploring their inputs on the research theme. The limitations, **Chapter 1.7.2**, did not significantly impact on the findings and results, whilst the assumption made, **Chapter 1.7.3**, on the global preference of environmental placement within the performance audit types and methodologies was confirmed.

Although performance audit is the preferred and most used placement to include and audit environmental issues and risks, the INTOSAI WGEA surveys on environmental auditing indicated a distinct shift to also consider and audit within the mandatory regularity (financial and compliance) audits, promoting a more comprehensive audit approach. The environmental survey results indicated a steady increase in environmental audits within all available audit methodology processes, with most SAIs agreeing on the necessity thereof, with efforts to expand and develop environmental auditing practice. This includes gaining more experience in environmental auditing, as well as on collaborative audits, engagements, cooperation and exchanging of audit information and/or environmental experiences. Audit impact increased due to the environmental inclusion with follow-up audits or surveys mostly used to track the implementation and progress. This chapter advanced understanding of the global placement of public sector auditing within the various public sector audit methodology processes and its objectives to contribute towards enhancing environmental accountability. The next **Chapter 5**, will now shift the focus to a local, South African perspective, where the placement and value of regularity auditing, in particular, will be interrogated through literature reviews, survey interviews and questionnaires to internal and external stakeholders of the South African SAI.

CHAPTER 5: LITERATURE REVIEW: LOCAL (SOUTH AFRICAN) PERSPECTIVE

This chapter continues from the initial literature review (Chapter 1.1.2), literature review as a research method (Chapter 2.3) and the previous global literature reviewed (Chapter 3), and seeks to introduce a theoretical local (South African) perspective and understanding of environmental inclusion and developments within public sector audits of the South African SAI, (AGSA). This literature review will mostly contribute to the Main (1) and Sub-Research Question (2) developed in Chapter 1.4, as well as the subsequent objective (1) of doing desk research on local data and websites to gain understanding on the placement and value of including environmental issues and risks within the South African SAI's public sector regularity audit methodology processes (Chapter 1.5). The chapter starts with an introduction (5.1), followed by background on the South African environmental resource base and challenges (5.2), legislative requirements for environmental management and auditing (5.3) and South African environmental governance and regulatory regimes (5.4), introduced in (5.4.1), and also referenced to the role of public sector auditing to assess the performance and outcomes of environmental governance (5.4.2), and international and regional environmental agreements and commitments (5.4.3). This chapter further alludes to the South African SAI and environmental auditing (5.5), addressed through an introduction (5.5.1), current mandate, structures, resources and audit methodology processes (5.5.2), the need to consider, audit and report on environmental issues and risks within its public sector audits (5.5.3.), the environmental involvement, approach and placement thereof within its current audit methodology processes (5.5.4), and the challenges to audit environmental issues and risks (5.5.5). The South African SAI discussions conclude with an overall summary (5.6).

5.1 Introduction to the local (South African) literature review

Where **Chapter 3** sought and alluded to a global perspective on public sector environmental accountability and auditing within the mandates, roles and audit methodology processes of SAIs worldwide, **Chapter 5** pursues the local, South African SAI's involvement and developments in considering, including and reporting on environmental issues and risks within their available public sector audits and reporting processes. This chapter aims to particularly review and interrogate the understanding, placement and value of including environmental issues and risks within the South African SAI's public sector audit methodology processes. There will be specific focus on the mandatory day-to-day regularity audits as an option for environmental inclusion and its contribution to enhance environmental accountability. The

local literature review will assist in gaining more perspective and understanding towards answering the **Main (1)** and **Sub-Research Question 2**, developed for the study in **Chapter 1.4**.

Main Research Question 1: Is the placement (or locus) of environmental issues and risks within the public sector regularity audit methodology processes of the South African SAI, enhancing public sector environmental accountability?

Sub-Research Question 2: Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African SAI?

Global literature reviewed in **Chapter 3**, alluded to the fact that SAIs are not necessarily mandated, and adapted, to be conversant and take action on the significant environmental risks posed by improper environmental governance and non-compliances to legislative requirements, nor have they found effective ways and means to consider, include and report on environmental issues and risks within their available public sector audit methodology processes. Although guidelines and standards pertaining to the consideration of environmental matters by SAIs exist, is it still the prerogative of SAIs if, where to, and how to include this in their audits and subsequent reporting processes. Numerous SAIs within the INTOSAI fraternity have already or are in the process of considering and developing their means and processes to provide for such inclusion. This part of the thesis will assist in determining and appraising the placement (where) of environmental issues and risks within the South African SAI's available public sector audit methodology process, and its value to enhance public sector environmental accountability. Emphasis will be placed on mandatory regularity auditing as an option, and how it corresponds with the value and advantages of the other audit types or options.

5.2 The South African environmental resource base and challenges

The levels of pollution and depletion of the natural environmental resource base in South Africa (similar as alluded to, worldwide), are hampering the sustainable provision of the resources needed to drive the economy and assist in human activities and needs. The protection, conservation, sustainable use and improvement of the country's natural resource base, is mandated to government (all levels) through the Constitution (1996), the National Environmental Management Act (1998), and various subsequent legislation or regulations, outlining the roles and responsibilities. For the country to find an effective way to use, manage and sustain the environment and its natural resources to support the economy and needs of the people, government needs to exemplarily perform their environmental management

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mandatory obligations. This includes the (environmental) regulatory regimes, that are responsible for the overview, monitoring and enforcement of the environmental and other legislative and related requirements.

According to Brand South Africa (2015:2), “The National Development Plan’s vision is that, in 2030, South Africa’s transition to an environmentally sustainable, climate-change resilient, low-carbon economy and just society is well under way”. The feasibility thereof is however questioned, when the challenges of a continually deteriorating environment and quality thereof, due to depletion, destruction and pollution of the natural environmental resource base, is considered. Specific challenges highlighted in the article include poor decision-making and governance, degradation of natural resources, ecological infrastructure depletion, the challenges with water, air pollution and waste management and the country’s ability to adapt to climate change, to name a few. The current state of local government is well explained in a new developmental local government series, highlighting some persistent governance, service delivery and backlog problems with almost two thirds of municipalities regarded as almost or totally dysfunctional (Chigwata *et al*, 2019:58 – 61).

The environment, the natural resource base, and the service delivery dependent thereon, often bear the brunt of weak environmental governance, poor management and decision-making. Relevant to auditing in the public sector of South Africa, it was noted that urban areas, towns and cities, with their rapid increase in concentration of people, as well as infrastructure and developmental needs, are becoming hotspots for environmental risks. Services need to be delivered, and these needs have already outpaced the required related urban planning and investments, according to Pharoah *et al*. (2016:1). Local authorities are struggling to cope with the rapid influx of people, with informal settlements or households residing in areas not developed or un-serviced (UNDP, 2017). These are particularly vulnerable to environmental pollution and over-exploitation of resources (UNDP, 2017). If one looks at the state of the environment in South Africa, some declining or deteriorating trends are listed and discussed in a DEA report, within indicators such as: land, inland water, air quality, waste management, energy, oceans and coasts, biodiversity, ecosystem health and human settlements (DEA, 2016:17-26). Although this report indicates South Africa’s state of decline, some gains, particularly in the social sphere, were highlighted and this report also stresses the progress and improvements in basic services, such as housing, water quality and availability, sanitation, electricity and many more. There were also some improvements made in environmentally related legislation promulgated and implemented. The progress and environmental sustainability are however jeopardised by the country’s excessive levels of unemployment, poverty, inequalities, human vulnerabilities and lately, the ever-increasing impacts of climate

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change. It is thus important that the country considers and addresses the state of the biophysical environment, enhances and further develops the improvements and positive developments mentioned (mention some of the improvements shortly). Although the benefits of reduce, reuse and recycle on the country's receiving environment, health and safety of its inhabitants and economy seem to be known and regularly considered, there are stresses on the natural resources not always prioritised or effectively resourced by government. For example, of SA's 108 million tonnes of waste annually, it is estimated that only around 10% is actually recycled (Fourways Review, 2017).

Considering the historical past (imbalances) of the country, current and predicted trends and needs towards a healthy and sustainable environment will require a resilient and effective public sector (NDP, 2019). Organs of state need to perform their assigned environmental mandates, roles and responsibilities amicably and should be assessed and reported on with regard to their performance, targets and objectives. This is a role that this study purports that the South African SAI can fulfil or to which it can make a contribution. The South African SAI, a Chapter 9 institution of the Constitution (1996), established to "strengthen constitutional democracy" through "oversight, accountability and governance in the public sector" and responsible for auditing the public sector, has a contributing role to play in supporting government and enhancing public sector environmental accountability. South Africa's historical turmoil, relatively young democracy and developmental challenges may however pose unique or new challenges to the South African SAI, additional to their predominantly financially driven audit mandate. This may require expanding or utilising their current audit mandate, scope and available audit methodology processes, to include key environmental issues and risks.



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Figure 19: Visual examples of environmental challenges/problems on environmental audit site visits.

The afore-mentioned challenges were also identified during the AGSA's pilot audit initiatives performed within the local government sphere of the North West Province of SA (2012 – 2019). Some visual examples (impact) taken during these environmental audit visits performed,

(MFMA, 2017/2018:144-148) are portrayed in **Figure 19**. These were **(i)** water wastage, **(ii)** solid waste pollution, **(iii)** wastewater pollution and **(iv)** improper wastewater treatment processes. Further examples of common or reported environmental problems in South Africa include the management of waste, coastal and marine pollution, land degradation, deforestation, destruction of biodiversity, energy needs and the depletion of dependable resources, (DEA, 2018). The “National Development Plan 2030” acknowledges the need for “building environmental sustainability and resilience” (NPC, 2012:47&48) and is also clear on the fact that South Africa should diverge from untenable use of its natural resources. The “Medium Term Strategic Framework” (MTSF) listed 14 focus areas between 2014 – 2019 and among other things prioritised efficient local government and public service, as well as the protection and enhancement of environmental assets and natural resources (Outcome 10) (RSA, 2014:16 – 36). Considering the environmental right in Section 24 of the SA Constitution, **“Everyone has the right to an environment that is not harmful to their health and wellbeing and to have the environment protected through reasonable measures”** (Constitution, 1996). Outcome 10 of the MTSF, with its relevant sub-outcomes **include:**

- ecosystems sustained and efficient use of natural resources,
- effective response to reduce and adapt to climate change,
- environmentally sustainable well-managed low carbon economy,
- strengthen governance systems and capacity thereof,
- human communities that are sustainable and the priority areas in the NDP.

There is a greater expectation and emphasis on government’s commitment (and need) to protect the environmental resource base in South Africa and address the challenges through proper plans and strategic commitments (DEA, 2018:4). The greater the challenges or obstacles, the greater the expectations and pressure on government to manage, monitor and enforce them. A further onus on a healthy and sustainable environmental resource base evolved from the signatory to various international treaties, agreements and commitments, with the SDGs (2015 – 2030) being the most recent and relevant (DEA, 2018:3 & 4). In her speech at the Enviropedia Awards Dinner, the current South African Minister of Environment, Forestry and Fisheries, Ms Barabara Creecy, also listed sustainable development requirements, the effects of climate change and action needed, as well as the need of co-operative partnerships towards sustainable development (South African Government, 2019), and reiterated the goal for a sustainable society, linked to the SDGs and protection of the natural resource base in Africa included in the African Union’s Agenda 2063.

5.3 Legislative requirements for environmental management and auditing in South Africa

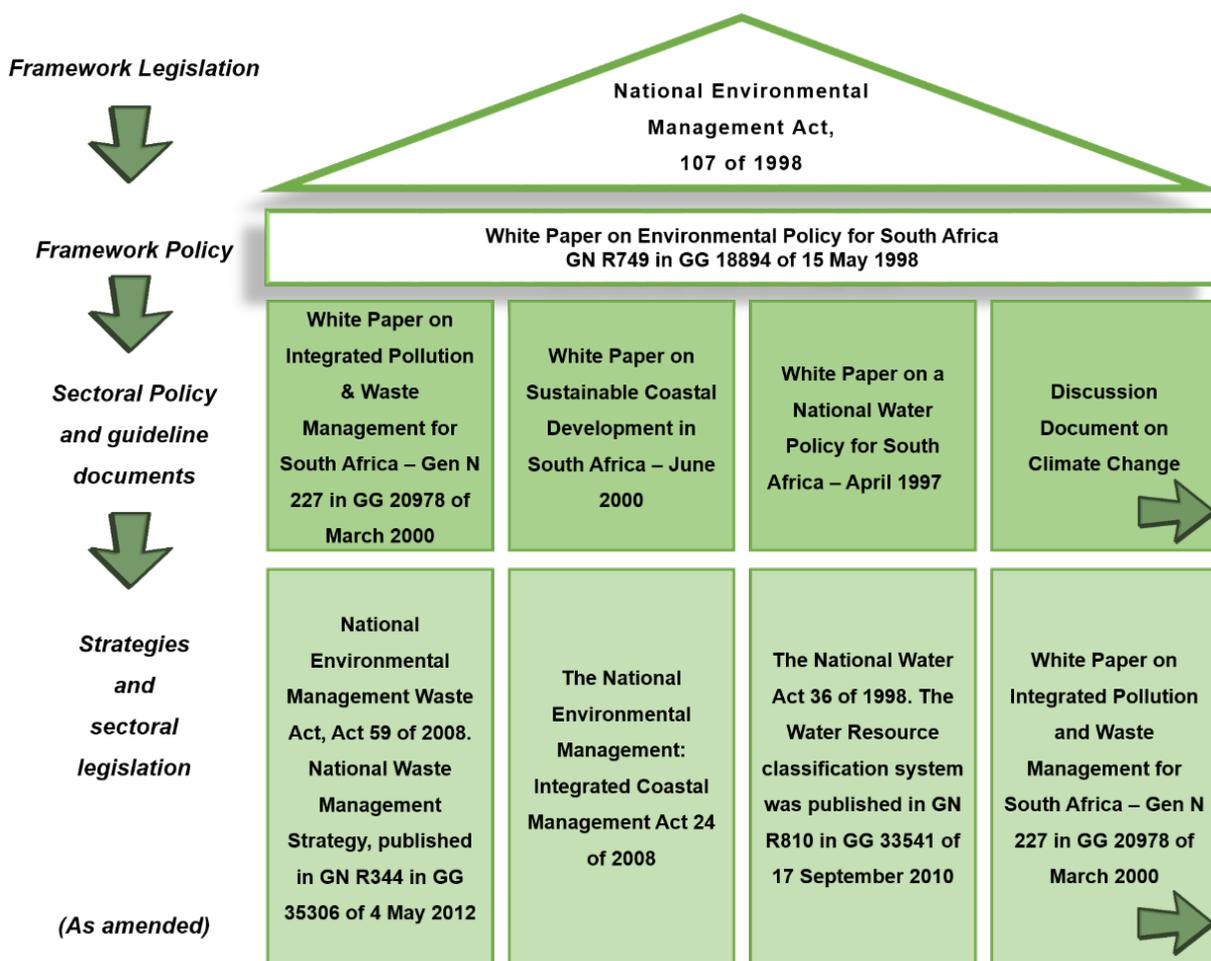
In South Africa, a command and control approach and process are followed, whereby legislation is drafted and implemented with the necessary efforts to enforce it. Compliance to the statutory obligations and acts with regard to environmental management is compulsory within both private and public sector milieus. The Compendium of South African Environmental Legislation encapsulates the main legislative requirements and provisions relating to the environment in South Africa. Looking at the evolvement of environmental legislation in SA, the Environment Conservation Act (1989) can be regarded as the first concerted and holistic legislative framework approach to manage the environment. Notwithstanding the new and subsequent legislative developments, inadequacies in the South African environmental law remained, until the advent of the “inclusion of the environmental right (Section 24)” into the South African Constitution (1996). To give effect to this constitutional right, environmental law in SA was continually revised and led to NEMA (1998), regarded as the most progressive and new framework environmental legislation for the country. It provided norm-setting guidance, and a multitude of key elements, including the environmental principles, needs for co-operative governance, integrated environmental management, a duty of care, as well as the related enforcement mechanisms. This framework law was further enhanced by legislative developments and promulgations that followed and supported the NEMA (1998) (Van der Linde & Ferris, 2010). Three legislative mechanisms refer to protection of the environment in South Africa that is the constitutional entrenchment (that follows a rights-based or regulatory approach), environmental protection through framework legislation and sectoral-specific legislation. **Figure 18** illustrates this “relationship between environmental framework law and sectoral specific legislation” (Van der Merwe, 2014:7&11). The article by Nel and du Plessis (2001:1) is also clear on the aim of framework legislation that: expounds the underlying and generic principles where sectoral specific legislation is rooted, wants to strengthen environmental co-operative governance within the various line roles and responsibilities and provides the guidance and norms for introducing new legislation, and maintains or amends current legislation. Although many countries have good environmental policies, plans and – legislation, there is sometimes a clear gap between implementing or effecting these policies and plans and enforcing legislative and related requirements to ultimately enhance public sector environmental accountability (ref). In SA, there is no difference, with a current “complex spectrum of policies and strategies” (DEAT, 2012:41), not always interlinked, causing overlapping mandates, confusion around roles and responsibilities to ascertain implementation and subsequent monitoring and enforcement needs stated in a report by DEAT (2012:41).

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In the context of this research study and section, the Constitution (1996) and environmental framework legislation (NEMA, 1998), as well as legislation “applying to public sector auditing in general and environmental auditing in the public sector” of South Africa will be further explored. Environmental auditing, as an environmental governance instrument, plays a very important role in assessing and monitoring the effectiveness of environmental governance, and looking at the management and control thereof. Legislation sets the rules and requirements, guiding the actions, ways and means of people impacting or affecting the environment. The South African Government, as custodian of the environment, needs to protect and ascertain sustainable use of the available environmental resources to ultimately improve the life of all its citizens. Van Rooyen (2016:66 & 73) refers in her research to the various laws and regulations applicable to auditing, and then narrows it down to be specific on environmental auditing in the public sector. Compliance to the country’s overall legislation and related requirements (that includes environmental issues), will be instrumental to environmental auditing performed in the public sector.

The “Compendium of South African Environmental Legislation” (van der Linde and Feris, 2010) provides a very user-friendly reference to environmental legislation and policies within government, and also guided the researcher to gain better understanding of the environmental framework legislation, subsequent legislation, as well as the policies and strategies derived from that. The mandatory legislation and acts on public sector auditing within South Africa were further compared and assessed against the environmental legislation and its subsequent policies and strategies to determine the South African SAI’s options and available processes to audit and report thereon.

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Van der Merwe, 2014 and Nel & du Plessis, 2001

Figure 20: The relationship between environmental framework law and sector specific legislation

The South African SAI (AGSA) is a Chapter 9 constitutionally established institution, according to Section 181 of the Constitution (1996), with a mandate to audit and report on government's expenditure. Since democracy and establishment of the new constitution in 1994, its role and responsibilities further expanded to support this constitutional democracy. The roles and functions of the South Africa SAI are narrated in Section 188 of the Constitution (1996), and are further fine-tuned through the PAA (2004), extending its constitutional and other functions. It is ultimately responsible to audit and report on the accounts, financial statements and financial management within the public sector and all levels of government (AGSA, 2019). The recent Public Audit Amendment Act (2018), further strengthens the South African SAI's audit and reporting impacts, seeking to amend the PAA (2004), particularly Sections 4 and 5, that stipulate the constitutional and other functions to be performed, by including consequence management where remedial action can be taken to recover any losses by state and/or refer certain suspected material irregularities for further investigation (PAAA, 2018). The PFMA

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(1999) and the MFMA (2003) encourage good financial management, performance and service delivery within constitutional institutions, departments, trading entities and within local government (municipalities and municipal entities respectively), guiding the auditors on the regulations of financial management and good governance in the public sector. Looking at the legislation, particularly that on environmental auditing, and considering the public sector, the Constitution (1996) and NEMA (1998) again came to the fore, followed by the specific sectoral environmental management acts, norms and standards. Although there is some uneasiness or option for interpretation in the NEMA (1998) to provide for public sector auditing, the principles and requirements to perform environmental roles and functions are more clear on the mandated organs of state. The environmental right enshrined in South Africa's Constitution (1996) and the NEMA (1998), as the framework environmental legislation, should form the basis for any public sector audit with an environmental focus. The government, as the custodian of the environmental resources in South Africa, should work towards achieving this right, performing their environmental roles and responsibilities as guided in these two legislations, as well as relevant sectoral legislation, strategies and guidelines. This is where the South African SAI can and should play a significant role, in auditing its auditees (organs of state at all three levels of government) against legislative compliance. The aim of environmental auditing is to analyse major environmental problems, identify their root causes and describe what the situation might lead to if left unresolved. Although the South African SAI may not be required to perform environmental audits per se, it is the definition of environmental management risks that "seeks to determine what environmental risks exist and then determine how to manage those risks in a way best suited to protect human health and the environment" (EPA, 2017). This is an important consideration for inclusion within current audit methodology processes. Environmental auditing is another response to the public expectations in providing independent, credible and objective confirmation of the information and data provided by government and private organisations regarding their environmental mandates, roles and responsibilities, activities and their impact on the environment (INTOSAI, WGEA, 2017). Public sector auditors play a significant role in establishing good environmental governance, and the South African SAI has a duty to supply both government and the public with the required information to govern or manage the environment effectively and be accountable for their environmental performance and actions. Although the South African SAI's legal mandate is restricted to financial matters (audit all organs of state - various levels of government), local authorities and some organs of state do have an intrinsic environmental and sustainable development role (mandated through legislation, policies, plans and strategies) that needs to be assessed and reported on. These organs of state need to be assessed against their environmental mandates, performance, and legislative compliance through continual and effective environmental regulatory regimes. The effectiveness of

environmental governance and its environmental regulatory regimes are now briefly alluded to.

5.4 South African environmental governance and regulatory regimes

Although Chapter 3 also included relevant literature reviews, was this part focussed on the South African government and its environmental regulatory regimes. It further expands on the South African SAI's environmental auditing and role in contribution to international- and regional environmental agreements.

5.4.1 Environmental governance and regulatory regimes

The myriad of definitions of environmental governance often describe it as the way decisions are made to manage and control the environment. In SA, the government is the custodian or trustee of the country's environmental resources and is constitutionally mandated to execute sustainable use and protection thereof to the benefit of all. Government, its decisions and actions to safeguard, use, control and monitor the environment, is therefore essential to ascertain sustainability and a healthy environment. Governance includes both strategic direction, as well as the regulation of practices. Environmental governance, through government institutions, legislation and related requirements, procedural development and means, seeks to protect the environment from harm, degradation or depletion of the natural environmental resource base. In South Africa, the effectiveness and need for good environmental governance to ensure effective and successful environmental management, was already identified in the latter part of the 1990's. During this period, according to Mngoma *et al.* (2011:105), the environmental legal regime also developed substantially with the Constitution (1996) and the Environment Conservation Act (1989), and was instrumental in achieving sustainable development and environmental protection through a co-operative environmental governance approach. Environmental governance is fixed "on the environmental right in Section 181 "(Constitution, 1996) and the importance of co-operative governance opted for in NEMA (1998), regarded as the cornerstones of governance in a constitutionally transformed South Africa. The country's challenges concur with the typical challenges within developing or traditional countries listed in **Table 8**, but it also experiences its own unique challenges stemming from the political legacy of the past. SA's fragmented environmental governance and co-operative approach, given that environmental roles and responsibilities are shared or spread across state departments and other governance spheres, also brought about some uncertainties at operational and service-delivery level. The fragmentation is aggravated at provincial and local authority levels, and includes structural

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fragmentation between the various domains and line functions of government, also within various environmental legislation, jurisdictional overlaps as well as duplication of procedures and processes (Kotze, 2005). The complications caused by fragmented environmental governance and structures in South Africa, ultimately result in ineffective environmental management and non-performance of assigned environmental line functions. The fragmentation and uncertainties are major challenges in South Africa's sustainable environmental governance and management efforts (Strydom & King, 2009:17 & 21). What comprises good environmental governance is referred to in the "White Paper on Environmental Management Policy" (DEAT, 1998) and (van Rooyen 2016:46 & 47) as:

- "access to information for all,
- accountable and responsible governance,
- community and governmental skills development,
- legislation that is enforced, established integrated arrangements and procedures that enable participation,
- inter-departmental and inter-ministerial organisation,
- Separated governmental duties for controlling environmental effects and encouraging the use of environmental resources".

Good environmental governance is thus interpreted as a participatory process that is effective, transparent, accountable, fair and impartial towards affecting and promoting the rule of law. Poor or ineffective environmental governance often leads to poor environmental policies, plans and strategies, with uncertainties or confusion in assigned environmental roles and responsibilities – also impacting on poor monitoring and regulatory practice. Overall, Strydom and King (2009:95 & 96) include decentralisation, participation and co-operation within the new environmental governance framework of South Africa, with capacity constraints and poor or ineffective enforcement as the main exceptions. At local level, issues of improper environmental policy implementations and unfunded mandates are highlighted as possible hindrances to good environmental governance. What role public sector auditing can play in assessing and recommending effective ways and means to improve environmental governance is now further explored.

5.4.2 The role of public sector auditing to assess the performance and outcomes of environmental governance

Auditing can also be considered as a type of environmental governance instrument, and an effective tool to assess government's environmental management, compliance monitoring and enforcement, as well as their performance against their environmentally related mandates, roles and responsibilities. The government, as regulator, can conduct environmental audits to govern other public entities' environmental management and performance, whilst environmental auditing can also be performed in organs of state as regulated entities (Van Rooyen, 2016). In South Africa, given a perception of weak or ineffective environmental regulatory regimes, the SAI can play an instrumental role in assessing and reporting good environmental governance within their current audit methodology processes. Considering, including and performing environmental management risks within the mandatory regularity audits of the South African SAI, as well as some analysis on environmental monitoring and enforcement of non-compliance or environmental offences, various weaknesses in the South African environmental regulatory regimes were noted (CER, 2018). Although the enforcement of environmental legislation in South Africa was strengthened with the establishment of the Environmental Management Inspectorate (EMI) in 2005, challenges for effective environmental compliance monitoring and enforcement continue. Many environmental crimes, discrepancies and non-compliance still go unpunished, with violations escalating in the absence of an effective deterrent (CER, 2019). Enforcing the law is however critical in any regulatory system and the importance thereof is depicted in the CER (2019) Report stating "20% of the regulated population will automatically comply with any regulation, 5% will attempt to evade it, and the remaining 75% will be compliant, as long as they think that the 5% will be caught and punished."

The "National Environmental Compliance and Enforcement Report" 2017/18 (NECER), outlines the latest resources and activities of the EMI in South Africa, but is silent on environmental offences and action within the public sector milieu. It does however indicate a total of 2 640 EMI's operating within national and provincial government spheres, and 333 at municipal level, with increases in warning letters issued, notices for non-compliance, the value of Section 24 G administrative fines, as well as in dockets finalised and submitted to the National Prosecuting Authority for prosecution (DEA, 2018a). Mujuzi (2016:25) stresses the lack of private prosecutions of environmental offences, empowered through Section 33 of the NEMA (1998), as another measure to counter environmental offences in South Africa. The onus is thus on public prosecutors, resources and action. Regulatory enforcement in South Africa is mainly the responsibility of the EMI's, created by an amendment to Chapter 7 (NEMA,

1998). The inspectorate includes all environmental enforcement officials within all levels of government, with its administrative functions, centralised in the DEA. Environmental non-governmental organisations (NGOs) and other pressure groups are also instrumental in environmental monitoring and enforcement, using a range of legal and administrative tools to ensure administrative and legal compliance (ref) and example. Legal regimes responsible for the permitting process in SA will also depend on these tools and processes to determine the impact thereof on the environment. Integrated permitting may be required where proposed activities are regulated by laws, which may ultimately also require separate authorisations.

In South Africa, the environmental regime initiated the required governance institutions, as well as processes and tools for both public and private sectors to regulate human inputs and impacts on the environment. This may directly accelerate environmental conformance, compliance and action (enforcement). The criminal and related sanctions, as part of the enforcement component, are used as a deterrent mechanism (Odeku and Gundani, 2017). To ascertain effective environmental regulatory regimes, monitoring and enforcement, is it important that the governance challenges and weaknesses be addressed. The issues of fragmentation, resources or capacity, as well as dedicated and sustained service delivery, need to be attended to. The improvements to the South African environmental and regulatory regimes are often impeded by ignorance or disregard for legislation, the needs for good governance, and the constitutional commitment towards ecologically sustainable development, with some mending to the current regime/s a necessity (Kotze & Patterson, 2009:108,125 & 379). In the meantime, the South African SAI could fill the void, by assessing environmental governance and regulatory regimes within their current public sector audit methodology processes (PFMA, 1999 & MFMA, 2003). Their reports and recommendations may assist in further advocacy and emphasis on the needs and challenges to ascertain good environmental governance as well as effective environmental regulatory regimes. In essence, public sector auditing in South Africa forms part of the regulatory system in government, focussing on government's work as regulated.

5.4.3 International and regional environmental agreements, commitments and auditing

SA is signatory to multiple different "international and regional environmental agreements and an active participant in the global arena promoting and supporting global sustainable development, and this includes the importance of a healthy and sustainable natural resource base, as well as effective environmental management towards economic development within the global economic sphere (DEAT, 2009:24). SA's international commitments and signatories

can be divided into a pre- and post-democracy era, but reintegration into the global economy (1994) and international political domain most certainly signalled improved commitment and a more pertinent role in environmental protection locally, regionally and globally (DEAT, 2009:24). The need to consider and assess environmental international agreements within its Integrated Environmental Management Information Series 19 is documented as “the transboundary nature of environmental impacts; existence of areas of international importance in SA and the activity of SA in areas outside the country’s borders” (DEAT 2005:4). The document goes further in developing and adopting an approach to assess and address all forms of international environmental agreements, as well compliance and conformance to the applicable international environmental laws, policies and commitments (DEAT, 2005). The government departments “listed in Schedule 1 and 2 of NEMA” (1998) and relevant environmental regulatory authorities in SA are obliged to consider and include all environmental agreements, commitments and relevant legislation into their environmental management plans, strategies and processes, to ensure proper implementation, monitoring and enforcement. As the auditor of organs of state, the AGSA can either play an oversight role or actively audit and report on the conformance to these international environmental agreements and commitments, in addition to own country specific environmental policies, plans and legislative requirements.

5.5 The South African SAI and environmental auditing

5.5.1 Introduction

This section seeks to briefly introduce the AGSA, as the South African SAI – its mandate, role and functions. This will be followed by firstly looking at the current audit structures, resources and audit methodology processes of the AGSA, secondly the need to consider and report on environmental issues and risks within the public sector audits of South Africa, and thirdly exploring the current evolvement, approach and placement of environmental issues and risks within the audit methodology processes of the AGSA. **Chapter 6**, using the research methodologies (survey interviews and questionnaires), will further analyse the current placement of environmental risks and issues within the AGSA’s available audit types and processes, seeking (or searching) for the best placement thereof. The introduction should be conversant with the evolvement and transformation of SAIs’ traditional financial audit mandates and responsibilities towards a more inclusive, citizen participative governance. The way governments operate changed from a sole government perspective to a co-operative governance approach, seeking to improve service delivery and ultimately, the life of citizens.

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In their online journal, Baimyrzaeva and Omer Kose (2014) emphasise the changing role of SAIs and their role in improving citizen participation in governance.

5.5.2 Current mandate, structures, resources and audit methodology processes

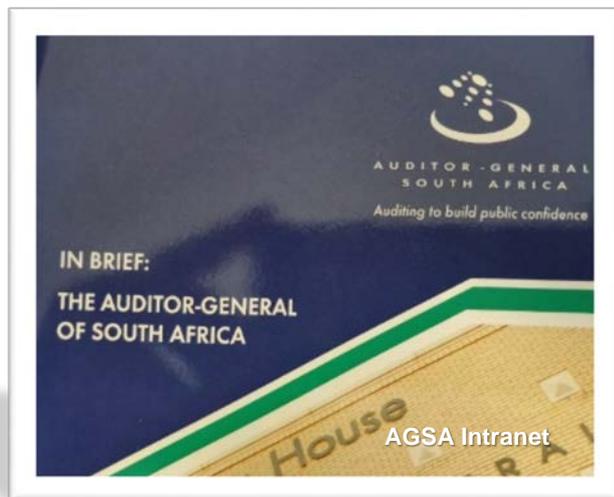
The reader should be conversant with the mandate, role, resource structures, functions and audit services of the South African SAI (AGSA), to understand the role it can play in enhancing public sector environmental accountability and thereby improving the life of citizens. SAIs are key government agencies responsible to audit and report on how public funds are spent. Dependable and unbiased auditing and reporting is required for SAIs to achieve accountability and transparency within the public sector. Financial management, compliance with rules and regulations, as well as performance against pre-determined objectives form part of the day-to-day regularity audit processes, whilst voluntary performance and other specialised audits may be more theme or purpose driven. The overall aim of public sector auditing is to enhance public sector accountability, improve the management and quality of governance and ultimately to add value or improve the life of citizens.

In SA, the Supreme Audit Institution's mandate is outlined in Chapter 9, Sections 181 & 188 of the Constitution (1996). The "AGSA is a member of INTOSAI, an autonomous organisation" for external "government audit institutions" with a "special consultative status with the Economic and Social Council (ECOSOC) of the UN". It gained autonomy in 1993, set apart from the public sector (as stated in the Constitution) and therefore is not bound by any public service rules and regulations. The office (AGSA) functions are governed and regulated in the "Public Audit Act (2004), **to perform annual regularity audits on** all government departments, public entities, municipalities and public institutions":

- "Section 4(1) of the PAA states that the Auditor-General (AG) must audit and report on the accounts, financial statements and financial management of institutions listed in 4(1) (a) to (f)",
- Section 4(2) states that the AG must audit and report on the consolidated financial statement of institutions listed in 4(2)(a) to (c),
- Section 4(3) states that the AG may audit and report on the accounts, financial statements and financial management of institutions listed in 4(3) (a) to (b).

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The AG's audits and reports on financial management in the public sector enable the legislature to call the executive to account in dealing with taxpayers' money. Each entity will be reported on through consolidated and analysed general reports within "both the Public Finance Management Act" (1999) "and the Municipal Finance Management Act" (2003) audit



cycles. Other discretionary audits and reports (that include performance and other special audits) can and are also performed (AGSA, n.d.). Performance audits are mandated to the South African SAI in terms of "Section 181(e) of the Constitution" (1996), with the functions reflected in Section 188, further regulated in the PAA

(2004). Relating to other audits or investigations, the PAA (2004), Section 5(1) (d), states that the Auditor-General "may, and without compromising the role of the AG as an independent auditor, carry out an appropriate investigation or special audit of any institution referred to in Section 4(1) or (3), if the AG considers it to be in the public interest or upon the receipt of a complaint or request", and an environmental audit is considered to be a special audit as described in Section 5(1)(d).

Van Rooyen (2016:16) refers to additional types of environmental audits that address environmental issues in a South African perspective, for which the South African SAI should be familiar with and/or consider and include "environmental impact assessment audits, due diligence audits to assess the actual and potential environmental liabilities of operations or sites, environmental management audits to assess the efficiency of environmental management systems, supplier audits conducted by clients or agents to ascertain environmental conformance of suppliers to environmental contractual requirements, sector-specific audit types, liability accrual audits, pollution prevention audits, product audits, site assessments, traditional audits, or comprehensive environmental audits that can cover various and different environmental issues simultaneously" and many more.

The South African SAI audits the use of funds on all three levels of government (national, provincial and local), expressing an opinion on the financial statements and also against predetermined objectives. Its functions include audit and reporting "on accounts, financial statements and financial management of all national and provincial state departments and

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administrations, administration of Parliament and of each provincial legislation, all municipalities and municipal entities, all constitutional institutions, any other institution or accounting entity required by national or provincial legislation to be audited” (AGSA, n.d.). Detail of the South African SAI, and particularly on the mandatory and discretionary audit types available, vision and mission is clear on enabling oversight, enhancing public sector accountability and strengthening the country’s democracy, **Table 34**. To stay conversant and relevant to the ever-increasing demands and role of government in oversight, managing and sustaining a healthy environmental resource base, the South African SAI also initiated efforts and means to consider, audit and report on environmental issues and risks, within current audit methodology processes.

