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DOCTORAL SCHOOL OF INTERNATIONAL RELATIONS
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**Public participation and input framing in environmental
decision-making: Lessons from South African Strategic
Environmental Assessments**

**Doctoral School of International Relations and Political
Science**

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Environmental Assessments**

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Doctoral School of International Relations and Political Science

Geopolitics and Sustainable Development programme (Urban and Environmental Policy Studies)

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Doctoral dissertation

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Budapest, 2026

<i>ABSTRACT</i>	10
<i>Note on Prior and Forthcoming Publications</i>	12
<i>1. INTRODUCTION</i>	13
1.1 Research Gap.....	15
1.2 Field of study, research objectives and questions	16
1.3 Thesis structure.....	17
<i>Chapter 2: THEORETICAL BACKGROUND</i>	18
2.1 Environmental assessment and Strategic Environmental Assessment (SEA).....	18
2.1.1 Context specific environmental and sustainability considerations within SEA ...	19
2.1.2 SEA institutionalisation	20
2.1.3 SEA and public participation.....	22
2.2 Defining public participation.....	22
2.3 History of public participation internationally and in South Africa.....	24
2.4 Theories and models of public participation	25
2.4.1 Top down and bottom-up approaches to participation	26
2.4.2 The ladder of participation.....	29
2.4.3 The wheel of participation	31
2.4.4 Rationales for public participation.....	35
2.4.5 Public participation effectiveness in decision making.....	45
2.4.6 Framing Theory and Public Participation.....	49
2.4.7 Stakeholder salience Theory and Power Dynamics.....	51
2.5 Empirical studies	52
2.5.1 Empirical evidence on participation rationales.....	53
2.5.2 Empirical evidence on public participation effectiveness	54
2.5.3 Challenges affecting public participation effectiveness	55
2.5.4 Framing strategies and communication outcomes.....	59
2.5.5 Stakeholder Salience.....	62
2.5.6 Literature synthesis and research gap	63

<i>Chapter 3: METHODOLOGY OF THE STUDY</i>	66
3.1 Phase 1: Analysis of environmental governance frameworks.....	66
3.1.1 Sampling and sample selection.....	66
3.1.2 Selection criteria	67
3.1.3 The sample selected	67
3.1.4 Sources of the documents	69
3.1.5 Analytical approach	69
3.1.6 Coding framework and procedure	70
3.2 Phase 2: Analysis of public participation in selected Strategic Environmental Assessments.....	71
3.3 Study area and case selection	72
3.3.1 Data sources.....	74
3.3.2 Analysis of participation purposes and rationales	75
3.3.3 Analysis of stakeholder inputs and documented responses	75
3.3.4 Stakeholder classification	80
3.3.5 Logistic regression analysis (n=100)	80
3.4 Overview of the research design and analytical approach	84
<i>Chapter 4: RESULTS</i>	86
4.1 Rationales underpinning public participation.....	86
4.1.1 Distribution of rationales across the individual selected instruments	86
4.1.2 Rationales in international environmental governance instruments	88
4.1.3 Rationales in South African participatory policy	88
4.1.4 Rationales in practice from the selected SEA cases	89
4.1.5 Overall distribution	90
4.2 Stakeholder inputs framing, stakeholder type and documented response	91
4.2.1 Distribution of stakeholder input content	91
4.2.2 Stakeholder group and framing	92
4.2.3 Stakeholder group and documented response.....	93
4.2.4 Framing type and documented response.....	94

4.2.5 Content and documented response	95
4.2.6 Stakeholder group vs framing vs documented response.....	96
4.2.7 Regression analysis results	97
<i>Chapter 5: RESULTS DISCUSSION.....</i>	<i>101</i>
5.1 Participation rationales on international instruments, South African frameworks and SEAs.....	101
5.1.1 Predominance of substantive rationales.....	102
5.1.2 Normative rationale	103
5.1.3 Instrumental rationale	104
5.1.4 Variation and coexistence of participation rationales.....	104
5.2 SEA input and documented-response.....	105
5.2.1 Content and Stakeholder groups: Stakeholders raised different concerns.....	105
5.2.2 Stakeholder groups and framing	106
5.2.3 Stakeholder groups and documented responses.....	106
5.2.4 Framing and documented response	107
5.2.5 Content and documented response	107
5.2.6 Three-way analysis: Stakeholder type, framing and documented response	108
5.3 Regression results discussion: Framing, stakeholder characteristics and substantive response	109
5.4 Framing type, communication and substantive response	109
5.5 Stakeholder Characteristics and substantive response	111
5.6 Sector and substantive response	113
<i>Chapter 6: CONCLUSION.....</i>	<i>114</i>
6.1 Addressing research questions	117
6.2 Scientific Contribution	117
6.3 Limitations.....	118
6.4 Recommendations	118

6.5 Future research	118
<i>LIST OF REFERENCES</i>	120
<i>APPENDIX A. CONTENT DISTRIBUTION ACROSS STAKEHOLDER GROUPS</i>	130
<i>APPENDIX B. SUPPLEMENTARY SALIENCE MODEL</i>	131

LIST OF FIGURES

Figure 2.1 Ladder of participation (Arnstein, 1969)30

Figure 2.2 The wheel of participation. Source: modified by author from Reed et al. (2018)33

Figure 4.1 South African Provinces. Source: <https://www.exploresouthafrica.net/map/72>

LIST OF TABLES

Table 1 Dimensions and rationales for public participation43

Table 2 Evaluation criteria for effective participation48

Table 3 Stakeholder type and salience scores82

Table 4 Research design and analytical approach84

Table 5 Distribution of rationales across selected instruments87

Table 6 The overall distribution of rationale occurrences90

Table 7 Distribution of stakeholder input content91

Table 8 Stakeholder group and framing92

Table 9 Stakeholder group and documented response93

Table 10 Distribution of documented responses across framing types94

Table 11 Distribution of documented responses across content categories95

Table 12 Distribution of documented response across framing and stakeholder group96

Table 13 Regression results98

ABSTRACT

Public participation is widely recognised as an important part of environmental governance, yet participation can serve different purposes and stakeholder contributions can be treated differently once they enter an environmental assessment process. This study examined public participation at two related levels. First, it examined the rationales underpinning participation in selected international environmental instruments and considered how these rationales are reflected in South African participatory policy and Strategic Environmental Assessment (SEA) practice. Second, it examined whether characteristics of individual stakeholder inputs were associated with differences in their documented treatment within SEAs.

The first part of the study used document analysis to examine substantive, normative and instrumental rationales across selected international instruments, South African participatory policy, and two SEA cases: the Renewable Energy Development Zones (REDZ) SEA and the Square Kilometre Array (SKA) SEA. The analysis found that the three rationales were present across the sources examined, although their emphasis varied. The international instruments and South African policy placed strong emphasis on substantive and normative rationales, while the two SEA cases differed in the purposes attributed to participation. The REDZ SEA placed more emphasis on agreement, buy-in and commitment, while the SKA SEA placed more emphasis on the consideration of stakeholder inputs and local knowledge.

The second part analysed 100 stakeholder inputs from the selected SEAs. Inputs were examined according to their content, stakeholder group, framing and documented response. Binary logistic regression was used to examine the association between framing type, stakeholder type and sector and the likelihood of receiving a substantive response. Informationally framed inputs had significantly lower odds of receiving a substantive response than prognostically framed inputs. The inclusion of framing type also improved the model compared with a model containing stakeholder type and sector alone. Stakeholder type did not provide a consistent statistically significant explanation for variation in substantive response.

The findings indicate that the purposes attributed to public participation vary across governance contexts and that stakeholder inputs are not uniformly treated within SEA processes. In particular, the association between framing and documented response points to the importance of examining what happens to individual stakeholder contributions after they are submitted. The study therefore provides another perspective on the relationship between public participation and environmental decision-making by focusing on the treatment of stakeholder inputs within the assessment process.

Note on Prior and Forthcoming Publications

Parts of this dissertation are also presented in published and forthcoming manuscripts developed from this research. One manuscript, titled “Evaluating the Impact of Public Participation Framing on Decision Outcomes in Strategic Environmental Assessments: Evidence from South Africa,” has been published in *The Journal of Environment & Development*.

1. INTRODUCTION

Public participation has become an established component of environmental decision-making. The growing emphasis on citizen participation is reflected in major global sustainability milestones, including the Rio Declaration, Aarhus Convention and the Escazú Agreement. These instruments recognise access to environmental information, participation in decision-making, and access to justice as fundamental procedural environmental right (ECLAC 2018, Sharman 2023, United Nations 1992). Similarly, European Union directives such as the Access to Environmental Information Directive (2003/4/EC) and the Public Participation Directive (2003/35/EC) formalise these principles within regional governance systems (Ene 2014, Stec and Jendrośka 2019, Lopez-Cubillos et al. 2022, Wesselink et al. 2011). In addition, the institutionalisation of public participation reflects recognition that environmental decisions involve not only technical and scientific considerations, but also different forms of knowledge, interests, values and societal concerns (Carrick et al. 2022, Sharman 2023, O’Faircheallaigh 2010). International environmental governance instruments, national legislation and environmental assessment processes consequently provide opportunities for interested and affected parties to participate in decisions concerning environmental management and development. However, public participation is not undertaken for a single or universally defined purpose. The literature associate participation with normative, substantive and instrumental rationales, reflecting different expectations concerning the role that stakeholders and the public should play in environmental decision-making (Wesselink et al. 2011, Sharman 2023).

These different rationales matter because they shape how participation is understood within environmental decision making. Participation may be regarded as a democratic or procedural entitlement, as a means of incorporating knowledge and perspectives into decision-making, or as a practical mechanism for addressing competing interests, building agreement and supporting implementation (Carrick et al. 2022, Höppner 2009, Sharman 2023). These purposes may coexist within the same governance framework or participatory process, but they may also be differently emphasised across contexts (Suškevičs 2019). The institutionalisation of participation therefore raises an important question concerning what participation is intended to achieve and whether the purposes attributed to it remain consistent

as participation is articulated across different levels of environmental governance.

This question is particularly relevant in the environmental sector, where participation has become embedded within international environmental governance and national environmental decision-making frameworks. International instruments such as the Rio Declaration, the Aarhus Convention and the Escazú Agreement have contributed to establishing public participation as an important component of environmental governance (Sharman 2023). At the national level, countries including South Africa have incorporated participation into their own environmental governance arrangements, reflecting both international principles and domestic institutional and socio-political contexts (Republic of South Africa 1996, Maphanga et al. 2023, Du Plessis 2008, Maphazi et al. 2013, NEMA 1998, Akerboom and Craig 2022). Examining participation across these levels can therefore provide insight into how its purposes are articulated, whether particular rationales are emphasised, and how international understandings of participation are expressed within national policy and environmental decision-making practice.

South Africa provides a particularly relevant context in which to examine these questions. Following the transition to democracy, public participation became firmly embedded within the country's constitutional and environmental governance framework. The Constitution and the National Environmental Management Act (NEMA) establish principles and procedures that support public involvement in environmental decision-making (NEMA 1998), while environmental assessment processes provide formal opportunities for interested and affected parties to contribute to decisions. At the same time, participation occurs within a society characterised by substantial socio-economic inequality, differences in access to resources, knowledge, expertise and competing interests (Ndlovu and Muringa 2026, Boakye and Akpor 2012, Khan 1998). These conditions make the purposes attributed to participation and their expression in environmental decision-making an important area of inquiry.

Environmental assessment provides one of the institutional settings in which public participation is implemented. This study focuses specifically on Strategic Environmental Assessment (SEA) as the empirical context for examining participation in practice. The development and characteristics of SEA, including its application within South Africa and

the role assigned to participation within the process, are discussed in Chapter 2.