Table 34: AGSA: Its placement and role as Chapter 9 Institution

AGSA, 2019a

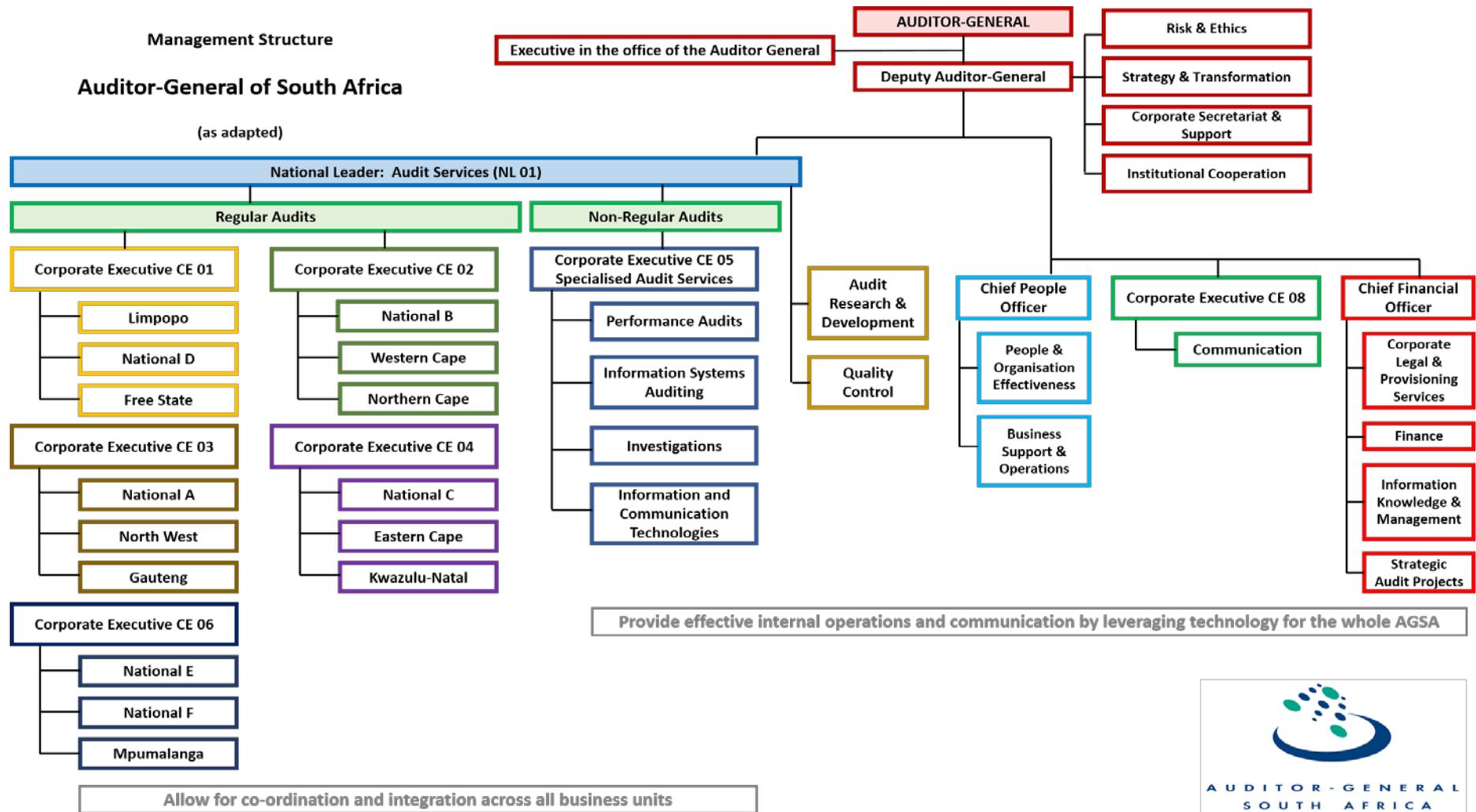
<p><i>The Auditor-General of South Africa (AGSA): Is the Supreme Audit Institution (SAI) of South Africa, and only institution by law that has to audit and report on how government (all levels) is spending the South African taxpayer’s money. The AGSA has operated since 1911, but its roles and responsibilities further expanded with the Constitution, 1996. It is a Chapter 9 institution – with its mandate and functions outlined in Chapter 9 (Sections 181 & 188) of the Constitution of the Republic of South Africa. The functions are further regulated in the Public Audit Act, 2004 (amended).</i></p>	 <p>Extracted and quoted from (AGSA, 2019a)</p>
Vision	To be recognised by stakeholders as a relevant SAI that enhances public sector accountability.
Mission (reputation promise)	To strengthen our country’s democracy by enabling oversight, accountability and governance in the public sector through auditing, thereby building public confidence.
Independence (<i>The Constitution guarantees the independence of the AGSA from government</i>)	Obtained autonomy in 1993 – set apart from public sector (legally, financially and operationally independent).
Audit process: (Audit in the public sector)	Public sector auditor assesses the guardianship of public funds, the implementation of government policies and compliance with legislation, objectively.
<p>Regularity Audits: PFMA & MFMA</p> <ul style="list-style-type: none"> - National Offices (A – F) - Regional Offices (9 Provinces) 	<p>Non-Regularity Audits: Specialised Audit Services: * Investigation * Special Audits * Performance Audits, * Information Systems Auditing * Investigations * Information & Communication Technologies.</p>

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MANDATORY AUDITS	
Regularity Audits <i>(Annual)</i>	<p>“The scope of annual audits performed for each auditee is prescribed in the Public Audit Act and general notice issued in terms thereof and includes:</p> <ul style="list-style-type: none"> - Providing assurance that financial statements are free from misstatements that will affect the users of the financial statements; - Reporting on usefulness and reliability of the information in annual performance report; - Reporting on material non-compliance with key legislation; - Identifying the key control deficiencies to address to achieve a clean audit”.
DISCRETIONARY (VOLUNTARY) AUDITS	
(a) Investigations	Proactive risk identification and response to high risk areas susceptible to fraud – adding value to regularity audit, by enhancing the consideration of fraud risk factors during the audit process and mitigating the audit risk. “Report on factual findings with regard to financial misconduct, maladministration and impropriety, based on allegations or matters of public interest”.
(b) Special Audits	“Report on factual findings, e.g. donor-funding certificates for legislative compliance”.
(c) Performance audits	May “be performed to determine whether resources have been produced economically and used effectively and efficiently”. Report on the effect of policy implementation (excl. policy evaluation).
<i>Other: Supportive Audit functions</i>	Information Systems Auditing: Is the provider of information systems auditing support to all audit business units of the AGSA & Information & Communication Technologies: Provide innovative technology enabled business solutions to all business units of the AGSA. Partnered with audit software champions in Bu’s & all provinces to provide ICT support.

The 2018-21 Strategic Plan and Budget listed the total audit staff at 2 808, with a support structure in audit and non-audit business units of 756 (AGSA, 2018:43 & 50). The 2019-22 Strategic Plan and Budget however indicates a slight increase to the audit staff establishment at 2 859 (AGSA, 2019b:41). The audit managers, assistant managers and trainee auditors make up the bulk of the total audit staff establishment. For the purpose of this research study, it is also important to note that only 29 performance auditors are included in the audit staff figure and private audit firms are also contributing strategic human resources for the AGSA to execute its mandate (AGSA, 2019b). Audits and related work are outsourced annually to selected private audit firms to assist with its audits in the public sector (AGSA, 2019b).

See **Figure 21** on the AGSA structure (AGSA, 2019c).



AGSA, 2019c

Figure 21: AGSA Management Structure as on 1 Feb 2019

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The AGSA audits and “produces audit reports on all government departments, public entities, municipalities” as well as “public institutions”. According to the Consolidated Audit Outcomes of National and Provincial Governments, cleared in the Citizens Report: PFMA 2017-18, a total number of 169 “national and provincial departments” and 265 public entities (including 34 major state-owned enterprises) were audited during this audit cycle (AGSA, 2019d:10). “The Consolidated General Report on the Local Government Audit Outcomes”: MFMA 2016-17 indicated that the “AGSA audited 257 municipalities and 21 municipal entities” (239 completed audits and 18 not finalised) in the 2016-17 audit cycle (AGSA, 2019e:10).

As referred to in the introduction, **Chapter 5.1** and **Table 34**, public sector auditors objectively assess the governance and care of public funds, the implementation and management of government policies and the compliance to legislation and related requirements. The scope for annual audits performed is “prescribed in the Public Audit Act (2004) and general notice in terms thereof”, as amended in 2018.

The audit processes of the AGSA basically entail (AGSA, 2019f):

- **Risk assessment:** Where the audit terms, planning and risk assessment procedures are performed,
- **Risk response:** Audit procedures performed, based on the risk assessment (risk response on the financial statements, risk response on the audit of performance information (predetermined objectives), risk response on compliance),
- **Reporting:** Preparation of a management report (to auditee), not published and the preparation and issue of the audit report, published, **Figure 22** refers.



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AMP COURSE MAP (from introduction to conclusion)

Introduction		Pre - engagement					
1		2			3		
Introduction		Foundational principles			Scoping and pre-engagement activities		
Covers all engagements		F	C	P	F	C	P
Introduction to AMP Key changes		Conceptual concepts Documentation requirements Reasonable vs limited assurance			Pre-engagement understanding Scoping Engagement risk assessment Engagement letter		
Planning/risk assessment							
4	5	6			7		8
Understand the entity and environment	Overall audit strategy	Materiality			Understanding internal control		Risk assessment
Covers all engagements	Covers all engagements	F	C	P	F	C	P
Understanding the entity and its environment Involving a fraud specialist Involving a ISA specialist	Why we need an overall audit strategy The work that feeds into the overall audit strategy The template	General conceptual matters and principles Financial materiality AOPO materiality Compliance materiality			Internal controls, objectives and risks relevant to the audit Understanding internal control – entity level Understanding internal control – business process level		General conceptual matters and principles Financial risk assessment AOPO risk assessment Compliance risk assessment
Risk response							
9							
General application							
F		C			P		
Audit plan Tests of control Substantive analytical procedures Substantive test of detail							
10							
Audit of financial statements							
F		F			F		
Audit plan and risk response		Selecting items for testing			Evaluating		
11							
Audit of predetermined objectives (reasonable)							
P		P			P		
Audit plan and risk response		Selecting items for testing			Evaluating		
12							
Audit of predetermined objectives (limited)							
<i>Not included in initial pilot phase</i>							
13							
Audit of compliance							
C		C			C		
Audit plan and risk response		Selecting items for testing			Evaluating		
14							
Concluding							
Finalisation and conclusion							
Covers all engagements							
Going concern Subsequent events and other information Written representations Concluding and forming the audit opinion							
F	Audit of financial statements	P	Audit of performance information	C	Compliance audit		

AGSA, 2016: Your AMP Notebook: 34 – as amended

Figure 22: Audit Methodology Course Map

With the annual public sector audits performed, it aims to ensure that:

- “The financial statements are free from material misstatements (that may impact or affect the users thereof): Objective is to express an opinion on the fairness of the financial position of the auditee at year-end and results of its operations,
- Report on the adequacy and reliability of the information included in the annual performance report: Objective is to determine if the reported performance information (against predetermined objectives) is valid, accurate and complete,
- Report on the material non-compliance to key legislation: Objective is according to the relevant legislation, to ascertain proper financial and performance management, transparency, accountability, stewardship and good governance” (AGSA, 2019f).

Based on the Audit Methodology Map in **Figure 22**, the researcher explored options for the placement of environmental issues and risks within the current mandatory (regularity) audits of the AGSA. The Environmental Methodology Map was developed and included in **Figure 22**, indicating the possibilities for inclusion within current processes and resources. The AGSA also implements and facilitates “key internal control deficiencies” that need to be addressed towards clean or favourable audit results (AGSA, n.d. a.) The audit methodology for compliance risk response was also explored and adapted to include as Environmental Compliance Risk Responses. Looking at the above mandate, roles and responsibilities of the AGSA to audit and report within the public sector, compared to its resources, as well as the payment capabilities of its auditees, is it clear that an innovative approach is required to consider, include and report on environmental issues and risks.

5.5.3 The need to consider, audit and report on environmental issues and risks within the public sector audits

Looking at the financially driven audit mandate of the AGSA, the question may be asked as to why the South African SAI needs to consider and report on environmental issues and risks within the public sector audits of South Africa? As alluded to in **Chapter 5.3** above, South Africa has very comprehensive environmental legislation, comparable to international developments and standards, but the implementation, monitoring and enforcement thereof, are not effective. During environmental management audits performed within the public sector of South Africa, non-compliance to legislation and related requirements often refers to a lack of oversight, weak or ineffective regulatory regimes, no or ineffective monitoring and enforcement. September (2012:1) refers in her dissertation to the fact that non-compliance to environmental legislation “is widespread and deeply entrenched”. Craigie *et al.* (2009:41) state

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that “governance and regulation are largely meaningless without compliance”. Feris (2006) expresses the problems which affect environmental enforcement in South Africa and attributes them to the capacity and resource constraints within both national and provincial government spheres. The command and control approach through criminal sanctions have a role to play, but are not always effective or a deterrent to major polluters (Feris, 2006:53). EMI’s have been responsible to monitor and enforce environmental legislation since 2005 and play an important enforcement role in collaboration with various other enforcement agencies in South Africa, and another remedy used in their quest to enforce environmental compliance is Compliance Notices (Feris, 2006:55). Although the latest National Environmental Compliance and Enforcement Report 2017-18 includes various key findings on action against environmental non-compliance and transgressions, **Table 35**, it also refers to constraints which include non-inclusivity of all government sectors and the timeous process to expand environmental compliance and enforcement to local government level (DEA, 2018b:5-8).



Table 35: Overall Statistics on national compliance and enforcement

DEA, 2018b:22-32

Enforcement Statistics of 2017/18	
Criminal dockets registered	1257
Total Admission of Guilt fines (J534s)	872 (value: R251 300)
Criminal dockets handed to NPA	416
Total arrests by EMIs	926
Total number of acquittals	10
Convictions reported	53
Plea & sentence agreements	8
Total number of warning letters issued	324
Total number of administrative notices issued	1093
Total number of civil court applications	2
Total value of Section 25G administrative fines	R10 064 949
Compliance Monitoring	
Total facilities inspected	4 210
Facilities inspected (against brown legislative requirements)	1 900
Facilities inspected (in the green sub-sector)	1 793
Facilities inspected (against the blue issues)	517
Total number of pro-active inspections	2 733
Total number of re-active inspections	1 477
Total number of non-compliances detected	2 894
DWS reported % of non-compliances	14% blue & brown issues
Total inspection reports finalised	3 184
Local Authorities	
EMIs of Gauteng, Kwazulu-Natal & North West: Total no facilities inspected	89
EMIs of Gauteng, Kwazulu-Natal & North West: Total non-compliances detected	151

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The report is silent on the various environmental non-compliances noted and reported on during an environmental public sector pilot audit performed by the AGSA in the North West Province of South Africa, during this and prior MFMA audit periods. The Centre for Environmental Rights reported some challenges that undermine the environmental monitoring and enforcement efforts in South Africa, resulting in environmental discrepancies and non-compliance not punished or deterred, continually affecting or impacting on the environment with the **most relevant reasons listed** as (CER, 2019a):

- EMI's have no legal mandate on environmental compliance on mining operations or water (responsibility: "Department of Mineral Resources (DMR) and Department of Water and Sanitation (DWS)", respectively,
- The complexities and comprehensive process for licensing and authorisations by licensing authorities, makes inspections and monitoring difficult,
- In South Africa, environmental law mostly relies on criminal prosecution, which is a slow, difficult and overburdened process,
- Some discrepancies in the NEMA (1998) (special reference to Section 24G) – that allow for authorisation after commencement of an activity (cheaper/quicker option),
- In South Africa, transparency around environmental laws and compliance is lacking.

In this study, literature reviewed and audits performed within the local government sector of South Africa (pilot – North West Province), with a focus on environmental monitoring and enforcement, there seemed to be more emphasis on monitoring and enforcement in the private sector. Government departments are not always assessed or monitored against their mandates, roles and responsibilities, as are environmental regulatory authorities. Within both the MFMA and PFMA public sector audit cycles, there needs to be some focus on the mandated oversight, monitoring and enforcement functions, a void that could be attempted or filled by the AGSA.

5.5.4 Environmental evolvment, approach and placement within current public sector audit methodology processes

Where is the AGSA currently with the consideration, inclusion and reporting of environmental issues and risks within their current audit methodology processes? Environmental audit considerations within the public sector already started evolving at the beginning of the new millennium. **Table 36** refers to **some of the significant environmental audits and evolvment within the AGSA**, although some focus might be hidden within regularity non-compliance and/or financial impacts within both the PFMA (1999) and the MFMA (2003) public

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sector audit cycles. Looking at the overall earth populace, current rate of resource depletion and impact of human activities on the environment (Tyler Miller and Spoolman, 2012), the natural resource base and sustainability thereof, governments all over the world (all levels of government) slowly but surely are coming on board, realising that their existence and quality of life depends on a healthy and sustainable environmental nexus (Cistulli, 2002). Overall world trends, within the INTOSAI community and particularly the INTOSAI WGEA, indicate a move to search, consider and include significant environmental issues and risks within their public sector audit methodology processes. Governments, as custodians of the environment, have certain mandates, oversight roles and responsibilities on local, provincial and national levels (and international levels through commitments, agreements and treaties), and their performance and compliance to these should be assessed and reported on. This, together with the continual changes and evolving role of auditing in response to public expectations, shifted additional emphasis on the SAI to include some focus on environmental accountability of government. The vision and mission statement of the AGSA is clear on its role to enable oversight, as well as “accountability and governance” within the “public sector” through their public sector audits, seeking to build public confidence and improve the life of citizens. The research results already alluded to and emphasised that environmental risks cannot be excluded from the traditional financial audit focus and processes anymore, and needs to be assessed and reported on within both the mandatory and voluntary audit processes, to continually contribute in approving the life of citizens.

The challenges to a traditionally and predominantly financially driven audit focus and current human resource base however need careful consideration to ensure maximum impact within current resources. Furthermore, the fact that the AGSA’s audit fees are recovered from its already over-burdened and financially stressed auditees (especially at local level) also require extreme caution, to further enhance the audit methodology and focus areas by including environmental issues and risks. The approach and placement of environmental issues and risks within the SAI’s available audit methodology processes ultimately need to be aligned to the country’s state of the environment, the effectiveness of environmental oversight and regulatory regimes, and its available resources to audit and report thereon. SAIs in developing countries do not always have the capacity and resources to develop units, structures and auditors, and to audit and focus on environmental issues and risks in isolation. Environmental risks and impacts, however, also include financial or compliance implications, where for example environmental rehabilitation and repair, liability claims, fines and related legal actions, may result in fruitless or wasteful expenditure and impact on the already stressed budgets of organs of state, impacting on service delivery and the life of citizens. The AGSA should report thereon, but the question that arises is what audit methodology process will be

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best suited to continually identify, address and follow up on these significant environmental issues and risks. The mandatory, annual regularity audits, are well placed to achieve these objectives, whereas the voluntary performance audits may contribute more towards theme driven specific risks.



Google Pictures

Table 36: Environmental evolvment and developments within the AGSA, since the new millennium

INTOSAI WGEA, 2007 & AGSA, n.d. b.

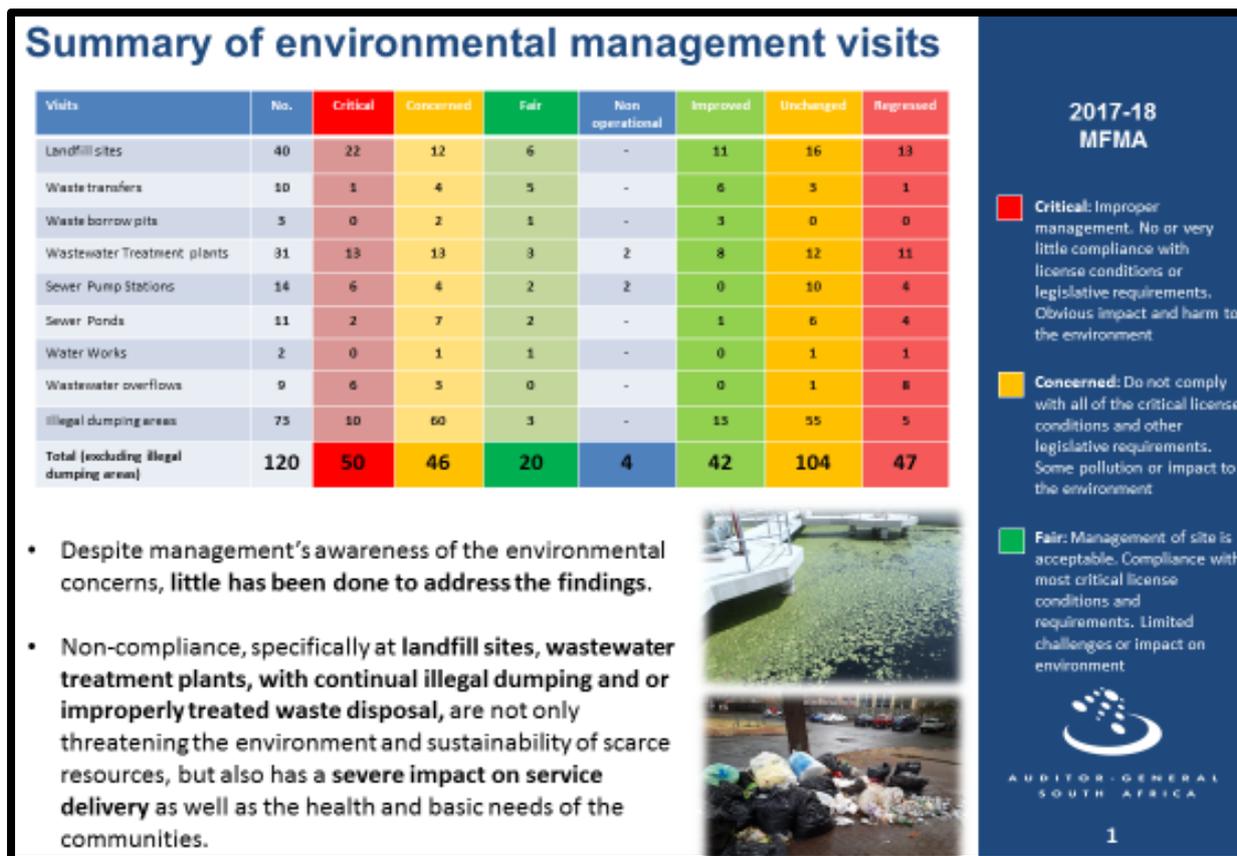
2000	6th Meeting of the INTOSAI WGEA, Cape Town, SA (April 2000)	SAI of SA presents the developments to assist in the launch of environmental auditing in Africa
		The difficulties of carrying out environmental audits within a regularity audit mandate discussed
2002/2003	Efforts to seek environmental inclusion within the South African SAI's audit methodology processes	Appointment (HR resources towards)
2005	AFROSAI-e established in 2005	Executive Secretariat hosted by the AGSA (current: 26 English speaking African SAIs)
2005	"Report of the Auditor-General on a Sustainable Development Audit of the Handling, Storage, Disposal and Transportation of Medical Waste at the Department of Health" of the Eastern Cape Provincial Administration – January 2005	Performance Audit
2007	"Report of the Auditor-General on medical waste management, as well as infrastructure conditions in selected hospitals at the Western Cape, Department of Health, August 2007"	Performance Audit
2008	AGSA hosted the 11th General Assembly of AFROSAI	AGSA
2008	"Report of the Auditor-General on a performance audit of the provision of sanitation services at the Department of Water Affairs and Forestry" – January 2008	Performance Audit
2009	"Report of the Auditor-General to Parliament on a performance audit of the handling of confiscated abalone at the Department of Environmental Affairs and Tourism"	Performance Audit

2009	“Report of the Auditor-General to Parliament on a performance audit of the rehabilitation of abandoned mines at the Department of Minerals and Energy – October 2009”	Performance Audit
2010	“Report of the Auditor-General on the status of climate change Initiatives in South Africa” - January 2010	Followed: WGE Coordinated International Audit on Climate Change
2010	South Africa hosts the XX INCOSAI (November 2010)	Used as platform to launch ISSAIs
		Theme 2: Environmental Auditing & Sustainable Development (Chair – China)
2010	“Report of the Auditor-General to Parliament on the status of climate change in South Africa”	Performance Audit
2010	“Coordinated International Audit on Climate Change – Key implications for Governments and their Auditors (UNFCCC, Kyoto Protocol)”	INTOSAI WGEA
2012	Start of Environmental Pilot Audit within the regularity audit methodology processes of the AGSA (MFMA): North West Province	Pilot Audit continuation: 2012 – 2018 Considering and including environmental issues and risks within the regularity audit processes of the AGSA – North West Province (MFMA)
2015	AFROSAI-E Centenary Celebrations, Cape Town (SA)	AFROSAI-E
2016	Performance audit on water infrastructure at the Department of Water and Sanitation – November 2016	Performance Audit
2018	Draft: Environmental Audit Strategy of the AGSA – May 2018	Performance Audit

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Currently, environmental issues and risks have been placed under the auspices of the Performance Audit Business Unit of the AGSA. The proposed approach towards environmental auditing includes a shared process to include both regularity (compliance) and performance auditing disciplines. The idea is to achieve compliance to environmental laws and regulations, as well as the economical, efficient and effective manner in which resources are used in managing the environment. Environmental issues can also fit into the objectives of a financial audit. This research already alluded to the IAPS and ISSAI standards for auditors to be included when considering “environmental matters in the audit of financial statements” and/or within the regularity auditing processes. The pilot audits (focus on environmental management risks and issues) performed at local municipalities in the North West Province of South Africa (2012 – 2019), and also selectively and periodically performed in other provinces, used a comprehensive approach, see **Chapter 2, Figure 7**, of considering environmental matters in the auditing of financial statements, compliance to environmental laws and regulations, whilst also assessing overall environmental management as well as performance against environmentally related objectives and targets. Environmental audit, also emphasised in **Chapter 3**, is in principle not a different type of audit, but can be part of the mandatory regularity audit processes of the AGSA, and mere extension of the regularity audit approach.

These initiatives as well as the other environmentally related involvement and audits performed within the public sector of South Africa proved to a great extent and emphasised the important role that public sector auditors can play in assessing and reporting on environmental governance, as well as enhancing public sector environmental accountability. The environmental inclusion within the MFMA regularity audits and reporting processes of the North West Province (pilots performed) followed a value-adding approach with the main advantages of this placement (or locus) being that it can be performed within current resources, budgets and audit products and allows for yearly follow-up.



Smith, 2020

Figure 23: Summary of environmental findings: MFMA 2017/18

In the provincial overview, Section 6 of the latest consolidated MFMA Audit Report 2017-18, the AGSA refers to the continual environmental focus at municipalities in the North West Province, **Figure 23**, (AGSA, 2019e:144-152).

“We continued to focus on environmental management at municipalities, specifically the management of solid waste landfill sites, the quality and availability of water, as well as sewage treatment and effluent disposal. Despite management’s awareness of the environmental concerns, little has been done to address the findings. Non-compliance, specifically at landfill sites, wastewater treatment plants and illegal dumping areas, is not only threatening the environment and sustainability of scarce resources, but also has a severe impact on service delivery and the basic needs of communities” (MFMA, 2017/2018:147).

During the environmental audit approach in the North West Province (2012 – 2019), the environmental focus included some aspects or impact on the financial statements, compliance to relevant governance and environmental laws, as well as consideration of environmental performance towards set targets and commitments. The findings were indicative of poor

environmental governance, as well as ineffective regulatory efforts through monitoring and enforcement. **Table 36** also refers to some environmental involvement and value-adding following a performance approach (assessing the “measures instituted by management to ensure that resources” were “procured economically and used efficiently and effectively”). The key drivers for the AGSA to invest in environmental auditing are to identify and report any material misstatements relating to environmental impacts and disclosures in the annual financial statements. Government is held accountable for non-compliance to environmental laws and regulations, and from a performance perspective it is to ensure that government is held accountable for their stewardship over all environmental resources. Furthermore, it will also seek to contribute to sustainable development through auditing and improve value-adding through its audit types and products. Both audit methodology processes have a role to play to audit and report on environmental governance, ensuring that government (on all levels) perform their environmentally related mandates, roles and responsibilities amicably and in accordance with regulatory requirements. From the draft environmental strategy (still in progress), an implementation plan will follow to guide implementation thereof, within both PFMA (1999) and MFMA (2003) audit cycles in the short, medium and long-term.

5.5.5 Challenges to audit environmental issues and risks

Within a SA perspective, performing environmentally focused audits and pilot initiatives over the past fifteen years, the main challenges for improved or effective public sector environmental auditing collate with the summarised findings above, and in particular to * building methods, capacity and knowledge in SAIs * emerging areas of environmentally related audits, * SAIs’ special role in auditing international environmental agreements, and * cooperating and building relationships.

Other local (SA) specific challenges experienced, include:

- **Audit fees (additional costs incurred for environmental audit involvement):** The AGSA is already struggling to recover audit fees, whereas additional focus will require additional resources (human and financial resources),
- **AGSA environmental audit capacity and resources (mandate):** There is a lack of skilled and dedicated resources with the vast majority of the current human resources capacity of the AGSA lying within the financial (regularity) sphere with limited expertise and experience in environmental auditing,
- **Latest environmental audit strategy (comprehensive audit approach):** The (DRAFT) Environmental Strategy, (within the Performance BU of the AGSA) is still in progress (and

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not approved). It is a time-consuming process, and might not address the current critical environmental risks and needs (at all levels of government) in a timely and pro-active manner,

- **Weak environmental regulatory regimes:** In SA, weak environmental regulatory regimes ensure no or limited monitoring and enforcement of critical environmental risks, pollution and degradation of the environment and its natural resource base,
- **Capacity and resource constraints within government and governance:** Government departments responsible to manage and administer the environment in SA are not properly resourced, skilled, committed and supportive of environmental management and auditing,
- **Lack of poor environmental databases (qualitative and quantitative):** Data on organs of state responsible to manage or administer the environment is not always available, complete or updated. This includes all levels of government,
- **Political issues and injustices of the past:** SA is stressed and continually in the process of addressing the previously disadvantaged infrastructure and developmental needs with serious resource constraints towards improving these backlogs. Often, the environment takes the brunt where improper infrastructure and treatment processes pollute and degrade the receiving environment.

The chapter to follow, **Chapter 6**, will use interviews and questionnaires to further explore local (South African) subjective inputs and opinions on the placement, developments and challenges of including environmental issues and risks within current public sector audit methodology processes, and their contribution to public sector environmental accountability. The methodologies selected for **Chapter 6**, will contribute to and substantiate the local literature reviewed and analysed.

5.6 Overall summary

The local (South African) literature reviewed through various media, assisted the researcher to answer the **Main Research Question 1** and **Sub-Research Question 2** of where environmental issues and risks are currently placed within the public sector audit methodology processes of the South African SAI, and its contribution to enhance environmental accountability.

The literature reviewed in this chapter briefly focussed on the South African state of the environment and challenges of its natural resource base. The main legislation for environmental oversight, management and the role of auditing to address the environmental challenges was explored. The literature was logical to the country's major challenges to effectively manage and sustain its natural resource base, to ensure continual service delivery,

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and to the developmental and human needs of all its citizens. Auditing in the public sector can contribute to assessing government's environmental performance with recommendations and reporting in the public domain. Effective environmental oversight, monitoring and enforcement through mandated regulatory regimes is lacking within all levels of government, placing some onus on the AGSA to audit and report thereon. Although the South African SAI's mandate and resources are predominantly financially driven, there is continual evolvement and innovative means to include environmental issues and risks within its current public sector audit methodology processes. The oversight role of government in managing, safeguarding and sustaining the environment, as well as the statutory obligations and acts with regard to environmental management, justify the AGSA's involvement. There are challenges for the SAI to also consider, audit and report on environmental issues and risks as well, considering its current resources, variety of auditees and obligations, state of governance in the country and an already over-burdened public sector audit process. The available audit methodology processes (mandatory and voluntary) have some advantages and disadvantages in the quest and role which they have to play in enhancing public sector environmental accountability. It is thus important to seek an approach and placement best suited for including environmental matters, with limited impact to audit teams, resources of both the AGSA and auditees, to add value and enhance public sector environmental accountability.

Chapter 6 will further explore the placement and value-adding of using available public sector audit methodology processes, through survey interviews and questionnaires, to both internal and external stakeholders of the South African SAI.

CHAPTER 6: LOCAL (SOUTH AFRICAN) RESEARCH METHODOLOGIES: SURVEY INTERVIEWS, SURVEY QUESTIONNAIRES

The chapter is divided into two parts, with the focus on the local (South African) perspective, trends and preference to include, place and audit environmental issues and risks within public sector audits and reports of the South African SAI, and its value to environmental accountability. The research methodologies selected, namely survey interviews **Part 1**, and survey questionnaires **Part 2**, aim to answer the Main Research Question (1) and Sub-Research Question 2, in determining the current and best place or locus of environmental issues and risks within the audit methodology processes of the (local) South African SAI to enhance public sector environmental accountability. It also considers effectiveness of local (South African) environmental regulatory regimes on environmental oversight, monitoring and enforcement. The chapter starts with an introduction to the local research methodologies (6.1) and is further divided into two parts that cover the specific research methodologies used. **Part 1** includes the survey interviews with internal and external stakeholders of the South African SAI, starting with an introduction to the survey interviews (6.2), identifying the research questions (6.2.1), the type of interviews (6.2.2), formulation of the interview questions (6.2.3), ensuring and reviewing ethical compliance (6.2.4), selection (sample) of interviewees (6.2.5), undertaking of the interviews (recording and summary thereof) (6.2.6), analysing and summary of inputs (6.2.7) and concluding remarks (6.2.8). The second part, **Part 2**, includes the survey questionnaire results from local (South African SAI) participants, starting with an introduction to the local (South African SAI) survey questionnaire (6.3), participants identified for the local survey (6.3.1), design of the survey questionnaire (6.3.2), the need, aims and objectives thereof (6.3.3), the survey questionnaire data received and analysed (6.3.4), and the survey questionnaire results (6.3.5), with concluding remarks thereon (6.3.6). The entire chapter concludes with overall remarks on the local (South African) research methodologies used, findings and value towards the research aim and objectives (6.4).

6.1 Introduction to the local (South African) research methodologies

This chapter aims to gain some perspective and background on the placement and involvement of environmental issues and risks within the local (South African) public sector audit types and methodology processes followed. The structure and design clearly describe the process initiated from the global status quo, whereafter it is narrowed down to the local, South African SAI position (see structure and design in **Chapters 1.10** and **2.2**). Through this

locally directed research (survey interviews and questionnaires), the following research questions, **Chapter 1.4** are addressed:

Where are environmental issues and risks currently placed within the audit methodology processes of the South African SAI?

- *Sub-Research Question 2* -

and

Where is the best placement - or locus - for environmental issues and risks within the audit methodology processes of the South African Supreme Audit Institution to enhance public sector environmental accountability?

- *Main Research Question 1* -

This chapter should be read with and follows on the local (South African) literature review, **Chapter 5**, that explored the South African environmental resource base and challenges, legislative requirements for environmental management and auditing, environmental governance and regulatory regimes in the country, with some reference to the role of public sector auditing to assess and report on environmental governance (including international or regional commitments and agreements on environmental matters). The literature reviewed also looked at the South African SAI (AGSA) in particular, its mandate, structures, resources and available audit methodology processes, linked to the need to audit and report on environmental issues and risks, the evolution, approach and placement thereof within its public sector audits and reports, and the challenges for inclusion as a focus area.

Chapters 5 and **6** can be regarded as the central point of the study, revisiting the problem statement in **Chapter 1.3** of *environmental issues and risks are not suitably located within the South African SAI's public sector audit methodology processes to effectively and continuously enhance public sector environmental accountability*. The aim, **Chapter 1.5**, of the study is also locally (South African) specific, aiming to *advance understanding of the placement and contribution of public sector regularity auditing in enhancing environmental accountability in South Africa*. It therefore also narrows the available public sector audit methodology processes down to the suitability of a mandatory, financial (or regularity) audit type as an option, and its value or contribution to enhance environmental accountability in the country. Ultimately, this part of the research (local focus), aimed to answer the above-mentioned research questions, **Chapter 1.4**, to determine where environmental issues and risks are currently placed, and whether the placement within the regularity audit methodology processes is suitable to enhance public sector environmental accountability in the country. The research methodology

processes selected to determine this included the local literature reviewed and covered in **Chapter 5**, and the survey interviews and survey questionnaires (to internal and external stakeholders of the South African SAI), that were covered in this chapter.

PART 1: Survey (face-to-face) Interviews: Local, South African perspective

After gaining some background and input through the local literature reviews, **Chapter 5**, the process is followed with **local** face-to-face interviews to internal and external stakeholders of the South African SAI, aiming for some subjective input on the available and preferred environmental placement and developments for such consideration and inclusion.

6.2 Introduction to the local survey interviews

The local face-to-face survey interviews conducted were identified as a suitable research method to get some subjective input on the preference of placement of environmental issues and risks within the South African SAI's (AGSA) available public sector audit types and methodology processes, and how it will contribute to enhancing public sector environmental accountability in the country. After interrogating some global perspective on the need, options and best placement thereof, **Chapters 3 and 4**, this chapter aimed to explore local experience, preference and the rationale behind current placement and developments within the South African SAI. A summary of review on methodological guidance to use and report on interviews was used in identifying the process and stages of the entire interview process (Drury, Homewood & Randall, 2011:18-24), **and included:**

The process and key stages in the survey interview process:

- Identifying research interview questions,
- Deciding on the type of interview,
- Formulation of the interview questions,
- Ensuring and reviewing ethical compliance,
- Selection (sample) of interviewees,
- Undertaking of the interviews (recording and summary thereof),
- Analysis and summary of inputs.

Using face-to-face interactive interviews in this research study intended to provide or introduce the necessary context to the research, give perspective to the body of literature related to the research theme and ultimately to provide a framework of understanding around the feel, preference and development of environmental inclusion within **local** (South African) public

sector audit methodology processes. Wisker (2008:192) accurately summarised the usefulness of the interviews, stating that they can provide both detailed required information and also some additional fascinating contributions to the context. The qualitative data obtained through the interview processes was particular in determining the subjective thoughts, beliefs and behaviour of the selected participants, and relevant to the research problem, **Chapter 1.3**, aim and objectives, **Chapter 1.5**, main and subsequent questions, **Chapter 1.4**, developed, and also explored some additional input and feel on the subject matter.

6.2.1 Identifying the survey interview questions

The research interview questions developed aimed to explore local, South African perspectives and initially establish current understanding of environmental sustainability, as well as the challenges thereto within South African cities and communities. It was important to test the interviewee's understanding of the environment - needs and threats. The focus then needed to be attuned to the South African SAI (AGSA), probing the mandate, the need to audit and report on environmental issues and risks, views on the best placement thereof and how to include these issues within current public sector audit methodology processes and resources. The challenges faced by the AGSA to audit and contribute to public sector environmental accountability were also identified as an important focus area towards identifying best placement. The questions further needed to establish views and knowledge on the environmental regulatory regimes in South Africa, which might place more emphasis and need on the SAI to assess and report on environmental performance and accountability. Furthermore, inputs on international environmental commitments and agreements, particularly the AGSA's perceived role within both MFMA and PFMA regularity audit processes, will also give some clarity on where the AGSA should and could play a role in enhancing public sector environmental accountability.

6.2.2 The type of survey interview

The suitability of this semi-structured face-to-face interview as a research methodology was based on the kind of data required from internal and external stakeholders of the AGSA, considering their understanding, knowledge, experience and behaviour within public sector auditing in South Africa. The effectiveness of environmental governance and regulatory regimes pursued might also be instrumental in where and to what extent the AGSA needs to be involved. Although "there are both advantages and disadvantages" in using this research methodology, the advantages outweighed the disadvantages, especially considering the information needed, **Table 37**.

Table 37: Face-to-face survey interviews and data collection: Some advantages and disadvantages, guided and applicable on this research study

DeFranzo, 2014

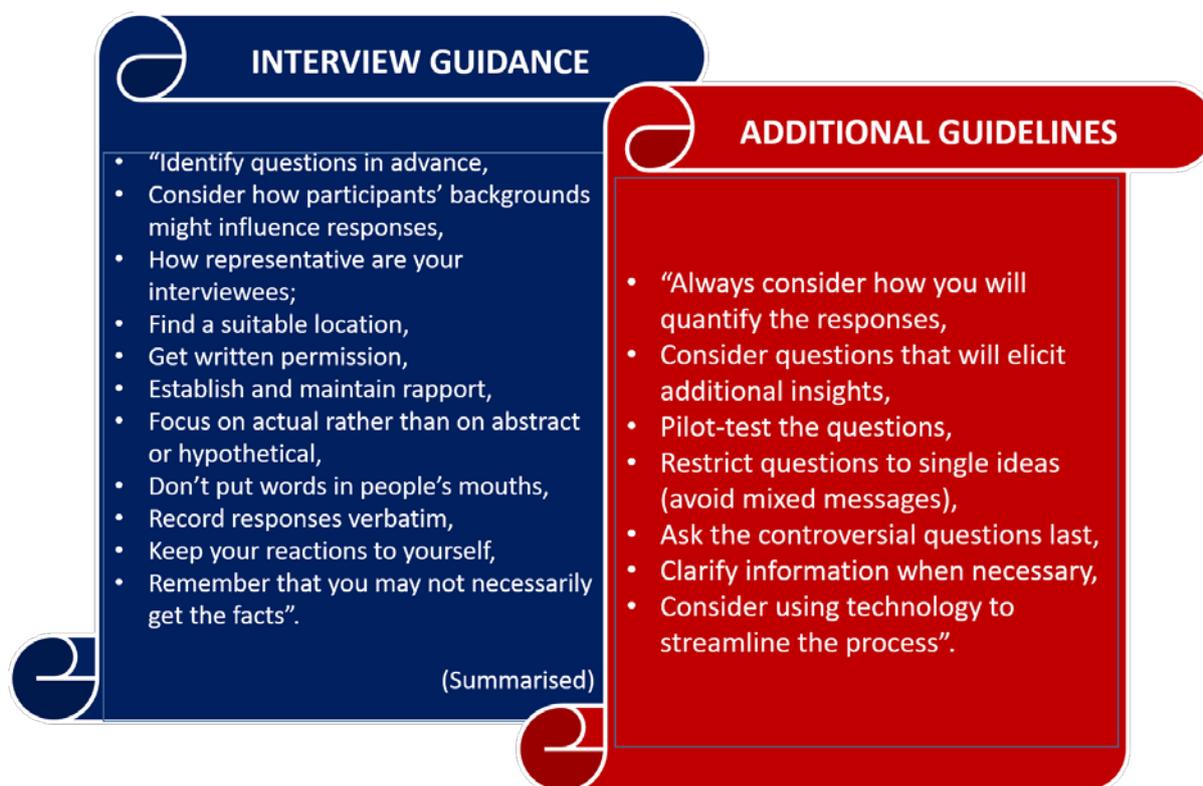
Advantages <i>(not inclusive)</i>	Disadvantages <i>(not inclusive)</i>
Accurate screening: The interviewee's actual knowledge, experiences and personal feel could be more truthfully and subjectively tested (as is).	Costs: Administrative arrangements, time, travelling – may all add up to costs incurred. In the audit profession, non-billable time and cost have to be negotiated.
Verbal- and non-verbal signification: The true feel or inputs from the interviewee can also be tested through body language and enthusiasm on the questions posed.	Recording and summary of data: This might involve a time-consuming process, to record, summarise and analyse the data accurately.
Keep focus on input required: The interviewer has control over the information sought – understanding thereof, as well as further substantiation through follow-up questions.	Limitation and availability on samples: In an office where personnel are placed within different business units and provinces, inclusive face-to-face interviews might not be possible.
Ensured response: Interviews will at least ensure inputs / response – not always guaranteed through some other research methodologies.	Rigid approval and sensitivity regarding AGSA protocols to interact with internal and external stakeholders: There are time-consuming and rigid policies to follow on the type of information and processes for interaction.

To overcome the disadvantages, also considering ethical compliance, the first step after identifying the survey interviews and questionnaires as research methodology processes, was to obtain written approval from my employer (AGSA) to interact with both internal and external stakeholders of the organisation, **Chapter 1.8** and **Chapter 6.2.4** refers. The other disadvantages were neutralised through proper strategising and scheduling to ensure that the bulk of the interviews were performed within an agreed and limited time-frame of suitability, to neutralise excessive non-billable costs as well as travelling expenses. Each interview was recorded (recorder and cell phone), summarised in full, as well as notes made during the interview process to ascertain a detailed and accurate summary of inputs. Furthermore, it was decided to also supplement the survey interviews with survey questionnaires, (**Part 2** of this chapter), to also include and acknowledge inputs from a regional (provincial) and operational perspective within the organisation.

6.2.3 Formulation of the interview questions

Considering the type of information needed, a semi-structured interview strategy was selected, asking interviewees a number of predetermined questions, but also allowing them to elaborate on or provide further discussions. The idea was to stimulate different ideas and

feeling on the research matter and ultimately compare this to world trends. To ensure that the information relates to the research aim and objectives, a semi-structured interview process was identified and used that included some *predetermined questions* with *follow-up questions* for additional information. During the interview meetings these open-ended questions allowed for more discussion, also including some rationale behind the answers provided. Information on Quirkos Blog (2016) was also instrumental in the question formulation of this research, clearly indicating that the interview questions should answer the research questions. This research includes a main research question and 3 sub-questions, **Chapter 1.4**, all considered during developing and structuring of the interview questions. Other important guidance in this blog included the linkage of the interview questions to the proposed analytical approach, as well as using an interview guideline, **Figure 24**.



Leedy & Ormrod, 2013:194-195

Figure 24: Interview guidance – summarised

The guidance from Leedy and Ormrod (2013:194 – 195), on conducting interviews in a quantitative study was printed and used with each interview conducted. The semi-structured approach selected for the research and methodology allows for some flexibility and additional data, whilst still focussing on the information needed towards the research aim and objectives. The next step was formulating the interview questions. This process was assisted through in-depth knowledge and experience on the subject matter (considering and including environmental issues and risks within the public sector audit methodology processes).

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A total of 7 questions and follow-up questions were developed for the interviews, **Annexure G** – informative and **Annexure K, Part 2** – the actual local survey questions. The subsequent questions developed were designed to further probe or for additional response on the 7 main questions, not leading or forcing respondents towards particular answers. Although structured, the interview and questions allowed for space to follow-up or include additional inputs.

6.2.4 Ensure and review ethical compliance (for both survey interviews and questionnaires)

Ensuring ethical compliance with this research study (and for both research methodologies of survey interviews and survey questionnaires) included both consideration and approval from my registered university, the North West University of South Africa (NWU), as well as my employer, the AGSA. A declaration by the Research Proposal Committee to the Health Research Ethics Committee of no need for ethical clearance, dated 12 July 2018 was received, wherein it was indicated that the research does not pose any perceived risks to the environment or participants. To comply to the ethics policy of my employer (AGSA), a Memorandum for approval to conduct internal research, surveys, interviews and questionnaires was forwarded through my line structures on 12 December 2018 and approved by the DAG on 17 January 2019, **Chapter 1.8** refers. It is important that the research be ethically sound to protect the NWU, the employer, the researcher and all participating or contributing to the research and outcomes. Research on ethical issues in qualitative research identified various ethical challenges also considered and addressed in the research methodologies selected for this study. This includes that an informed process of consent needs to be followed in the relationships between the researcher and participants, as well as confidentiality and/or anonymity and also considering the risk-benefit ratio (Houghton *et al*, 2010:15-25).

After the list of interview questions was designed, it was tested on some colleagues in the North West Province (Potchefstroom regional office) to ensure suitability thereof (understanding, length, language, no bias and focus on the aim and objectives conveyed).

6.2.5 Selection (sample) of interviewees

The sampling strategy for this research study followed a more “key informant sampling” method based on the following **important considerations of:**

- Only selecting populations within the public sector audit fraternity (AGSA) or part of the public sector audit process in South Africa,

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- Including the executive management of the AGSA, to gain managerial input,
- For operational input, sampling regional leadership and audit teams (9 provinces) within the AGSA,
- Selecting a pre-determined number of important external stakeholders and key informants of the AGSA (to gain some external perspective and inputs on the research theme), **Table 38** refers.

The identification of key respondents was regarded to be much more suitable for the information or desired insight, due to their position, skills and experience towards the research theme, (Elmusharaf, 2012:19). Therefore, people of positions within public sector auditing (AGSA) or part of government, auditees, monitoring and training of environmental governance, were seen as the most relevant for the perceived or most desired research outcomes. The reason for using interviews as a selected research methodology in this research study, was to ensure that meaningful data were collected from these “key informants” from a public sector auditing perspective, so as to answer the research’s main and sub-research questions. These inputs will also advance understanding on all available audit methodologies and use thereof to improve environmental accountability.

After global trends and developments determined within the INTOSAI WGEAs, the local placement and preference of environmental issues and risks within current audit methodology processes of the South Africa SAI needed to be established and compared. **Annexure H** includes the internal and external stakeholders of the AGSA selected, with the reasoning behind the inclusion or exclusion of the interest population for interviewing. Due to the relatively infant phase of including and reporting environmental issues at the AGSA, and absence of an approved environmental audit policy within the AGSA, the research aimed to explore and compare the personal feeling, experience and beliefs on the best placement or way forward in enhancing public sector environmental accountability. The researcher was conversant with the issue of over-saturation, referred to by Mason (2010), but due to the recent and ground-breaking developments within public sector environmental auditing, felt the need to include all major internal and external role-players within or associated with the AGSA, as portrayed in **Table 38**.

No specific or scientific sampling technique was used, rather targeting people both knowledgeable and experienced on public sector auditing and the research theme. Although regional (provincial) business units of the South African SAI were also identified as part of the internal population of interest for interviews, the challenges of costs and accessibility rather made the online survey questionnaire (covered in **Part 2**) a more desirable method.

Table 38: Internal and external stakeholders included in the local (SA) interviews

Smith,2020

AGSA, DAG, NL (AGSA)	To get a leadership / organisational perspective
ARD & IKM (AGSA)	Audit Research and Development and Information Knowledge Management on the subject matter
BE's National Offices (AGSA)	Business Units auditing departments whose activities impact on the environment or manage the environment
BE & DBE's NWP (AGSA)	The Business Unit responsible to pilot environmental inclusion within public sector audits (MFMA)
BE's / SM's & AM's Regional Offices (AGSA)	Regional – operational perspective from BU's responsible to audit in both PFMA (provincial) and MFMA (local) audit cycles
BE / SM & AM Performance BU (AGSA)	The Business Unit selected where environmental issues were placed & responsible to manage environmental audits within the organisation
Department of Water and Sanitation (Regulatory Regimes)	Department responsible to manage (water and sanitation oversight) the environment - also house Environmental Regulatory Regimes
Department of Environmental Affairs (Regulatory Regimes)	Department responsible to manage (oversight) the environment - also house Environmental Regulatory Regimes
Private Audit Firms (Audits contracted out)	External Audit perspective on the research theme and role of the South African SAI
SALGA (National & Provincial)	Role is to represent, promote and protect interest of local government – their input on the value-adding role of the South African SAI
Local Authority (NWP)	Municipality where environmental issues and risks were audited and reported
University (NWU)	Governance perspective – tertiary inputs <i>Smith, 2020</i>

After identifying the key respondents, a structured process was followed for undertaking, recording, analysing and concluding on the inputs received (via the survey interviews).

6.2.6 Undertaking of the interviews (recording and summary)

The actual interviews were pre-scheduled, based on the availability of the identified participants. Interviewing started on *08 March 2019*, with the current Auditor-General of South Africa, and the process concluded on *21 November 2019*, interviewing officials from the Department of Water and Sanitation. In total 27 face-to-face interviews were conducted. Notwithstanding numerous attempts, interviews could not be arranged with the regulatory authorities of the Department of Environmental Affairs (National Office). To compromise, the Office of the Minister of Environment, Forestry and Fisheries was approached for an interview, but the relevant Minister elected to rather complete a survey questionnaire, which was requested and forwarded to her (with no response or inputs received). Follow-up (mails) to the Head of Compliance were made on *17 January 2020*, with the questionnaire requested and forwarded on *29 January 2020*.

The interview strategy included voice recordings (voice recorder and cell phone), notes made during the interaction and a complete summary (per word – input) for substantive records and analysis purposes. **Annexure G** includes detail of the interviews (background), whilst **Annexure K** includes the questions conducted with internal and external stakeholders of the AGSA. A summary of the main points or inputs on all the interview questions and follow-up questions was made and attached as **Annexure J**. The interviews conducted with the internal stakeholders of the AGSA, aimed to attain leadership perspective within the organisation (AGSA), and to determine short term and medium term strategies planned and followed in the consideration and inclusion of environmental issues and risks with the available public sector audit types and methodology processes. Interviews conducted with local external stakeholders of the AGSA, where the selections were specific to individuals or organisations being part of the South African public sector audit processes, again aimed to gain inputs from an auditee or interested or affected party perspective. See **Annexure I** for detail on the internal and external stakeholders interviewed.

The researcher also needed, without too much detail, to test the feeling and input on the capacity and effectiveness of the environmentally related regulatory regimes in the country, as this would un-doubtedly give some indication on the extent of involvement needed or required from the South African SAI. This is where government's inputs also played a role, with inputs on where and how the country's SAI should place and develop environmental auditing to assist in improved environmental governance and environmental accountability.

6.2.7 Analysis and summary of inputs

The final step in the interview process was to summarise and analyse the interviewee's responses and inputs obtained and recorded.

This was done through a detailed analysis and overall summary of inputs on all the (7) questions and follow-up questions covered during the interviews. The findings of the interviews performed were compared to the research questions, **Chapter 1.4** and aim of the research, **Chapter 1.5**, to ascertain the suitability of environmental placement, and particularly within the mandatory regularity audit methodology process of the AGSA, to enhance environmental accountability.

The inputs were divided into the 7 questions that were pre-developed and prepared for the interviews, and from this overall summary, local feeling, perspective and preference could be clearly identified and reported on adequately. **Annexure J** includes the main inputs or points from the 27 interviewees, which are now further summarised and concluded on per question.

Question 1: How would you describe an Environmentally Sustainable Society?

Interviewees all seemed aware of or had some understanding of what an environmentally sustainable society is, and also identified relevant challenges to ascertain sustainable cities and communities in South Africa.

To briefly summarise the main inputs (not inclusive), environmentally sustainable societies were described as environmentally conscious societies, aware of the environmental risks and impacts, as well as their actions and decisions to ascertain a current and future healthy, safe and sustainable environment, linked and compliant to the SDGs. They are societies that comply with environmental legislation, protecting, maintaining and taking care of the environment, not depleting, but sustaining natural resources. Profits are not put before the environment, with the delivery of basic service that happens, whilst looking after the environment and finding a balance between developmental priorities and facilities' development. They are societies that live coherently with the environment to the benefit of all.

Follow-up question: What do you perceive to be the (3) most pressing challenges to achieve sustainable cities and communities in South Africa?

The most pressing challenges (service delivery) identified included issues **such as:**

- Depletion of natural resources,
- water (quality and availability),

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- wastewater treatment and disposal,
- improper infrastructure,
- air pollution,
- electricity,
- waste pollution and littering.

Other issues such as: tensions between economic growth (including socio-economic challenges) and development, and protecting the environment, the economy not growing with job security and unemployment threats, understanding, ignorance and insensitivity to the environment, people not aware of environmental risks, mind-set to consider the environment, government advocacy, population growth and congestion of people, poverty, crime, corruption, inadequate law enforcement, weak governance, perception of environmental ownership, non-compliance (not implementing or compliance with NEMA and other legislation), resources, qualified staff/skills needs in government and proper planning were also included as challenges to ascertain sustainable cities and communities in South Africa. The responses are indicative of the interviewees' basic understanding of what environmental sustainability means, and from a governance perspective the challenges to properly manage and monitor the issues.

Question 2: Do you regard the current audit mandate of the Auditor-General South Africa (AGSA) as responsive (flexible) to include significant environmental issues and risks?

The predominantly financial mandate of the AGSA was deemed perceptive to include significant environmental issues and risks by 16 of the interviewees, whilst only 5 indicated no. A further 5 indicated that the mandate needs some tweaking, adaption, adoption of changes, consideration or to factor in environmental issues and risks. One interviewee believed that amendments to the PAAA would open doors towards this inclusion.

Follow-up question: How do you think the predominantly financial mandate of the AGSA can be used or expanded to include environmental issues and risks?

Inputs on how this predominantly financial audit mandate of the AGSA can be used, expanded or extended to include environmental issues and risks were adamant on an integrated approach, integration of performance, regularity (financial and compliance), performance information and value-add. The need for advocacy, enhancing auditors' awareness, understanding, capacity and skills was also expressed. The response was indicative of interviewees' belief that the scope of the audit should go beyond financial, not only "follow-

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the-money” route, but to extend the focus on environmental non-compliance. To include expectations, sustainability and spending that includes the environment in the mandate will also assist. The performance route was also recommended, as the environment is seen as resources of government, whilst inclusion as part of regularity is promoted for bigger impact. Most of the responses regarded the current predominantly financial audit mandate of the AGSA as responsive to include environmental issues and risks and recommended various ways and means to adapt, amend or include into the available public sector audit methodology processes.

Question 3: In your opinion, do you think the AGSA should consider, audit and report on significant environmental issues and risks within their current mandatory public sector audits?

Question 3 moves away from the mandate of the AGSA and poses the question of whether the AGSA should audit and report on environmental issues and risks. A total of 22 of the 27 interviewees responded with a definite yes or think so, whilst the other 5 inputs included that there is scope for it (unsure about the extent), there is scope as the Constitution requires that we report to the taxpayer, only as compliance to NEMA (1998), and not our responsibility – but if it benefits the country it will be worthwhile to explore it.

Follow-up question: Why do you think it is necessary (or not) for the AGSA to audit and report on environmental issues and risks within their day-to-day public sector audits?

Looking at why it is necessary (or not) for the AGSA to audit and report on environmental issues and risks within day-to-day public sector audits revealed varied **inputs and beliefs:**

- To bring environmental challenges to the attention of decision-makers (government),
- Environmental issues fit across all 3 audit methodology processes,
- SA is generally not conscious of the environment and the impacts thereto,
- SA doesn't always execute policy, and the AGSA should audit environmental impacts. The Public Audit Act (2004) amendments may be the perfect solution),
- Goes back to the SDGs, environmental impacts, service delivery - the audits should make a difference in the life of citizens,
- There is a sincere threat of over-population and subsequent impacts on the environment,
- This should be included and considered as value-add initiatives to the audits,
- Looking at environmental performance (enhancing environmental management, taking care of the environment and ensuring accountability) – part of the AGSA, as SA citizen and Chapter 9 Institution,

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- There are impacts on the broader society, service delivery and ultimately the poorest of the poor. It goes back to ISSAI 12 – to focus on a better life for citizens,
- There are continual media reports on environmental impacts and pollution – can lead to further disasters,
- Difficult to expand in current audits, but should focus thereon (can include as compliance to NEMA and other relevant legislation),
- Leading by example, as a responsible SAI (the SDGs also indicate this role),
- Not to be left behind with SDGs/AFROSAI, and stay abreast with other SAIs,
- There is a bigger responsibility on the SAI, to contribute to a better society,
- For checks and balances, ensure that regulatory work is done,
- The AGSA audit AFS/Compliance/Performance – how we report the problem (need to tell the taxpayer if things are properly done),
- The AGSA is independent, no interference, no bias – ideal to include environmental issues – where else?
- Need to elevate the message (through SAS – performance audit), but bring it closer to day-to-day regularity audits,
- If identified as a reportable matter, it should be included in the mandate,
- Government is responsible and should manage the environment, the AGSA should look at responsibilities of government and the impacts of environmental matters,
- The AGSA should have an in-house look (need auditors who can qualify impacts).

The overall responses, supported the necessity for the AGSA to consider, audit and report on significant environmental issues and risks, whilst the reasons as to why ranged from the mandate, environmental management roles and responsibilities of government, assessing and reporting on their environmental performance, as well as the actions towards improving the life of citizens.

Question 4: What are your views on the best placement (locus) of environmental issues and risks within the AGSA's audit methodology processes to enhance public sector environmental accountability?

Question 4 and 5 are particularly on the problem statement of the research, **Chapter 1.3**, the research questions, **Chapter 1.4** and the aim, **Chapter 1.5**, to attain subjective input on the best placement of environmental issues and risks within the available public sector audit methodology processes of the AGSA to enhance environmental accountability.

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Inputs on the best placement mostly varied between performance (14) and a comprehensive, integrated or blended approach (4). There was however also some feeling on the regularity (day-to-day) audit processes (5) (financial, compliance, audit of performance information, sector audits), with specific reference to compliance (2). Two respondents indicated placement within regularity (compliance) and performance per se. There is thus an overall feel for specific ownership, under performance, whilst following a comprehensive approach as a sensible option, considering the latest needs and developments.

Follow-up question: Could you briefly elaborate on how the AGSA could or should include these environmental issues and risks within both mandatory and voluntary audit mandates?

The follow-up question focussed on where and how the AGSA could include these environmental issues and risks. The responses mostly included within a **performance regularity or comprehensive approach**.

- **Performance:** The feeling is to house the issue in performance and then interface with the other audit methodologies, breaking them down and bringing them closer to regularity. Performance tells a story, has a theme driven, more open, flexible approach, wherein it can be experimented and where things can happen. Performance (within the AGSA) is the centre of experts or specialists, where ideas can be developed, proposed and implemented, either through a sector or value-add approach. Within SAS (performance), the scope can therefore be more easily expanded. Performance audit methodologies look at optimal utilisation of facilities and resources that will ultimately include any subsequent environmental impacts. Through performance the resources can be more easily expanded, utilised more effectively and to the benefit of all. At the AGSA, performance was selected for ownership, organisational view and for the central energy behind it – to manage and incorporate it into other methodologies. Within a specific theme driven audit, a performance process will be more suitable.
- **Regularity:** Some interviewees referred to the bigger input or footprint under regularity audits. The Public Audit Amendment Act includes focus on substantial harm which will be more suited to be included under regularity audits. Other pro regularity placement includes the need of a blended approach under regularity, with focus on AFS, compliance, as well as impacts on service delivery that will be continually followed-up. The annual option will save costs, and audit teams can facilitate and include environmental issues as a reportable item. Although some promote regularity, they support a separation from financial audits (an example includes as a separate focus such as compliance or performance

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information). Anti-regularity sentiments noted that within financial audits there are too many rules and complexities to include environmental issues.

- **Comprehensive:** Mention was made of the need of an environmental section and single methodology going forward. This should be incorporated and integrated within financial, compliance, performance, value-add and AOPI. It needs a blended or collaborative approach to integrate economic, social and environmental issues.

Question 5: What major challenges do you perceive on the adequacy of the AGSA's resources to consider, audit and report on significant environmental issues and risks within their public sector audits?

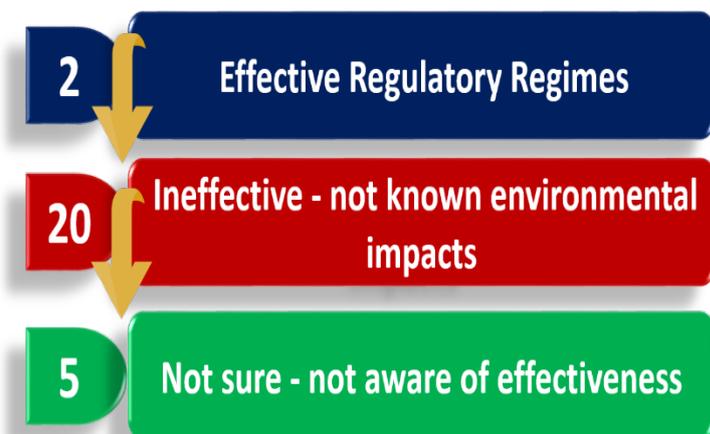
The major challenges perceived for the AGSA resources to audit and report on environmental issues and risks were given as resource needs that include funding (cost recovery) and available, aware, skilled and educated staff to perform environmentally related (or focussed) audits. Mention was also made of the fragmented resources, fatigue of staff with the correct mind-set and change management needs, as environmental issues are seen as a specialised area and are therefore difficult to sell as the "new" approach.

Other inputs included issues such as regularity audit already over-capacitated, conflicting priorities (other important focus re: financial, performance, new PAAA as examples), the environmental strategy not operationalised yet, the current audit mandate, the current audit base not mature to perform basics that pressurise the limited resources, repeated audit findings that need focus, the emotional focus within environmental audits, continual environmental impacts, the difficulty to get CAs and other financial audit experts on board, the understanding of laws and regulations and how this is linked to the environment, and finally an audit approach through the DEA was suggested. The challenges to work towards unqualified audit opinions (addressing the repeated unsavoury financial findings), where environmental focus may mean a regression in the current audit status, was also stressed.

Follow-up question: Could you tell me how the current resources can be utilised or expanded to contribute or improve public sector environmental accountability?

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The follow-up question focussed on how current resources can be utilised and expanded in the quest to contribute to or improve public sector environmental accountability. Inputs from



Responses on the effectiveness of SA Regulatory Regimes

interviewees varied from assessing required resources or specialists, partnerships with institutions, prioritising current resources, educating, training and making current audit staff aware of environmental audit needs (capacitating auditors on environmental auditing), knowing your laws and particularly the

NEMA (1998), and ensuring the ability or skill to market or sell the inclusion of environmental auditing. A strategic focus and strategy are needed where the AGSA should include environmental issues within normal audit and risk assessment processes – consider inclusion as another focus area (prove the value-adding thereof). The audit approach can also be amended or adapted to include environmental issues - first get the basics right then properly plan and prioritise (on resources and importance) for environmental matters, get buy-in from staff and government (auditees) making sure they're aware of the importance, find objective, neutral and consistent reporting, impose consequence management with repeated audit findings, and MOU's can be signed for environmental audit involvement. The interviewees agreed on the resource challenges faced by the AGSA, but suggested various ways and means to adapt or amend current ways and means to include, audit and report on environmental matters within the current public sector audit methodology processes. Although resources can be a limiting factor, a change in mind-set, approach and prioritising can change the challenges into opportunities to add value and enhance public sector environmental accountability. A mental shift and investment (funding) is needed to address the resource needs and contributing role of the AGSA in environmental auditing. Auditees will not volunteer for such (environmental audits) – due to funding and other concerns, where regularity may be a great option to address the environmental expectations within public sector auditing.

Question 6: How do you regard the effectiveness of environmental regulatory regimes in South Africa to manage, monitor, enforce and follow-up on significant environmental issues and risks?

This question examined interviewees' inputs, knowledge and understanding of the oversight, monitoring and enforcement role of environmental regulatory regimes in South Africa. The fact

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that these environmental regulatory regimes are also included within the yearly PFMA audit cycle of the AGSA emphasises the importance to assess and report on their mandatory roles and responsibilities relating thereto. Where ineffective or weak environmental regulatory regimes exist, there might be more emphasis or need from the SAI to include environmental issues and risks within their mandatory regularity audit processes. In countries where strong and effective regulatory regimes exist, the voluntary performance (specific focus or theme driven) approach might be more suitable, as the oversight, monitoring and enforcement is effectively performed by these mandated regimes. From the 27 interviewees, 20 referred to an environmental regulatory regime in South Africa not being effective, or where people don't even know it exists or what they're supposed to do. There was a general feeling of ineffectiveness with limited oversight, monitoring and enforcement (action on discrepancies and/or non-compliance) caused by fragmented legislation, breakdown in intergovernmental relations, resource skills and needs, no political will and lack of leadership visibility of regulatory regimes, referred to by 8 respondents. Although there was consensus on good legislation, it seems to be lost on the enforcement side. The AGSA, as auditor of all organs of state, that includes departments administering or managing the environment, will therefore have some obligations on auditing and reporting the non-performance. The positive responses included (2) that felt that the regulatory regimes do all they can or there is some implementation of oversight, whilst 5 are not sure about the effectiveness.

Follow-up question: Why do you think the environmental regulatory authority in South Africa is performing/not performing to its assigned oversight, monitoring and enforcement mandates?

Looking at why interviewees felt that the regulatory regimes in South Africa are perceived as effective or non-effective **revealed the following:**

- There is no pressure and a lack of accountability on regulatory regimes (resulting from the lack of awareness or expectations from them),
- Resources, (HR) capacity needs,
- Strength of enforcement to be improved – we should create discipline,
- There is no political will to protect environmental resources,
- The environment is not prioritised as a major focus area,
- There is a complete breakdown in intergovernmental relations,
- The DEA is not aware of development, environmental impacts and compliance,
- The work from the regulatory authorities is not elevated or taken seriously,
- There is only awareness of NEMA, and not all the other legislative requirements,
- The regulatory regimes need to prioritise – follow bigger environmental issues,

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- Major environmental impacts continue,
- Not sure if country has an environmental strategy – but implementation is not happening,
- There is an equal distribution of environmental resources needed,
- Legislative changes are needed, bylaws to be updated, monitored and enforced,
- No action or enforcement from EMI's,
- The AGSA can strengthen them through their public sector audits and reports,
- Regulatory authorities are not independent, not doing their job, and therefore cannot expose others.

Interviewees mostly referred to the ineffectiveness of South African environmental regulatory regimes and the reasons indicative of a lack of emphasis from a government and governance perspective.

Question 7: How do you feel about the AGSA's potential role in auditing and reporting on international environmental commitments and agreements that SA are signatory to?

The last question posed to the interviewees aimed to test their feeling on the potential role of the AGSA to audit, report and thereby contribute to international environmental commitments and agreements that the country is signatory to. This question was also pertinent to eventually establish or contribute to the best placement of environmental issues and risks within the public sector audit methodology processes. The majority, 22 of the interviewees, responded with an absolute yes or think so, whilst 2 had their doubts, 1 indicated no, 1 did not know and 1 indicated that it is for the AGSA to decide. The consensus was that it will be part of looking at accountability and good governance in the public sector. Government is always good in signing agreements, but implementation is lacking and reporting is not in place. Where an agreement is signed, there must be ownership, and it must be implemented and assessed. The AGSA must be able to address the validity, accuracy and completeness of results and progress reported. It was suggested that the SAI should take baby steps and not alienate government in its involvement and efforts. The SDGs (when signed – the country bought these into its goals and objectives) created the focus and space for the AGSA to audit environmental issues. The AGSA should engage with government and flag any issues on progress or the lack thereof, particularly towards department responsibilities and performance thereon. The SDGs are also included in the country's NDP – which needs to be assessed and reported on. Where respondents answered yes, the feeling is that the AGSA should audit and report on the international commitments and agreements within both the MFMA and PFMA audit cycles.

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The doubts expressed concern reservations of SAIs auditing these signatories and commitments, and it was suggested that the AGSA tread carefully where government has not set itself up for this – this can be dangerous territory for the AGSA.

Follow-up question: Please could you tell me if this should be included in both MFMA and PFMA yearly regularity audits and follow-ups, and why?