1.1 Research Gap

The study addresses two related gaps in research on public participation in environmental decision-making. The first concerns the purposes attributed to public participation. Although normative, substantive and instrumental rationales are well established in the literature, less attention has been given to how these rationales are articulated across different levels of environmental governance, from international environmental instruments to national policy and individual environmental assessment processes. The extent to which these rationales are reflected, differently emphasised or differently expressed within South African participatory policy and Strategic Environmental Assessment practice remains comparatively underexplored.

The second gap concerns the treatment of individual stakeholder contributions once they enter environmental decision-making processes. Existing research has examined participation effectiveness and the relationship between participation and decision-making outcomes, while recent research has drawn attention to the intermediate stage between stakeholder submissions and subsequent decision-making outcomes (Eriksson et al. 2022; Ulibarri et al. 2019; Grote 2024), with Eriksson et al. (2022) conceptualising this stage as the “black box” of participatory planning. However, comparatively less attention has been given to whether observable characteristics of individual stakeholder inputs, including the stakeholder group making the submission and the way in which the input is framed, are associated with differences in their documented treatment within Strategic Environmental Assessment processes.

The study addresses these gaps through two complementary lines of analysis. First, it examines the articulation of participation rationales across selected international environmental instruments, South African participatory policy and selected Strategic Environmental Assessment processes. Second, it examines individual stakeholder submissions within selected South African Strategic Environmental Assessments and considers whether stakeholder group and input framing are associated with differences in

documented responses to those submissions.

1.2 Field of study, research objectives and questions

Public participation in environmental decision-making intersects multiple scientific disciplines, including environmental science, spatial planning, public administration, and governance studies. Each of these fields offers distinct perspectives on how citizens and stakeholders engage with institutional processes, influence outcomes, and shape environmental decisions. This study is situated primarily within environmental management while drawing on concepts from governance and communication studies.

The aim of this study is to examine public participation in environmental decision-making by identifying the rationales underpinning participation within international environmental instruments and examining whether observable characteristics of stakeholder inputs are associated with different patterns of observed responses within Strategic Environmental Assessments.

To achieve the main objective, the study was guided by three specific objectives. The study specifically aims to:

1. To identify the rationales underpinning public participation in selected international environmental governance instruments and examine how these rationales are reflected in South African participatory policy and practice.
2. To examine whether different forms of stakeholder input framing are associated with different patterns of documented response within Strategic Environmental Assessments.
3. To examine whether different stakeholder groups are associated with different patterns of documented response to stakeholder inputs within Strategic Environmental Assessments.

Research Questions

1. What rationales underpin public participation in selected international environmental governance instruments, and how are these reflected in South African participatory

policy and practice?

2. Are different forms of stakeholder input framing associated with different patterns of documented response within Strategic Environmental Assessments?
3. Are different stakeholder groups associated with different patterns of documented response to stakeholder inputs within Strategic Environmental Assessments?

1.3 Thesis structure

This thesis is organised into six chapters. Chapter 1 introduces the study by presenting the research context, research gap, field of study, research aim, objectives and research questions. Chapter 2 provides the theoretical and conceptual foundation for the study. It discusses environmental assessment and Strategic Environmental Assessment (SEA), including the role and application of SEA in South Africa and the role of public participation within SEA processes. The chapter then defines public participation and examines its development, purposes and rationales. The theoretical perspectives relevant to the analysis of stakeholder inputs are discussed, including framing theory and stakeholder salience theory.

Chapter 3 presents the research methodology. It describes the research design, data sources, selection of international environmental governance instruments, South African policy and SEA cases, procedures for identifying and coding stakeholder inputs, and the analytical approaches used to examine participation rationales and stakeholder inputs. Chapter 4 presents the results of the study. The chapter first presents the findings on the rationales underpinning public participation across the selected international environmental governance instruments, South African participatory policy and the selected SEA cases. It then presents the analysis of stakeholder inputs within the selected SEAs, examining input framing and stakeholder groups in relation to documented responses. Chapter 5 discusses the findings lastly Chapter 6 concludes the thesis.

Chapter 2: THEORETICAL BACKGROUND

Public participation in environmental decision-making draws on several fields, including environmental management, planning and spatial planning, public administration, governance, and communication studies. These fields offer different perspectives on how environmental decisions are developed, how stakeholders engage with institutional processes, and how their contributions may be considered within decision-making. This study is situated primarily within the field of environmental management, while drawing on relevant concepts from planning, governance, and communication studies to understand public participation within Strategic Environmental Assessment (SEA) processes.

The chapter first establishes the environmental assessment context by introducing Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), with particular attention to the strategic role of SEA in environmental planning and decision-making. It then examines public participation in environmental decision-making, including its conceptual development, key models and frameworks, and the different rationales underpinning participation. The chapter therefore considers framing theory as a communication perspective for understanding how stakeholder inputs are constructed and communicated, alongside stakeholder salience within decision-making processes.

These perspectives provide the conceptual and theoretical foundation for examining public participation in environmental decision-making, including the rationales underpinning participation, the framing and communication of stakeholder inputs, and the consideration of those inputs within SEA decision-making processes.

2.1 Environmental assessment and Strategic Environmental Assessment (SEA)

Environmental assessment provides a means of incorporating environmental considerations into development decision-making. Its purpose extends beyond identifying potential environmental effects to bringing those considerations into processes through which development options are evaluated and decisions are made. In this broader understanding, environmental assessment can consider biophysical environmental concerns alongside the

social and economic dimensions associated with sustainable development (Retief 2007). Environmental Impact Assessment (EIA) became established primarily as a project-level assessment, while Strategic Environmental Assessment (SEA) extends assessment to policies, plans and programmes. The emergence of SEA reflected the recognition that environmental considerations may need to be addressed earlier in the planning process, before individual projects are defined and strategic choices become more firmly established. Whereas EIA generally examines the potential environmental implications of a defined development proposal, SEA engages with the broader planning and development choices that shape the context in which projects are undertaken. This creates scope for environmental and sustainability considerations to inform strategic alternatives and development pathways at an earlier stage of decision-making (Abaza, Bisset, and Sadler 2005, Matome 2023, Runhaar 2016, Souloutzoglou and Tasopoulou 2020, Retief 2007). The distinction between EIA and SEA is therefore primarily one of the decision contexts within which environmental considerations are assessed, the EIA is generally associated with defined projects, whereas SEA addresses the broader strategic context within which development decisions are made (Abaza, Bisset, and Sadler 2005, Fundingsland Tetlow and Hanusch 2012, Matome 2023).

2.1.1 Context specific environmental and sustainability considerations within SEA

The environmental and sustainability considerations relevant to assessment can differ across development contexts, reflecting the particular circumstances in which decisions are made. Sustainability assessment therefore needs to account for the particular context in which development decisions are made, with sustainability problems, priorities and assessment criteria reflecting the circumstances of the case rather than being applied uniformly across all settings (Gibson, Hassan, and Tansey 2013, Dijk et al. 2017). Péti (2012) provides a territorial perspective on sustainability assessment, arguing that sustainability criteria can be adapted to the particular characteristics of regions and to the planning and development processes undertaken within them (Péti 2012). In this approach, environmental, social and economic characteristics of a region provide an important basis for identifying and interpreting sustainability priorities. This territorial perspective is particularly relevant to

SEA where assessment is used to inform spatial and development planning. In South Africa, this connection is evident in the planning-oriented development of SEA where SEA practice has been closely associated with spatial and land-use planning, with assessments used to inform development decisions before individual projects are considered (Fischer, Lochner, and Annegarn 2020). SEA practice in South Africa developed in a distinctive way. Fischer et al. (2020) and Retief et al. (2008) describe the South African experience as a “homegrown” approach characterised by flexibility and adaptability. In contrast to the more impact-oriented approach described by Fischer et al. (2020) in relation to EU SEA, these planning-oriented SEAs were undertaken proactively, with the intention of informing project-level environmental authorisations and addressing gaps in planning. In this form, SEA could be used to identify environmental opportunities and constraints and to guide decisions about what types of development could be considered in particular areas (Fischer et al. 2020).

This approach has nevertheless been criticised for moving away from SEA as an assessment process, particularly where the focus is primarily on identifying what development proposals are environmentally feasible rather than systematically assessing the effects of a policy, plan or programme (Fischer, Lochner, and Annegarn 2020, Retief, Jones, and Jay 2008).

2.1.2 SEA institutionalisation

SEA has been adopted through different legal and institutional arrangements. Some countries incorporated SEA into existing environmental assessment legislation, while others introduced separate legislation or relied on administrative guidance (Abaza et al. 2005). As a result, there is no single model of SEA practice internationally. Europe provides the clearest example of a legally established SEA framework. The European Union introduced the SEA Directive (2001/42/EC), which requires environmental assessment for specified plans and programmes. The Directive sets out requirements for environmental reporting, consideration of alternatives, consultation and monitoring. The UNECE SEA Protocol further established a legal framework for SEA among its parties (Abaza, Bisset, and Sadler 2005, Suškevičs et al. 2023, Fundingsland Tetlow and Hanusch 2012, Chaker et al. 2006). SEA in Europe is therefore supported by formal legal requirements.

In South Africa, SEA developed primarily through national guidelines and voluntary practice rather than through a general statutory requirement equivalent to the EU SEA Directive. Retief (2007) notes that the national SEA guideline provided principles and process elements to guide SEA practice while allowing the process to remain adaptable to different planning and sectoral development contexts. This contrasts with jurisdictions where SEA has been established through formal legal requirements.

The United States developed strategic assessment differently. Rather than introducing a separate SEA system, strategic assessment has largely developed through the National Environmental Policy Act (NEPA), particularly through programmatic environmental impact statements. These assessments can address groups of related actions, programmes or activities at a broader level than an individual project (Abaza et al. 2005). The US example therefore shows that strategic environmental assessment can develop within an existing EIA system without being formally called SEA. Developments elsewhere have similarly reflected existing national planning and environmental governance arrangements. Some Latin American countries have developed SEA more recently and through different national arrangements. Chile, for example, introduced SEA in 2010 after almost two decades of EIA, with its implementation supported by government guidance (Rozas-Vásquez and Gutiérrez 2018). In Asia, countries such as China have introduced SEA at different planning and policy levels, although practice has remained largely impact-oriented (Wu, Jia, and Mackhaphonh 2019).

These different institutional arrangements are also reflected in how SEA is applied in practice. The flexibility of the South African guidance-based approach, for example, allowed SEA to be applied to strategic spatial planning. Cape et al. (2018) describe the renewable-energy SEA as a strategic spatial assessment that identified areas suitable for renewable-energy development while taking environmental sensitivities into account. This illustrates how a flexible institutional framework can accommodate SEA within broader planning processes. At the same time, this flexibility has raised questions about the boundaries of the assessment process. Retief et al. (2008) identified considerable variation in South African

SEA practice and raised concerns about applications that functioned more as planning support than as environmental assessment.

2.1.3 SEA and public participation

SEA also provides a setting in which interested and affected parties can contribute to strategic environmental decision-making. The IAIA criteria discussed by Retief (2007) identify participation as involving interested and affected parties and government bodies in the decision-making process, with their inputs and concerns addressed in assessment documentation and decision-making. Within SEA, participation provides a means through which stakeholder information, perspectives and concerns can enter the assessment and planning process (Gauthier, Simard, and Waaub 2011, González et al. 2023). In the South African context, the literature shows that different stakeholder groups can attach different values and expectations to SEA, highlighting the range of perspectives and types of information that participation can bring into strategic assessment (Cape et al. 2018). This role of participation in SEA makes it necessary to consider what participation entails and how it has been conceptualised in environmental decision-making.

2.2 Defining public participation

Public participation is often used interchangeably with terms such as public engagement, citizen engagement, and stakeholder engagement. In this study, these terms are used interchangeably, while acknowledging that they may carry distinct meanings in the broader literature. Although there is no single agreed definition, public participation is generally understood as the involvement of individuals, groups, and organised stakeholders in decision- and policy-making processes. Rather than being limited to consultation, it encompasses a range of interactions through which societal actors contribute knowledge, express concerns, and attempt to shape outcomes. In environmental governance, this involvement typically includes state institutions, private sector actors, civil society organisations, and affected communities, each bringing different forms of knowledge and interests into decision-making spaces (Höppner 2009, OECD 2022, Reed et al. 2018). The OECD (2022) emphasizes the efforts made by public institutions to involve the public by soliciting input and enabling influence over decisions at various stages of the policy cycle.

In contrast, Sherry Arnstein conceptualises public participation as a redistribution of power, enabling individuals particularly those previously excluded to access decision-making processes and influence outcomes. This perspective highlights the normative dimension of participation, particularly its role in addressing inequalities in decision-making.

Public participation involves a range of actors. According to Webler and Tuler (2001) and Reed et al. (2018), these include the general public, stakeholders, groups, and organisations. The general public refers to individuals or groups who may not be directly affected by a decision but participate in deliberations, while stakeholders are those who are affected by, interested in, or able to influence the decision. These may include governmental and non-governmental organisations, academia, the media, and private sector actors (OECD 2022, Reed et al. 2018).

For the purpose of this study, public participation is defined as an umbrella term referring to the involvement of stakeholders and the general public in decision- and policy-making processes. It is also important to distinguish between participation as a means to achieve specific policy goals such as compliance or behavioural change and participation as an end in itself, associated with empowerment, knowledge generation, and deliberative governance. The former perspective aligns with psychological and environmental communication research (Carvalho, Van Wessel, and Maesele 2017, Kumpu 2022, Höppner 2009), while the latter draws on participatory and deliberative democracy and environmental governance literature (Hoppner 2009). This study adopts the latter perspective.

The importance of participation in environmental governance is closely linked to broader developments in planning theory. Since the latter half of the twentieth century, planning theory increasingly questioned approaches that conceptualised planning primarily as a technical and expert-driven activity. The emergence of communicative planning perspectives challenged earlier systematic approaches by conceptualising planning as an interactive and communicative process rather than simply the application of technical expertise (Innes 1995, Goodspeed 2016). Subsequent developments in collaborative planning further emphasised deliberation, interaction and the involvement of diverse actors in planning processes (Healey 1996, Innes and Booher 1999). Within these approaches, planning is understood as a social

process in which different actors bring their knowledge, interests and perspectives into dialogue, creating opportunities for learning and the development of shared understandings (Innes 1995; Healey 1996). These theoretical developments increasingly emphasise extensive community involvement as a central component of contemporary planning practice (Faragó 2005, Lin 2023, Tewdwr-Jones and Allmendinger 1998).

Within environmental planning specifically, public participation is therefore often considered essential for improving governance effectiveness. Participation has the potential to enhance decision quality, improve implementation and compliance, and incorporate diverse environmental values and stakeholder knowledge into planning processes (Drazkiewicz, Challies, and Newig 2015). Compared to conventional planning models that follow a top-down approach with limited citizen inclusion, participatory governance approaches seek to integrate multiple perspectives and encourage innovative solutions through dialogue and collaboration (Newig et al. 2023).

Nevertheless, the effectiveness of public participation remains subject to debate. Critics argue that participatory processes may reinforce existing power imbalances rather than reduce them (Cooke and Kothari 2001; Richards et al. 2004). Furthermore, involving multiple stakeholders with competing interests can complicate decision-making and make consensus difficult to achieve (Liu et al. 2018). In some cases, consensus-oriented processes may even slow progress toward environmental sustainability, particularly when participants lack sufficient environmental knowledge or the capacity to engage effectively in complex planning discussions (Newig et al. 2023).

2.3 History of public participation internationally and in South Africa

According to Richardson and Razzaque (2006), public participation began to appear in the 1960s together with public protests for participatory governance and protection of the environment. In the 1980s public participation became the main topic in discussions for good governance and environmental justice. A series of conflicts over developments during the 1970s to 1980s resulted in governments finding ways to involve citizens in development planning. For example, public participation reforms in countries with indigenous people such

as Canada, UK, USA etc were the results of social movements by the indigenous groups (Richardson and Razzaque 2006).

Richards et al. (2004) argued that active cooperation of different stakeholders is necessary to find solutions to cross-cutting and complicated environmental challenges instead of relying just on technology or scientific knowledge. At international level, environmental policies highlight the need for public involvement in decision making. Empowerment of civil societies is seen as the way to promote good governance. Financial institutions like the world bank acknowledge the role of civil societies in influencing transparency in development decisions (Richardson and Razzaque (2006).

In the context of South Africa, a large proportion of the civil society has been historically excluded in decision making due to a non-democratic government system at the time. The lack of democracy has resulted in low numbers of participation in environmental decisions. This was until 1994 when the country transitioned into a democratic nation (Khan 1998). The new constitution of South Africa establishes public participation as a crucial element of democracy. It makes it a key requirement of government decision-making (Maphazi et al. 2013). Public involvement is crucial to the political reform process, which is about redressing historical inequities by including citizens who were marginalised and denied privileges and rights. In the past, the overall lack of public participation in decision-making at the grassroots level in South Africa hampered broad-based involvement in decision-making on environmental issues (Boakye and Akpor 2012). According to Khan (1998), broad-based participation is important if the public is to be treated as an equal partner in environmental decision making. Inclusion of historically disadvantaged groups in environmental decisions has been challenged by a lot of factors. These include socioeconomic factors such as low levels of education among vulnerable groups since participation in environmental decisions requires environmental knowledge and awareness; poverty; and inappropriate use of participation techniques which are often designed for people in first world countries.

2.4 Theories and models of public participation

According to Bell and Reed (2022) success and effectiveness of participation depends on the quality of the participatory process. Therefore, to ensure good and effective participation, different theories have been proposed to describe good participation in decision making.

Some researchers emphasise the importance of understanding the rationales for and goals of participation. However, as beneficial as participation may be for development processes, the participatory approach to development is not without criticisms and shortfalls. Its effectiveness has been under scrutiny due to its potential to worsen power imbalances (Cooke and Kothari 2001; Richards et al. 2004) and difficulties to reach consensus due to multiple stakeholders involved (Liu et al. 2018). Therefore, this chapter discusses theories, models including rationales, of public participation, and empirical studies around issues of public participation in environmental planning and decision making.

2.4.1 Top down and bottom-up approaches to participation

Public participation can either take a top-down approach or a bottom-up approach. The top-down decisions are initiated by stakeholders with formal decision-making power usually government agencies while bottom-up decisions are initiated by the public including interest groups with limited levels of power (Reed et al. 2018).

2.4.1.1 Top-down approach

Top-down approaches to participation refers to participation processes initiated by governments or other formal institutions. In top-down approaches, citizens or the public is invited for input with limited influence over final decisions although the influence may vary depending on the motive, purpose and the mode of participation as highlighted by Reed et al. (2018). The modes of participation in top down approaches may include, informing, consulting, or co-production or collaboration between governments and citizens (Van Meerkerk 2020). Government-led forms of participation have become a significant part of policy making and decision making in Western countries. The key characteristic of the top-down approach is that the government set the rules of participation and decide who, when and how to involve the public. The main reasons for involving the public are often gaining public support or acceptance for decisions, enhancing the quality of decision, avoiding legal dispute. According to van Meerkerk (2020), the need for acceptance of decisions is often a very strong motive for governments to involve public in decision making. Furthermore, some top-down participation processes are merely a marketing strategy where public has little to no influence over decisions. Decisions in such processes are often predefined and therefore,

the input made by citizens does not change the already made decisions. Such participation processes often lead conflict between the government and the public due to unmet expectations particularly, the public's expectations. When the public is not satisfied with the outcomes of their participation or feel like their inputs were not taken into consideration when making the final decision, they may lose trust in government (Devine-Wright 2011).

How stakeholders should be involved in participation processes remains an important question both in theory and practice. The ladder of participation by Arnstein is often used to demonstrate the levels of stakeholder participation in decision making. Arnstein used a metaphor of a ladder to describe how participation takes place. The ladder begins from lowest levels which often involve one way communication from top to bottom, to collaborative forms of participation and citizen control where two-way communication becomes important (Bell and Reed 2021, Reed et al. 2018). Arnstein views citizen control as the highest and better form of participation. However, reaching the highest levels of participation in top-down approaches is not often possible in practice due to several factors. These may include lack of skills and experience on stakeholder engagement, fear of losing control to the public or the costs associated with participatory processes and other factors. Therefore, participation is often limited to information provision and consultation which according to the ladder, is the lowest level of participation (Van Meerkerk 2020).

2.4.1.2 Bottom-up approach

In some cases, communities organise themselves and create spaces for participation. The common mode of participation in bottom-up approaches is co-production in which citizens collaborate with the government for the planning, design or implementation of an initiative. When communities create their own participation spaces, they take full control over the objectives, design, implementation and management of these initiatives. They decide how the initiatives take place, when and who to involve. These initiatives are often referred to as community led initiatives (LEDs) or community-based initiatives (CBIs). Bottom-up initiatives are often community focused, attend to the needs of the community, provide alternative services or goods to services or goods proved by the government and they often have some form of collaboration with formal institutions like local authorities, governmental agencies or NGOs. In community led initiatives the government or NGOs are often involved

as the facilitators or sponsors (Jans et al. 2024, Van Meerkerk 2020). The government may be involved to ensure legitimacy of the initiative or to ensure sure that the initiative abides by the rules/law, for example in neighbourhood watch initiatives. Bottom-up approaches to participating can be driven by various motives including dissatisfaction with government action, policy or service. Communities may organise themselves to provide public services, in the context of environmental planning, communities often organise themselves to protect their environment or manage the use of natural resources around them (Van Meerkerk 2020). For example, renewable energy development cases in Mexico and Brazil where communities organised themselves to negotiate land leasing to companies developing energy projects in their communities. Community based initiatives can also be seen in environmental protection efforts like the Xolobeni case in South Africa where a community came together to protect their land, environment and heritage (Bennie 2011, Maphanga et al. 2023). Some motives can be community cantered for instance, giving back to the community or the need for citizen control and practicing democracy. Some individuals may be driven by personal goals such as building connections with like-minded people, gaining knowledge or developing certain skills through participation (Van Meerkerk 2020). Other community-based initiatives may arise as a response to government call for such initiatives. This can be seen in cases where the government is unable to meet some community needs or deliver certain services due to budget or other limitations. For example, municipalities across South Africa have regulatory frameworks that encourages, individuals, communities and the private sector to engage in renewable energy production in order to meet energy needs. Households and businesses receive compensation from the municipalities for installing solar systems (Van Schalkwyk and Scholtz 2024). This approach not only serves the purpose of meeting the energy demand but also contributes to the country's energy transition through sustainable energy production.