Most positive inputs were that the AGSA should consider these international environmental treaties and commitments in both their MFMA and PFMA audit cycles, with the reasons for this already expressed in the initial question.

Annexure J, includes further detail and a total summary of the main points and inputs during the 27 face-to-face interviews conducted. During the face-to-face interviews and probing the best or preferred placement, from the South African SAI's top executives, the current Auditor-General of South Africa (**Annexure I**), Kimi Makwetu, interviewed on 08 March 2019, stated that **“we probably need to be thinking along the lines of developing a directorate within the AGSA which can focus on the entire value-chain of environmental management”**. The current Deputy Auditor-General of South Africa, Tsakani Ratsela, interviewed on 28 March 2019, (**Annexure I**) saw the placement in three places, namely a **“compliance piece”** to see if the auditee “fulfils its responsibilities as given in law, within the **“performance information”**, with a focus on the 3 e's (economy, efficiency and effectiveness). She however indicated that with the first 2 parts (compliance and performance information), **“we could do and should do more”**.

6.2.8 Concluding remarks (on the face-to-face interviews conducted)

Part 1 of this chapter included the 27 face-to-face interviews, analysis and results that assisted in answering **Sub-Research Question 2**, that firstly aimed to establish where, and then the **Main Research Question 1**, further probing the placement of environmental issues and risks within the public sector regularity audit methodology processes of the local, South African SAI, thereby enhancing public sector environmental accountability.

Results from the 7 questions and follow-up questions to selective local internal and external stakeholders of the AGSA indicated some good understanding and awareness of the environment, sustainability and the many challenges thereto. Almost 60% of the interviewees indicated that the predominantly financial audit mandate of the AGSA can include significant environmental issues and risks. The other inputs proposed some adaption and changes, with

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the recent PAAA a useful tool to warrant inclusion. Following an integrated audit approach within the available audit methodologies and efforts to enhance auditors' environmental awareness, capacity and skills will assist in progressing environmental inclusion. Most (+82%) of interviewees believed that the AGSA should audit and report on environmental issues and risks, whilst the others felt that there is scope for it. The environmental challenges, SDG's, impacts on broader society and government's roles and responsibilities, necessitate AGSA involvement, bringing the risks and challenges to the attention of the decision-makers. Looking at the focal point of the research (placement of environmental issues and risks), around 52% of the interviewees saw the placement under performance, followed by regularity (+19%) or a comprehensive/blended approach (15%). Two interviewees believed in following both a performance and a regularity approach. The main arguments for placement referred to performance as a more flexible approach, where the specialists in the AGSA are housed to develop, propose and implement environmental auditing through a sector or value-add approach, with the scope more easily expanded. Regularity as an option is substantiated through the belief that there will be a bigger input or footprint, with the PAAA more suited under this approach. Regularity audit focusses on AFS compliance, as well as impacts on service delivery, that will be continually followed up. It can be easily facilitated within current audit structures as a reportable item with some cost-saving advantages. Anti-regularity inputs include the many rules and complexities when following the regularity auditing route. Some interviewees were adamant about an environmental section and single audit methodologies going forward (that will include all available public sector audit methodologies). The major challenges for the AGSA to consider and include environmental issues and risks within it's available public sector audit methodology processes varied. Resource needs including aware, competent and skilled staff on environmental auditing, as well as a mind-set change to adapt and include such inclusion were conveyed as major challenges. Mention was also made of an environmental strategy not operationalised, new and additional requirements of the PAAA, as well as current challenges with unsavoury financial opinions (efforts to obtain unqualified opinions). Most (75%) of the interviewees felt that the environmental regulatory regime in South Africa is not effective with limited environmental oversight, monitoring and enforcement, caused by issues such as fragmented legislation, lack of leadership or poor political will, breakdown in intergovernmental relations and resource needs. Although SA has good environmentally related legislation, it is lost in the enforcement side thereof. A minority (only 2 of the 27 interviewees) believed that the environmental regulatory regimes are doing all they can, but there is general uncertainty on the effectiveness thereof. A myriad of reasons was expressed on why the environmental regulatory regimes are not effective, with resource needs and capacity constraints being the main inputs. There was feeling that the AGSA can strengthen the regulatory regimes through their public sector audits and reporting. Almost 80%

of interviewees supported the AGSA's potential role in auditing and reporting on international environmental commitments, treaties and agreements that the country is signatory to. The respondents feel that this will be part of looking at accountability and good governance in the public sector. Some uncertainty or reservations thereto were also expressed, for the AGSA to be careful in such commitments, as government has not set itself up for this (audit focus area).

The role that the AGSA can and should play in auditing and reporting on environmental issues and risks, thereby enhancing environmental accountability in the public sector of SA, came through strongly in the interviews. The where and how to include them however evoked some difference in opinion or inputs.

Part 2: *Survey Questionnaires*: Local, South African perspective

Although the face-to-face interviews conducted in **Part 1** of this chapter were instrumental in gaining some personal and subjective inputs from selected internal and external role-players on the research theme, the regional operational teams of the AGSA were also seen as instrumental in contributing to the placement and development of environmental issues and risks within current public sector audit methodology processes and their role to enhance environmental accountability in the country.

6.3 Introduction to the local (South African SAI) survey questionnaire

Due to the national and provincial locations of the South African SAI's various audit business units, survey questionnaires were identified as the most suitable research method to get some subjective operational input on the preference of placement of environmental issues and risks within the South African SAI's (AGSA) available public sector audit types and methodology processes, and how they will contribute to enhancing public sector environmental accountability. Whereas **Part 1** used interviewing for inputs from the South African SAI's executive management, as well as from identified external stakeholders, **Part 2** detailed the survey questionnaires forwarded to the operational auditors in the provinces and various business units for their perspective on the need, options and best placement of environmental issues and risks within the available public sector audit types and processes. In his journal, Wright (2017) refers to the major increase in computer-mediated communication, and also differentiates between the main advantages and disadvantages for doing online surveys. The access to the operational auditors and teams, as well as automated data to be collected and analysed was an attractive research methodology to interrogate inputs from an operational public sector auditor perspective. Relatively similar to the research interviews, the researcher provided a checklist that was used as a guideline in conducting and reporting on this electronic

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(online) research method selected (Kelley, *et al* 2003:261-266). The most important steps identified and followed (not necessarily in this order) in this survey research **included**:

- Identifying the research questions,
- Designing the research tool (survey questionnaire) and content,
- Formulation and layout of the questions,
- Ensuring and reviewing ethical compliance,
- Selection (sample) of participants,
- The survey questionnaire forwarded (recording and summary thereof),
- Data collection, analysis and summary of inputs,
- Conclusion.

The survey questionnaire, as a research instrument, followed on the interviews and aimed to prompt further subjective input and information from operational auditors and teams of the South African SAI. The qualitative data obtained through the survey questionnaire developed and forwarded was particularly to determine and explore the subjective thoughts, beliefs and behaviour of the locally selected operational public sector audit participants. It was relevant to the research problem, aim, objectives, and main and subsequent questions developed. The questions were basically similar (minor adaptations for the online method) to the interview questions developed and used.

6.3.1 Participants for the local (South African SAI) survey questionnaire

The participants targeted and used for the local (South African SAI) survey questionnaire included business units and auditors of both national and regional business units. Business units responsible for the listed national departments in NEMA (1998), product champions responsible for the final public sector audit reports and audit management performing audits within the local government perspective were identified and selected for submission and completion of the survey questionnaire. **Annexure H** includes details on the local (South African) internal and external stakeholders for the surveys. The local participants selected for both the survey interviews and questionnaires are representative of crucial internal and external stakeholders of the South African SAI. It was important to include inputs from internal management and operational audit teams of the South African SAI, as well as external (local) stakeholders, to ascertain broader country specific needs and preferences.

As the research theme and main aim is pertinent to determining the best locus or placement of environmental issues and risks within the South African SAI's public sector regularity audit

methodology processes, to enhance public sector environmental accountability, it was important to thoroughly acquire and test input from the most important local stakeholders of the South African SAI.

6.3.2 The local (SA) survey questionnaire

Detail and background on the local (South African SAI) survey questionnaire are alluded to in **Chapter 2.6.3** of this research study. The researcher followed the same steps and guidance, referenced, **Chapter 4.3.2**, in the design and structure of the questionnaire forwarded to the identified internal (South African SAI) respondents.

(a) Aim and objectives of the questionnaire: The survey questionnaire was designed to determine the local (South African SAI) perspective on its public sector audit mandate, the current placement and extent of environmental issues and risks within their audit types and methodology processes, where these environmental issues and risks are perceived to be best placed, and the need for the South African SAI to audit and contribute towards improved public sector environmental accountability.

(b) Defining your target group: The target population in this research questionnaire (**Annexure H**) is additional to the local interviews (respondents), addressed in **Part 1** of this chapter. These operational auditors and audit teams for the online survey questionnaires were identified for further inputs and insights on afore-mentioned local aim and objectives. **Figure 25** gives a pictorial representation of the target population included in this survey questionnaire. The individuals for inputs were randomly selected to represent important auditees and teams within the MFMA and PFMA audit cycles (all levels of government), and important to their environmental mandates, roles and responsibilities.

(c) Developing the research questions: The questions developed in **Annexure K, Part 2** were constructed to include own (individual) and SAI (operational) perspective on where the South African Supreme Audit Institution should place environmental matters within their public sector audit methodology processes, and the effectiveness thereof towards enhancing public sector environmental accountability. They were developed as such to firstly establish knowledge on environmental sustainability and South African specific challenges to ascertain environmentally sustainable societies. As the South African SAI is mandated to audit organs of state, on all levels of government who have a responsibility to manage and safeguard the environment, it was necessary to ascertain that respondents understand the concept of environmental sustainability and the main challenges thereto. This can be linked to the South

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Africa SAI's efforts and means to improve the life of citizens through their public sector audits and reporting. The next focus was on SAIs' legislative mandates and use thereof to include or perform environmental audits. Referring back to the aim and objectives of the research, **Chapter 1.5**, this local research methodology (survey questionnaire selected) was to further substantiate the local (South African) internal and external interview results analysed and compared in determining local placement and development of environmental issues and risks within the South African SAI's audit methodology processes. Preference of placement for environmental issues and risks, as well as the extent of inclusion, was a further focus to eventually compare, determine and propose best global and local (South African) placement to enhance public sector environmental accountability. The questionnaire concluded with inputs on the importance of the South African SAI to audit and report on environmental issues and risks.

(d) Choosing the question type: Within the local explorative, easy to follow, open- and closed-ended questions were used, firstly to gain more understanding and input on the research topic, and secondly to ascertain that respondents interpret and answer the questions in the same way. **Questions 1** and **8** as well as all follow-up questions that required further input or ideas were open-ended, whilst **Questions 2** to **7** were closed-ended with responses to choose from.

(e) Designing the sequence and layout of the questions. The sequence followed was to ascertain that respondents understood the environment and its challenges, whereafter their current placement, preferences and audit methodology processes used to include and develop environmental issues and risks were further explored.

(f) Perform a test-run on the questions: To ensure that the questions were understandable and correctly interpreted, they were piloted with audit managers of the South African SAI. During the pilot, some questions and follow-up questions were further defined to achieve the desired inputs.

6.3.3 The need, aim and objectives of the local (internal) survey questionnaire

The (27) interviews with internal and external stakeholders of the South African SAI provided a strong basis for the local trends, beliefs and feeling on how and where to include environmental issues and risks within the South African public sector auditing. The researcher wanted to further corroborate and focus on the inputs from operational AGSA audit teams, responsible for auditing and reporting, within both the MFMA and PFMA audit cycles. The

survey questionnaire aimed to systematically collect data from a large internal population of the South African SAI's regional audit teams. The results would give some indication or might highlight differences in beliefs within the internal hierarchy of the organisation.

6.3.4 The online survey questionnaire data analysed

Background to the research questionnaire, **Annexure B**, and the questionnaire developed and attached as **Annexure K, Part 2**, were electronically forwarded to 113 internal stakeholders of the AGSA. The target group selected included operational teams (management and product champions) of the South African SAI, within both national and regional business units, and also covering MFMA and PFMA audit cycles. **Annexure H** has more detail on the specific local target selection and processes followed.



Smith, 2020

Figure 25: Internal survey questionnaires distributed within the AGSA

Google forms were used to develop, forward and receive responses. The questionnaire developed included 8 questions (see **Table 39**) that referred to the research aim and objectives. **Questions 2 to 7** (closed-ended) were focussed on the South African SAI's mandate, inclusion and placement of environmental issues and risks within the public sector audit methodology processes to enhance environmental accountability. **Questions 1 and 8** (open-ended) aimed to briefly test the understanding of environmental sustainability and the

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importance of the South African SAI to get involved in auditing and reporting on environmental issues and risks. The questions were developed and built around the research problem, where it is perceived that environmental issues and risks are not suitably located or placed within the South African SAI's public sector audit methodology processes, to enhance environmental accountability.

In total, 45 (around 40%) responses were received from the 113 online surveys that were electronically forwarded to the internal stakeholders (teams) of the AGSA. Although most (41) of the responses were included in the google analyses, four responses were received via mail and were included in the summary of responses. The data were analysed, compared and reviewed, first from an individual respective, and thereafter in a summarised, overall version. Results from all data received and analysed follow in **Chapter 6.3.5**.

Table 39: Questions to the South African SAI's operational staff on local trends and placement of environmental issues and risks within its audit methodology processes.

Smith, 2020

No	Question	Follow-up question
1	What is an environmentally sustainable society?	<i>What do you perceive to be the three most pressing environmental challenges to achieve sustainable cities and communities in South Africa?</i>
2	To your knowledge, does the AGSA's public sector audit mandate allow for the consideration, audit and reporting of environmental issues and risks?	<i>Where applicable, briefly explain your answer.</i>
3	Are you aware of environmental issues and risks currently included within the AGSA's public sector audit methodology and reporting processes?	<i>If applicable, what is your perception on the reason for the inclusion or exclusion?</i>
4	Where are environmental issues and risks currently placed or located within the AGSA's public sector audit methodology processes (types)?	<i>Please indicate where these are located and briefly why?</i>
5	To what extent are environmental issues and risks considered and included within the AGSA's current public sector audit methodology processes?	<i>Briefly explain (or elaborate on) the extent of involvement?</i>
6	In your opinion, are environmental issues and risks best suited within the AGSA's regularity	<i>Briefly explain why?</i>

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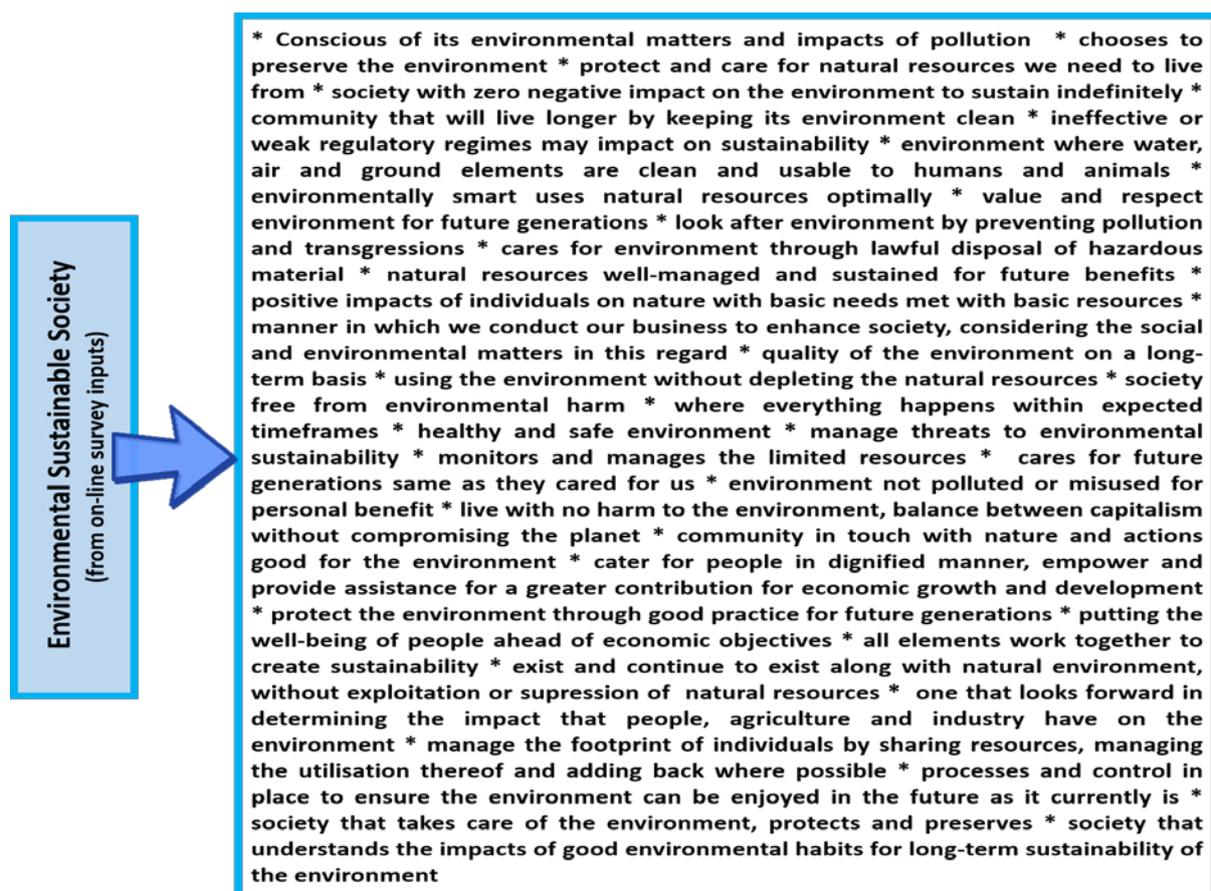
No	Question	Follow-up question
	or performance audit methodology processes?	
7	In your opinion, is the current environmental placement (locus) within the AGSA's audit methodology processes conducive to enhancing public sector environmental accountability?	<i>Briefly explain your answer.</i>
8	In one sentence, explain why you think the AGSA is essential in the quest to improve and enhance public sector environmental accountability in South Africa?	<i>No follow-up question</i>

Responses of the questions and follow-up questions were analysed and also briefly compared to the interview questions data analysed in **Part 1** of this chapter.

6.3.5 The online survey questionnaire results

Each of the questions (and follow-up questions) forwarded and responses received, was individually addressed, for the operational inputs on the research theme.

Question 1: What is an environmentally sustainable society? Responses varied, but it was clear that most respondents grasp and understand the term or what sustainability means. Looking at the individual responses on the question posed in the electronic survey questionnaire, **Annexure K, Part 2**, the inputs were summarised from the google online survey responses. From these responses, **Figure 26**, the following definition was developed by this researcher, to accumulate their understanding ***“it is an environmentally conscious society that values, respects, safeguards, protects and sustains the environment and its resources for the benefit and well-being of all current and future generations to come”*** (Smith, 2020).

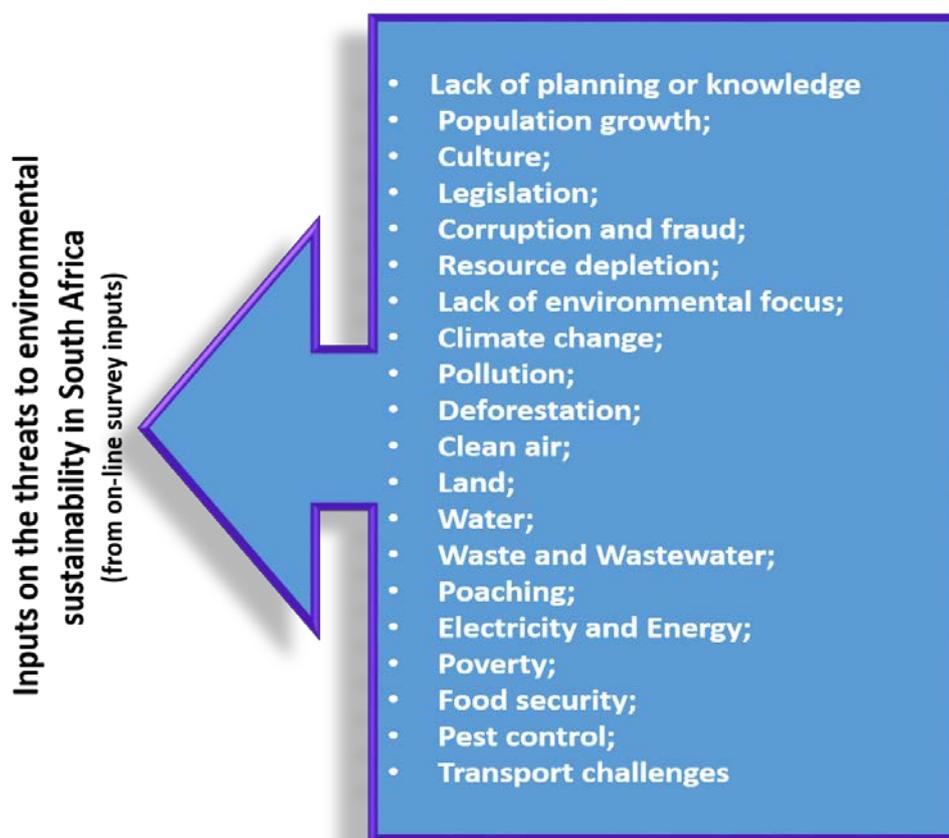


Smith, 2020

Figure 26: Inputs on what an environmentally sustainable society entails

After determining the awareness of environmentally sustainable societies, the follow-up question aimed to test respondents' feeling and belief on the most significant environmental challenges to achieve sustainable cities and communities in South Africa. This information might form the basis or direction of where the South African SAI might focus, be involved, and ultimately where to include environmental issues and risks within their available mandatory and/or voluntary public sector audit methodology processes. Some risks and impacts will require continual assessment and monitoring, ideal for inclusion in the year-to-year regularity audits and follow-ups.

Responses and inputs on the *follow-up question* that required the main environmental challenges or threats to achieve sustainable cities and communities in SA, are summarised and listed, **Figure 27**. The current and most significant challenges of climate change and countries' commitments to the UN SDG's can also be added, as this was mentioned in most responses or feedback on the various questions received. Inputs from the respondents include most of the focus areas included in the SDG's, where the SAI can assist government's efforts towards these goals.

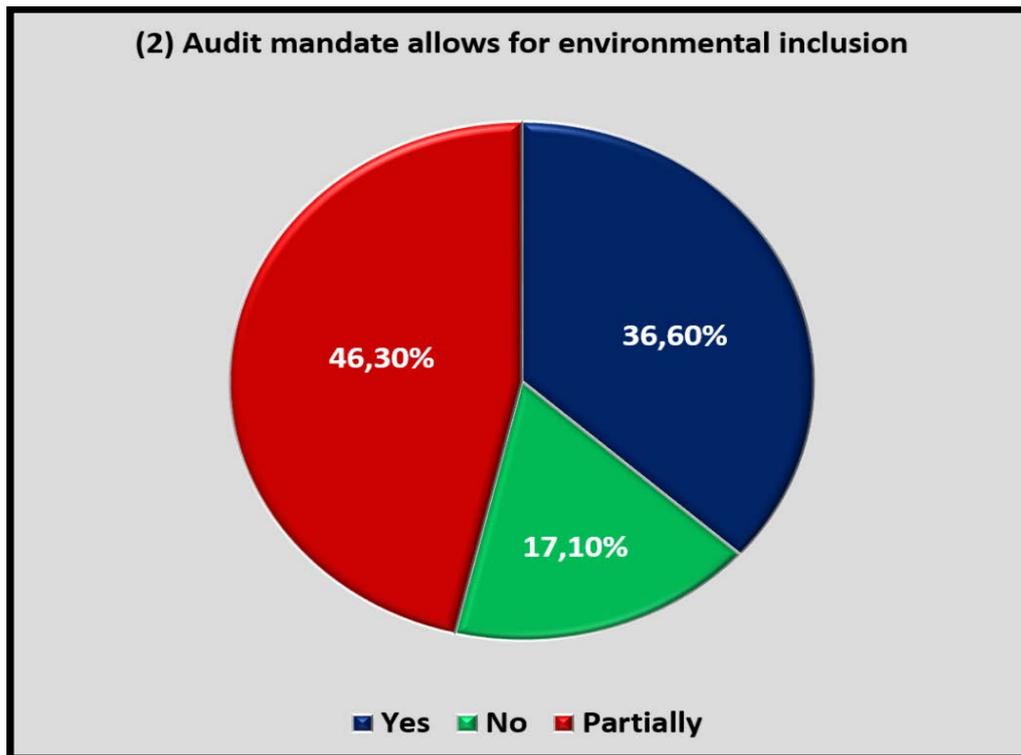


Smith, 2020

Figure 27: Inputs on main threats to sustainable cities and communities in SA

These inputs prove some understanding and awareness of environmental sustainability challenges by responders and include or are relevant to the country (SA) specific challenges experienced and noted during public sector environmental audit involvements to date. The environmental challenges and threats also agree to a great extent with the global inputs, although it may differ per region or be country specific. Moving on from testing participants' knowledge and understanding of the environment, its stresses and collective goals, the research shifted to evoke some subjective inputs on the SAI, on where and how to embrace these environmental issues and risks, for improved environmental accountability.

Question 2: This question examined respondents' knowledge and feel on the AGSA's mandate and particularly whether it allows for the consideration, audit and reporting of environmental issues and risks. From the 45 responses, 82,9% indicated that the mandate allows, or at least partially allows, for environmental inclusion in its available public sector audit methodology processes. Only 17,1% responded negatively, given that the mandate of the Auditor-General is predominantly financially driven and given the current challenges to improve on the financials (towards unqualified audit opinions), see **Figure 28**.



Smith, 2020

Figure 28: Audit mandate allows for environmental inclusion

The *follow-up question* aimed to further elaborate on the responses (**why?**). The positive responses particularly referred to the various possibilities and means and the AGSA's mandate to include or consider environmental matters. Although there were verbatim responses, were some unique inputs received from some respondents. There were verbatim responses, but also some unique inputs to the seven questions and follow-up questions detailed in **Table 39**. **The responses varied from:**

- The mandates allow for performance audits on environmental issues,
- the mandates can include any relevant (including environmental) matter,
- people in the organisation decide on what is important for the audit, the PAA allows reporting on financial management processes, which includes sustainable use of the environment,
- loss or damage to natural resources can now be considered as non-compliance and can become a material irregularity according to the PAAA,
- the environmental inclusion can assist in building public confidence,
- because the government is responsible for the environment, it is included in the AGSA mandate,
- the constitutional mandate is to build public confidence,

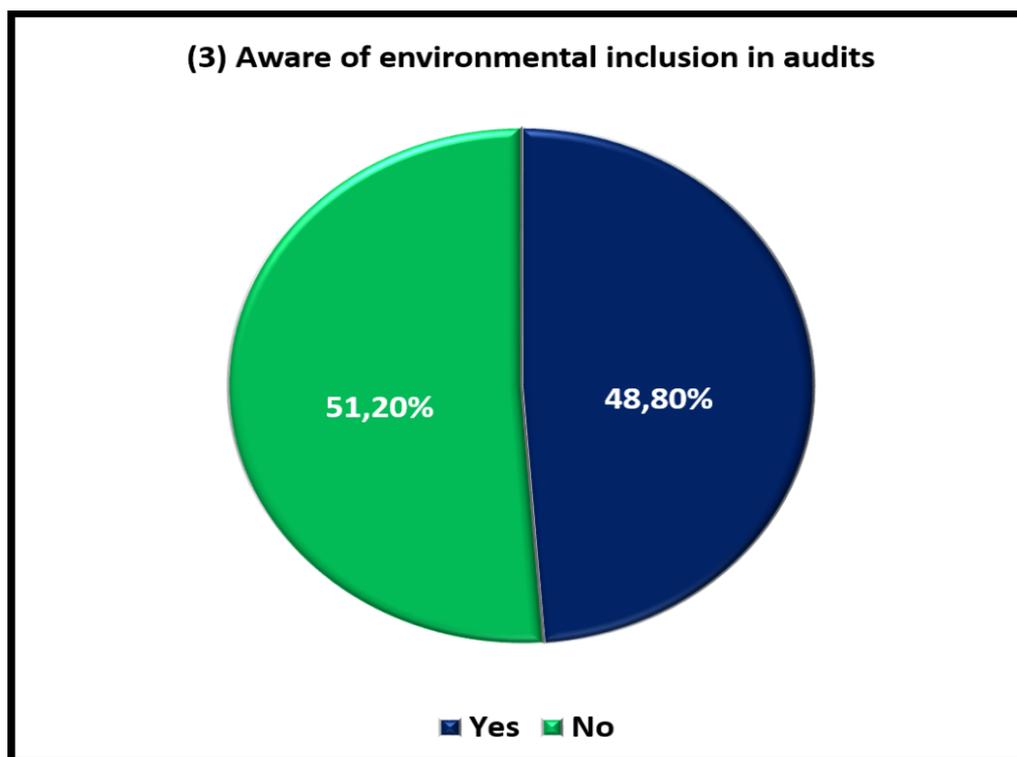
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- there are growing issues and needs to expand on the mandate,
- the mandate has been revised to include such instances, so the AGSA can refer matters for further investigation,
- accountability on public funds wastage included (can include environmental),
- we incorporated environmental issues into the mandate,
- the audit methodology is geared towards value-add and sector audits,
- environmental matters fall within the scope of auditing standards,
- procedures and reporting are linked to specific conditional grants, allocated to and on environmentally related issues,
- some environmental issues impact the financials,
- reporting on performance information is inclusive,
- the focus enhances accountability and service delivery,
- the focus is on financial impact.

The negative or no responses referred to:

- the audit methodology does not allow for adequate auditing and reporting on environmental issues,
- environmental issues should be an audit focus on its own, due to the complexity thereof,
- messages not taken seriously, even when including pictures on environmental harm,
- we don't scope in environmental compliance,
- environmental issues should only be included in MR, and not AR findings,
- we don't audit against environmental standards,
- we don't look at actual environmental and service delivery issues facing our country,
- ignorance towards environmental implications of mal-administration and ignorance towards environmental crimes,
- environmental issues are only included at certain auditees.

Question 3: Where Question 2 looked at whether the South African SAI's audit mandate allows for environmental inclusion, this question sought input on the awareness of environmental inclusion within its public sector audits, **Figure 29**. *The follow-up question* aimed to establish the reason/s for inclusion or exclusion. The rationale behind these questions was to determine whether the operational auditors are aware of environmental issues and risks performed or options available to consider and include these environmental matters.



Smith, 2020

Figure 29: Awareness of environmental inclusion in audits

The responses indicated a near halfway (50%) split between those aware or not. The reason for these responses however, to a great extent, addressed in the follow-up question and responses, that further perception on inclusion or exclusion was necessary. The inclusion mostly focussed on the benefits, whilst the exclusion inputs mostly referred to the resource constraints and lack of expertise within the SAI.

The reason for inclusion (or awareness thereof) referred to:

- public interest in environmental issues and impact to the society,
- involvement of environmental experts, North West Province specific,
- regression of quality of life, due to environmental impacts,
- environmental matters impacting on the AFS,
- environmental issues are a real concern to citizens,
- this audit adds value to clients and sustainability of resources that generate revenue,
- the environmental effect on public, public funds and SA citizens,
- to be relevant, respond to risks and SDGs,
- included as part of value-add performance procedures,
- environmental involvement, to be in line with requirements of ISA,

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- environmental relevance and moving towards a better SA,
- environmental matters and poor governance have become more important and the AGSA is well positioned to address this,
- to ensure emerging environmental risks are taken into account by the methodology,
- it is relevant to public sector audit and reporting and will increase accountability,
- to signal use of government funds (regarding environmental matter).

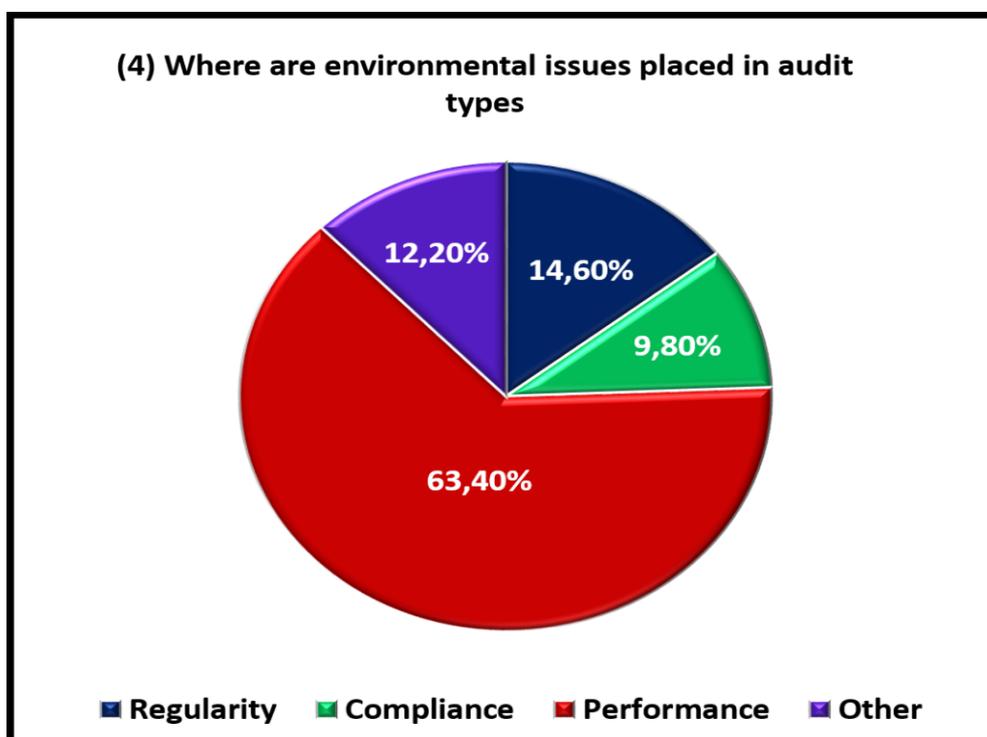
The reason for exclusion referred to:

- focus is on financial statements and performance information,
- does not form part of current public sector audit methodology processes,
- societies on survival mode, and environmental issues not considered main area of concern,
- we focus on service delivery and not necessarily on most environmentally friendly solutions or impact of service delivery on the environment,
- due to the fact that we do not have environmental experts in the field,
- not focussing on environmental issues enough,
- performance audit is responsible for environmental audits,
- environmental issues not considered important enough according to AGSA management,
- the AGSA doesn't audit against environmental standards,
- environmental issues are focussed at municipal level and limited to a few procedures,
- implementation of audit processes and information not shared with all auditors,
- we look at reported performance for reliability and consistency and not actual environmental issues that are facing our country and service delivery,
- not aware of environmental issues included in the audit methodology,
- we focus more on value-add if something is identified,
- not key laws and regulations pertaining to environmental risks and impacts,
- AGSA is risk averse and not cooperative to initiate environmental audit programmes.

These responses are indicative of the current developmental trend, where not all are informed or aware of the inclusion of environmental issues and risks within public sector audits.

Question 4: This question was particularly focussed on the main aim and question of the research study, probing input on the current and best suited placement of environmental issues and risks within the (local) South African SAI's available public sector audit methodology processes. Although responses, **Figure 30**, favoured performance (63,4%), the

24.4% (regularity and compliance) as well as the nearly 10% other is an interesting observation. The majority of the auditors within the South African SAI are aware of or are internally informed of the specialist resources situated within the Performance Audit Business Unit.



Smith, 2020

Figure 30: Where are environmental issues and risks placed within the SA SAI

Some have already experienced or are aware of environmental considerations or standards with environmental impacts or the compliance focus within regularity audit processes. Auditors not involved in audits or units dealing with environmental issues, might be influenced in their response.