Just like top-down approaches to participation, bottom up or community-based initiatives have their short comings. Unlike formal government structures, the informal nature of CBIs makes it challenging to ensure accountability and responsible use of resources. Bottom-up initiatives often rely on volunteers which can make them seem unreliable due to unpredictability of citizen behaviour or commitment to the initiative. Furthermore, these initiatives may also suffer from misrepresentation of communities or marginalisation of certain groups within the community (Van Meerkerk 2020)

2.4.2 The ladder of participation

Arnstein's (1969) Ladder of Citizen Participation, developed within the field of urban planning and public administration, conceptualises participation as degrees of citizen power ranging from manipulation to citizen control. While its focus was originally on social justice and empowerment within planning processes, it has since been widely applied in environmental governance as a normative model of participation. Although influential, the ladder has been critiqued for its linearity and context-blindness. The ladder of participation is one of the oldest models of public participation in planning. Arnstein (1969) argues that public participation is redistributing power and empowering citizens to actively participate in future decision-making. participation enables individuals who are excluded from the political and economic systems to take part in decisions that shape their communities. Arnstein used an eight rung ladder to explain the levels of citizen participation in decision making and the level of influence that citizens have at different levels of participation. Arnstein's ladder shows degrees or levels of participation with the lowest rungs showing limited or poor participation. The level of participation and power of citizens increases as you move up the ladder as shown in figure 2.1.

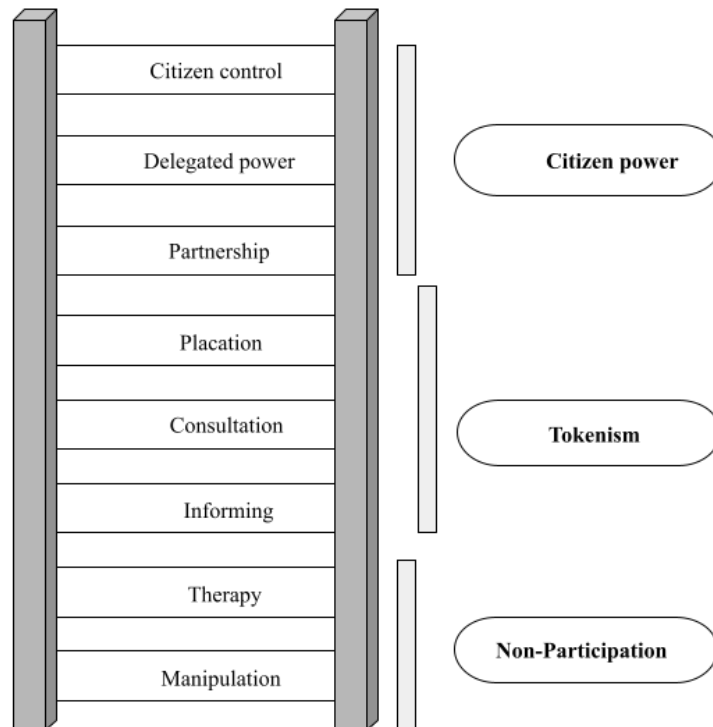


Figure.1 Ladder of participation (Arnstein 1969)

Arnstein's ladder of participation conceptualises public participation as a continuum of increasing citizen power, distinguishing between forms of engagement that differ in their capacity to influence decisions. At the lower end of the ladder, participation is largely absent. Arnstein characterises these levels as non-participation, where processes such as manipulation and therapy are used to "educate" or persuade the public without offering any real opportunity to shape outcomes.

The middle levels of the ladder represent what Arnstein terms tokenism, where individuals may be informed, consulted, or allowed to express views, but lack assurance that their input will be taken into account. At this stage, participation often involves one-way communication or limited feedback mechanisms, creating the impression of inclusion without granting meaningful influence (Arnstein 1969; Weymouth and Hartz-Karp 2019). At this stage participation is measured by the number of people who attend meetings or respond to questionnaires (Bell and Reed 2021).

Higher levels of the ladder reflect increasing degrees of citizen power, where participation involves negotiation, partnership, and, ultimately, shared or delegated decision-making authority. At these levels, stakeholders are able to actively shape outcomes rather than merely respond to predetermined agendas.

Rather than serving only as a classification of participation types, Arnstein's model offers a critical lens for examining the gap between formal inclusion and actual influence. It highlights that participation cannot be evaluated solely by the presence of engagement processes, but must be assessed in terms of the extent to which power is redistributed and participants are able to affect decisions. In this sense, the ladder functions not only as a classification of participation types, but as a critique of participatory practices that prioritise procedural inclusion over substantive influence. Its continued relevance lies in highlighting the persistent gap between being included in a process and having the capacity to affect its outcomes an issue that is central to this study.

2.4.2.1 Criticisms of Arnstein's ladder

Researchers point out some drawbacks to Arnstein's Ladder of Citizen Participation, including the notion that participation follows a hierarchical structure with citizen control as the ultimate goal of participation (Tritter and McCallum 2006). According to Collins and Ison. (2006) this assumption may not always align with participants' own goals for involvement in decision-making. Motives for and goals of participation explain the choice of the participation approach and methods used (Van Meerkerk 2020). Arnstein's model ignores all the other goals of participation which may not include citizen empowerment and does not take into account the complexities of participation motives. For instance, the goal of participation may be to gather public support or disseminate information about a particular decision, in this case, empowerment may not be necessary and therefore the chosen forms of participation might be those that ensures that the initial goal is achieved at the end of the participatory process. If the goal is to gain support or get community feedback, the participation methods used might be persuasive and consultative. The criterion for success, centred on achieving full citizen control, implies that any shortfall is automatically classified as a failure of the participatory process, even if individuals involved are satisfied with the level achieved (Collins and Ison 2006, Hayward, Simpson, and Wood 2004).

Furthermore, others argue that Arnstein's' model overlooks context; various participatory processes have varying purposes and therefore the definition of participation should vary according to context (Bell and Reed 2021, Reed et al. 2018). Collins and Ison (2006) point out that the idea of linear participation implies that the policy issue remains the while participation approach change as you progress from one level to the next. According to Collins and Ison this does not correspond to the uniqueness of many policy challenges; different policy challenges may necessitate varying degrees and types of participation. Even if these levels do not achieve complete citizen control, they are nonetheless useful depending on the nature of the policy issue at hand (Collins and Ison 2006).

2.4.3 The wheel of participation

Building on Davidson (1998), Reed et al. (2018) reframe participation as a context-contingent choice of modes rather than a hierarchy to climb. Reed et al. (2018) developed

their Wheel of Participation from within the field of environmental management, proposing a more flexible, context-driven approach to engagement. Their framework moves beyond the hierarchical view of participation, recognising that different levels and forms of involvement may be appropriate depending on the purpose, scale, decision and context. Reed et al. proposed that rather than trying to climb the ladder to the highest rung possible, all modes of participation should be available for use. But the choice of which one to use should be guided by the knowledge of “what works”. According to Reed et al, the use of inappropriate mode of engagement may result in undesired outcomes of the participation process whether the decision is initiated and led by the public taking a bottom-up approach or taking a top-down approach. A participatory culture, previous engagement experiences (successful or failed), and the availability of resources are a few examples of specific contextual elements that may have an impact on the effectiveness of an engagement process. For these reasons, it is essential to invest time in comprehending the local environment in which engagement is to be implemented, determining the engagement strategy that is appropriate, and enabling the design of any process to be properly tailored to the setting (Reed et al. 2018).

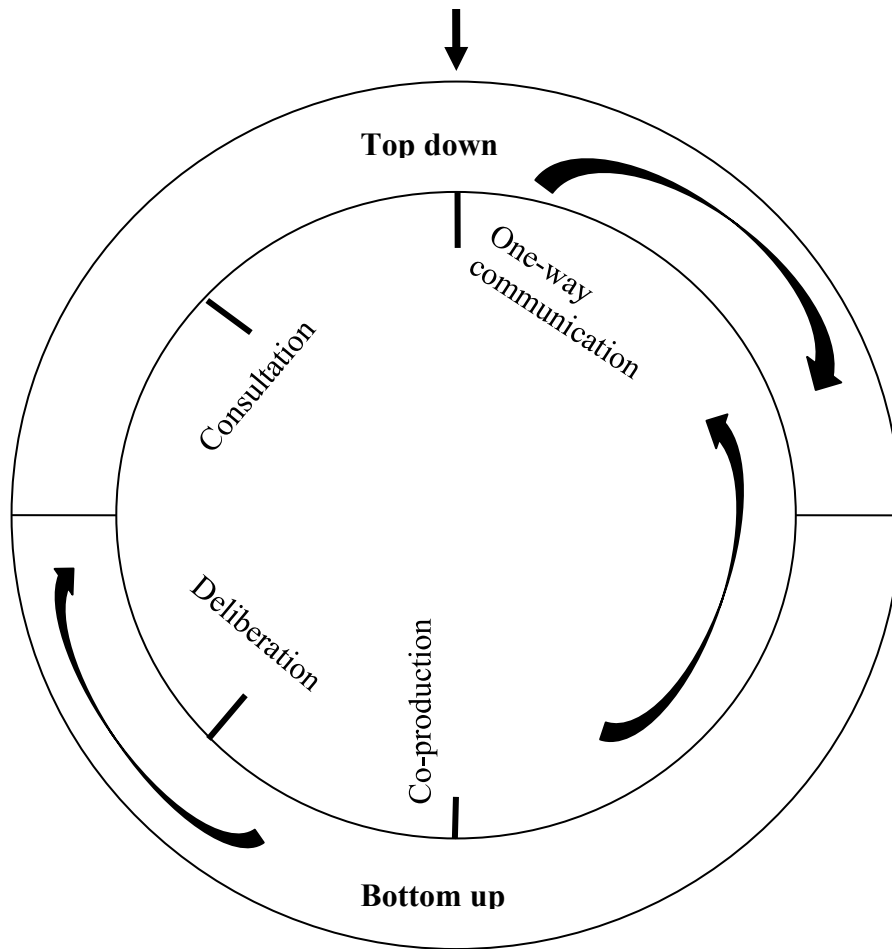


Figure THEORETICAL BACKGROUND.2 The wheel of participation. Source: modified by author from Reed et al. (2018)

Reed et al. (2018) used the metaphor of a wheel as shown in figure 2.2 to show that the modes of engagement as well the agency that initiates the engagement can be combined depending on the purpose and context. According to Reed et al. spinning the wheel to either right or left will give the mode of participation as well as the agency to initiate the participation process. The authors discuss four possible ways of participation that can result from a spin and these are:

2.4.3.1 Top-down one-way communication and/ or consultation

One-way communication or consultation that follows a top-down approach involves consultation initiated by the authorities or those with formal decision-making power with the goal to inform the public about a specific decision. This kind of participation involves one

way flow of information and might be regarded as no participation in other theories or models of participation. For instance, in Arnstein's ladder this is among the lowest levels of participation which equates to poor participation. However, Reed et al (2018) highlights the suitability of this type of engagement in certain contexts and for certain purposes, especially where decisions are already made and need to be communicated to the affected individuals.

2.4.3.2 Top-down deliberation and/or coproduction

In deliberative forms, the decision-making body engages stakeholders in two-way discussion to explore the decision and possible alternatives before making a decision. (Reed et al. 2018). In deliberative forms of participation parties arrive at a decision by discussions, sharing ideas and joint learning, as opposed to collecting opinions and preferences through surveys, voting or other forms of input collection. A variety of stakeholders such as governmental agencies, non-profits, local governments, citizens and commercial enterprises work together to address issues at hand (Quick and Bryson 2016).

In more co-productive forms, the decision and its implementation arrangements may be jointly developed by the responsible agency and stakeholders, although the agency retains responsibility for the final decision and implementation (Reed et al. 2018) According to Reed et al (2018) the goal here is to have informed decisions by ensuring that all relevant and useful information is taken into consideration. This allows the decision-making body to better comprehend and consider options with the stakeholders before reaching a decision.