The *follow-up question* aimed to test the why, to elaborate on the particular selection. Responses on the way to the selected location and placement varied **between:**

- It is part of compliance, linked with regularity audit,
- Environmental audit focusses more on compliance,
- Compliance with landfill site permits,
- Liability for rehabilitation of solid waste costs,
- Compliance with environmental laws and regulations,
- That it is only with specialists and selected audits, centralised at head office,

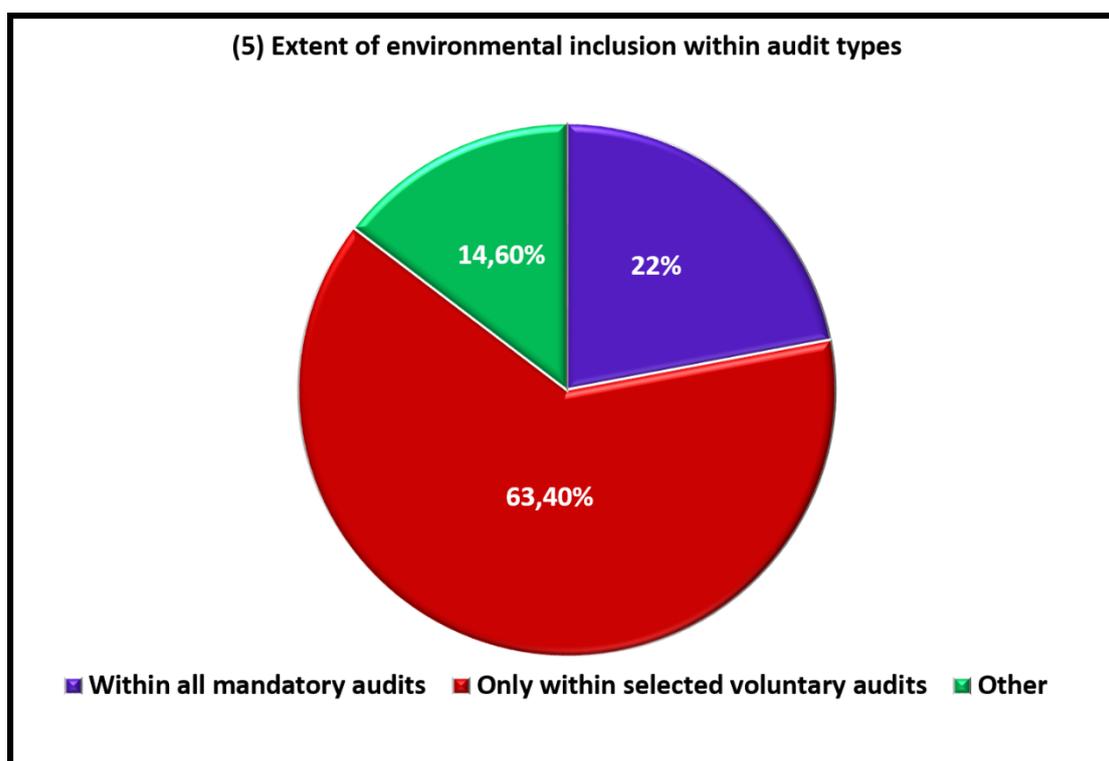
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- Only if a particular environmental audit is requested through performance audit, as this is not included in our normal audit methodology processes,
- Performance audit can confirm whether resources are utilised in a manner to promote economic, efficient and effective workings of matters of environmental concern,
- The PAA makes reference to performance audits in this regard,
- Performance is based on objectives of audits conducted (to include environmental issues),
- Scoped within performance audits,
- With the performance audit section under the AGSA's reporting line, all outcomes are reported to him, and presented to Parliament (should include environmental issues),
- Performance audit mandate is more broad and would allow them sufficient time to deal with all issues (including environmental issues) adequately,
- This (environmental issues) does fall within the ambit of a performance audit as the aim is to proactively add value to society,
- Funds are budgeted for the delivery of services to communities, and reporting on their use is under performance,
- Regularity is important for risk assessment (should include environmental issues) and guiding performance audit, we include this as part of our sector procedures,
- The real impact of environmental risks is not considered and addressed properly via any form of specialised audit,
- Some value-add matters are not always taken seriously by auditees of the AGSA,
- Place and location seem to be limiting, AGSA methodology cannot be a limiting factor where standards are open,
- Separate working paper and section, completed on file and reported in the MR,
- This relates to the performance of government in relation to the predetermined objectives in relation to management of the environment,
- Clients have capacitated themselves and even recruiting AGSA staff for regularity and compliance, they are aware of the impacts and what auditors look out for. As for performance information, there is still a lot, funds are received as per the budget allocation for the specific target, which they don't understand, and are not being met, and yet the budget is exhausted,
- Regularity, compliance and performance (to include environmental issues),
- The area of environmental issues is not adequately addressed by the methodology,
- Regularity auditors should audit and focus on environmental issues too,
- We look at the reported performance for reliability and consistency, but not at the actual environmental issues that are facing our country for service delivery,
- This is the only section (regularity) that deals with sector audits,

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- Environmental aspects can be considered as part of predetermined objectives if and when those determining objectives were scoped in by the audit engagement team,
- Not sure why.

Question 5: After inputs on the best placement or audit type (methodology) to use for inclusion of environmental issues and risks, this question required input on the current (or known) extent thereof within the available and selected public sector audit methodology processes of the South African SAI, **Figure 31**. Most respondents (63.4%) believed or were under the impression that it is only included within the selected voluntary audits, whilst interestingly enough, 22% believed that it is included within all mandatory audits. The other (14.6%) seemed more selective (or preferred) a comprehensive and co-operative approach, addressed in the *follow-up question* that required further explanation or elaboration on the preferred extent of involvement.



Smith, 2020

Figure 31: The extent of environmental inclusion within the AGSA's audit types

Again, where respondents have not been involved or part of audits where environmental issues and risks are not included or reported on, it might be assumed as being part of the voluntary audits or only within selected specialised audits. The financial and compliance impacts are not always considered or comprehended.

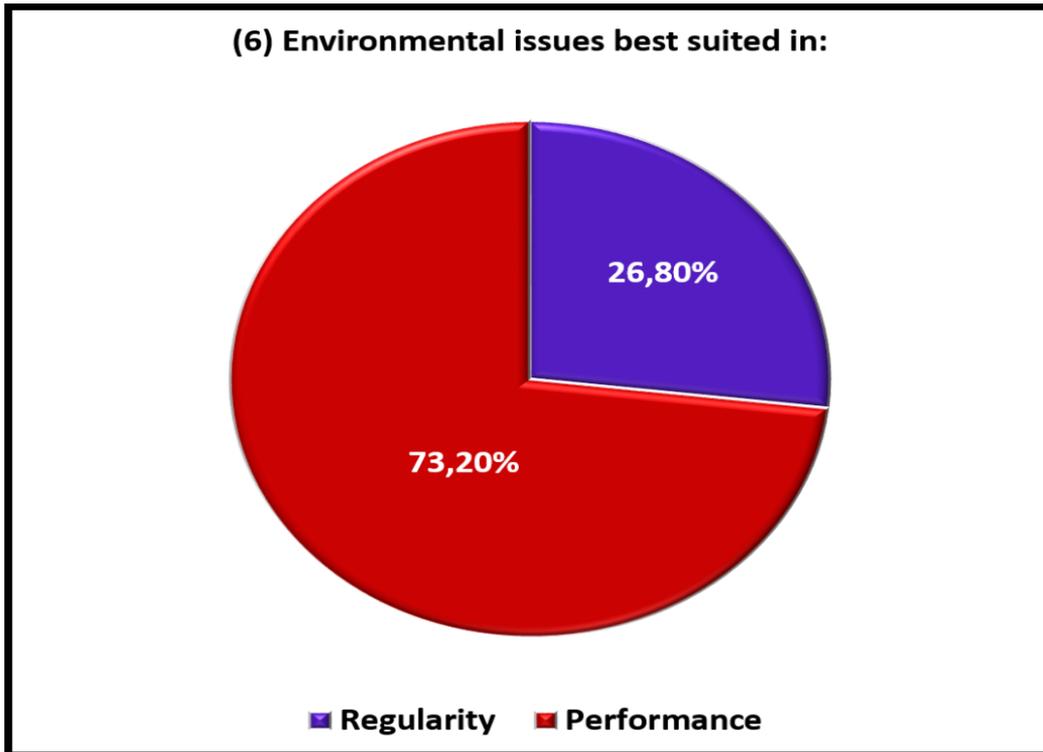
Looking at why the respondents selected the voluntary, mandatory or other options, included:

- Not all auditees have environmentally related matters, with only some audits covering this,
- Only those with a mandate that includes environmental management,
- Only if the need is deemed appropriate, it may be included as part of the audit work performed within a mandatory audit, otherwise it will be part of an audit that is at the discretion (voluntary) of the Auditor-General,
- Not aware of any mandatory requirement to consider environmental issues with the current methodology focussed on obtaining a deeper understanding of auditees and focussing on things that matter (value-add),
- Environmental issues are critical to the country's sustainability and therefore critical for the AGSA to look into them, though it is not mandatory,
- Not all the audits or provinces are covered,
- Limited to only some municipalities,
- Only performed at the metro's,
- Landfill site audit consideration, to be able to quantify the provision in the AFS,
- Teams that audit municipalities are not aware of the environmental audit that could assist at the municipalities,
- Assessment of provisions for rehabilitation is not mandatory at all audits, but only those where the risk of material misstatement of those provisions are likely to occur,
- Environmental issues are only within selected voluntary audits,
- When specifically requested, otherwise no mandate to perform,
- Performance audits are conducted, if requested and on a needs basis,
- Within all audits where this is applicable, however not to an extent that would make a big impact,
- All audits have to report on the performance of the auditees (including environmental issues),
- The environmental matters will only be assessed in instances where the audit team included the predetermined objectives or sector based scoping,
- Developed projects are done in stages and it starts with the selected and is rolled out to everyone (same for environmental issues),
- Impact of PAAA must be considered, and make it mandatory now,
- Service delivery (includes environmental issues),
- Only where there is a specific sector affected,

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- Only as per planned scoping requirements and/or at the discretion of the engagement manager,
- This should be based on a scoping and a risk assessment considering those audits where there is a material impact on the environment, like we do AOPO scoping or this can be done at firm level for specific sectors,
- Follow an integrated approach to auditing, to include in regularity audits, performance audits and information systems audits,
- With the context of a risk-based auditing and auditing as it is currently structured, and seeks to achieve,
- Other is the best option (not mandatory or voluntary),
- No involvement of environmental matters in the audits,
- The audit cost involved, as well as a lack of personnel,
- Spare working-paper and section completed on file, and reported in the MR,
- Included on all audits as compliance is at least being done on all audits,
- All public funds need to be accounted for (should include environmental matters),
- The area (environmental issues) is currently not adequately addressed by the methodology,
- Not sure what the environmental involvement is.

Question 6: Although Question 4 already alluded to and explored inputs on where environmental issues and risks are placed, this question aimed to examine personal opinion on preference between the two main options of regularity and performance auditing, **Figure 32**, and was *followed up* with the why or reasons for the particular preference. These inputs were tested against the research theme and focus of the study of enhancing environmental accountability through public sector regularity auditing in South Africa. Regularity audits include both a financial and compliance focus. Nearly $\frac{3}{4}$ of the respondents however selected performance auditing over regularity auditing, with no further reasons or expansions on the **follow-up question** (why), as it was already, or mostly, addressed in the responses to **Questions 2 to 5**.

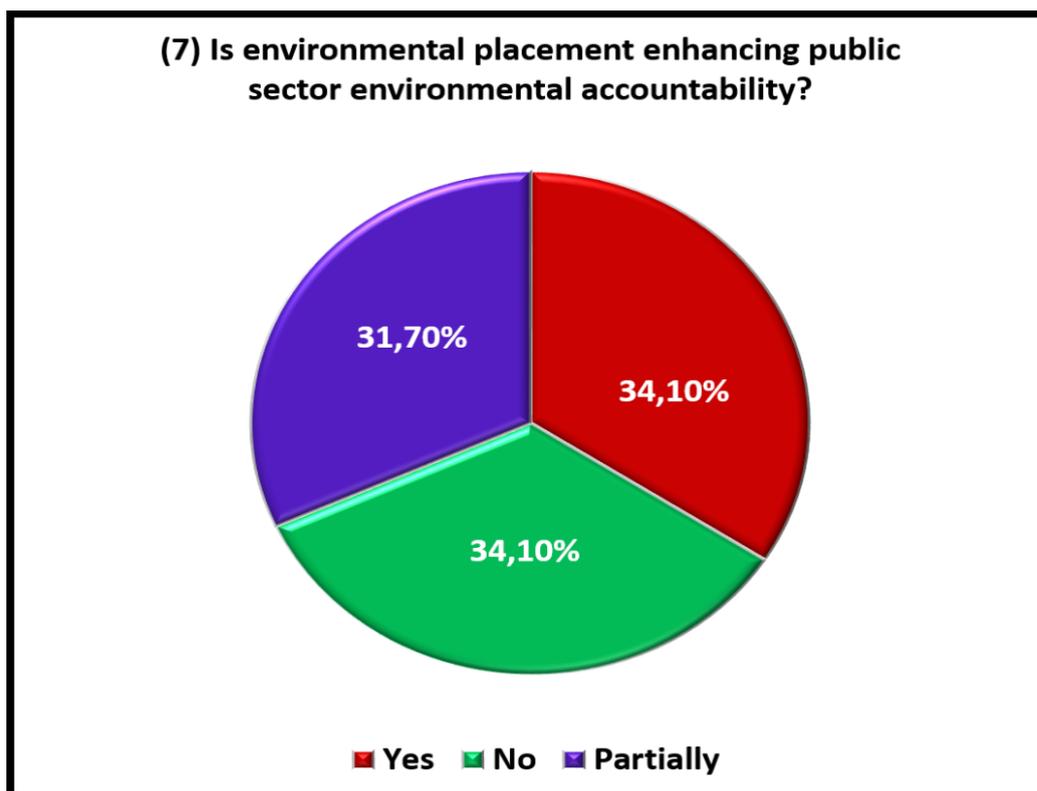


Smith, 2020

Figure 32: Best suited placement for environmental issues and risks

Respondents being part of the regularity audit of the South African SAI, the research results (collate with the global perspective) and preferred the performance route, which might be further debateable, considering SA's background and effectiveness of its environmental regulatory regimes. Again, the environmental awareness and knowledge within financial auditor resources are limited, hence the feel or selection to rather be placed under or within the performance (specialised) business unit. The contribution of including and reporting environmental issues and risks, will provide further perspective on these selections.

Question 7: Question 7 aimed to expand on the responses of **Questions 4 to 6** on the placement, extent and perceived best placement of environmental matters within the South African SAI's public sector audit methodology processes, extracting responders' opinion as to whether this current placement is actually enhancing public sector environmental accountability. This information was also important to the main aim of the research theme. As depicted in **Figure 33**, there was nearly a three-way split in the selected responses, with equal opinion on the yes, no, and partially options. This indicated the uncertainty and mixed feeling on the real value-add thereof. There was strong emphasis on the important role and value-adding through the mandatory regularity processes and/or voluntary performance involvement.



Smith, 2020

Figure 33: Current environmental placement enhancing public sector environmental accountability

The *follow-up question* and responses on the why, however, gave some explanation and includes the following responses **below**:

- The financial regularity audit and management processes,
- Regularity includes all audits, while performance audits would be at discretion only,
- Integration with regularity audit should remain and be enhanced,
- It should fall under regularity rather than under performance, the reason being the financial and compliance impact it has on society,
- Ideal should be specialised environmental unit on its own,
- Most information is gained through regularity auditing at the AGSA,
- Regularity can do basic procedures in the area of environmental issues,
- Regularity auditors will audit the financial loss, which is the big question or impact on environmental issues currently,
- Regularity can reach a wide variety of institutions, but needs a level of knowledge on performance audit,
- Regularity audit may be best placed to report on this type of service delivery at municipalities, though the transfer of skills is required,

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- Regularity forms part of service delivery, in some cases it can be scoped in as (environmental) compliance testing,
- Due to the mandate of the PAA, performance audit is best suited,
- Liability for rehabilitation of solid waste is a regularity function,
- Regularity audit is not equipped nor has the necessary expertise to deal with issues of the environment, and would need training. The regularity audit is already over-burdened,
- Mandate of performance audit makes it easier to investigate environmental matters,
- Performance audit will be able to ensure economy, efficiency and effectiveness of the resources put in place to address the environmental matters,
- As performance audit (the three E's and costs), it fits nicely into the effectiveness criteria,
- This relates to the performance of government with regard to the predefined objectives in relation to the management of the environment,
- The budget allocation is for service delivery, which is achieved through performance, it is not for an unqualified audit opinion, but if the unqualified audit opinion is issued one can expect more being achieved for service delivery, as with other audit opinions,
- Performance auditors have the same expertise that a regularity auditor has,
- The performance auditors specialise and have the knowledge to audit these issues, as regularity auditors focus on audit related risks per ISA's and not on business risks,
- The AGSA is championing integration of various business units i.e. regularity and specialised audit services. Performance audit is more specialised and will be more suited to address issues and risks concerning the environment, however regularity can also add value, closer to the auditees, and be valuable in the risk assessment process,
- Performance audit is better equipped to identify environmental issues,
- Experts are situated within the performance audit business unit,
- If included within the scope of regularity auditors, it will result in an increased use of auditor experts,
- Should be in both, as regularity and performance must work together on this to adequately address all the environmental concerns,
- Select performance, but rather we could create a whole new environmental genre or department (new Chapter 9 institution),
- Can be equally important, because the assessment of environmental issues is both important for financial statements and financial management,
- Performance focusses on economic, efficient and effective utilisation, regularity is limited to laws and regulations scoped into the audit,
- Most probably needed at auditees where environmental provisions exist, but not in performance information,

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- Probably have the expertise/know how with performance to provide technical opinion;
- It is specialised and requires level of expertise in environmental issues and staff with the qualifications/experience, other than auditing and accounting,
- The essence of importance will require a drastic approach throughout the organisation. South African environmental legislation is well established, but poorly enforced, with severe impacts, but we fail to report negatively due to this. Non-compliance matters should be elevated and responsible government establishments need to instate effective plans and mechanisms to ensure that proper preventative measures are implemented instead of corrective actions on post destructive behaviour.

Internal (operational) stakeholders of the AGSA seem aware of the developments and trends within the accounting and auditing communities to consider and include significant environmental matters in their audit planning, execution and reporting processes. Although their inputs are indicative of preferring a distinct performance and/or compliance approach, some responses also proposed a distinct shift in focus that includes environmental impacts on the AFS. The survey interviews and questionnaires both made some reference to the environmental liabilities, as well as some focus required on the environmental assets. The environmental assets specifically refer to natural assets that provide ecosystem services such as climate or flood control, as well as other non-economic functions like health or aesthetic values. The emphasis to manage and provide for sustainable environmental resources and related services is increasing within governments and organs of state, to be accountable to all their stakeholders (and the general public) on the stewardship of the environment. Although the already stressed and predominantly financial audit resources of the organisation may require some refinement of the current audit mandate and methodology processes to be used, in addition to a reluctance to accept more responsibilities, there is some consensus on the importance and need of the AGSA to audit and report on environmental issues and risks.

Question 8: The questions were concluded to gain input on the importance for the South African SAI to audit and report on environmental issues and risks. The positive and negative responses thereto are included in **Figure 34:**

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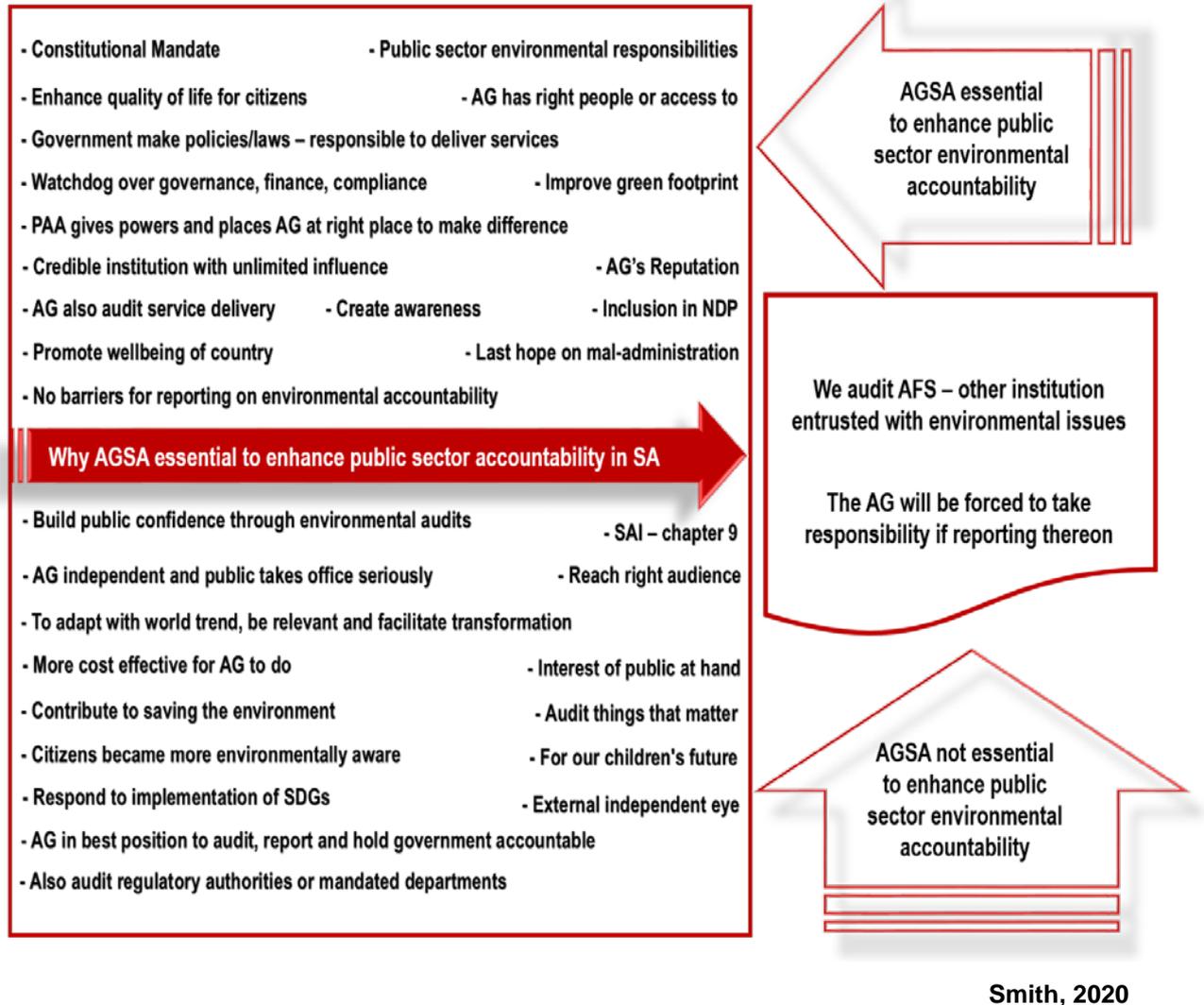


Figure 34: Importance to audit and report on environmental issues and risks

The results from this brief online survey questionnaire and responses analysed clearly indicated that responders saw the importance to include environmental issues and risks within the preferred voluntary but also the mandatory regularity (financial and compliance) audit methodology processes, and the role of the South African SAI, to enhance public sector environmental accountability.

6.3.6 Concluding remarks on the online survey questionnaires to internal stakeholders of the AGSA

The 45 responses from the internal (operational teams) within the AGSA also contributed to the main aim and objective of the research study in testing and finding the best placement or locus for environmental issues and risks within the current public sector audit methodology processes of the AGSA.

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Most respondents understood what is meant and required with establishing environmental sustainable societies and communities in SA. There were various threats to environmental sustainability in SA highlighted, that included both administrative and operational challenges to all role-players, the governments, the AGSA and the general public. Most respondents believed that the current AGSA audit mandate allows or partially allows for environmental auditing and reporting. The other responders referred to the predominantly financially driven audit mandate and current challenges to work towards unqualified audit opinions, as obstacles. Responses on why the mandate allows or not attracted environmental inclusion, varied between the perception that it is regarded as a value-adding audit to be performed by performance auditing or some internal challenges that prevent inclusion. Looking at whether operational teams are aware of environmental inclusion within current AGSA public sector audit methodology processes resulted in a split between awareness and non-awareness. The reasons for the inclusion or exclusion mainly refer to the various options under these two voluntary and mandatory options, as well as the value-adding thereof. Almost 66% of the audit teams and product champions that responded believed that environmental issues and risks are and should be placed under the auspices of performance audit, with a lesser 25 % proposing regularity and compliance. The reasons for the preferred placement again highlighted the various challenges under the regularity option, with the specialised requirements more suited under the performance option. To what extent environmental issues are included supported the inputs in the prior question, also indicating close to 66% believing that it is only included within selected voluntary audits, whilst almost 25% saw the extent thereof within the mandatory (regularity) audit processes. The other inputs were particular on a comprehensive and co-operative approach. Both selections referred to the mandatory requirements of the AGSA and/or the current selected environmental focus. Personal preference for environmental placement in either a mandatory, regulatory or voluntary performance audit process was overwhelmingly (75%) in favour of the performance option. The choice might be motivated through a regularity process already over-burdened and lacking the specialised skills to include environmental issues and risks. It is seen as a specialised function with responders not always aware of the risks and impacts on financial and non-compliance, nor the weaknesses within the SA environmental regulatory regimes. Responses to the question of environmental inclusion within the AGSA's public sector audit methodology processes will enhance public sector environmental accountability were split between yes, no and partially. Responses varied, to substantiate the afore-mentioned, with most of the reasons already addressed in the prior questions. The importance of the AGSA to be involved, and to audit and report on environmental issues, were supported by most respondents. The onus originated from its mandate, other audit and legislative requirements, as well as the roles and responsibilities to manage or administer the environments by its

auditees (government and organs of state – all levels). Inputs such as the AGSA audit AFS, with other institutions entrusted with environmental issues and the AGSA will be forced to take responsibility if reporting thereon, were the main reasons seen as to why the AGSA is not essential in the auditing and reporting on environmental matters.

6.4 Overall remarks on the local (South African) research methodologies

Chapter 6 (**Parts 1 and 2**) addressed the questions on local placement, trend and developments, by asking where environmental issues and risks are currently placed and included within local public sector audit methodology processes of the AGSA, and if the placement, particular within the mandatory regularity auditing, is contributing or enhancing public sector environmental accountability. It also contributes to the aim of the research, by advancing the understanding of the placement and developments of environmental auditing within the South African SAI's audit types and means, through the face-to-face survey interviews and online survey questionnaires to selected internal and external stakeholders of the organisation (AGSA). A total of 27 interviews and 45 survey questionnaire responses contributed to the findings of the research methodologies used. The ethical considerations (alluded to in **Chapter 1.8**) included written approval from the researcher's line management and DAG, to interact with both internal and external stakeholders. The limitations, **Chapter 1.7.2**, did not significantly impact on the findings and results, whilst the key assumption, **Chapter 1.7.3**, that mandatory, day-to-day regularity auditing is best placed for environmental inclusion impact of the effectiveness of environmental regulatory regimes on this placement, was to a certain extent supported through the interviews and survey questionnaire inputs.

Both internal and external stakeholders of the AGSA understood environmental sustainability and identified similar stresses and challenges in achieving sustainable cities and communities in SA. Although performance audit was identified as the most used and preferred placement to audit and include environmental issues and risks, results from the local research methodologies also emphasised the role of regularity auditing and/or a comprehensive or integrated approach. The mandate of the AGSA is conducive to environmental inclusion, but there are differing opinions and inputs on what methodology is best suited or will be easier to use or implement. Both local research methodologies indicated some uncertainty of where and to what extent environmental matters are or should be included through the AGSA's available audit types and reporting. Why the AGSA is essential and how environmental inclusion will contribute towards, or enhance, public sector environmental accountability, to a great extent supports their role in assessing, reporting and recommending ways and means for improved environmental governance.

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Chapter 7, to follow, will synthesise and conclude on the analysis and results of the study within both global- and local (South African SAI) perspective.

CHAPTER 7: SYNTHESIS AND CONCLUSION

The purpose of this chapter is to relate back to the problem statement, research aim and objectives, as well as the subsequent research questions developed. The chapter aims to conclude and find a way forward with regard to the research topic. It starts with an introduction (7.1), followed by a return to and elaboration on the problem statement (7.2), initially setting the scene for revisiting the aim, objectives and subsequent questions developed (7.3), with individual articulation of the research aim and objectives (7.3.1), and answering the research questions developed (7.3.2), particularly within a global context (7.3.2.1), narrowed down to a local (South African) context (7.3.2.2). This is followed by the contribution to audit knowledge and practice, that includes both theoretical and methodological contributions (7.4), inputs and recommendations on the way forward (7.5), and suggestions for further research (7.6). The chapter is completed with an overall conclusion (7.7).

7.1 Introduction

The chapter is dedicated to indicating how the research aim, through the objectives, **Chapter 1.5**, was addressed, and answering the main and sub-research questions, **Chapter 1.4**, that were developed from the initial problem statement, **Chapter 1.3**, that triggered the research. It specifically interrogates current practice within SAIs, to consider and place environmental issues and risks within their available public sector audit methodology processes, ultimately contributing to or enhancing environmental accountability. The research was initiated from a global INTOSAI perspective, whereafter it was narrowed down to a local, South African SAI position. The study was successful in advancing greater awareness and understanding of SAIs environmental placement within both mandatory (regularity) and voluntary (performance) public sector audit methodology processes, and the role of these audit types in enhancing environmental accountability in the public sector. It further emphasised the contribution of the research topic and subsequent results of the research methodologies (clearly reproduced in **Chapters 3 to 6**), to audit knowledge and practice, with inputs and recommendations on the way forward and future research.

The intention of this synthesis and conclusion followed the definition “The conclusion is intended to help the reader understand why your research should matter to them after they have finished reading the paper” (Labaree, 2020), and goes further, emphasising that it should not just rephrase the problem statement, but compound the main points, and make a contribution in the field of the study.

7.2 Evolvement from the problem statement

The groundwork and importance of the research was initially described in the problem statement (or main argument of the study), setting the scene for the aim, objectives and questions that followed. Literature reviewed, inputs through INTOSAI WGEA environmental audit survey results compared and analysed, online survey questionnaire results from the INTOSAI WGEA and associates, results from face-to-face interviews with internal and external stakeholders of the South African SAI and survey questionnaires forwarded to operational audit teams of the South African SAI indicated some valid, matching and conflicting inputs to the initial, articulated problem statement:

The researcher's initial hypothesis was that:

Environmental issues and risks are not suitably located within the South African SAI's public sector audit methodology processes to effectively and continually enhance public sector environmental accountability.

- *Problem Statement* -

Results of the study analyses, included some unpredictability on where and how to place and further develop the inclusion of environmental issues and risks, within the global and local (South African specific) public sector audit methodology processes, that will ultimately enhance environmental accountability. There were obvious and valid inputs, beliefs and feeling on the placement, proposed developments, advantages and disadvantages, that are now further detailed in the sections to follow.

7.3 Revisiting the research aim, objectives and subsequent questions developed

Revisiting and stating the overall aim and objectives is instrumental to the final value and conclusion of this research. The aim is linked to the above-mentioned problem statement, from where objectives determined how to achieve the aim. From this articulated problem statement, the research aim and objectives, as well as the main and 3 sub-research questions evolved. The researcher again emphasises the approach that was followed, clearly set out in the structure, **Figure 4** and design, **Table 1**, that firstly determined global context, whereafter the research and results narrowed down, to a local, South African SAI, perspective.

7.3.1 Addressing the aim and objectives of the research

To advance understanding of the placement and contribution of public sector regularity auditing in enhancing environmental accountability in South Africa.

- Aim -

The research aim and objectives were addressed through a research structure and design that initially researched global and then narrowed down to local context, through established objectives and selected research methodologies of: **(1)** conducting desk-research to review literature on global data and websites **and** performing a comparative analysis between INTOSAI membership countries' responses to the last 5 published environmental audit survey results, **as well as** analysing the online survey questionnaire results from the INTOSAI WGEA Secretariats and associated members *in determining current placement and developments for environmental inclusion within SAIs' public sector audit methodology processes*, and **(2)** conducting desk-research to review literature on local (South African) data and websites **and** performing face-to-face survey interviews, **as well as** analysing the online survey questionnaire results to internal and external stakeholders of the South African SAI, to *solicit responses on the placement, value and need to include environmental issues and risks within public sector regularity audit methodology processes of the South African SAI, to enhance environmental accountability in South Africa.*

The research contributed to a better understanding of the placement and contribution of regularity auditing (through a financial and compliance focus), but also elaborated on the other options and contributions through performance and/or priority audits.

7.3.2 Addressing the research questions

The four research questions, **(Main – and 3 Sub-Research Questions)**, were also structured to firstly establish global trends on the inclusion, placement and developments of environmental issues and risks within SAIs' public sector audit methodology processes, prior to determining current placement and developments within the local, South African SAI, to ultimately enhance environmental accountability.

The three Sub-Research Questions needed to be answered, prior to addressing or answering **the Main Research Question 1 of:**

Is the placement (or locus) of environmental issues and risks, within the public sector regularity audit methodology processes of the South African Supreme Audit Institution, enhancing public sector environmental accountability?

The main research question was supported by the following descriptive Sub-Research Questions:

(2) Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African Supreme Audit Institution?

(3) Where are environmental issues and risks currently placed within the public sector audit methodology processes of global Supreme Audit Institutions?

(4) What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?

These questions are now answered, addressing the global focus and inputs, and then focus more specifically on the local, South African Supreme Audit Institution.

7.3.2.1 Global context

Where are environmental issues and risks currently placed and included within the public sector audit methodology processes of global Supreme Audit Institutions?

- *Sub-Research Question 3* -

The answer to this question was gained from extensive literature reviewed, practical application of collecting, analysing and comparing the INTOSAI WGEA 5th to 9th Environmental Audit Survey Data Results, as well as online survey questionnaire inputs from INTOSAI WGEA secretariats' responses.

Literature review indicated that most environmentally focussed audits within the global INTOSAI fraternity, are placed or preferred within the voluntary (performance) audit methodology processes, followed by the mandatory (regularity) options that include both compliance and financial considerations. The main arguments are between these two options, with special or priority audits also an option, but least preferred. Although INTOSAI gives guidance, is it not prescriptive on where (or best) to place environmental issues within individual SAI's audit types and means. There is also no obligation to follow set audit practice standards, rather just guidance when considering and auditing environmental matters, or where they should be placed within the public sector audit methodology practices. There are pros and cons using both mandatory and voluntary audit types and means, where issues such

as the SAI's mandates, audit resources, reporting means, is the country a developed or developing country, as well as the country's environmental governance and environmental regulatory regimes, may direct the most suitable option/s for SAIs to follow. **Placement can therefore not be generalised, will be country and needs specific, to be explored and strategised per individual SAI.**

The INTOSAI WGEA 5th – 9th Environmental Audit Results analysed and compared, as well as the survey questionnaire results from the INTOSAI WGEA, also identified the voluntary performance audit option as the most used and developing type for the inclusion of environmental matters, with the compliance approach that follows. There were some innovative reforms, movements and developments within a number of SAIs, opting for a comprehensive approach, placing environmental matters within both the voluntary (performance) and mandatory (regularity – financial and compliance) audit methodology processes.

What are the latest developments for inclusion of environmental issues and risks in the public sector audit methodology processes of global Supreme Audit Institutions?

- *Sub-Research Question 4* -

The answer to this question was also gained from extensive literature reviewed, practical application of collecting, analysing and comparing the INTOSAI WGEA 5th to 9th Environmental Audit survey data results, as well as online survey questionnaire inputs from INTOSAI WGEA secretariats' responses.

Developments for the inclusion of environmental auditing are continuous, with global SAIs utilising or expanding their current capacities and resources to audit, or co-operatively address, environmental issues and risks within national, regional and international goals and commitments. Although most SAIs don't have a specific legislative mandate (or no significant changes in the mandates since 2000), to include or audit environmental issues and risks within their current public sector audit methodology processes, there is an increase to reform or amend these mandates to be susceptible for such inclusion. The number of audits that included environmental matters, also increased substantially, in order of performance, compliance, financial and priority (or special) audit options. SAIs within the global context, listed either **the most necessary and planned developments regarding environmental inclusion and auditing as:**

- Integration of environmental issues in other audits (financial, compliance, performance and priority), following a collaborative audit approach,

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- Training in environmental issues and auditing,
- Exchange of environmental knowledge and means with other SAIs,
- External environmental expert advice,
- Peer reviews (on environmental audits) by other SAIs,
- Development of environmental performance indicators in audits,
- More attention on quality and reliability of performance information,
- More measurement of environmental effectiveness policy,
- Evaluation of environmental impacts of audits,
- Focus on SDGs (INTOSAI WGEA, n.d. a).

Developments with current structures and resources also included or referred to SAIs establishing full-time departments or sections to focus on or audit environmental issues. Auditors' involvement in environmental auditing (that includes co-operative arrangements with other SAIs, within both regional and international platforms) is also expanding, to a more or lesser extent, within the various INTOSAI WGEA regions.

7.3.2.2 Local (South African) context

Where are environmental issues and risks currently placed within the public sector audit methodology processes of the South African Supreme Audit Institution?

- Sub-Research Question 2 -

The answer to this question was gained from extensive literature reviewed, face-to-face survey interviews conducted with internal and external stakeholders of the AGSA, as well as online survey questionnaire results from selected operational audit teams within the AGSA.

Literature review indicated that environmental issues and risks are currently placed under the auspices of Specialised Audit Services, and specifically the Performance Audit Business Unit of the South African SAI. The interim approach to audit and report on environmental issues and risks however, includes both performance and regularity (financial and compliance) auditing disciplines. A draft Environmental Audit Strategy in process, mainly aims to ascertain environmental compliance with environmental laws and regulations, as well as the economical, efficient and effective manner in which resources are used in managing the environment. Although performance audit is regarded as the current and preferred audit methodology base for environmental focus, a comprehensive and integrated approach is pursued (where environmental issues can fit into the objectives of both mandatory and voluntary audit objectives).

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Looking at the inputs from internal (including operational audit teams) and external stakeholders of the South African SAI, on where environmental issues are currently placed within the available public sector audit methodology processes, most identified the performance audit location, and motivated it as the more suitable approach within the AGSA's current audit capacity and resources. There is however some indication that the current, predominantly financially driven audit mandate allows or partially allows for the inclusion of environmental issues and risks within all the public sector audit methodology processes. Not all stakeholders of the AGSA (even within operational audit teams) are aware of any environmental inclusion or the extent thereof, with conflicting inputs on where environmental issues are and should be placed within the available audit types and processes.

Is the placement (or locus) of environmental issues and risks within the public sector audit methodology processes of the South African Supreme Audit Institution, enhancing public sector environmental accountability?

- *Main Research Question 1* -

This was the **main question** of the research study and particularly interrogated the problem statement, **determining whether environmental issues and risks are suitably placed within the public sector audit methodology processes of the South African SAI, to enhance public sector environmental accountability**. Prior to the research study, based on experience and preliminary research performed, the researcher **questioned the suitability of the current placement** and means, best served in contributing towards or to enhancing environmental accountability in the public sector of South Africa. The research then aimed to advance the understanding of this placement, looking at whether the most suitable public sector audit methodology type and process was selected and used, for maximum benefit or to raise public sector environmental accountability. Throughout the study, this was referred to as ***the golden thread of the study***, to determine or propose best placement.

The answer to this question was also gained from extensive literature reviewed, face-to-face survey interviews conducted with internal and external stakeholders of the AGSA, as well as online survey questionnaires' inputs from selected operational audit teams within the AGSA.

The extensive *literature reviewed*, indicated **no specific best placement**, and that the placement within either the voluntary (performance) or mandatory (regularity) audit processes of the South African SAI have distinct benefits, and can both contribute towards the enhancement of public sector environmental accountability in South Africa. Looking at some of the main challenges to establish and improve effective public sector environmental auditing in South Africa, gives some perspective on which audit methodology process (or placement)

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will be more practical, productive and beneficial in assessing, reporting and supporting government to be accountable for its environmental mandate, roles and responsibilities.

Issues that may play a role in the most suitable or practical option for environmental placement within the South African SAI's public sector audit methodologies, include (but are not limited to):

From a government and governance perspective:

- Weak or poor environmental regulatory regimes (to monitor and enforce environmental legislative requirements, roles and responsibilities),
- Capacity and resource constraints within government and governments responsible to manage and administer the environment,
- Lack of, or poor environmental qualitative and quantitative databases, to manage, administer, assess and report on,
- Political interference and injustices of the past, where developmental needs often force governmental approaches, which are not always in line or considering all environmental impacts and risks. Corruption, theft, vandalism and related issues also limit funding for necessary infrastructural upgrades and developments, beneficial to a healthy and sustainable environment.

From the South African SAI perspective:

- Lack of awareness of the significant environmental risks and challenges in SA,
- Auditors not up to date with the latest environmental audit, and accounting standards,
- The lack of skilled and dedicated (human) resources to perform environmental audits, especially within the regularity audit regime,
- The lack of an approved Environmental Audit Strategy or ineffective processes to collectively and pro-actively assess and report on the critical environmental risks and impacts within the country (environmental audit, and accounting standards),
- Fatigue of regularity audit teams, strained to improve audit opinions (to unqualified), where environmental issues may add another dimension for further regression,
- Auditees are already overburdened with yearly audit fees (regularity audits), whereas environmental inclusion will require additional funding and resources,

The typical environmental challenges in developing countries (that includes South Africa), further elaborate on the need and where to incorporate or include environmental issues and risks within the South African SAI's public sector audit methodology processes. This includes

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issues such as the environment not regarded as a priority, no or limited understanding between the links of environment, poverty and development, weak rule of law, high corruption risks, lack of transparency, lack of participation, weak environmental and regulatory authorities, and cross-sectoral environmental coordination being low.

Subjective inputs gained through survey interviews and questionnaires are strongly in favour of placing environmental issues and risks within **performance auditing**, followed by the regularity audit option and/or a comprehensive or collective approach (combining the two). The rationale behind the performance selected option included: a feel that performance tells a story, has a theme driven, more open and flexible approach where experimentation can take place and where things can happen. Performance audit, within the South African SAI, is also the centre of experts or specialists, where ideas can be developed, proposed and implemented, either through a sector or value-adding approach. The scope and resources of the audit are more easily expandable, whereas performance audit methodologies look at the optimal utilisation of facilities and resources that will ultimately include any subsequent environmental impacts. Within specific theme driven audits, a performance audit process will or seemed to be more suitable.

Looking into the lesser preferred option for placement, within **regularity auditing**, reference was made to the bigger input or footprint under regularity. The new Public Audit Amendment Act may also include material irregularities causing substantial harm to the environment, environmental resources, and sustainability thereof, impacting on the life of citizens (harm to the public) and can also result in material financial losses. The continual (year-to-year) follow ups on significant environmental issues and risks, will not only assess the implementation of recommendations, but also save on cost and resources, where it is included as a portable item. Anti-regularity sentiment notes that within regularity auditing, there are too many rules and complexities to include environmental issues and risks.

A comprehensive approach (that includes both performance and regularity audit processes) was also proposed for placement, with an environmental section or single audit methodology going forward. A blended or collaborative approach may be an option to integrate economic, social and environmental issues. Although participants in this study overwhelmingly felt that environmental issues are best suited under performance audits, there was almost equal belief that indicates that it is, only partially, or not at all, enhancing environmental accountability in the public sector of South Africa.

7.4 Contribution to audit knowledge and practice

The implication of this study, **Chapter 3 to 6**, relates to a better understanding of the options and where to include environmental issues and risks within INTOSAI, and the South African SAI's public sector audit methodology processes, thereby strengthening environmental accountability in the public sector. The gap, uncertainties or subjective differences on where, how (and the effect of) environmental matters need to be incorporated into the available public sector audit methodology processes of SAIs (within both developed and developing country perspectives), and warranted this research.

According to Cray (2014), "the thesis can address small gaps within saturated research areas" and further emphasises that doctoral research involves contribution or creating new knowledge through extensive and innovative research and should be one of the measuring factors thereof. Through extensive environmental audit experience within the regularity audit regime of the South African SAI, knowledge and experience gained within regional and international involvement, and the gaps in awareness and understanding addressed in this extensive research study, the researcher distinguished between contributions to the **theory, methods and practical applications** for Supreme Audit Institutions.

Theoretical (knowledge) contributions: The research results contribute to or expand both global and local (South African) knowledge of the options and value of their available public sector audit methodologies in auditing and reporting on environmental issues and risks. Although there has been some research and literature developed on environmental consideration and inclusion within global SAIs' voluntary (performance) public sector audits, some further exploration and clarity was required on the placement and effectiveness within the mandatory regularity (financial and compliance) audit processes, to ultimately enhance environmental public sector accountability. To date and as reproduced in this study, most research and emphasis was on following either a comprehensive, or the more popular voluntary performance audit methodology processes, for environmental inclusion. The researcher recognises that this thesis and results, to a great extent, builds and expands on other researchers' work, and particularly the inputs from the INTOSAI WGEA, and will not necessarily result in drastic or conceptual changes within SAIs (and particularly the South African SAI's) preferred environmental placement and processes to follow. This information will be additional to the already established theory, alerting SAIs to the various options and means for inclusion.

Methodological contributions: Due to the challenges faced by SAIs to include environmental issues and risks within their mostly financially driven audit mandates,

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processes and resources, the methodological contribution lies in the experience gained, through application of all the available public sector audit methodology processes (and particularly the mandatory regularity audits), before and during the research process followed. This may be useful for similar studies or for adaption and use when considering environmental matters within both mandatory and voluntary public sector audit methodology processes. The methodological contributions also include further elaboration on the knowledge, as well as on operational experiences, best practice and solutions to the challenges in identifying the most suitable placement for environmental issues and risks.

Practical (or operational) contributions: The main practical contribution of the study revolves around better insight information of the considerations (how) and practical needs to include and audit environmental issues and risks in the public sector, ensuring value-add, or improvement in public sector environmental accountability.

This study therefore contributed to theoretical, methodological and practical means and solutions towards finding or proposing the best suited placement of environmental issues and risks within public sector auditing, to enhance environmental accountability, within a local, South African perspective. **The study provided a motivation for general, broader auditing processes, that includes environmental risk considerations.** Although placement of environmental issues was especially pursued within the regularity audit option of the South African SAI, proper awareness and understanding of all the public sector audit methodology processes was required (within global and local spheres), for assessing this placement and its ultimate contribution to public sector environmental accountability. Mandatory (regularity) audits mainly report on financial statements, other legal and regularity requirements (that include findings on the report of predetermined objectives, findings on laws and regulations), as well as the internal controls thereto. As indicated in this and similar research, environmental and social issues can also affect the viability of an institution's operations and financials. The three dimensions of sustainability (environment, social and economic) need to be balanced to affect operations and the required service delivery of institutions. **Environmental inclusion within the regularity audit process can therefore make valuable contributions to continually address the impacts of poor environmental management, performance and non-compliance, not only on the environmental resource base and sustainability thereof, but also on the environmentally induced financial impacts (environmental costs in the financial statements).** The research, however, indicates both mandatory and voluntary audits as viable options, to include, audit and report on environmental issues and risks. It also emphasises the value of a combined or comprehensive approach, that will include all available public sector audit methodologies and focus. All the options have distinct

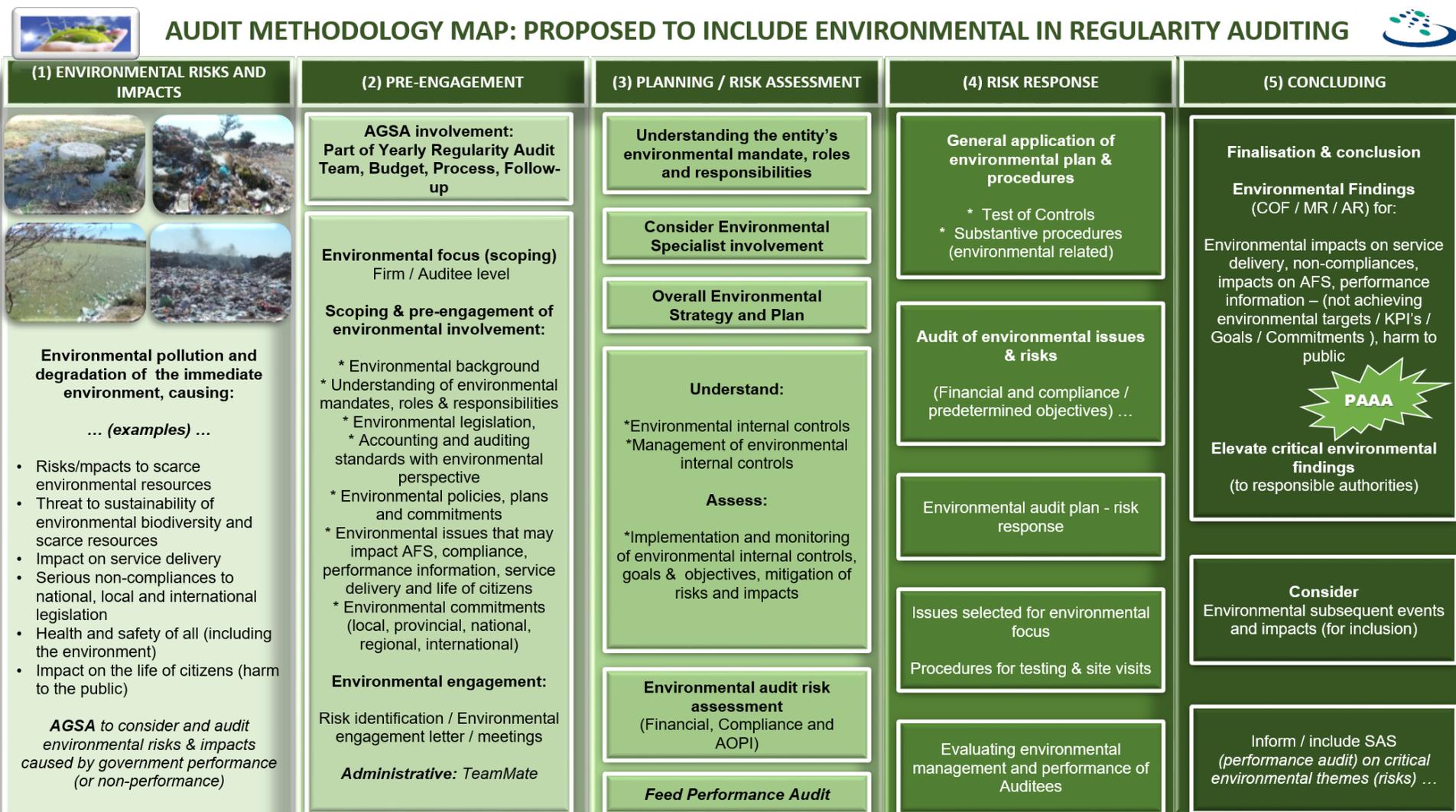
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advantages, disadvantages and challenges, impacted through country, government and SAI specific capacity, resources, needs, as well as the health and sustainability of the environmental resource base.

7.5 Recommendations on the way forward

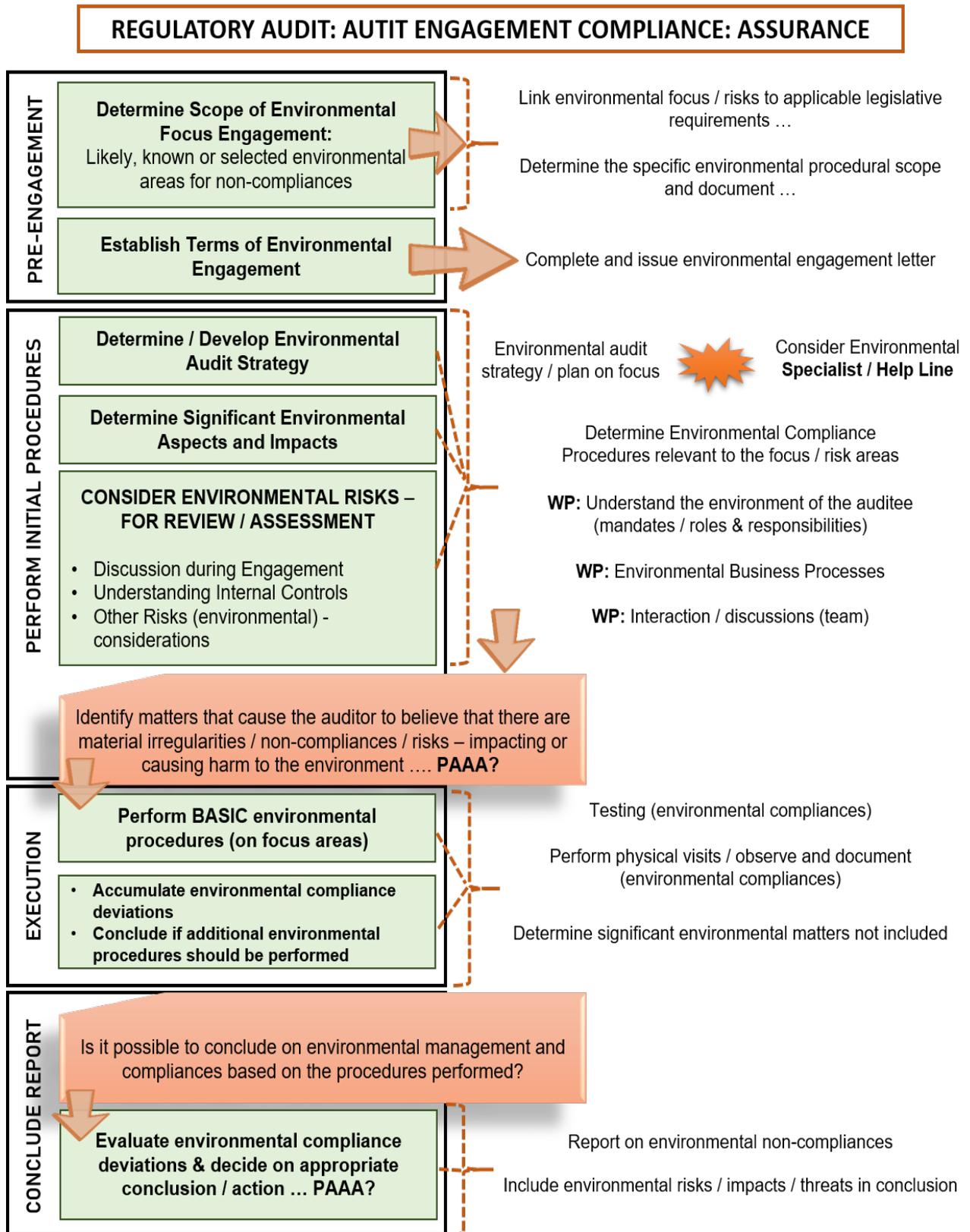
The way forward with the preferred or most suited placement of environmental issues and risks within the public sector audit methodology processes of the South African SAI to enhance environmental accountability was informed by the researcher's extensive international and local review of literature and current practice. It was further corroborated by the research inputs from both international and local (South African) participants. Although the views from the participative inputs lean towards placement within the voluntary (performance) audit methodology processes of SAIs, there is also some shift towards a rather comprehensive approach, that includes the regularity (financial and compliance) day-to-day audit processes. There was some consensus on the capacity constraints (environmentally skilled, experienced and educated staff) that SAIs experience in this add-on to their traditional financially driven audit mandates and processes.

Enhancing environmental accountability through public sector regularity auditing: A South African perspective: In an effort to synthesise the key points that were learned from this research study, conceptual frameworks were developed (set out in **Figures 35** and **36**), that were informed and adapted from the general steps followed during mandatory (regularity financial and compliance) audit processes. The rationale behind these frameworks was to depict some options and means for environmental consideration and inclusion, aligned to the basic regularity audit methodology processes. The learning obtained from this research should be contemplated by public sector auditors when including and placing environmental issues and risks within their available public sector audit types and reporting means, to ascertain maximum value, in enhancing public sector environmental accountability. It can also guide SAIs that do not have a dedicated environmental section or department, or where the performance audit section and teams are not adequately skilled and resourced, to consider and include the environmental focus within their yearly regularity audits and means. The financial nexus of institutions in the public sector is also dependent on a healthy and sustainable environmental resource base, and given the stressed, polluted and depleted environmental resources in South Africa, regularity auditing is another viable option for the placement, continual assessment and reporting of environmental matters in the public sector.



Smith,2020

Figure 35: Conceptual framework, guided by the Regularity AMP, ammended for inclusion of environmental issues and risks



Smith, 2020

Figure 36: Conceptual framework, guided by the Compliance AMP and amended for inclusion of environmental issues and risks

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Stakeholder interviews often indicated that the way forward should start with revisiting or expanding current public sector audit mandates, audit methodology processes, working papers and procedures, whilst others proposed enlarging the needed resources (human resources and funding) to include environmental issues as a focus area. Looking at the various and diverse approaches within the INTOSAI fraternity, the current positioning of environmental auditing within the South African SAI is in line with these holistic approaches, trying to utilise both compliance and performance auditing disciplines.

The recommendations on considering and using the regularity audit methodology approach within public sector audits (or a comprehensive approach, that includes regularity) in ensuring continual assessment, reporting and follow-up on significant environmental matter, within current and available resources, are essential in the researcher's plans to promote, or move this field of study forward. **Figure 37**, includes examples of visual impacts (improvements), at local authority level from the inclusion of environmental issues and risks within the mandatory public sector regularity audit process of the South African SAI.

Public sector environmental risks and impacts through non- or improper management and service delivery at local authorities



Public Sector Environmental Auditing



Major improvement – environmental risks and impacts addressed (recommendations) to safeguard the environment & life of citizens

Smith, 2020

Figure 37: Examples of the footprint and value-add of environmental inclusion within the mandatory public sector regularity audit methodology processes in SA

The findings and recommendations of this research study however warrant further research, particularly on the impact or value-adding of placing or selecting the most suitable public sector audit approach to include environmental issues and risks.

7.6 Suggestions for further research

There are several issues identified during this research study that warrant further research or academic attention. As the options for inclusion and auditing environmental issues and risks within the South African SAI range between the mandatory regularity audits (that report on financial statements, legal and regulatory requirements and internal control pertaining thereto), discretionary audits (investigations – that report on factual findings with regard to financial misconduct, maladministration and impropriety, based on allegations or matters of public interest), and special audits (that include the voluntary performance audits, which in turn include economic, efficient and effective utilisation of scarce resources, effect of policy implementation, excluding policy evaluation, reports on factual findings, e.g. donor funding certificates for legislative compliance, and the current placement of environmental audits), it will be useful, within the INTOSAI and country (South African) perspective, to further explore the value, need and developments for environmental inclusion and placement, within the available public sector audit types and means. Some of these possibilities and indications that conform to this thesis theme, for further research, **are now briefly compiled:**

- The impact of weak regulatory regimes on environmental placement within SAIs' public sector audit methodology processes,
- Regularity audit as the leading source to audit and report on public sector environmental performance,
- Public Sector Auditing: The financial implications of poor environmental governance,
- Supreme Audit Institutions: Consideration and inclusion of environmental auditing standards,
- A comprehensive approach for including environmental issues within public sector audit methodology processes,
- Improving the life of citizens through mandatory public sector environmental auditing and reporting,
- Placement of environmental matters within public sector audit methodologies: From a developed and developing world perspective.

As SAIs become more conversant with, develop and get involve in environmental auditing, it must be ensured that their audit methodologies are aligned to current (INTOSAI) trends,

environmental challenges, commitment and goals, thereby assisting governments in assessing and reporting on their environmental performance, as well as their progress in achieving the set environmental or sustainability goals and commitments. The research results were to an extent indicative of some SAIs blindly following in auditing trends and developments within the INTOSAI fraternity, sometimes disregarding their own country specific needs and challenges. As INTOSAI represents both developed and developing countries, more emphasis and comparison is needed on the best suited environmental placement within both a developed and developing (and individual) country perspective. Furthermore, it needs to be established why and how the traditional financial audit mandates of SAIs can or need to be expanded or changed to encourage the inclusion, auditing and reporting of significant environmental risks within the public sector. Although this research could only broadly relate to the best suited placement of environmental issues and risks within a local, South African public sector regularity audit perspective, more investigation and research is required to fully comprehend the impact and value-adding of this approach.

For further consideration, the readers are left with the following general perception from the researcher for interpretation: ***SAIs can fill the environmental monitoring and reporting void in government, left through inept or ineffective environmental regulatory regimes, by utilising or expanding their current public sector audit methodology processes, resources and means, to include environmental issues and risks, either within their mandatory, year-to-year regularity audits and follow-ups, or within their voluntary (or discretionary) theme driven options. A diverse range of variables will determine the most suitable placement for environmental issues to ultimately improve or enhance environmental accountability within the public sector of South Africa.***

7.7 Overall Conclusion

This chapter embodies the concluding part of the research, aiming to acknowledge and address the initial problem statement, research aim and objectives, and also to answer the research questions that were developed. This section also stipulated some implications and value-add of the research, particularly on the contributions towards the research theme, giving some inputs and making some recommendations on the way forward, prior to suggestions for further research.

The problem statement that initiated the research referred to the assumption that environmental issues and risks are not suitably located or placed within the South African SAI's audit methodology processes, to effectively and continually enhance public sector

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accountability. The aim that followed on the problem statement was then to advance understanding of the placement and contribution of public sector regularity auditing, in enhancing environmental accountability. How to address the research aim and questions was guided by the objectives of: determining the need and value of including environmental issues and risks within SAIs' public sector audit methodology processes (through desk-research of local and global data and websites – literature reviews), determining environmental audit developments, placement and trends within SAIs' public sector audit methodology processes (by performing comparative analysis of INTOSAI membership countries' responses on the last 5 published environmental audit survey results) and soliciting responses on the need, value and placement of environmental issues and risks within public sector regularity audit methodology processes to enhance environmental accountability. The South African specific focus was sought through survey interviews and questionnaires to both internal and external stakeholders of the South African SAI.

The results of this study accentuate the value of environmental auditing in the public sector, as it allows for government and organs of state to demonstrate their concerns and commitments for the environment, environmental matters and principles. Furthermore, it helps to improve compliance with environmental legislation, regulations, policies and plans. These environmental audits follow and are aligned to auditing and environmental standards that aspire to or focus on cost savings and improved environmental accountability. SAIs need to carefully plan, incorporate and develop the needed capacity (skills and manpower) for their role in improving environmental governance and accountability, through their country specific legislation, mandates and needs. The findings of this study have shown that the overall trend and preference of environmental placement are within the voluntary performance audit methodologies of SAIs worldwide and locally (SA). However, the thesis also demonstrates that, to a great extent, the best placement may be country specific, and not necessarily a universal or standardised approach. With the impacts on and challenges to the environment increasing at an alarming rate, there is overall consensus on the need for SAIs to also get involved, audit and report on significant environmental matters. Significant references were also made to including environmental issues and risks within a co-operative financial, compliance and performance audit approach. The conclusion here was that environmental issues cannot be excluded from either the mandatory or voluntary public sector audit methodology processes, as it can impact on both of these auditing mandates. The value of environmental inclusion within the regularity audit methodology processes of the South African SAI, as a particular focus area, was emphasised and also contributes substantially to enhancing environmental accountability. Regularity and performance auditors have different opinions on the best placement or locus of environmental issues and risks within the various

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public sector audit types and means, and identified some constraints and needs to make progress or to evolve further.

Drawing from the findings of the study and personal public sector environmental audit experience in collating the information, the following recommendations are made:

- Environmental legislation, mandates, roles and responsibilities need to be clearly defined and determined, guiding public sector auditors on government's (auditees) obligations to manage, administer, conserve and sustain the environment and its natural resource base,
- The capacity and effectiveness of country specific environmental regulatory regimes need to be established, which will emphasise and guide SAI's need and level of environmental auditing involvement,
- Within the SAIs' auditing scope, determine if a once-off, theme driven voluntary audit approach will be the best option to the scope, aim and objectives of the audit, or will a year-to-year mandatory audit and follow-up be more suitable to affect the required results,
- SAIs need to develop an Environmental Strategy, that clearly articulates how environmental issues and risks will be considered, included, developed and inter-linked within all their available public sector audit and reporting methodology processes (and resources pertaining thereto).

The study results provided further guidance for SAIs in developing environmental auditing strategies, and finding the most effective placement and use of the available audit methodology processes , to improve public sector environmental accountability.

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*Enhancing environmental accountability through public sector regularity
auditing: a South African perspective*

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ANNEXURES

Annexure A: INTOSAI WGEA: Greenlines: Newsbrief published on this PhD research study: placement of environmental issues and risks in public sector audit methodology processes

Smith 2020

The researcher's input to the latest newsletter of the INTOSAI WGEA (December, 2019), Greenlines Publication, (particularly towards this Ph.D. study).

South Africa

Placement of environmental issues and risks in public sector audit methodology processes

A current Ph.D. study analyses trends and preferences on the best placement of environmental issues and risks within the public sector audit methodology processes to enhance public sector environmental accountability, both globally and in South Africa.

As custodians of the environment, governments face many challenges to effective environmental oversight, management and monitoring. Data on global consumption (*The World Counts*, 2014) indicates that the planet cannot sustain the ever-increasing demands on natural resources which it now faces. In a context of competing priorities between economic, social and environmental needs, all levels of government have a role in addressing and mitigating the most significant environmental risks and impacts with their mandates, operational activities and service delivery. The study asks how SAIs can best advance these ends by assessing and reporting on public sector environmental performance, while operating within specific mandates, resource levels and technical capacities. It draws on global and local literature reviews, a comparative analysis of 2003 – 2015 INTOSAI WGEA survey results, and survey interviews and questionnaires with internal and external stakeholders of the Auditor-General of South Africa.

Preliminary results indicate that while environmental issues and risks may be better suited within the performance audit methodology processes of countries with effective environmental regulatory regimes, other approaches may work better in those with weaker environmental monitoring and enforcement.

For further information, please contact Eric Smith at erics@agsa.co.za or +27(0)18 294 3301.

Note: *The 9th Environmental Audit Survey Results, not published yet, when inputs forwarded.*



GREENLINES

A newsletter of the INTOSAI Working Group on Environmental Auditing
Vol. 20, No. 2 www.environmental-auditing.org December 2019 (page 19 – 20)

News Briefs from Around the SAI World

*Enhancing environmental accountability through public sector regularity
auditing: a South African perspective*

**Annexure B: Survey Questionnaire – Enhancing environmental accountability
through public sector auditing: A South African Perspective: informative to both
global and local selected participants**

Smith, 2020

Forwarded through: **GOOGLE FORMS**: With the online survey questionnaires.

Enhancing environmental accountability through public sector regularity auditing: a South African perspective



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Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

School for Geo and Spatial Sciences

Tel: 018 299 1586
Fax: 018 299 1580
Email: francois.retief@nwu.ac.za

SURVEY QUESTIONNAIRE: Enhancing environmental accountability through public sector regularity auditing: A South African perspective

Brief background on the research study initiation, current trends and aim: I am currently employed by the Supreme Audit Institution (SAI) of South Africa (SA), the Auditor-General of South Africa (AGSA) and a Ph.D. candidate at the Department of Geography and Environmental Management, North-West University, SA, under the supervision of Prof Francois Retief. My expansive 33-year regularity and environmental audit career at the AGSA and continual quest to consider and include environmental issues (and risks) within the AGSA's current audit mandate and methodology processes, triggered further exploration in finding the best placement (locus) thereof to ultimately enhance public sector environmental accountability. I continuously seek and compare, from a global to a local (SA) perspective, the need, advantages, value-adding and best placement of environmental issues and risks within available public sector audit types and methodology processes. The quote from Wangari Maathai "***I am working to make sure we don't only protect the environment, we also improve governance***", in essence, summarises my attitude and striving to contribute and make a difference as an environmental auditor, within the public sector of SA. The current trend suggests that the legal mandates of SAIs are restricted to financial matters within their own national constitutional arrangements, or as regulated in country specific legislative requirements. SAIs may however conduct or include environmental issues and risks in terms of their mandates to carry out compliance; financial and performance audits. SAIs' auditing roles include upholding the principles of good governance, transparency and accountability, and should also embrace oversight on environmental mandates, roles and responsibilities of organs of state. This research study ultimately aims to establish the best suited placement of environmental matters within South African public sector audit types to enhance environmental accountability.

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

The Survey Questionnaire: The document presented to you is a survey designed to determine in **Part 1** the **global perspective** on what is perceived and some challenges to ascertain environmentally sustainable societies and communities, SAIs' public sector environmental audits and mandates; current placement and extent within their audit types and methodology processes and where they are perceived to be best placed to enhance public sector environmental accountability. *Part 1* is concluded with input on the need for SAIs to audit and contribute towards improved public sector environmental accountability. **Part 2** aims to obtain a **local (South African) perspective** and is particular to the understanding and challenges of environmentally sustainable societies and communities, the South African SAI's mandate, need and value-add to include and consider environmental issues and risks within public sector audits and reporting processes. It further seeks input on the placement or location of environmental matters within its (the AGSA's) public sector audit types and processes and the extent of current inclusion. **Ultimately**, the preferred or best suited placement for environmental issues and risks within the AGSA's public sector audits and methodology processes towards enhanced public sector environmental accountability are explored, as well as the necessity of the AGSA to be part of this enhancement.

External (international) stakeholders are required to complete the questions that focus on the global perspective (**Part 1**), whilst the South African and AGSA internal and external stakeholders are required to answer the questions in (**Part 2**), focussing on the local (South African) perspective.

As an important stakeholder, your input is extremely valuable to this research and I thank you for the time that you spend on this questionnaire.

Sincerely

Frederick Hendrik Smith (Eric)

[Email:erics@agsa.co.za](mailto:erics@agsa.co.za)

PhD candidate

North-West University

Please Note: Environmental issues and risks for the purpose of this questionnaire refer to the risks and impacts resulting from a lack of or ineffective governance and weak or ineffective regulatory regimes (all levels of government). These environmental risks cause over-exploitation, pollution and degradation of the environment and its natural resource base, and are often linked to unsustainable environmental needs, resources and service delivery. This includes issues such as potable water quality and availability, wastewater treatment and effluent disposal, solid waste management (for example) that do not comply with legislation or are not managed to achieve a healthy and safe environment., a sustainable natural environmental resource base, ultimately improving the life of citizens.

*Enhancing environmental accountability through public sector regularity
auditing: a South African perspective*

**Annexure C: Survey Questionnaire – Enhancing environmental accountability
through public sector auditing: a global perspective**

Smith, 2020

Forwarded through: **GOOGLE FORMS**: Online survey questionnaire.



PART 1: A GLOBAL PERSPECTIVE

To be completed by External Stakeholders of the South African SAI:

Global perspective on where Supreme Audit Institutions' public sector environmental audit risk matters are currently placed and best suited within their current audit methodology processes to enhance public sector environmental accountability.

General Information

Question 1: Very briefly, what is an environmentally sustainable society?

.....

.....

.....

With reference to Question (1) – What do you perceive to be the three most pressing environmental challenges to ascertain sustainable cities and communities?

.....

.....

.....

General Information

Question 2: Does your organisation's (and membership countries or SAIs) public sector audit mandates allows for the consideration, audit and reporting of environmental issues and risks?

Yes		No		Partially	
-----	--	----	--	-----------	--

With reference to Question (2) - Briefly refer to the most common legislative mandate used to include or perform environmental audits.

.....

.....

.....

General Information

Question 3: Are environmental issues and risks currently included within your organisation's (and membership countries or SAIs) public sector audit methodology processes?