2.4.3.3 Bottom-up one-way communication / consultation

In this approach decisions are often initiated and led by Stakeholders and/or the public. The parties may interact with decision-making bodies using social media and grassroots networks to encourage them to open their decision-making process to public scrutiny. Sometimes this kind of involvement may happen if the public or stakeholders get sufficient authority to rule against decisions that were initially made in a top-down manner. This is usually accomplished by mobilisation of stakeholder groups or public opinion. In order to better understand and express stakeholders/ and public opinions and to show buy-in and support, those in charge of the process may confer with them. This will strengthen their ability to sway decision-makers or reverse choices (Reed et al. 2018).

2.4.3.4 Bottom-up deliberation and/ co-production.

Bottom-up deliberation and/or co-production refers to engagement initiated and led by stakeholders and/or publics, who engage in two-way discussion with other relevant actors to make or co-produce decisions. Reed et al. (2018) noted, however, that genuinely bottom-up deliberative and co-productive processes are uncommon. In practice, many processes involve a combination of actors with formal decision-making authority and actors whose influence derives from their knowledge, interests or claims.

The Wheel of Participation therefore provides a different way of conceptualising participation from hierarchical models such as Arnstein's ladder. Whereas the ladder associates higher levels of participation with greater citizen power, Reed et al. (2018) do not assign an inherent value to particular engagement modes. Instead, they argue that the appropriateness of an engagement approach depends on the purpose and context of the process. This perspective is particularly relevant to the present study because it draws attention to the purposes attributed to participation and to the different ways in which stakeholders may engage within environmental decision-making processes.

2.4.4 Rationales for public participation

Scholars have advanced different explanations for why the public should be involved and what participation is expected to achieve. These explanations are commonly referred to as the rationales for public participation. Rationales provide the theoretical justification for participation by defining its underlying purpose, the objectives it seeks to achieve, and the principles that guide participatory processes (Glucker et al. 2013; Höppner 2009; Wesselink et al. 2011). The rationale adopted for a participatory process has important implications for its design. It influences who should participate, the stage at which participation should occur, the type of knowledge or perspectives that should be included, and the extent to which participants are able to influence decisions (Höppner 2009; Suškevičs, 2019; Wesselink et al. 2011). Consequently, different rationales may result in substantially different forms of public participation, ranging from processes that primarily seek democratic inclusion to those intended to improve decision quality or facilitate policy implementation.

The literature commonly categorises the rationales for public participation into three broad perspectives: normative, instrumental, and substantive (Delgado, Lein Kjølborg, and Wickson 2011, Glucker et al. 2013, Höppner 2009, Sharman 2023, Stirling 2009, Suškevičs 2019, Wesselink et al. 2011). Although these perspectives are analytically distinct, they are not mutually exclusive. A single participatory process may simultaneously pursue democratic legitimacy, improve the quality of decisions, and facilitate the implementation of policy. Nevertheless, each rationale reflects a different understanding of why participation is important and therefore places emphasis on different objectives and design of engagement processes. These rationales may also be understood as different forms of rationality that explain the purpose of participation in decision-making. Normative rationality is concerned with how decisions ought to be made according to democratic and ethical principles. Instrumental rationality views participation as a means of achieving predetermined objectives efficiently, while substantive rationality emphasises the contribution of participation to improved knowledge and better decision-making (Hands 2011; Höppner 2009). These perspectives provide a theoretical foundation for understanding the different purposes of public participation and the varying expectations placed upon participatory processes.

2.4.4.1 Normative Rationale

The normative rationale is founded on the principle that individuals have an inherent democratic right to participate in decisions that affect their lives. From this perspective, participation is regarded as an end in itself rather than simply a means of improving policy outcomes. It is justified because democratic governance requires that citizens are given an opportunity to influence decisions, express their views, and participate in shaping policies that have social, environmental, and economic consequences. Normative reasoning is grounded in democratic values that promote fairness, inclusiveness, transparency, accountability, equity, and equality. These principles recognise participation as a fundamental component of legitimate governance by ensuring that decision-making processes are open, representative, and responsive to the interests of affected stakeholders. Therefore, the quality of participation is evaluated not only by the outcomes it produces but also by whether the process itself respects democratic principles and provides inclusive opportunities for engagement (Bidwell and Schweizer 2020, Höppner 2009, Laurian and

Shaw 2009, Sharman 2023).

Inclusion and meaningful influence in decisions

Within democratic governance and decision-making, citizens are recognised as legitimate participants in decisions that influence their lives and communities. Public participation therefore serves as a mechanism through which governments remain accountable to the public and ensure that decisions reflect the interests and concerns of affected stakeholders (Quick and Bryson 2016). Environmental decisions often involve competing social, environmental, and economic interests and often affect a wide range of stakeholders. Therefore, normative reasoning maintains that individuals who may be affected by these decisions should have an opportunity to contribute to the decision-making process (Glucker et al. 2013). Unlike perspectives that justify participation primarily in terms of its practical benefits, the normative rationale holds that participation is inherently valuable regardless of whether it changes the final decision. Participation is regarded as a democratic right that recognises citizens as legitimate contributors to governance rather than passive recipients of policy decisions. From this perspective, the legitimacy of environmental decisions depends not only on their outcomes but also on whether decision-making processes are conducted fairly, transparently, and inclusively, providing affected stakeholders with a genuine opportunity to be heard and have their views considered (Glucker et al. 2013, Quick and Bryson 2016).

Citizen empowerment and emancipation

Citizen empowerment represents one of the central objectives of the normative rationale (Bidwell and Schweizer 2020; Sharman 2023). While democratic participation recognises citizens' right to participate, empowerment focuses on ensuring that all participants have an equitable opportunity to exercise that right. This perspective recognises that political, social and economic power is often unevenly distributed, leaving some individuals and groups effectively excluded from meaningful participation in decision-making (Glucker et al. 2013). Therefore, normative approaches seek to reduce these inequalities by creating participatory processes in which power is more equitably distributed, diverse voices are recognised, and historically marginalised groups are able to contribute on equal terms (Bidwell and Schweizer 2020, Carrick et al. 2022). Meaningful participation requires more than simply

inviting stakeholders to participate; it requires creating conditions that enable all participants to contribute on an equitable basis. Empowering participatory processes therefore recognise and value the knowledge and experiences of affected stakeholders, promote open discussion, and ensure that power relations are managed through the fair distribution of power, equal voice, transparency, and mutual trust and respect among participants (Carrick et al. 2023).

Arnstein's ladder of citizen participation

One of the most influential theoretical models underpinning the normative rationale is Arnstein's (1969) ladder of citizen participation. Arnstein conceptualised participation as a continuum based on the degree of power and influence exercised by citizens within decision-making processes, arguing that genuine participation requires more than consultation or information sharing. From a normative perspective, meaningful participation occurs when citizens have a genuine opportunity to influence decisions, with higher levels of the ladder representing increasing degrees of partnership, delegated power and citizen control. The ladder therefore highlights the central normative principle that the legitimacy of participation depends not only on opportunities for engagement but also on the extent to which citizens are able to exercise meaningful influence over decisions that affect them.

2.4.4.2 Substantive Rationale

The substantive rationale conceptualises public participation as a means of improving the quality of environmental decision-making by enhancing the information, knowledge and perspectives available to decision-makers. Unlike the normative rationale, which views participation as a democratic right, or the instrumental rationale, which seeks to improve the legitimacy and implementation of decisions, the substantive rationale focuses on the contribution that participation makes to the substance of decisions themselves. The underlying idea is that environmental decisions are strengthened when they incorporate a diversity of knowledge, experiences and values rather than relying solely on technical or expert judgement (Glucker et al. 2013; Wesselink et al. 2011; Sharman 2023; Suškevičs 2019). The same participatory activity may serve different rationales depending on the purpose for which it is undertaken. For example, education and awareness may reflect a substantive rationale when they facilitate knowledge exchange and contribute to the quality of decision-making, but may reflect an instrumental rationale when information is provided

to secure support for predetermined policy objectives (Suškevičs 2019; Höppner 2009; Wesselink et al. 2011).

Improving decision quality

Improving decision quality is widely regarded as the primary objective of the substantive rationale. It assumes that environmental decisions are strengthened when they incorporate diverse forms of knowledge and perspectives rather than relying solely on technical expertise. Glucker et al. (2013) argue that participation broadens the information available to decision-makers by incorporating experiential and value-based knowledge, testing the robustness of evidence, and ensuring that decisions reflect a wider range of societal values. Similarly, Wesselink et al. (2011), Suškevičs (2019) and Sharman (2023) argued that participation contributes to more informed, comprehensive and socially robust decisions by introducing knowledge and perspectives that would otherwise be absent from the decision-making process

Knowledge integration and information gathering

A fundamental assumption of the substantive rationale is that environmental decision-making should draw on diverse forms of knowledge rather than relying exclusively on scientific or technical expertise. Public participation broadens the evidence base by integrating scientific, experiential, local and value-based knowledge, enabling decision-makers to develop a more comprehensive understanding of environmental issues. By incorporating multiple perspectives, participation improves the quality and robustness of decisions while ensuring that environmental assessments better reflect societal values and local contexts.

Social Learning and deliberation

The substantive rationale also emphasises social learning and deliberation as mechanisms for improving environmental decision-making. Through dialogue and the exchange of diverse perspectives, participation enables stakeholders, experts and decision-makers to refine their understanding of complex environmental issues. Deliberative processes encourage critical reflection, challenge assumptions and expose alternative perspectives, thereby contributing to more informed and robust decisions rather than relying solely on technical expertise or predetermined viewpoints (Glucker et al. 2013).

Education, awareness and knowledge development

Education and awareness can also constitute a substantive objective of public participation when they are understood as mechanisms for improving the knowledge and understanding available within decision-making processes. From this perspective, participation facilitates the exchange of information between stakeholders, experts and decision-makers and enables participants to develop a more comprehensive understanding of environmental issues. Suškevičs (2019), for example, identifies building public and stakeholder awareness as part of the substantive rationale where engagement is intended to contribute to the quality of the final decision. Similarly, the substantive rationale encompasses the generation and exchange of information that can broaden the knowledge base available to decision-makers (Suškevičs 2019, Wesselink et al. 2011). Education and awareness therefore become substantively oriented when their purpose is to improve understanding, generate or exchange knowledge, and contribute to more informed decision-making. This interpretation differs from situations in which information is provided primarily to secure public support for a predetermined decision or to encourage particular behaviours.

Sustainability through knowledge integration

The substantive rationale is closely associated with sustainable development because it emphasises the integration of environmental, social, and economic considerations within decision-making processes. Sharman (2023) observes that substantive reasoning has been interpreted in two complementary ways. One perspective focuses primarily on protecting environmental values that may otherwise receive insufficient attention within policy processes, while the other adopts a broader sustainability perspective that seeks to balance environmental protection with social and economic development. Although these interpretations differ in emphasis, both share the fundamental objective of improving the quality of environmental decision-making through the integration of diverse knowledge and perspectives.

This relationship between substantive participation and sustainable development is further reinforced by Primmer and Kyllönen (2006), who argue that public participation constitutes

an integral component of sustainable development because achieving sustainability requires decision-making processes that extend beyond technical expertise to incorporate diverse knowledge, interests, and societal values. Generation of new and relevant information for decision-making is identified as one of the fundamental goals of public participation under sustainable development. By recognising scientific expertise alongside local, experiential, and community knowledge, participatory processes expand the evidence base available to decision-makers and improve their capacity to address the complex environmental, social, and economic trade-offs inherent in sustainable development. Similar arguments are advanced by Glucker et al. (2013), Wesselink et al. (2011), Suškevičs et al. (2019), and Carrick et al. (2023), who emphasise that integrating scientific, local, and experiential knowledge enables environmental decision-making to better address complexity, uncertainty, and diverse societal values. Accordingly, substantive participation supports decision-making processes that extend beyond technical problem-solving to incorporate broader societal values and long-term sustainability objectives (Primmer and Kyllönen 2006, Wesselink et al. 2011, Sharman 2023).