Yes		No		Partially	
-----	--	----	--	-----------	--

With reference to Question (3) – If not, briefly explain the reason for the exclusion:

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

.....

Research Sub-Question 3 & 4

Question 4: If applicable, where are environmental issues and risks currently placed or located within your organisation's (and membership countries or SAIs) public sector audit methodology processes (types)?

Regularity		Compliance		Performance		Other	
------------	--	------------	--	-------------	--	-------	--

With reference to Question (4) - Briefly explain why?

.....

Research Sub-Question 3 & 4

Question 5: To what extent are environmental issues and risks considered and included within your organisation's (and membership countries or SAIs) current public sector audit methodology processes?

In all mandatory audits		Within selective voluntary audits		Other	
-------------------------	--	-----------------------------------	--	-------	--

With reference to Question (5) – Briefly explain (or elaborate on) the extent of involvement:

.....

PART 1: INDIVIDUAL PERSPECTIVE



Own (individual) perspective on where your associated SAIs should place environmental matters within their public sector audit methodology processes and the effectiveness towards enhancing public sector environmental accountability.

Towards Main Research Question

Question 6: In your opinion, are environmental issues and risks best suited within the regularity or performance audit methodology processes of SAIs (or other)?

Regularity		Performance		Other	
------------	--	-------------	--	-------	--

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

With reference to Question (vi) - Briefly explain why:

.....
.....
.....

Towards Main Research Question

Question 7: In your opinion, is the current environmental placement (locus) within your organisation's (and membership countries or SAIs) audit methodology processes conducive to enhancing public sector environmental accountability?

Yes		No		Partially	
-----	--	----	--	-----------	--

With reference to Question (vii) - Briefly, explain your answer:

.....
.....
.....

General Information

Question 8: In one sentence, explain why you think SAIs are essential in the quest to audit and report on environmental issues and risks in their respective countries?

.....
.....
.....

Survey completed by (only add country, current position and employer):

.....

The survey questionnaires forwarded to the global INTOSAI WGEA Secretariat's and iCED will assist in answering the study's Sub-Research Questions 3 and 4, but will also contribute to the main research question, probing whether environmental issues and risks within public sector regularity audit methodology processes will enhance environmental accountability.

Should you need further information or clarification regarding this project, you could contact:

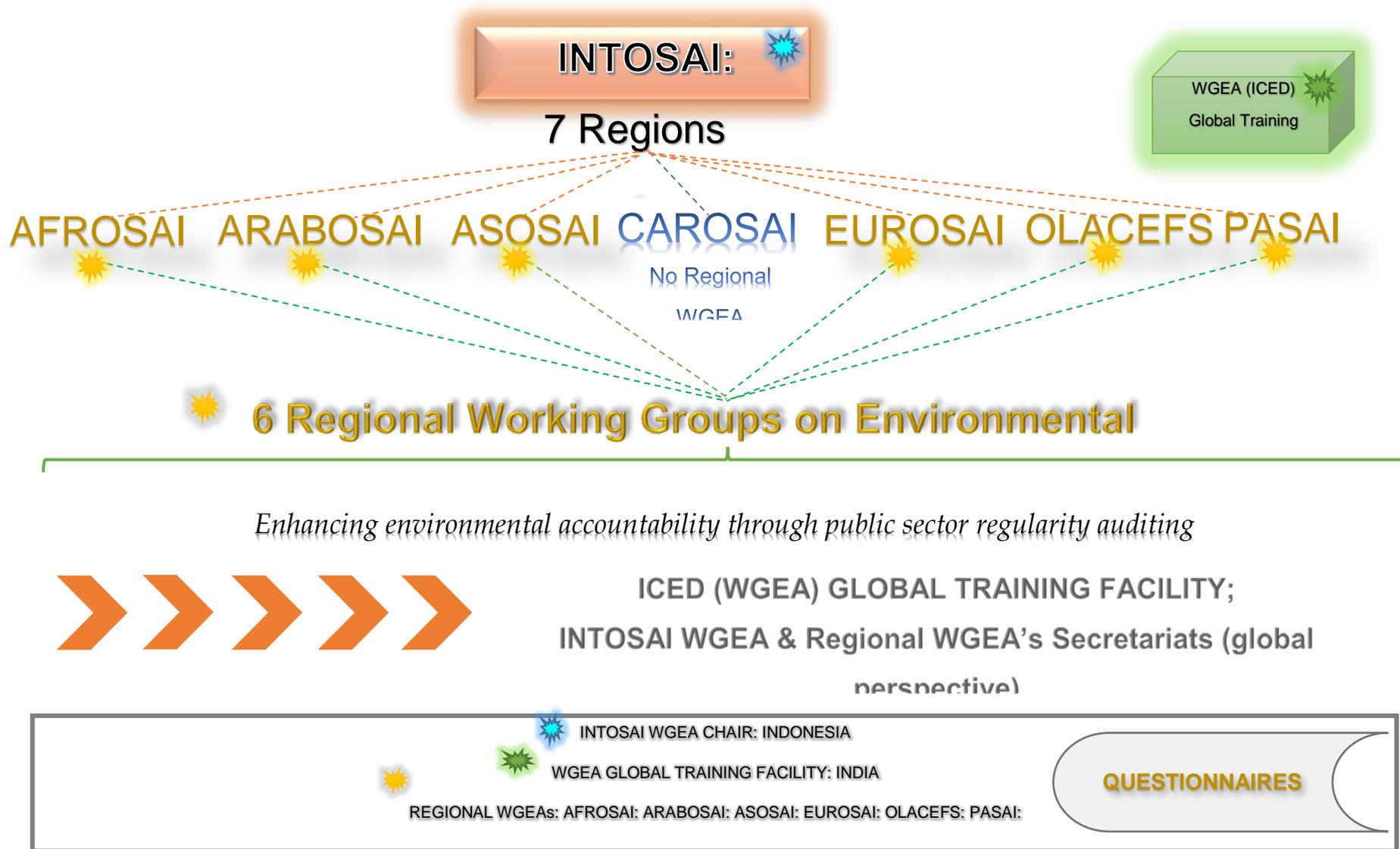
Mr. Frederick, Hendrik Smith at 0834901800 or mail erics@agsa.co.za

**Annexure D: International stakeholders selected for global survey
questionnaires**

Smith, 2020

Selection made from the INTOSAI and INTOSAI WGEA websites.

INTERNATIONAL STAKEHOLDERS SELECTED FOR THE GLOBAL SURVEY QUESTIONNAIRE INPUTS



**Annexure E: Online Survey Questionnaire Responses: Global (INTOSAI WGEA)
Secretariats**

Smith, 2020

Survey questionnaires forwarded and responses received via **GOOGLE FORMS**

GLOBAL INTOSAI WGEA: ONLINE GOOGLE SURVEY QUESTIONNAIRES FORWARDED TO AND RESPONSES RECEIVED

GLOBAL (INTOSAI WGEA & ASSOCIATE MEMBERS): ONLINE GOOGLE SURVEYS: 21

• **INTOSAI WGEA: Indonesia: *wgea@bpk.go.id***

- **PASAI:** *jonathan.keate@oag.govt.nz* and *rachel.wilson@oag.govt.nz*
- **ASOSAI WGEA:** *cnao@audit.gov.cn* and *eaglexing@audit.gov.cn* and *luoquan@audit.gov.cn* and *dingyue@audit.gov.cn*
- **AFROSAI WGEA:** *hassan@crefiaf.org* and *onyabou14@yahoo.ca*
- **EUROSAI WGEA:** *tuuli.rasso@riigikontroll.ee* and *airi.andresson@riigikontroll.ee* and *eurosaiwgea@riigikontroll.ee* and *viire.viss@riigikontroll.ee*
- **ARABOSAI WGEA:** *training@sabq8.org* and *salmah@sabq8.org* and *abdulazizq@sabq8.org*
- **OLACEFS:** *hugoca@tcu.gov.br* and *elisangelap@tcu.gov.br* and *min-ac@tcu.gov.br*
- **ICED:** *dadheSS@cag.gov.in* and *dgiced@cag.gov.in*

RESPONSES RECEIVED: 5

Response	Designation	E-mail Address
1	Jonathan Keate, Senior Solicitor, Sector Manager, Office of the Auditor-General, New Zealand	<i>Jonthan.keate@oag.govt.nz</i> PASAI/ACAG
2	Kaire Keskula, Advisor, EUROSAI WGEA Secretariat, National Audit Office of Estonia, Estonia: Head of EUROSAI WGEA Secretariat	<i>eurosaiwgea@riigikontroll.ee</i> EUROSAI
3	Indonesia, Auditor, BPK (SAI of Indonesia)	<i>wgea@bpk.go.id</i> ASOSAI
4	Indonesia, Auditor, BPK (SAI of Indonesia)	<i>wgea@bpk.go.id</i> ASOSAI

GLOBAL (INTOSAI WGEA AND ASSOCIATE MEMBERS): ONLINE GOOGLE SURVEY GOOGLE SURVEY (NOT COMPLETED ONLINE) – FORWARDED VIA MAIL

Response	Designation	E-mail Address
5	SAI of Kuwait, Associate Auditor, State Audit Bureau: State of Kuwait	<i>IR@sabq8.org</i> ARABOSAI

**Annexure F: Executive summaries of the 5th – 9th WGEA environmental surveys
conducted: 2004 – 2017: main focus and selected questions (17) analysed**

Smith, 2020

Only 17 questions selected from the total number of questions included in the 5th – 9th Environmental Audit Survey periods. The survey question numbers varied between these periods, and for the purpose of this research study, are included as 1 – 17.

Executive summaries of the WGEA Surveys 5 - 7 conducted: Main focus areas and selected questions analysed 2003 – 2012

Focus Area (selected questions)	Survey 5 (119 responses / 64%)	Survey 6 (106 responses / 59%)	Survey 7 (112 responses / 62%)
<p>Audit Mandate</p> <p>(1) Does your SAI have mandate to audit enviro issues?</p> <p>(2) Does the legislative mandate refer specifically to enviro auditing?</p> <p>(4) Has the auditing mandate changed since previous survey period?</p>	<p style="text-align: center;"></p> <p>(1) Majority mandates allow performance, compliance & financial audits on environmental issues</p> <p>(2) 17% have specific provisions for enviro auditing</p> <p>(4) SAIs general mandates (59%) not changed since previous survey, with only 5% extended (36% = NA)</p>	<p style="text-align: center;"></p> <p>(1) Most of the SAIs have a legislative mandate to audit environmental issues in financial audits (78%), compliance audits (82%) and performance audits (81%)</p> <p>(2) Nearly 1/4 have explicit environmental auditing mandate</p> <p>(4) Since previous survey – audit mandate changes or expansions of 22%</p>	<p style="text-align: center;"></p> <p>(1) Majority mandates allow performance, compliance & financial audits on environmental issues</p> <p>(2) Nearly 1/5 have explicit environmental auditing mandate</p> <p>(4) Since previous survey – no audit mandate change in 95% of SAIs</p>
<p>Environmental Audits</p> <p>(6) Which types of enviro audits have your SAI conducted since prior survey?</p> <p>(7) Number enviro audits your SAI conducted since prior survey</p> <p>(8) How is total enviro audits compared between current and prior survey?</p> <p>(16) A: Are there developing needs in your SAI regarding enviro audit practice?</p> <p>(16) B: What are necessary developments regarding environmental practice already planned?</p>	<p>(6) SAIs often done performance and compliance audits on environmental issues</p> <p>(7) – (8) Steady growth in environmental auditing over last 15 years, 68% of SAIs conducted at least one environmental audit (62% prior period) with 76% have environmental audits planned</p> <p>(16): A & B: SAIs anticipating various developments in environmental auditing re: Knowledge, integration into other audits, training, external experts, pools of enviro auditors, creating more units</p>	<p>(6) SAIs often done performance and compliance audits on environmental issues</p> <p>(7) – (8) Most of the SAIs (78%) have conducted environmental audits and 59% said the number of audits increased since 2006</p> <p>(16): A & B: Many SAIs indicated that it is extremely important to continuously carry out enviro audits & develop their capacity. Compliance with legislation, performance of government environmental programmes, compliance with environmental policies= 3 most important audit objectives</p>	<p>(6) SAIs often done performance and compliance audits on environmental issues</p> <p>(7) – (8) Total no of environmental audits increased remarkably and almost 66% will increase number of environmental audits in next 3 years</p> <p>(16): A & B: Environmental issues to be integrated into audits / Plans of SAIs do not always meet actual development needs (due to resource / capacity constraints)</p>
<p>Impact of Environmental Audits</p> <p>(20) How does your SAI track implementation of enviro recommendations?</p> <p>(21) What level of impact has your SAI's enviro audits had in helping government depts.?</p>	<p>SAIs use different methods to measure the impact of their audit work</p> <p>(20) Government responses to audit recommendations & follow-up audits, parliamentary hearings and media coverage have served as the main tools</p> <p>(21) Help governments evaluating their capacity to develop and implement</p>	<p>Majority of SAIs (86%) considered impact of environmental audits</p> <p>(20) More than half of the SAIs (56%) measure the impact of their environmental audits by observing government's response to audit recommendations and conducting follow-ups</p>	<p>Majority of SAIs (86%) considered impact of environmental audits</p> <p>(20) Government responses to audit recommendations & follow-up audits have served as the main tools</p> <p>(21) The functioning of government policies and programmes</p>

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

<p>(24) Did communicating the enviro audit results help your SAI to increase impacts?</p>	<p>environmental policies & programmes (24%) or formulate enviro legislation, policies and programmes (19%) (24) 89% of SAIs make their environmental audit results available to the public</p>	<p>(21) Helped governments to develop different aspects of their environmental policies/programmes (24) Responses indicated that their audits have partial or full impact on their countries' government's environmental policies whilst some indicated no impacts in helping government</p>	<p>(24) 80% publish the results and almost all of them consider the communication of findings beneficial in increasing the impacts of audits (6% of SAIs not making any parts of their audit reports public)</p>
<p>Environmental Audit Capacity</p> <p>(25) Does your SAI have a specific dept. or section full time on enviro audits? (26) How many auditors are involved with enviro auditing in your SAI? (32) Which barriers has your SAI experienced in executing enviro audits since prior survey?</p>	<p>(25) 35% of SAIs have decided to have a specific division working on environmental auditing (26) The number of people conducting enviro audits varies – number of full-time equivalents working on environmental auditing in an average year (2003): 12.7 (32) Main barriers = lack of skills or expertise, insufficient data on the state of the environment, insufficient monitoring and reporting systems, insufficient formulation of government policies, mandate constraints</p>	<p>(25) In 40% of SAIs there is a specific unit dealing with enviro audit (26) 82% of responding SAIs one or more % of all employees are working on environmental auditing, in 33% of SAIs the share of employees working on environmental audits somewhat increased, half of the SAIs (51%) – the capacity has remained the same, whilst 43% increased (32) Insufficient monitoring and reporting systems, insufficient data on the state of the environment, lack of skills or expertise within SAI</p>	<p>(25) In 35% of SAIs there is a specific unit dealing with enviro audit (26) 71% of the auditors work full-time on enviro audits with around 25% assigned to environmental issues – 50% work also with other topics aside from the environment – 61% planned to increase no of auditors on enviro (32) Shortage of enviro data, insufficient monitoring & reporting systems & a lack of human resources, skills & expertise (but identified existing environmental auditing potential in their SAI to overcome barriers)</p>
<p>Co-operation between SAIs</p> <p>(37) Since prior survey – has your SAI co-operated with other SAIs in local or international enviro audits? (38) Why has your SAI not been engaged in cooperative audits since previous survey period? (39) Specify what types of co-operative activities your SAI has experienced since prior survey?</p>	<p>(37) Since 2003, 19% of SAI respondents conducted co-operative audits relating to international agreements and 22% co-operative audits not related to an international agreement (38) The lack of resources, lack of skills or experience, inadequate SAI mandate and lack of partners main reasons for not doing co-operated audits (39) Most common type of co-operative activities = exchange of audit information or environmental audit experiences (SAIs)</p>	<p>(37) Around 50% of SAIs have co-operated with other SAIs on enviro issues (38) The lack of skills or expertise within SAIs, lack of resources, lack of partners and inadequate SAI mandate (39) Most common type of co-operative activities = sharing audit methodologies, auditing criteria and benchmarking, lessons learned and good practice</p>	<p>(37) Around 2/3 of SAIs have co-operated with other SAIs on enviro issues (38) The lack of resources, absence of skills & expertise and a shortage of partners was stated as to why no co-operation (39) Most common types of co-operative activities = exchange of information and audits on MEAs have been main areas of co-operation</p>
<p>WGEA Products</p>	<p>NA</p>	<p>NA</p>	<p>NA</p>

Executive summaries of the WGEA 8 – 9 surveys conducted: Main focus areas and selected questions analysed 2012 – 2017

Focus Area (selected questions)	Survey 8 (58 responses / 31%)	Survey 9 (60 responses / 31%)
<p>Audit Mandate</p> <p>(1) Does your SAI have mandate to audit enviro issues? (2) Does the legislative mandate refer specifically to enviro auditing? (4) Has the auditing mandate changed since previous survey period?</p>	<p style="text-align: center;"></p> <p>(1) Majority mandates allow performance, compliance & financial audits on environmental issues (2) Nearly quarter of mandates specifically refer to environmental auditing (4) Since previous survey – no audit mandate change in 90% of SAIs</p>	<p style="text-align: center;"></p> <p>(1) Almost half of SAIs (47%) have legislative mandate specific to environmental auditing (2) Majority of SAIs have legislative mandate to conduct performance (93%), compliance (88%) and financial (87%) (4) Since previous survey – no audit mandate change in 88% of SAIs</p>
<p>Environmental Audits</p> <p>(6) Which types of enviro audits has your SAI conducted since prior survey? (7) Number enviro audits your SAI conducted since prior survey? (8) How is total enviro audits compared between current and prior survey? (16) A: Are there developing needs in your SAI regarding enviro audit practice? (16) B: What are necessary developments regarding environmental practice already planned?</p>	<p>(6) SAIs often done performance audits on environmental issues (7) – (8) Total no of environmental audits increased in 45% of SAIs and 45% will increase number of environmental audits in next 3 years (16) A & B: To increase number of environmental audits on topics of concern</p>	<p>(6) Performance audits had been the most conducted type of environmental audit (7) – (8) Total no of environmental audits increased in 48% of SAIs and 40% will increase number of environmental audits in next 3 years (16) A & B: Developments planned were exchange of knowledge within SAIs and focus on SDGs whilst attention to quality, reliability of information and exchange of knowledge with other SAIs regarded as developments necessary</p>
<p>Impact of Environmental Audits</p> <p>(20) How does your SAI track implementation of enviro recommendations?</p>	<p>Majority of SAIs considered impact of environmental audits; (20) Total of 86% of SAIs gave recommendations by considering specific conditions in enviro audits, whilst 91% tracked the implementation of the recommendations – SAIs paid good attention to enviro audits</p>	<p>Majority of SAIs considered impact of environmental audits (20) Total of 72% of SAIs chose follow-up audit and monitoring of findings / recommendations to measure impact of audits / 73% tracked implementation of recommendations</p>

Enhancing environmental accountability through public sector regularity auditing: a South African perspective

<p>(21) What level of impact have your SAIs enviro audits had in helping government depts.?</p> <p>(24) Did communicating the enviro audit results help your SAI to increase impacts?</p>	<p>(21) Impact on improved environmental policies & programmes (in government)</p> <p>(24) 98% published results of their enviro audits & 85% believe the publication increased the impact of their audits</p>	<p>(21) Impact on improved environmental policies & programmes (in government)</p> <p>(24) 55% believe the publication increased the impact of their audits significantly and 35% somewhat</p>
<p>Environmental Audit Capacity</p> <p>(25) Does your SAI have a specific dept. or section full time on enviro audits?</p> <p>(26) How many auditors are involved with enviro auditing in your SAI?</p> <p>(32) Which barriers has your SAI experienced in executing enviro audits since prior survey?</p>	<p>(25) In 43% of SAIs there is a specific unit dealing with enviro audit</p> <p>(26) 47% of the auditors work full-time on enviro audits with 55% remaining the same since prior survey – 34% planned to increase no of auditors on enviro</p> <p>(32) Insufficient data on state of the environment, insufficient monitoring & reporting systems & lack of skills, experience & training within SAIs</p>	<p>(25) More than half 55% of SAIs there is a specific unit dealing with enviro audit</p> <p>(26) 2% of the auditors work full-time on enviro audits with 2% part-time. 7% not – but have the capacity to do so. 40% remained the same since prior survey – 37% planned to increase no of auditors on enviro</p> <p>(32) Lack of skills, experience & training within SAIs (47%), lack of human resources (57%), insufficient formulation of government policies & goals (65%)</p>
<p>Co-operation between SAIs</p> <p>(37) Since prior survey – has your SAI co-operated with other SAIs in local or international enviro audits?</p> <p>(38) Why has your SAI not been engaged in cooperative audits since previous survey period?</p> <p>(39) Specify what types of co-operative activities your SAI has experienced since prior survey?</p>	<p>(37) Around 2/3 of SAIs have co-operated with other SAIs on enviro issues</p> <p>(38) The lack of resources was stated by 33% of the SAIs as to why no co-operation, whilst 12% identified the lack of resources as the main barriers for co-operation</p> <p>(39) Most common type of co-operative activities = exchange of audit information or environmental auditing experiences amongst SAIs</p>	<p>(37) Around 65% of SAIs have co-operated with other SAIs on enviro issues</p> <p>(38) The lack of resources was stated by 15% of the SAIs as to why no co-operation, whilst 10% identified the lack of partners, 8% indicate inadequate mandate and lack of skills / expertise as the main barriers for co-operation</p> <p>(39) Most common type of co-operative activities = exchange of audit information or environmental auditing experiences amongst SAIs</p>
<p>WGEA Products</p>	<p>NA</p>	<p>NA</p>

**Annexure G: Survey interviews: internal and external stakeholders of the South
African SAI: Background prior to interviews and approval for recording**

Smith, 2020

This background document was discussed with each interviewee, for informative purposes
and signed for permission to record and use for this thesis study.

Enhancing environmental accountability through public sector regularity auditing: a South African perspective



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School for Geo and Spatial Sciences
Tel: 018 299 1586
Fax: 018 299 1580
Email: francois.retief@nwu.ac.za

SURVEY INTERVIEWS: Enhancing environmental accountability through public sector regularity auditing: A South African perspective

Purpose of Interview three-fold:

- 1) Just to give you a brief background on my research (aim, objectives) and value-adding thereof;
- 2) To present to you **7 subjective questions** (with follow-up or probing questions) particular to the research theme, aim and objectives;
- 3) To include in my thesis – some quotes and feel from the AGSA on the inclusion of environmental issues within our current audit methodology processes and way forward

Note: *Obtain permission to record (notes additional)*

(1) BACKGROUND:

This research emanates from my experience, sincere interest and continual search to find the best placement of environmental issues and risks **within the AGSA's current audit methodology processes and resources**. This will therefore be pioneer research that will particularly explore the means and value of placing environmental issues (and risks) within the day-to-day (mandatory) regularity audit processes of the South African Supreme Audit Institution.

SA's mandated environmental regulatory regimes are not effective in performing its oversight, monitoring and enforcement functions, with critical environmental non-compliance

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and transgressions often going undetected, not reported and with no or limited action. My research and involvement, particularly within our public sector MFMA audit cycles, clearly indicates the monitoring and enforcement gap by a weak environmental regulatory regime in SA.

In **developed countries** with competent and effective regulatory regimes, theme driven (voluntary) audits by SAIs may be suitable as an additional tool to assess and assist regulatory regimes in identifying, auditing and reporting on significant environmental management risks. **SA, as a developing country**, may derive more benefit from a yearly regularity (mandatory) approach.

Evidence suggests that current voluntary environmental, internal compliance and performance audits are seldom commissioned in SA, and where the AGSA does not take up the challenges, these sustained environmental losses go undetected or unrecorded.

Problem Statement: Environmental issues and risks are not suitably located or placed within the South African SAI's available public sector audit methodology processes to enhance public sector environmental accountability. **Aim:** to advance understanding of the placement and contribution of public sector regularity auditing in enhancing environmental accountability in SA. **Objectives:** It is hoped that the results of this research will assist to determine the need and value of including environmental issues and risks within the SAI's public sector audit methodology processes, determine environmental audit developments, placement and trends within SAI's public sector audit methodology processes, and to solicit responses on the need, value and placement of environmental issues and risks within the public sector regularity audit methodology processes to enhance environmental accountability in SA.

(2) QUESTIONS:

The questions presented to you are a survey designed to determine and recommend the best suited placement (locus) of environmental issues (risks) within the public sector audit methodology processes of the AGSA, to enhance environmental accountability. It is hoped that the results of this research will assist in identifying global trends, perspectives and best practice, followed by SAIs to audit and report on environmental issues and risks and then determine whether current environmental consideration and placement within the AGSA's current audit methodology processes

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are conducive and effective towards improved environmental accountability in the public sector of SA.

(3) QUOTES AND INPUTS FOR THE THESIS STUDY

Permission, (for recording and to include some direct quotes in the thesis):

.....

Sincerely

Frederick Hendrik Smith (Eric)

erics@agsa.co.za

PhD candidate

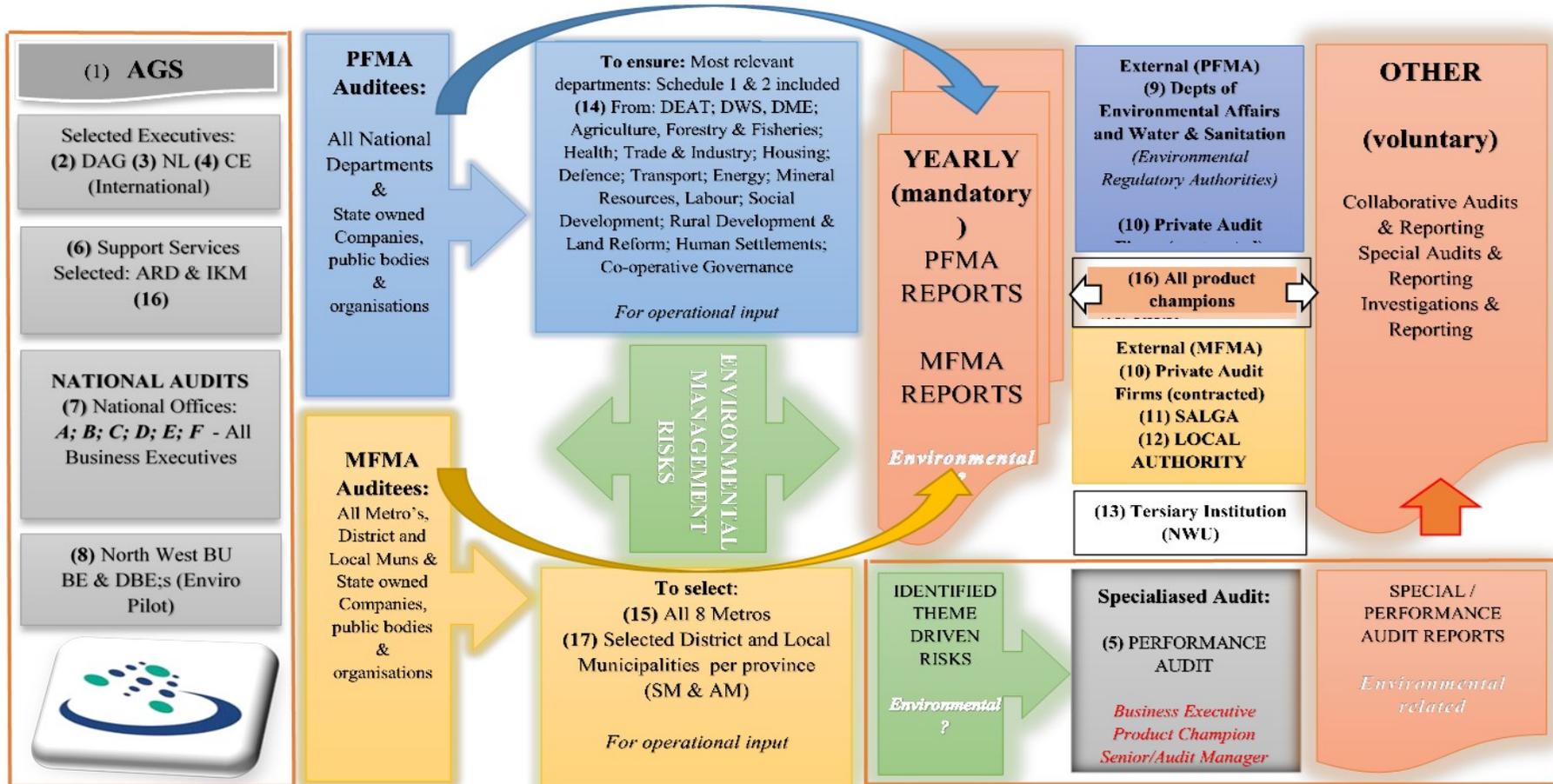
North West University (South Africa)

**Annexure H: Local (South African) internal and external stakeholders identified
for interviews and questionnaires**

Smith, 2020

Local internal and external stakeholders selected that are instrumental within the public sector audit processes of the South African SAI (but not inclusive).

LOCAL (SA) INTERNAL AND EXTERNAL STAKEHOLDERS SELECTED FOR INTERVIEWS AND QUESTIONNAIRES



Identified AGSA internal Stakeholders for Interviews: (1) AGSA (2) Deputy AGSA (3) National Leader; (4) Executive in the AGSA (International) (5) Performance BU: BE, SM & AM; (6) Support Services: ARD BE & IKM Specialist; (7) National Offices BE's (A – F), (8) North West BU Executive Management (environmental pilot)

Other (South African) Partners & Stakeholders for Interviews: SOUTH AFRICA: (9) Departments of Environmental Affairs and Water and Sanitation , (10) Private Audit Firms (contracted), (11) SALGA, (12) Local Authority – JB Marks (environmental audit performed) (13) University (NWU BA - Governance)

Identified AGSA internal Stakeholders for Questionnaires: (14) National Department identified team management (listed in NEMA and additional), (15) Metropolitan Municipalities team management, (16) all product champions within the AGSA, (17) Selected District- and Local Municipalities team management (per province).

**Annexure I: Face-to-face interviews with internal and external stakeholders of
the South African SAI**

Smith, 2020

The selections (for face-to-face interviews) included individuals identified for significant contributions to the thesis study (aim and objectives).

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Survey interviews: Internal Stakeholders of the AGSA

Date	Time	Location	Interviewed	Position	Methods
08-Mar-19	11h00	Pretoria	Kimi Makwetu	AGSA	Recording & Summary
25-Mar-19	09h00	Pretoria	Polani Sokombela	BE National B	Recording & Summary
25-Mar-19	10h00	Pretoria	Lourens van Vuuren	BE National C	Recording & Summary
25-Mar-19	13h00	Pretoria	Jan van Schalkwyk	CEO	Recording & Summary
25-Mar-19	15h00	Pretoria	Linda le Roux	BE ARD	Recording & Summary
26-Mar-19	08h45	Pretoria	Kevesh Lachman	BE Performance Audit	Recording & Summary
26-Mar-19	15h30	Pretoria	Kgabo Komape	BE National F	Recording & Summary
28-Mar-19	07h00	Pretoria	Bernito Jacobs	Performance SM	Recording & Summary
28-Mar-19	07h40	Pretoria	Nero Deolal	Performance M	Recording & Summary
28-Mar-19	13h00	Pretoria	Motebejane Jack	IKM	Recording & Summary
28-Mar-19	14h00	Pretoria	Alice Muller	National Leader	Recording & Summary
28-Mar-19	17h00	Pretoria	Tsakani Ratsela	Deputy-Auditor-General	Recording & Summary
29-Mar-19	12h00	Pretoria	Corne Myburgh	BE National A	Recording & Summary
29-Mar-19	13h30	Pretoria	Andries Sekgetho	BE National D	Recording & Summary
08-Mar-19	13h00	Rustenburg	Success Marote	North West Province BE	Recording & Summary
15-May-19	11h00	Potchefstroom	Lorraine vd Grijp	North West Province DBE	Recording & Summary
04-Jun-19	12h00	Potchefstroom	Schalla v Schalkwyk	North West Province DBE	Recording & Summary
01-Aug-19	11h00	Pretoria	Zolisa Zwakala	BE National E	Recording & Summary

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Survey interviews: External Stakeholders of the AGSA

Date	Time	Location	Interviewed	Position	Methods
08-Mar-19	12h45	Pretoria	Melissa Reddy	AFROSAI-e	<i>Recording & Summary</i>
27-Mar-19	11h00	Pretoria	Bala Nengovhela	SALGA - National	<i>Recording & Summary</i>
18-May-19	15h00	Potchefstroom	Sydney Mphephu	SALGA - NWP	<i>Recording & Summary</i>
26-June-19	10h20	Potchefstroom	Hendriko Veldman	JB Marks Local Mun	<i>Recording & Summary</i>
06-Aug-19	13h30	Potchefstroom	Johan Kirsten	Maseng Viljoen	<i>Recording & Summary</i>
12-Sep-19	12h00	Lichtenburg	Mervyn Ferreira	Moore & Stevens	<i>Recording & Summary</i>
12-Nov-19	12h00	Potchefstroom	Jan van Romburgh	NWU	<i>Recording & Summary</i>
21-Nov-19	15h50	Potchefstroom	Rodney Mathembula	DWS	<i>Recording & Summary</i>
21-Nov-19	16h10	Potchefstroom	Mmakgeng Enela	DWS	<i>Recording & Summary</i>

**Annexure J: Summary (main points) of local interviews conducted: main
questions and follow-up questions**

Smith, 2020

A total of 7 (similar) questions and follow-up questions were included in the face-to-face interviews conducted, exploring subjective opinion and inputs, relevant to the thesis aim, objectives (and research questions developed).