2.4.4.3 Instrumental Rationale

Similar to substantive reasoning, instrumental rationale views public participation as a means of achieving broader policy and decision-making objectives rather than as an end in itself. From this perspective, participation is valued because it facilitates the implementation of decisions, enhances public acceptance, reduces conflict, and increases the likelihood that policies will be effectively carried out. Consequently, participatory processes are designed to produce outcomes that improve the efficiency, legitimacy and practicality of environmental decision-making (Stober et al. 2021, Suškevičs 2019, Höppner 2009).

Building legitimacy and public acceptance

A one of the central objectives of the instrumental rationale is to enhance the legitimacy and public acceptance of environmental decisions. From this perspective, public participation is valued because it strengthens confidence in decision-making processes, fosters stakeholder ownership, and reduces resistance to implementation. Rather than treating participation as an

end in itself, the instrumental rationale views it as a practical means of securing support for predetermined policy objectives and facilitating their successful implementation (Glucker et al. 2013, Wesselink et al. 2011). Instrumental participation may also be motivated by the need to satisfy legal or procedural requirements. As Bidwell and Schweizer (2021) note, participation can serve to demonstrate compliance with statutory obligations governing environmental decision-making while simultaneously supporting the legitimacy and implementation of policy decisions.

Conflict prevention and improving implementation

As noted by Glucker et al. (2013) and Sharman (2023), another key objective of the instrumental rationale is to minimise conflict and facilitate the effective implementation of environmental policies. Participation is viewed as a mechanism for identifying concerns early, encouraging dialogue, and reducing opposition that could delay or obstruct decision implementation. By providing opportunities for stakeholders to express their views and negotiate differences, participatory processes can help build agreement around decisions, thereby supporting smoother implementation and reducing the likelihood of future disputes.

Education and awareness as instruments for achieving predetermined objectives

Education and awareness may, however, also serve an instrumental rationale when they are used to achieve a predetermined policy objective. This is particularly evident in the information-deficit model, which assumes that public opposition stems primarily from insufficient knowledge and that participation should therefore inform or educate citizens to increase support for predetermined decisions (Owens 2000). Bidwell and Schweizer (2020) similarly observe that instrumental participation may be justified on the assumption that informing a naive or misinformed public will build support for environmental decisions. Höppner (2009) provides a related example in the climate-change context, where awareness-raising was understood instrumentally when engagement was intended to encourage particular behaviours and achieve prescribed emission-reduction objectives.

However, education and awareness should not be regarded as inherently instrumental. The distinction depends on the purpose they are intended to serve. Where education facilitates knowledge exchange, learning and improved understanding that can contribute to the quality of decisions, it reflects a substantive rationale. Where information is used to secure support, change behaviour, reduce opposition or facilitate implementation of predetermined objectives, it reflects an instrumental rationale. Owens (2000) cautions that the information-deficit approach can oversimplify public engagement by assuming that providing information will necessarily change behaviour or generate trust, whereas meaningful participation also requires opportunities for deliberation and influence.

2.4.4.4 Rationales shape the design of public participation

The rationale underpinning public participation extends beyond explaining why participation is undertaken; it also influences how participation is designed and implemented. Different rationales shape decisions regarding who should participate, what forms of knowledge are considered valuable, when participation should occur within the decision-making process, and the extent to which participants are able to influence outcomes. Therefore, participation processes are not neutral but reflect the underlying objectives they are intended to achieve. Drawing on Höppner (2009), Wesselink et al. (2011), Suškevičs et al. (2019) and Bidwell and Schweizer (2021), **Table 1** summarises how the normative, substantive and instrumental rationales shape the design of public participation

Table 1 Dimensions and rationales for public participation

Dimension	Normative	Substantive	Instrumental
Why? (purpose)	Participation is a democratic right.	Participation improves the quality of decisions.	Participation facilitates legitimacy, implementation, compliance, and acceptance.
Who should participate?	All interested or affected individuals and groups.	Those with relevant knowledge, expertise,	Stakeholders whose participation is necessary

		experience, or perspectives.	to support, facilitate, or influence implementation.
What? Knowledge emphasised	All concerns, opinions, and interests are regarded as equally legitimate.	Scientific, technical, local, experiential, and indigenous knowledge relevant to the issue.	Information that contributes to implementation objectives.
When should participation occur?	Throughout the entire decision-making process, beginning at the earliest possible stage.	At stages where stakeholder knowledge contributes to improving decisions.	At stages necessary to facilitate implementation, or procedural requirements.
Room for input and extent of influence	Open to all inputs. Varying levels of influence depending on the participatory process.	Room for inputs but prioritise inputs that contributes to better decisions. Influence varies depending on how participation is designed	Limited room for input as it values inputs that support predefined objectives or implementation. Limited opportunity to influence decisions.
Attention to power	Addresses power relations and framing to promote fairness, inclusiveness and equal participation.	Concerned with improving decision quality and knowledge integration; therefore, pays less attention to power relations and framing.	Gives limited attention to power relations and may reinforce existing power structures where they support predetermined objectives

The comparison shows that public participation is not implemented uniformly across environmental decision-making contexts. Instead, the rationale underpinning participation shapes how participatory processes are designed, including who is invited to participate, when participation occurs, the extent of participant influence, and the attention given to power relations. Importantly, it also influences the types of stakeholder inputs that are expected and valued within the process. Some participatory designs encourage participants

to express concerns, values and preferences, whereas others place greater emphasis on knowledge, evidence and problem-solving contributions or on inputs that facilitate implementation and support predetermined policy objectives. As a result, participation rationales influence not only the procedural design of public participation but also the nature of the stakeholder inputs that are recognised and considered within environmental decision-making. This relationship also extends to discussions of participation effectiveness. While the effectiveness literature generally evaluates participation against a range of process and outcome criteria, these criteria frequently reflect the objectives associated with the different participation rationales, although they often overlap rather than fit neatly into separate rationale categories. Participation rationales therefore provide the justifications for public participation and define the objectives that public participation is intended to achieve. These intended objectives, in turn, provide the basis upon which public participation effectiveness is evaluated.

2.4.5 Public participation effectiveness in decision making

Over the years, a growing body of literature has emerged to evaluate the effectiveness of participatory processes across different decision-making contexts. Despite this expanding body of research, there is no universally accepted definition of public participation effectiveness. Scholars have long recognised that effectiveness is difficult to define because participatory processes pursue multiple objectives and involve diverse stakeholders whose expectations of successful participation often differ. What constitutes effective participation for one stakeholder may not necessarily represent success for another, making the development of a single, universally applicable measure problematic (Chess and Purcell 1999, Laurian and Shaw 2009, Rosener 1978, Rowe and Frewer 2004, Brown and Chin 2013).

Rather than proposing a single definition, the literature has generally approached effectiveness by identifying the characteristics that successful participatory processes should exhibit. Accordingly, effectiveness is commonly evaluated using a range of criteria that assess both the quality of the participation process and the outcomes it produces (Chess and Purcell 1999, Rowe and Frewer 2000, Brown and Chin 2013). While authors differ in the

terminology and organisation of these criteria, there is broad agreement that effective public participation requires both well-designed participatory processes and meaningful contributions to decision-making.

2.4.5.1 Criteria for Evaluating Public Participation Effectiveness

Given the absence of a universally accepted definition of public participation effectiveness, scholars have generally adopted an evaluative approach that assesses participation against a range of criteria rather than a single measure of success. These criteria provide a systematic basis for examining the conditions under which participation can be considered effective and determining whether participatory processes have achieved their intended objectives (Laurian and Shaw 2009; Rowe and Frewer 2004).

Although considerable variation exists in the terminology and classification of evaluation criteria, a common distinction within the literature is between process-oriented and outcome-oriented criteria. Process oriented criteria evaluate the quality of the participatory process itself, focusing on whether participation was conducted in a manner that is transparent, inclusive, fair and accessible to stakeholders. On the other hand, outcome-oriented criteria assess the consequences of participation by examining whether the process influenced decisions, improved the quality of decisions, enhanced legitimacy, promoted learning, reduced conflict or contributed to more acceptable and implementable outcomes. Rather than competing perspectives, these two dimensions are generally viewed as complementary, recognising that a well-designed participatory process does not necessarily guarantee successful outcomes, just as desirable outcomes cannot always compensate for procedural deficiencies. This shows that effective public participation requires attention to both how participation is undertaken and what participation ultimately achieves (Brown and Chin 2013; Chess and Purcell 1999; Laurian and Shaw 2009; Rowe and Frewer 2000; Rowe and Frewer 2004). While the two dimensions are well established in literature, Laurian and Shaw (2009), proposed another dimension that reflects participants' own goals and perception of participation effectiveness.

The inclusion of participant-based criteria by Laurian and Shaw (2009) further demonstrates that public participation effectiveness cannot be evaluated solely from an institutional or

policy perspective. While process- and outcome-oriented criteria predominantly assess whether participatory processes achieve the objectives established by decision-makers and participation frameworks, participant-based criteria recognise that stakeholders may evaluate the same process according to their own expectations, experiences and objectives. Therefore, perceptions of participation effectiveness may differ depending on whose perspective is adopted. Nevertheless, regardless of the perspective used, these evaluation approaches share a common assumption that stakeholder contributions are meaningfully considered during decision-making. They provide relatively limited insight into how stakeholder inputs are interpreted, assessed and responded to before final decisions are reached.

Table 2 Evaluation criteria for effective participation

Dimension	Participation objectives	Evaluation criteria
Process	Social learning, raising awareness, power sharing transparent, fair and inclusive process	Transparency, inclusiveness, fairness, representativeness, accessibility, early involvement
Outcome	Meet statutory requirements, resolve conflicts reach consensus Improve quality of decision, improve legitimacy, acceptability of decisions, facilitate implementation, increase trust	Influence on decisions, decision quality, legitimacy, learning, reduced conflict, implementation
Participants based	Participants' own expectations and objectives	Satisfaction with process and outcomes and other criteria based on participants own goals

The previous sections focused on what participation is, the modes of participation, its objectives, and the criteria commonly used to evaluate its effectiveness. While these perspectives give us insights on participation, why it takes place and how successful participatory processes are assessed, they provide comparatively less insight into the characteristics of stakeholder contributions themselves. Participation involves more than the existence of participatory opportunities or the achievement of desired outcomes; it also involves the communication of stakeholder perspectives through individual submissions, comments and recommendations. Understanding how these contributions are presented and interpreted during decision-making therefore requires additional theoretical perspectives. Framing theory provides a useful lens for examining how stakeholder concerns are communicated, while stakeholder salience theory explains how attributes of the stakeholders presenting those concerns may shape their consideration within decision-making processes.

2.4.6 Framing Theory and Public Participation

Framing theory, which originates from communication studies, provides a useful lens for understanding how different ways of presenting information shape perceptions and influence decision-making. According to the Framing theory, the way information is packaged and presented determines how people understand, perceive and decide to act upon it. Framing influences how decision makers evaluate and respond to a piece of information. It involves inclusion and/ or exclusion of certain information about the subject to emphasise a certain idea or perspective. Although every subject can be viewed from different angles, framing narrows the focus to a specific perspective, often excluding alternative perspectives. As a result, people tend to base their opinions on the readily available and accessible information without considering other perspectives and critically evaluating all the information around the subject (Chong and Druckman 2007).