Summary (main points) of interviews (Local – South African) conducted: 7 Main Questions and follow-up questions (1 – 4)

Interview	Quest 1	Follow-up	2	Follow-up	3	Follow-up	4	Follow-up
1	Aware of actions	Depletion of resources	Yes – within compliance – mandate ought to include enviro management	Advocacy of enviro laws to auditees	Yes – important – Fin audits have relevance to sustainable environment	To bring enviro challenges to attention of decision-makers	Develop Directorate to focus on entire enviro value chain. Could sit in Performance	Comprehensive approach. Housed in performance – interface with rest. In developed countries where regulatory regimes performing – Performance ideal
2	Aware for better decisions	Clean water, pollution, sanitation	Would be good for AGSA – mandate needs to adopt changes	Auditors to understand role in society. Cannot just focus on money	Yes - absolutely	Enviro matters fit across all 3 audit methodologies	Should cut across all methodologies – included in AGSA strategy	Need integrated approach: Performance & Compliance. Performance = theme driven. Challenges within day-day placement
3	Conscious society	Economy not growing, don't care about enviro, government advocacy	No – don't think so. Discretion of AGSA	Include with Performance info / KPIs & objectives ... make focus area	Absolutely – AGSA should include	In SA not conscious what is environmentally friendly & impact on societies	May best fit into Performance	Need strategy to integrate regularity. Need blended approach as part of regularity. Need enviro section
4	Not destruct / self-destruct, preventing disasters	Waste, water pollution, proper infrastructure	Amendments to PAA opened doors without mandate inclusion	To affect definition of material harm / consequence management - PAAA	Yes we should	SA doesn't execute policy – AGSA should audit enviro impacts. PAAA is ultimate solution	For prominence – need a separate enviro section: SAS - Performance	The way we could use our resources, here – most effective
5	Sustainable resources, follow model of SDGs	Water, electricity, job security & unemployment	Yes – don't think methodology dictates	Integration process – inclusion of procedures / performance	Absolutely	Goes back to SDGs. Audit should make difference in life of citizens	Integrated / comprehensive way makes more sense. Performance	Flexible open-ended methodology in performance. Financial audit driven by rules – more complex. Comprehensive – but performance best placed where you can make things happen / experiment
6	Decisions made for current & future generations	Water, sanitation, waste & air pollution	No – don't think mandate covers it. Specific to financial. AG mandate covers under performance	Environment as resources of government. Performance (effective, efficient) use of resources	Yes – but timing = crucial	Should prioritise – focus on SDGs / enviro impacts on service delivery	Fit well with Performance	Broader issues to look at. Compliance methodology more difficult. Compliance on its own = dead thing. Performance can tell a story. Will help to have single methodology moving forward

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7	Compliant to SDG principles, progressive, sustainable society	Water, waste pollution, depletion of natural resources	Yes – definitely – reason for developing approach & strategy	Advocacy / Integration into regularity audits. Stand-alone audits.	Yes - definitely	Threat of human population to enviro to be assessed / monitored	Compliance and Performance	Compliance with international & national legislation. Performance = resources are used (e/e/e) to benefit all
8	Environmental conscious, on impacts & benefits of environment	Not sensitive to enviro impacts, people congested, poverty & economic challenges	No – considering strict mandate	AG driven by govt. plans – where enviro effects & implications needs to be included	Not our responsibility – but if benefit country = worth to explore	Value-add initiatives	Incorporate it in Performance Audit	Our centre for experts & through performance you can sell ideas. Can look at sector & value-add
9	Society that considers all aspects of development – enviro conscious	Littering, infrastructure. Mind-set to consider environment	Important to factor in mandate.	Needs integrated approach – finances, environment, people's needs	Think so – initially had doubts	Look at performance – taking care of enviro & actions – accountable on enviro issues	Would feed into Performance	When we look at economic and social it is not complete – add environment it becomes all-encompassing. Will work under performance
10	Enhance sustainable environment, maintain towards enhancing the environment	Law enforcement, corruption – also impacting on environment	Important to take into consideration.	Integrated audit work. Should be a compliance exercise.	Yes – we all have a role to play	As citizen of country & part of chapter 9 institution – enhance proper enviro management	It is cross-cutting ... across everything.	Compliance should be there ... performance ... value-add ... AOPi and financial. Should be integrated
11	Not deplete and sustain resources – SDG focus	Air pollution, waste, water, Infrastructure – poor treatment	Yes – definitely.	Integrated – compliance / value-add / performance – just add procedures	Most definitely – part of government mandate to protect environment	Impact on service delivery / poorest of the poor	Under value-add: ARD & compliance aspects of scoping in: Compliance	Can also include as kind of sector: Value-add via sector reporting
12	Taking care of environment	Poverty, unequal history re: enviro benefits, Awareness needs	Yes – there is opportunity	To focus on awareness – Auditees. Capacity needs at AGSA	I think so	A lot of enviro impacts & pollution reported in the media – can lead to disasters / way we live in societies	Should be led by international, more modern performance practice: Performance Audit	Should not only be done in performance – should be incorporated in all audit methodologies
13	Aware society of enviro impacts, risks and mitigating enviro risks	Sustainable water, disease free society, people not aware or informed of enviro risks	Yes – to uphold democracy	As part of regularity & performance (stand-alone) – combine these two	I think so – promoter for it	Need to look at impact & results to broader society – goes back to ISSAI 12. Should focus on better life for citizens	Performance Audit	Like the idea that there is ownership for it, organisational side view on it, central energy behind driving procedures
14	Finding balance between developmental priorities & facilities development – to improve life of citizens. Maintaining & protecting the environment	Driving tension between economic growth, development & protecting the environment. Air quality, water & sanitation. Inadequate enforcement, weak	Yes – in mandate	Include focus within performance / compliance / financial	I think we should	Should focus on environmental and within limited resources consider trade-offs. Difficult to expand in current audits – can consider to add to compliance	In 3 places: Compliance, audit of information & stand-alone performance audit	Don't think auditees prioritise the area. We have specialists under Performance ... but should do more compliance and AOPi

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		government machinery						
15	Sustainable resource management & maintaining	Understanding & appreciation of environment by communities	Needs a bit of tweaking – not specific	Follow-the-money route	Think so	To lead by example – be a responsible SAI. SDGs indicate role of SAI	Under Regularity Audit	Will get bigger focus. Under performance = stand-alone – not that impactful. PAAA = substantial harm? Performance is not going to focus as regularity – and we should consider as part of audit process
16	Sustainability and care of resources. Not deplete / damage environment	Developmental / socio-economic challenges – not able to do basics. Not implementing NEMA	Not directly	Integration – follow-the-money route. Could build into current resources	There is definitely scope for it – not sure to what extent	Don't want to be left behind from SDG / AFROSAL point of view – stay abreast with other SAIs in this regard	Should start with strong Performance audit aspect	Should be integrated driven by performance. With regularity there is a bigger footprint ... focus on compliance. Performance – theme driven
17	Conscious about environmental management in general – don't pollute	Understanding & appreciation of the environment from communities	Yes – I think so	Just find way to incorporate into current audit methodology	Think only as compliance to NEMA	To add compliance to NEMA as focus area (compliance part)	Start with Compliance thereof. Compliance with NEMA – Should sit in SAS	Specialised Audit Services – can expand scope to compliance for bigger picture – should expand capacity – SAS can address capacity
18	Healthy, safe, sustainable environment linked to SDGs. Infrastructure & policies in place	Electricity, quality & quantity of water. All types of waste pollution	Definitely – looking at the vision to promote accountability	Can include as part of regularity audits for biggest impact	Yes	Bigger responsibility as SAI. Contribute to better society by including environmental	As part of Regularity	Looking at AFS & Compliance. With a specific risk = move to SAS
19	Looks after natural resources not to deplete / sustain	Enforcement capacity, perception of enviro ownership, legislation implementation	Think yes – from a financial point of view	Extend scope beyond financial issues. Focus on impacts on people	I think on basis of checks & balances	On basis of checks & balances – to check if regulatory work is done	Place under Performance	Performance audit methodology looks at optimal utilisation of facilities and resources
20	Delivering basic services within looking at our environment	Proper planning, qualified staff, compliance to legislation	It has impact on AFS – indirectly included	Advocacy will contribute. Should focus within AFS & non-compliance	There is scope – Constitution requires that we report to taxpayer	We audits AFS / performance / compliance – how we report = problem – tell taxpayer if things properly done	Should be with Regularity	Impacts on service delivery / AFS / Compliance
21	Comply with legislation to sustain resources – preserve resources	Poverty, legislation, environmental compliance – lack of law enforcement	Yes - sure	Emphasis should be on non-compliance	Yes	AGSA = independent / no interference / no bias – same with environmental	Fit into both Regularity & Performance	Integrated: Economic/ Social / Environment – should not separate it. Follow-ups done prior to budgets approved

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22	Not where needed to be. Need boldness to enforce. Can do better	Law enforcement, awareness & government drive needed	I think so – we can influence	Can start small – awareness ... value-add & build on it	I think so – key issues (we need to know our role)	Need to elevate the message ... In SAS / performance but bring closer to day – day audits	SAS – performance to take lead	Performance to influence rest ... break down to regularity ... bring closer
23	Where profits are not put in front of environment	Infrastructure, where services rendered – basic needs re: Constitution	Yes – inherently already included	Environmental boils down to environmental impacts & risks	It should be done	If identified as reportable matter – should include in mandate. Currently not all compliance stuff included as mandatory reportable item	If included in mandate / done annually = regularity. Ad hoc = performance	The annual option will save cost – audit teams can facilitate ... Important to include as reportable item ... for best fit in financial cycle
24	Society that re-uses or breaks it down to avoid unnecessary waste / space	To understand and realise impact to environment (to budget and manage waste)	Not under regularity audit – other avenues (but in current mandate – not regularity)	AGSA needs to relook at mandate. Mandate can be expanded or extended to include	Yes	Impacts of environmental matters – government responsible / should manage	It should be a mandatory audit – should form part of financial audit processes	To keep separate from financial audits – example compliance / performance information focus
25	Living coherently with environment to benefit all	Many priorities. Delivering most basic stuff. Crime	Yes – through compliance, investigations, performance	Capacitate / skills / awareness / proper follow-up on reports	Yes	Independent organisation with lots of powers – where else?	It should be linked to your performance auditing	Should be backed by law and regulation – people to be made conversant of impacts
26	Utilise resources in sustainable manner for current & future generations	Resources and skills needs in government & its stakeholders	Yes – as environmental includes financial issues	To include expectations / sustainability / spending (effects on environment)	Yes	Should have in-house look. Look at mandates and responsibilities of government	Combination	Collaborative approach
27	The livelihood of our community	Job creation and population growth	Needs to be mandatory	Look at impact of performance	Yes	Who else? Need auditors who can qualify impacts	Regularity (mandatory)	Ensure mandate is achieved – through departments' finances

Summary (main points) of interviews (Local – South African) conducted: 7 Main Questions and follow-up questions (5 – 7)

	<u>5</u>	<u>Follow-up</u>	<u>6</u>	<u>Follow-up</u>	<u>7</u>	<u>Follow-up</u>
1	Technical skills needs (available – just to be sourced)	Educating, making aware. AGSA can assess resources	Not effective – but not necessarily a lack of resources	No pressure on regulatory regime. People not aware of them or what to expect from them	There are many opportunities for collaborative audits that also create learning opportunities.	Absolutely – think of MDGs not assessed / SDGs now to ensure they are checked against commitments
2	Awareness on behavioural / knowledge side. Fin auditors need enviro competence . SDGs – bigger challenge	Get specialist to obtain audit competencies (than auditors to be specialised), SAls to bring in specialists & enhance skills	There are good pockets of regulatory institutions especially in private sector – challenges in public sector	Parastatals / public sector should be held accountable. Need training & awareness in government – AGSA to be part of it	Definitely – should be part of it (SA has signed & AG to provide assurance). AG should know bigger picture: reputational issue / credibility. Important that AG focus on commitment to these agendas	Yes – absolutely (MFMA & PFMA)
3	Skills & skills development Funding	Ability to sell it – include as part of performance (budget – to pay for)	It is very fragmented and we don't know who is responsible	Accountability should be established	Absolutely – AG should. Government is good at signing – we need to look at it. Environment included in AG mandate	See addressed in initial response
4	Cost-recovery challenges. Funding / skills . Skills are expensive. Regularity over-capacitated	AGSA should perform risk assessments – and decide on best response thereto	Enough in legislation – not sure where we lose it on enforcement side	Resources / capacity problems. Maybe legislative changes needed. Better policing needed	Must first win battles within own borders – but important to honour commitments & agreements . We don't have resources – but should address dire risks immediately	See addressed in initial response
5	Finances	Should prove value-adding. SAI should earn independence – prove value of work. Strategic focus needed	I don't know them – cannot be too effective	Good legislation, but no enforcement. Strength of enforcement to be upped. We should create discipline	It makes a lot of sense ... UN SDGs – cannot see any SAI doing it – as governments not done the SDG thing. It is a must – not negotiable – to be a responsible SAI. Not sure if collaborative audits are adding value	See addressed in initial response
6	Conflicting priorities . Resources occupied. Enviro not coming through strong enough. Audit fees. Skills & training needs	Should prioritise resources on worthy / important audits. Should include in AGSA Strategy – Blue Book	There is good legislation – but problem with enforcement	Regulatory bodies not always confirmed – need public body to manage (DEA?)	Yes – for sure. Commitment on overall level – country trying, but reporting not in place	We only focus on entities responsible ... SDGs = DEA. A lot of these parts of audit of performance information – with SDGs we should first look at policy level
7	Emotional focus of enviro – open to sensationalism . Consistency of reports. Skills & education	Find objective, neutral & consistent reporting. Get right skills. Train resources. Partnership with institutions. Transfer skills / knowledge	Breakdown in inter-governmental relations, lack of leadership, resource constraints (skilled & experienced resources), no	Addressed in main question response	Start with adoption of treaties by government. SAI not get involved in policy – but objectively look at compliance to rules & regulations ... not get emotional	See addressed in initial response

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		Create enviro audit as focus area - Strategy	political will to protect environmental resources			
8	DEA audit approach needs	Start with DEA – just include enviro focus as value-add	Not aware of regulatory regimes & what they are doing	No enough pressure on regulatory authorities	I would advise for that – but as country still at basics. The more involved with others – the less time for basics	See addressed in initial response
9	Auditors understanding of enviro aspects. Skills needs	Capacitate existing auditors on enviro aspects. Upgrade enviro skills. Add experts. Use external assistance	Legislation good – enforcement weak	Capacity needs to ensure effective enforcement	It would work – sit well with AG. Where agreements signed, it must be implemented, must be ownership & must be assessed. AG must report how country is doing (SDG example). We should look at how we influence – without alienating government	See addressed in initial response
10	Resource needs	Educate staff. Employ skilled staff. Environmental partnerships. Train staff. Sign MOU's. Use current audit processes / info available	Legislation there – enforcement not done	No political will to protect environmental resources. To enhance effective leadership in Parliament. Equal distribution of environmental resources needed. Environmental not a focus or being addressed	Definitely (voluntary) – we must be able to assess validity, accuracy & completeness of reporting ... part of our mandate to look at & report on these things. Baby steps needed – look at how we can influence ... drive change without alienating government	See addressed in initial response
11	Mind-set. Regularity audit over-capacitated	Just add environmental procedures – change mind-sets	Not very effective	DEA not aware of all environmental developments – impacts / compliance issues	Most definitely – our focus accountability – government made those commitments and we should look at it in audits we do. We are behind & need integrated approach. Great focus on SDGs – take baby steps	See addressed in initial response
12	Capacity / Resources / Awareness	Capacitate and make staff aware on enviro impacts / audit needs. Acquire enough resources	They do all they can	Question is if their recommendations are taken seriously. Recommendations not implemented. Not enough support / understanding of powers to be	I think so – start at NDP level. NDP objectives are derived from SDG's – cannot ignore SDGs – world is moving towards achieving it – we should not be left behind	See addressed in initial response
13	Fragmented resources & enviro resource needs. Enviro Strategy not operationalised yet. Limited enviro knowledge	To create change management / enviro awareness & training	There is some implementation of the oversight	Fragmented approach – action far and few between. Not sure if country has Enviro Strategy – but implementation fragmented. Accountability lacking. Need a political will to protect resources & equal distribution to all citizens. Unfunded mandates – not paid for	Need to tread carefully – if government has not set themselves up to do this – it would be dangerous territory for AG . The information not always out there to audit. I will caution against it (info valid & credible? – we can play a role in influencing	See addressed in initial response

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14	Resource needs. Audit base not as mature as required on basic auditing – further pressure on limited audit resources	First get basics right (audits). To properly plan & prioritise for enviro inclusion	Legislation there – but implementation, monitoring & enforcement lacking	Addressed in main question response	There is a lot of space for AG to do it ... implementing & supporting on actions to support SDG commitments. There is scope – government made commitments but following up on responsibilities towards – not there. We should engage with government – flag issues on their progress	See addressed in initial response
15	Change-management. Fatigue of staff. Haven't operationalised enviro yet	Make staff aware of importance. Get buy-in from staff	No – don't think they're effective – never heard about them & the impacts	Not aware of doings of regulatory authorities – what's happening?	If we talk about SDGs – AG has role to play in influencing the effectiveness of monitoring, reporting, holding people accountable – currently fragmented. We cannot see progress ... who is responsible. Challenge will be to ensure that information out there is valid & credible. We could see if departments are aligned to SDGs – do follow-ups	See addressed in initial response
16	Skills needs. Understanding of laws & regulations and how it links with enviro.	Know NEMA (aware of poor enforcement). Get buy-in from government. Address skills challenge & train staff	Not sure (50%)	Their work not elevated. The legislation & bodies there – not sure about reporting – enforceability thereof. Department established – need sufficient employees	I think so – depends. When SDGs signed we bought into it – include in NDP – made sure it is aligned with SDGs. We should expand within our own resources – focus on developmental state of country	See addressed in initial response
17	Main focus: Financial & Performance. New PAA focus. Auditees don't even have basics right – hinders anything new. PAAA – focus (shifting of attention). Capacity constraints	To address resource needs. May acquire additional resources – on PAAA and additional work	Don't know about them	There is a NEMA = all I know	Yes – but treaties perceived to be signed for political reasons – nice to have – because people that should make sure that their behaviour impacts on the environment – don't even know it – nice to have	See addressed in initial response
18	To sell the approach (enviro inclusion) – might see as specialised area	Selling the principle & approach to all auditors (within current resources & audit methodology)	Not very effective.	Capacity – not available HR resources	Yes – definitely. It would be part of looking after accountability & good governance within the public sector – and that talks to accountability	I think it can work as with ISA – we review at start and with follow up – was it implemented – report thereon. If developments changed – report as such
19	Capacity / Mandate / PAAA (amendments). Difficult to rope in CA's / fin experts. Repeated findings at auditees – requires all their focus	To adapt approach. AGSA to blend skills to understand enviro. Ensure basic understanding. Impose consequence management – repeated findings ...	Do what they're supposed to	Don't have the necessary capacity. They just prioritise – just follow bigger issues.	I think it has a bigger role to play. Government departments supposed to implement – not implement. Voluntary agreements. Don't even know what departments responsible	Both cycles – most regularity audits humstrung due to resources

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					AG can play in synchronising programmes re: treaties / agreements. It is part of performance	
20	Awareness. Continual serious environmental impacts	Create awareness within current resources / budgets / efforts – focus on value-add	They are not effective nor sufficient	See major environmental impacts continuing – issues in media	I don't know – but AG considers SDGs ... but if someone doesn't do it – impact on service delivery – reason to say we should look at it	Not sure about commitments on SDGs world-wide. They throw at Presidency – because no real planning. They sign something that nobody really thought about – something we need to look at
21	Availability of adequate, skilled / knowledgeable and experienced staff	Train & qualify staff to understand the environment	Ineffective – extremely low effectiveness	No action / enforcement from EMIs. Lack of updated bylaws. Resource needs (skilled, experienced resources). No political will to protect resources or equal distribution of resources	Yes – for sure. AG must make sure that treaty is applied in all spheres of government. Independence part of AG important – to make sure that both private & public sectors comply with treaties & legislation	MFMA & PFMA
22	Need specialised skills (tailor the mandate) – know who & how to influence	Investment (funding), identify the right champion behind this, resource needs	They need to be more visible	People should know what they're about, expected. Must enforce effectively	I think – definitely – SAI is already doing great work internationally – taking the lead, contribute!	MFMA – service delivery / PFMA – policies / enforcement are important
23	Clean audits challenge – environmental may mean losing clean status	Mental shift by AGSA ... bridge the gap of resource needs ... identify key individuals / train	Cultural compliance in SA very poor – massive task to enforce	AG can strengthen them through reports – channel their efforts and resources	Yes – AG has role to play – government must be accountable to what they agree	Should be imbedded in every action
24	Training of staff, auditing terms, increase audit fees, AGs timeframes	To do prior to regularity audit – incorporate in report (allow for more budget / timing)	Not at all – they don't even comply themselves	Not doing their job, misusing the process. Cannot expose others therefore	For the AGSA to decide (their mandate / purpose)	Need to first look at local compliance & progress – then international. Wasting of time
25	Capacity & skills	Auditees will not voluntarily go for add-ons (performance) – money! Regularity = great suggestion ... basic step to include in regularity	Problem with enforcement	Good legislation – weak monitoring and enforcement	Yes – who else will check compliance?	Within all audits – AG should also engage with INTOSA to audit/monitor SA
26	Expectations	Auditees must understand what we're doing and awareness needed	Huge gap	Regulatory authorities not independent	Yes – need to look at it	Depending on the ownership
27	Skill / departments knowing what to do and expected	Training and getting the correct skills	Gaps and improvement needed	Challenge with human resources and financial resources. Gaps in legislation	AG can play a role	Determine who can and should do it – maybe office of presidency – who AG can liaise with

*Enhancing environmental accountability through public sector regularity
auditing: a South African perspective*

**Annexure K: Online survey questionnaire: enhancing environmental
accountability through public sector auditing: A local (South African)
perspective**

Smith, 2020

Forwarded through: **GOOGLE FORMS**: Online survey questionnaire.

PART 2: A SOUTH AFRICAN PERSPECTIVE 

To be completed by Internal Stakeholders of the South African SAI:

Includes own (individual) and SAI (operational) perspective on where the South African Supreme Audit Institution (AGSA) should place environmental matters within their public sector audit methodology processes and the effectiveness towards enhancing public sector environmental accountability.

General Information

Question 1: Very briefly, what is an environmentally sustainable society?

.....

.....

.....

With reference to Question (1) – What do you perceive to be the three most pressing environmental challenges to ascertain sustainable cities and communities in South Africa?

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.....

.....

General Information

Question 2: To your knowledge, does the AGSA's audit mandate allow for the consideration, audit and reporting of environmental issues and risks within public sector audit methodology processes?

Yes		No		Partially	
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With reference to Question (2) - Where applicable, briefly explain your answer:

.....

.....

.....

Research Sub-Question 2

Question 3: Is, (or are you aware) of environmental issues and risks currently included within the AGSA's public sector audit methodology and reporting processes?

Yes		No	
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With reference to Question (3) - If applicable, what is your perception on the reason for the inclusion or exclusion:

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.....

Research Sub-Question 2

Question 4: Where are environmental audit issues and risks currently placed or located in the AGSA's public sector audit methodology processes (types)?							
Regularity		Compliance		Performance		Other	

With reference to Question (4) – (other) Please indicate where they are located and briefly why?

.....

Research Sub-Question 2

Question 5: To what extent are environmental issues and risks considered and included within the AGSA's current public sector audit methodology processes?					
In all mandatory audits		Within selective voluntary audits		Other	

With reference to Question (5) - Briefly explain (or elaborate on) the extent of involvement:

.....

Research Main Question

Question 6: In your opinion, are environmental issues and risks best suited within the AGSA's regularity or performance audit methodology processes?			
Regularity		Performance	

With reference to Question (6) Briefly explain why:

.....

Research Main Question

Question 7: In your opinion, is the current environmental placement of environmental issues and risks within the AGSA's audit methodology processes conducive to enhancing public sector environmental accountability?					
Yes		No		Partially	

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With reference to Question (7) - Briefly, explain your answer:

.....
.....
.....

General Information

Question 8: In one sentence, explain why you think the AGSA is essential in the quest to improve and enhance public sector environmental accountability in South Africa?

.....
.....
.....

ANY FURTHER COMMENTS:

.....
.....
.....
.....

Survey completed by (only add country, current position and employer):

.....

The survey questionnaires forwarded to the local, South African SAI (internal stakeholders) will assist in answering the study's Main (1) and Sub-Research Questions 2 and 4, exploring inputs from operational audit teams on the placement and development of environmental issues and risks within available, and the regularity specific, public sector audit methodology processes of the South African SAI, and its contributions to enhancing public sector environmental accountability.

Should you need further information or clarification regarding this project, you could contact: **Mr. Frederick, Hendrik Smith** at 0834901800 or mail erics@agsa.co.za

**Annexure L: Survey questionnaire: forwarded to identified internal stakeholders
of the South African SAI**

Smith, 2020

Forwarded through: **GOOGLE FORMS**: Online survey questionnaire.

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INTERNAL (SOUTH AFRICAN SAI) SURVEY QUESTIONNAIRES FORWARDED: 113

AGSA: NATIONAL BU's (PFMA): 32

National A	Total	Reason for selection
*Dept. of Cooperative Governance	2	Cooperative governance
* Dept. of Trade & Industry	2	NEMA listed department
* Dept. of Human Settlements	2	Life of citizens (impacts)
National B:		
*Dept. of Transport	2	NEMA listed department
National C:		
Dept. of Defence	4	NEMA listed department
Dept. of Social Development	2	Life of citizens (impacts)
National D:		
*Dept. of Water & Sanitation	2	NEMA listed department
*Dept. of Health	4	NEMA listed department
*Dept. of Environmental Affairs	2	NEMA listed department
National E:		
*Dept. of Energy	2	NEMA listed department
*Dept. of Mineral Resources	2	NEMA listed department
National F:		
*Dept. of Agriculture, Forestry & Fisheries	2	NEMA listed department
* Dept. of Labour	2	NEMA listed department
* Dept. of Rural Development and Land Reform	2	Part of land (developments) - impacts

AGSA: METROPOLITAN MUNICIPALITIES (MFMA): 21

Buffalo City Metropolitan Municipality (EC)	2	Metropolitan Municipality
City of Cape Town (WC)	2	Metropolitan Municipality
City of Johannesburg (GAUTENG)	2	Metropolitan Municipality
City of Tshwane (GAUTENG)	2	Metropolitan Municipality
Ekurhuleni Metro Municipality (GAUTENG)	2	Metropolitan Municipality
eThekwin Metropolitan Municipality (NATAL)	6	Metropolitan Municipality
Mangaung Metropolitan Municipality (FS)	3	Metropolitan Municipality
Nelson Mandela Bay Metropolitan Municipality (EC)	2	Metropolitan Municipality

AGSA: PRODUCT CHAMPIONS (MFMA & PFMA): 24

National E	1	Responsible for product quality & reporting
National F	1	Responsible for product quality & reporting
WC	1	Responsible for product quality & reporting
FS	1	Responsible for product quality & reporting

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Gauteng	3	<i>Responsible for product quality & reporting</i>
Eastern Cape	1	<i>Responsible for product quality & reporting</i>
National A	1	<i>Responsible for product quality & reporting</i>
National B	1	<i>Responsible for product quality & reporting</i>
National C	1	<i>Responsible for product quality & reporting</i>
National D	1	<i>Responsible for product quality & reporting</i>
KZN	1	<i>Responsible for product quality & reporting</i>
LIM	1	<i>Responsible for product quality & reporting</i>
MPU	1	<i>Responsible for product quality & reporting</i>
NC	1	<i>Responsible for product quality & reporting</i>
WNW	1	<i>Responsible for product quality & reporting</i>
ISA	1	<i>Responsible for product quality & reporting</i>
Investigations	1	<i>Responsible for product quality & reporting</i>
POE	1	<i>Responsible for product quality & reporting</i>
Legal	1	<i>Responsible for product quality & reporting</i>
Performance	1	<i>Responsible for product quality & reporting</i>
QC	2	<i>Responsible for product quality & reporting</i>

AGSA: DISTRICT AND LOCAL MUNICIPALITIES SELECTED – AUDIT TEAMS (MFMA): 36

Eastern Cape BU:		
Sarah Baartman District Municipality	2	<i>Local Authority Audit Team Management</i>
Baviaans Local Municipality	2	<i>Local Authority Audit Team Management</i>
Free State BU:		
Fezile Dabi District Municipality	2	<i>Local Authority Audit Team Management</i>
Setsoto Local Municipality	2	<i>Local Authority Audit Team Management</i>
Gauteng BU:		
West Rand District Municipality	2	<i>Local Authority Audit Team Management</i>
Mogale City Local Municipality	2	<i>Local Authority Audit Team Management</i>
Kwazulu-Natal BU:		
Ilembe District Municipality	2	<i>Local Authority Audit Team Management</i>
Richmond Local Municipality	2	<i>Local Authority Audit Team Management</i>
Limpopo BU:		
Mopani District Municipality	2	<i>Local Authority Audit Team Management</i>
Modimolle Local Municipality	2	<i>Local Authority Audit Team Management</i>
Mpumalanga BU:		
Gert Sibande District Municipality	2	<i>Local Authority Audit Team Management</i>
Chief Albert Luthuli Local Municipality	2	<i>Local Authority Audit Team Management</i>
Northern Cape BU:		
Namakwa District Municipality	2	<i>Local Authority Audit Team Management</i>
Hantam Local Municipality	2	<i>Local Authority Audit Team Management</i>
North West BU:		

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Bojanala District Municipality	2	<i>Local Authority Audit Team Management</i>
Lekwa-Teemane Local Municipality	2	<i>Local Authority Audit Team Management</i>
Western Cape BU:		
Overberg District Municipality	2	<i>Local Authority Audit Team Management</i>
Bergrivier Local Municipality	2	<i>Local Authority Audit Team Management</i>

Annexure M: Online survey questionnaire responses: local (AGSA)

Smith, 2020

Internal (AGSA) selections: Survey Questionnaires responses received via **GOOGLE
FORMS.**

**LOCAL (SOUTH AFRICAN SAI – AGSA) INTERNAL ONLINE GOOGLE SURVEY
QUESTIONNAIRES FORWARDED TO AND RESPONSES RECEIVED**

**LOCAL (SOUTH AFRICAN SAI) OPERATIONAL TEAMS: ONLINE GOOGLE SURVEY:
113**

**MAILS FORWARDED INTERNALLY (AGSA – AUDIT TEAM MANAGEMENT AND
PRODUCT CHAMPIONS – ALL PROVINCES):**

MothopatlhengR@agsa.co.za * CassieK@agsa.co.za * TshepoS@agsa.co.za * SizweN@agsa.co.za *
LondolozaS@agsa.co.za * AsaM@agsa.co.za * MADIDIMALOSI@agsa.co.za * GautaC@agsa.co.za *
SolomonJ@agsa.co.za * KarinN@agsa.co.za * BusiMA@agsa.co.za * MojalefaD@agsa.co.za *
FaizelJ@agsa.co.za * KuGovender@agsa.co.za * SuretteT@agsa.co.za * NeoM@agsa.co.za *
NtikanaT@agsa.co.za * SthembileN@agsa.co.za * TshiamoH@agsa.co.za * HerashmaA@agsa.co.za *
DanielVW@agsa.co.za * AsandaN@agsa.co.za * NovalynS@agsa.co.za * SandileM@agsa.co.za *
MhlengiP@agsa.co.za * APatel@agsa.co.za * Faniek@agsa.co.za * InderaniM@agsa.co.za * rienkg@agsa.co.za
* MxolisiP@agsa.co.za * CarynB@agsa.co.za * NomvuyisoM@agsa.co.za * AdielB@agsa.co.za *
YusrieA@agsa.co.za * MelissaM@agsa.co.za * NICOLAD@agsa.co.za * BelindaB@agsa.co.za *
YolandiH@agsa.co.za * MsiziM@agsa.co.za * SamuelA@agsa.co.za * ErinS@agsa.co.za * ZifaM@agsa.co.za *
ThavaloshnanP@agsa.co.za * AreebK@agsa.co.za * KimV@agsa.co.za * SamuelZ@agsa.co.za *
IrmaG@agsa.co.za * VincentM@agsa.co.za * WesternN@agsa.co.za * SisonkeM@agsa.co.za *
SybrandS@agsa.co.za * rienkg@agsa.co.za * RiaanV@agsa.co.za * WianO@agsa.co.za * MubeinH@agsa.co.za
* LynnP@agsa.co.za * ZakariaK@agsa.co.za * ThobileN@agsa.co.za * LelanieV@agsa.co.za *
ZimbiniM@agsa.co.za * MarelizeC@agsa.co.za * MariaanH@agsa.co.za * SudeshS@agsa.co.za
LuthendoM@agsa.co.za * KomeshniM@agsa.co.za * SimonD@agsa.co.za * petrievz@agsa.co.za *
Alida@agsa.co.za * MikeO@agsa.co.za * NonkululekoT@agsa.co.za * WALTERM@agsa.co.za *
cori@agsa.co.za * ParishkaB@agsa.co.za * NcumisaS@agsa.co.za * johannvt@agsa.co.za *
SisonkeM@agsa.co.za * SABELOM@agsa.co.za * MelezwaM@agsa.co.za * willemopp@agsa.co.za *
LesibaB@agsa.co.za * AndriesT@agsa.co.za * NatashaS@agsa.co.za * CharlotteS@agsa.co.za *
MuazB@agsa.co.za * TshwareloM@agsa.co.za * ChristiaanC@agsa.co.za * AmandaZ@agsa.co.za *
HlangiweP@agsa.co.za HlangananiM@agsa.co.za BongiwesS@agsa.co.za * MolateloM@agsa.co.za *
jamesm@agsa.co.za * GerhardO@agsa.co.za * dumisaner@agsa.co.za

RESPONSES RECEIVED: 41

Response	Designation	E-mail Address
1	Senior Manager, Auditor-General of South Africa	Not provided - optional
2	Senior Manager, Auditor-General of South Africa	Not provided - optional
3	Senior Manager, Auditor-General of South Africa	Not provided - optional
4	Audit Manager, Auditor-General of South Africa	Not provided - optional

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Response	Designation	E-mail Address
5	Audit Manager, Auditor-General of South Africa	Not provided - optional
6	Senior Manager, Auditor-General of South Africa	Not provided - optional
7	Senior Manager, Auditor-General of South Africa	Not provided - optional
8	Senior Manager, Auditor-General of South Africa	Kathiema@agsa.co.za
9	Senior Manager, Auditor-General of South Africa	carynb@agsa.co.za
10	Senior Manager, Auditor-General of South Africa	molatelom@agsa.co.za
11	Audit Manager, Auditor-General of South Africa	reniervb@agsa.co.za
12	Product Champion, Auditor-General of South Africa	lynnp@agsa.co.za
13	Audit Manager, Auditor-General of South Africa	cebiles@agsa.co.za
14	Senior Manager, Auditor-General of South Africa	erins@agsa.co.za
15	Senior Manager, Auditor-General of South Africa	orlandof@agsa.co.za
16	Audit Manager, Auditor-General of South Africa	Jo-anel@agsa.co.za
17	Audit Manager, Auditor-General of South Africa	johannvt@agsa.co.za
18	Senior Manager, Auditor-General of South Africa	mothophathlengr@agsa.co.za
19	Audit Manager, Auditor-General of South Africa	nicolad@agsa.co.za
20	Senior Manager, Auditor-General of South Africa	samuelz@agsa.co.za
21	Deputy BE, Auditor-General of South Africa	melissam@agsa.co.za
22	Audit Manager, Auditor-General of South Africa	thobilen@agsa.co.za
23	Senior Manager, Auditor-General of South Africa	sivuyilen@agsa.co.za
24	Audit Manager, Auditor-General of South Africa	hlengiwep@agsa.co.za
25	Senior Manager, Auditor-General of South Africa	lutendoma@agsa.co.za
26	Audit Manager, Auditor-General of South Africa	karinn@agsa.co.za
27	Senior Manager, Auditor-General of South Africa	hlangananim@agsa.co.za
28	Senior Manager, Auditor-General of South Africa	lelaniev@agsa.co.za
29	Audit Manager, Auditor-General of South Africa	hlulanin@agsa.co.za
30	Audit Manager, Auditor-General of South Africa	mafokotsak@agsa.co.za
31	Audit Manager, Auditor-General of South Africa	tshiamoh@agsa.co.za
32	Senior Manager, Auditor-General of South Africa	tshwarelom@agsa.co.za
33	Senior Manager, Auditor-General of South Africa	tshwarelom@agsa.co.za
34	Audit Manager, Auditor-General of South Africa	jamesm@agsa.co.za
35	Product Champion, Auditor-General of South Africa	komeshni@agsa.co.za
36	Audit Manager, Auditor-General of South Africa	novalyns@agsa.co.za
37	Product Champion, Auditor-General of South Africa	sudesh@agsa.co.za
38	Audit Manager, Auditor-General of South Africa	christiaanc@agsa.co.za
39	Audit Manager, Auditor-General of South Africa	samuela@agsa.co.za
40	Senior Manager, Auditor-General of South Africa	londolozas@agsa.co.za
41	Senior Manager, Auditor-General of South Africa	danielw@agsa.co.za

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LOCAL (SOUTH AFRICAN SAI) OPERATIONAL AUDIT TEAMS: ONLINE GOOGLE SURVEY (NOT COMPLETED ONLINE) – FORWARDED ON AGSA MAIL

RESPONSES RECEIVED: 3

Response	Designation	E-mail Address
43	Senior Manager, Auditor-General of South Africa	werns@agsa.co.za
44	Senior Manager, Auditor-General of South Africa	loshp@agsa.co.za
45	Senior Manager, Auditor-General of South Africa	MuazB@agsa.co.za