Within public participation, stakeholders communicate their perspectives through comments, concerns, objections, requests for clarification and recommendations. Although stakeholders may be responding to the same environmental issue or development proposal, they may emphasise different aspects of the issue depending on their interests, values, knowledge and experiences. Framing theory therefore provides a useful perspective for understanding how stakeholder contributions are communicated and how these contributions may be interpreted during environmental decision-making. The way stakeholder concerns are framed may influence how decision-makers perceive their relevance, urgency or usefulness, potentially affecting the extent to which different contributions receive attention during decision-making.

Framing, however, extends beyond the way stakeholders communicate environmental issues. Höppner (2009), drawing on Stirling (2006; 2008), argues that framing also occurs at the institutional level through the design of participatory processes themselves. Those responsible for organising participation exercise influence by determining which issues are open for discussion and which remain outside the scope of deliberation. Participation processes may therefore either "open up" debate by encouraging consideration of multiple perspectives and alternative development pathways or "close down" debate by restricting

discussion to predetermined options. Institutional framing consequently shapes the environment within which stakeholder perspectives are expressed and interpreted. While the present study focuses on the framing of stakeholder contributions, recognising institutional framing provides important context for understanding the broader decision-making environment within which stakeholder inputs are evaluated.

2.4.6.1 Types of Frames

Framing theory identifies different ways in which issues may be communicated. This study draws on the work of Benford and Snow (2000), Feront and Bertels (2019), and Mendelsohn et al. (2024), who distinguish between diagnostic, prognostic and motivational frames.

Diagnostic frames identify or define a problem and frequently assign responsibility for that problem to particular actors or circumstances (Benford and Snow 2000, Mendelsohn et al. 2024). Within environmental decision-making, stakeholders may use diagnostic framing to identify environmental degradation, social impacts or governance failures associated with a proposed development. For example, a stakeholder may argue that a proposed development threatens biodiversity or agricultural land. Prognostic frames move beyond identifying problems by proposing solutions, alternatives or recommendations for addressing the issue (Benford and Snow 2000; Feront and Bertels 2019). Rather than merely expressing concern, stakeholders suggest practical measures, mitigation strategies or alternative approaches that may improve environmental outcomes or reduce potential impacts. Motivational frames seek to encourage action by appealing to values, emotions or moral responsibility (Feront and Bertels 2019, Mendelsohn et al. 2024). These frames emphasise the urgency of an issue and encourage collective action or resistance, for example by mobilising stakeholders to oppose developments perceived to threaten environmental or social wellbeing.

Although these framing categories differ in the way stakeholder concerns are communicated, framing theory does not assume that one type of frame is inherently more influential than another. Rather, it provides a conceptual framework for examining whether different ways of presenting stakeholder concerns are associated with different patterns of response during decision-making.

While framing theory explains how stakeholder contributions are communicated and interpreted, it says relatively little about whether all stakeholders are equally likely to receive attention during decision-making. Participation outcomes may therefore depend not only on the characteristics of the message itself, but also on the characteristics of the stakeholder presenting that message. Stakeholder salience theory provides a complementary perspective by explaining why certain stakeholders are more likely than others to attract the attention of decision-makers.

2.4.7 Stakeholder salience Theory and Power Dynamics

While framing theory explains how stakeholder contributions are communicated and interpreted, stakeholder salience theory explains why some stakeholder claims receive greater attention than others during decision-making. Building on stakeholder theory (Freeman 1984), Mitchell, Agle and Wood (1997) argue that not all stakeholders are treated equally. Rather, the degree of attention given to stakeholder claims depends on the perceived salience of the stakeholder presenting them.

Mitchell et al. (1997) argue that stakeholder salience is determined by three attributes: power, legitimacy and urgency. These attributes influence the degree of attention that decision-makers give to competing stakeholder claims (Mitchell, Agle, and Wood 1997). While the salience model explains why certain actors gain more attention in decision-making, it also exposes the inherent inequalities that shape participation outcomes. One of the determinants of stakeholder salience is power. Mitchell et al. (1997) distinguishes between coercive, utilitarian and normative forms of power. Within environmental decision-making, power may be exercised through legal authority, political influence, access to financial resources, scientific expertise or the ability to mobilise public support. A second determinant of stakeholder salience is legitimacy, which concerns the extent to which a stakeholder's involvement is regarded as appropriate or justified. Mitchell et al. (1997) argue that legitimacy derives from socially accepted structures, behaviours or relationships. In environmental planning, legitimacy may derive from statutory responsibilities, legal rights, recognised expertise or the direct effects of a proposed development on particular communities or organisations. The third attribute influencing stakeholder salience is urgency,

which captures the extent to which stakeholder claims require immediate attention. Mitchell et al. (1997) argue that urgency depends on two characteristics: time sensitivity, referring to the extent to which delays are unacceptable, and criticality, referring to the importance or seriousness of the stakeholder's claim. In the context of environmental decision-making, urgency may arise where stakeholder concerns relate to irreversible environmental damage, immediate risks to public health or safety, or situations requiring prompt intervention to prevent significant environmental or social harm. Therefore, stakeholder concerns perceived as both time-sensitive and critical may be more likely to attract immediate attention than issues considered less urgent.

Mitchell et al. (1997) argue that stakeholder salience depends not on the presence of a single attribute but on the combination of power, legitimacy and urgency. Stakeholders possessing one attribute are classified as latent stakeholders, those possessing two attributes as expectant stakeholders, and those possessing all three attributes as definitive stakeholders whose claims are most likely to command decision-makers' attention. Stakeholder salience provides a useful theoretical perspective for understanding why contributions from different stakeholder groups may receive varying levels of attention during environmental decision-making. While framing theory focuses on how stakeholder concerns are communicated, stakeholder salience theory focuses on the characteristics of the stakeholders presenting those concerns. The two theories suggest that substantive responses to stakeholder inputs may be associated with both the framing of stakeholder submissions and stakeholder attributes. Therefore, they provide complementary theoretical lenses for examining variation in substantive responses to stakeholder inputs within Strategic Environmental Assessment processes.

2.5 Empirical studies

The previous section reviewed the theoretical foundations of public participation, examining the concepts, models and theories that explain why public participation takes place, how participatory processes are designed and how participation effectiveness is evaluated. Building on these theoretical perspectives, this section reviews empirical studies that have investigated public participation in practice.

2.5.1 Empirical evidence on participation rationales

Empirical studies highlight that public participation is pursued for a range of normative, substantive and instrumental objectives, although the relative emphasis placed on these rationales varies across contexts and institutional settings. Sharman (2023), in a doctrinal examination of international environmental law, found that substantive objectives were particularly prominent across the international environmental instruments examined, while normative objectives were also increasingly reflected. This finding is particularly relevant to the present study because it provides empirical evidence that participation rationales can be systematically identified within international environmental governance instruments. Other empirical studies, however, show that the relative prominence of rationales can differ considerably across contexts. Bickerstaff and Walker (2001) found that public participation within local transport planning in England was primarily undertaken to satisfy government requirements, improve policy implementation and secure public support, while comparatively less emphasis was placed on democratic empowerment or incorporating public knowledge into decision-making. Similarly, Höppner (2009) observed that participation is often designed to facilitate planning objectives and manage conflict rather than fundamentally redistribute decision-making power. These studies are consistent with the findings by Wesselink et al. (2011) who found instrumental rationales to be dominating in their analysis of participation rationales in environmental governance.

Substantive objectives have also been identified empirically, particularly within environmental planning and assessment. Studies have shown that participation can contribute to decision-making by incorporating scientific, local and experiential knowledge, improving the evidence available to decision-makers and facilitating learning among stakeholders (Primmer and Kyllönen 2006, Wesselink et al. 2011, Suškevičs 2019). Similarly, research examining Strategic Environmental Assessment has found that participation is expected to strengthen sustainability-oriented planning by integrating diverse perspectives into the assessment of environmental alternatives and development priorities (Arbter 2019, Gauthier, Simard, and Waaub 2011)

Normative objectives are also evident within empirical studies. Across different environmental contexts, participation has been associated with promoting transparency, fairness, inclusiveness and democratic legitimacy, as well as fostering trust between institutions and affected communities (Glucker et al. 2013, Van Boven et al. 2025). However, empirical evidence suggests that these democratic aspirations are not always fully realised in practice, with several studies reporting that normative objectives are frequently pursued alongside, or subordinated to, instrumental considerations.

While the rationales are analytically distinct, empirical studies show that participation processes may incorporate more than one rationale, with different objectives sometimes being pursued within the same process (Suškevičs 2019). At the same time, the relative emphasis placed on these rationales may vary between policy aspirations and their implementation in particular participatory contexts. Recent empirical research on participation in solar power-plant development, for example, found that normative and substantive aspirations articulated by developers were accompanied by a stronger emphasis on instrumental considerations in the design and implementation of participation (Van Boven et al. 2025).

2.5.2 Empirical evidence on public participation effectiveness

Over the years, a growing body of empirical research has sought to evaluate whether public participation achieves its intended objectives. Consistent with the theoretical literature, these studies show that participation effectiveness is multidimensional and cannot be assessed using a single indicator of success. Therefore, public participation effectiveness has been evaluated using a combination of process and outcome-oriented criteria, with different studies emphasising aspects such as transparency, inclusiveness, learning, decision quality, legitimacy, conflict resolution, implementation and participant satisfaction (Brown and Chin 2013, Laurian and Shaw 2009, Rowe and Frewer 2004, Suškevičs 2019).

Although considerable variation exists in the indicators used to evaluate participation, empirical findings consistently suggest that participation processes achieving positive procedural outcomes do not necessarily produce meaningful decision outcomes. Likewise, participation may influence decisions despite participants expressing dissatisfaction with the

process itself. This shows that process quality and participation outcomes, although closely related, represent distinct dimensions of participation effectiveness rather than interchangeable measures of success (Brown and Chin 2013, Chess and Purcell 1999, Laurian and Shaw 2009).

Empirical studies conducted within environmental assessment similarly reflect considerable variation in participation effectiveness across contexts. Studies of Strategic Environmental Assessment and Environmental Impact Assessment have shown that effective participation is associated with early stakeholder engagement, transparent communication, access to relevant information, opportunities for meaningful dialogue and clear demonstration of how stakeholder inputs are considered during decision-making (Arbter 2019, Gauthier, Simard, and Waaub 2011, Nadeem and Fischer 2011, Rega and Baldizzone 2015). More recently, systematic reviews have reinforced these findings while highlighting the diversity of criteria used to evaluate participation effectiveness. Reviewing environmental assessment literature, Suskevics et al. (2023) found that effectiveness has been evaluated using a wide range of procedural, substantive and social criteria, reflecting the multiple objectives pursued through participation. The review further shows that no single criterion adequately captures participation effectiveness, reinforcing the need to evaluate participatory processes from multiple perspectives rather than relying on individual indicators.

While these studies therefore substantial evidence on the conditions and outcomes associated with participation effectiveness, they do not offer much insight into why some participation efforts might fail to deliver the intended results. There are several limitations that may hinder participation effectiveness and limitations are within a broader set of practical and institutional challenges as discussed in the following section.

2.5.3 Challenges affecting public participation effectiveness

Although public participation can contribute to more inclusive, informed and legitimate decision-making, empirical research has identified numerous challenges that can prevent participatory processes from achieving their intended objectives. These challenges arise at different stages of participation and include institutional and political constraints, limited access to information and resources, unequal capacities among participants, difficulties in

achieving representative participation, competing expectations, and limited public confidence in the value of participation.

One of the challenges concerns the institutional and political conditions within which participation takes place. Empirical studies of SEA have found that formal opportunities for public participation do not necessarily translate into meaningful involvement in decision-making. Rega and Baldizzone (2015), based on a survey of SEA practitioners and scholars, found that public engagement in current SEA practice remained limited and had limited influence on decision-making. Respondents identified lack of willingness among proponents and weaknesses in legal frameworks as major factors constraining public involvement. Similarly, Gauthier et al. (2011) found that participation within SEA may provide limited opportunities for deliberation and influence, particularly where major strategic choices have already been developed before public involvement takes place. These findings indicate that the existence of formal participation requirements does not, by itself, ensure that public input can meaningfully enter decision-making.

Access to information, appropriate timing and adequate resources also affect the capacity of stakeholders to participate effectively. Participation requires stakeholders to have sufficient information, time and opportunity to understand the issues under consideration and formulate meaningful contributions. Studies of environmental assessment have identified inadequate information, insufficient notice, complex technical material and limited opportunities to prepare as barriers to effective participation (Okello et al. 2009, Rega and Baldizzone 2015). In addition, participatory processes require time, financial and human resources from both institutions and participants. The lack of these resources may affect the design of participation processes and can restrict the ability of stakeholders to engage throughout lengthy or technically complex processes (Bickerstaff and Walker 2001). Groups with fewer financial, technical or institutional resources, may be disproportionately affected by these constraints, thereby influencing who is able to participate and the nature of the contributions that are made.

The literature also highlights power imbalances and difficulties in achieving representative participation. Participation does not necessarily place stakeholders on an equal footing, since participants differ in their access to political authority, financial resources, technical expertise, institutional connections and other forms of influence. Reed (2008) cautions that participatory processes may reproduce existing power relations rather than overcome them. Empirical research further highlights that participation can be dominated by individuals or groups with greater capacity or experience to engage, while less visible or marginalised groups remain underrepresented (Bickerstaff and Walker 2001, Guijt and Shah 1998). Consequently, the presence of multiple stakeholder groups within a participatory process does not necessarily mean that their perspectives are represented equally or receive equivalent opportunities for consideration.

Another challenge that may hinder effective participation is competing stakeholder interests and expectations. Environmental decision-making often involves stakeholders with different values, priorities and expectations making consensus difficult to achieve. Richards et al. (2004) note that open participation can generate expectations that decision-makers may not be able to fulfil because of legal, technical or institutional constraints. Similarly, Liu et al. (2018) highlight the difficulty of coordinating diverse stakeholder interests and reaching agreement where participants hold competing objectives. Although consensus may strengthen acceptance of decisions, excessive emphasis on consensus can also discourage disagreement and limit the expression of important concerns (Richards et al. 2004). Participation therefore operates within circumstances where not all stakeholder demands can necessarily be accommodated, even when those demands have been formally expressed through the participatory process.

Public willingness to participate and confidence in the participatory process itself may also hinder effective participation. Repeated participation without visible outcomes may contribute to consultation fatigue and cynicism. Richards et al. (2004) identify consultation fatigue as a potential consequence of repeatedly asking stakeholders to participate, particularly where previous participation has produced little observable effect. The provision of opportunities to participate does not necessarily determine the extent to which participation contributes to decision-making. Rega and Baldizzone (2015) found that public

engagement in SEA remained limited in its influence on decision-making, while Gauthier et al. (2011) similarly reported limitations in the influence of public input on final decisions. González et al. (2025), however, shows a different aspect of this relationship. In their SEA case study, extensive efforts to encourage public engagement generated only a small number of participants, but the contributions received were considered meaningful and were integrated into the plan and associated SEA report where appropriate. The authors consequently emphasise the relevance and significance of public input, as well as the openness of SEA and plan-making teams to listen to and integrate public recommendations, rather than participation numbers alone (González et al. 2025).

Although participation effectiveness is commonly evaluated in terms of both the quality of the participatory process and the outcomes it produces, these approaches provide limited insight into what happens to individual stakeholder contributions between their submission and the eventual decision. Recent studies have therefore drawn attention to the intermediate stage between stakeholder participation and formal decision outcomes, highlighting the processes through which stakeholder contributions are evaluated, interpreted and prioritised before their eventual incorporation, modification or rejection in decision-making (Eriksson, Fredriksson, and Syssner 2022, Nguyen et al. 2020). Eriksson et al. (2022) conceptualise this intermediate stage as the “black box” of participatory planning, referring to the often less visible stage through which stakeholder contributions are processed and translated into planning outcomes.

Some empirical studies have begun to examine this relationship more directly. Ulibarri et al. (2019), for example, examined whether stakeholder feedback was reflected in changes between draft and final environmental impact statements and found no substantive change in focal emphasis between the two documents. Similarly, Grote (2024) examined the effects of Indigenous community input within an environmental impact assessment process, drawing attention to differences in the extent to which inputs from different stakeholder groups were reflected in changes to the assessment. These studies highlight the value of tracing stakeholder contributions to observable responses in environmental assessment processes. However, examining whether inputs correspond with changes in subsequent outcomes does

not necessarily reveal how those contributions were treated during the decision-making process, particularly the stage after submission and before the final decision.

Within this intermediate stage, the characteristics of stakeholder contributions and the stakeholders making them may be relevant to how inputs are assessed and responded to. Empirical studies examining stakeholder framing and salience provide useful insights into these dimensions.

2.5.4 Framing strategies and communication outcomes

The discussion above highlights that participation outcomes may depend not only on whether opportunities for participation are provided and the conditions under which participation takes place, but also on how stakeholder contributions are communicated and considered during decision-making. Empirical studies have therefore examined how stakeholders frame environmental issues and how different forms of framing are associated with communication, engagement and decision-making outcomes.

Mendelsohn et al. (2024) used framing to categorise and analyse stakeholder communications. Their research examined how different actors employed diagnostic, prognostic, and motivational framing strategies in social media discussions surrounding gun control, immigration, and LGBTQ rights. Drawing on Snow and Benford's collective action framing framework, the authors compared framing patterns across social movement organisations, journalists, and ordinary citizens. The findings showed that diagnostic framing occurred more frequently in replies than in original broadcast posts, while social movement organisations relied substantially more on prognostic and motivational framing than journalists and ordinary citizens (Mendelsohn et al. 2024). These findings suggest that framing strategies vary across both communication contexts and actor groups, highlighting the value of comparing framing patterns between different stakeholders.

McCauley (2025) examined the use of diagnostic, prognostic, and motivational framing in terrorism research, arguing that these framing dimensions provide a more

clearly defined and empirically measurable analytical framework than the broader concept of ideology. The study argues that diagnostic, prognostic, and motivational frames possess greater conceptual clarity and operational precision, making them more suitable for empirical analysis. Rather than relying on broad ideological classifications, Framing categories can be systematically identified and measured, highlighting their value as an analytical framework for examining how issues are constructed and communicated (McCauley 2025). This illustrates the broader applicability of Snow and Benford's framing framework beyond social movement mobilisation and supports its use as a systematic approach for classifying stakeholder contributions.

Some studies, reveal that that different framing strategies are associated with different outcomes and illustrate how framing categories can be systematically applied to analyse communication within environmental (Loohuis, Raymond, von Raesfeld, Ariane, and Groen, Aar 2014, Overton 2018). Loohuis et al. (2021) applied Snow and Benford's diagnostic, prognostic, and motivational framing framework to compare two regional bio-resource projects in the Netherlands. Using a comparative case study approach, the authors examined how different framing strategies were employed during the development of sustainable bio-energy initiatives and how these framing patterns related to project development processes. Diagnostic framing contributed to establishing legitimacy and distinguishing projects from competing alternatives, whereas prognostic and motivational framing supported mobilisation, learning, and stakeholder engagement. Similarly, Overton (2018) examined the effects of diagnostic, prognostic, and motivational framing on information seeking and information processing in environmental corporate social responsibility (CSR) communication. Using an experimental design, the study found that motivational framing was most effective in increasing issue involvement and information-seeking behaviour, whereas diagnostic and prognostic framing primarily enhanced problem recognition.

Beyond studies applying Snow and Benford's collective action framing framework, a broader body of environmental governance research has also demonstrated the value of examining how stakeholders frame issues in environmental conflicts. Rather than focusing on frame typologies, these studies examine how different stakeholder groups

construct environmental issues, shape conflict dynamics and influence decision-making processes. This perspective positions framing as an analytical tool for understanding how competing interpretations of environmental problems influence governance outcomes.

Brummans et al. (2008) adopted a discourse approach to framing to examine stakeholder constructions across three intractable environmental conflicts involving water allocation, national park management and hazardous waste remediation. Through discourse analysis of stakeholder interviews, the authors identified four dominant framing patterns: business, environmental, balance and freedom discourses. They found that different stakeholder groups consistently framed environmental problems according to distinct identities, values and priorities, with these framing patterns reinforcing group identities and contributing to the persistence of conflict. Importantly, the study argued that analysing stakeholders' framing patterns provides deeper insights into environmental conflicts than focusing solely on stakeholder interests or positions, as framing reveals how disputants construct environmental issues, relationships and identities throughout decision-making processes (Brummans et al. 2008).

Similarly, Asah et al. (2012) investigated framing within the context of an intractable public land-use conflict concerning all-terrain vehicle (ATV) use in Minnesota state forests. Using Q methodology as a diagnostic reframing tool, the authors identified three competing stakeholder frames that reflected differing interpretations of the causes of the conflict, the role of environmental protection and the effectiveness of management interventions. The study found that systematic analysis of stakeholder frames revealed areas of consensus, disagreement and previously unrecognised assumptions that were not readily apparent through conventional stakeholder engagement processes. By illustrating how framing can clarify competing problem definitions and expose underlying conflict dynamics, the authors argued that analysing stakeholder frames contributes to a more comprehensive understanding of complex environmental decision-making and conflict management (Asah et al. 2012).

These studies apply framing across diverse contexts, examining how different framing strategies are associated with varying communication patterns and outcomes. Gray et al. (2007) and Asah et al. (2012) also show how analysing stakeholder framing can reveal how environmental issues and conflicts are constructed by different stakeholders. This provides a more comprehensive understanding of stakeholder perspectives, areas of agreement and disagreement, and the dynamics underlying environmental decision-making. Although the specific outcomes differ, including mobilisation, legitimacy, information processing, communication practices and conflict management, the studies show that framing provides a useful analytical framework for analysing different forms of communication. However, little attention has been given to whether framing strategies differ across stakeholder groups or how stakeholder framing strategies are associated with documented responses within formal environmental decision-making processes. Building on this literature, the present study applies Snow and Benford's diagnostic, prognostic and motivational framing framework to classify stakeholder submissions, compare framing patterns across stakeholder groups, and examine whether different framing strategies are associated with documented responses during Strategic Environmental Assessment public participation

2.5.5 Stakeholder Salience

Beyond message framing, stakeholder salience provides a useful perspective for examining whether contributions from different stakeholder groups are associated with different patterns of documented response. Kaporiri and Donya Razavi (2021) used Mitchel's salience framework to assess stakeholder influence in health care policy priority setting. Kaporiri and Donya Razavi used a qualitative method, interviewing different types of stakeholders including politicians, district officials, ministry of health officials NGOs, civil society, academics and media. The findings revealed that politicians were more salient and influential in priority setting than other types of stakeholders. Their electoral mandate provides legitimacy, while access to resources and decision-making authority enhances their power, making them dominant actors in shaping priorities. The study further revealed that influence varied depending on the

type of decision, the health issue at hand and who presented the issue (Kapuriri and Donya Razavi 2021). Mitchell's salience model is applicable across different fields. For instance, business studies have also applied the salience model to determine influence levels across different stakeholders. Some have examined the type of stakeholders that have more influence on companies disclosing their corporate social responsibility (CSR) (Majdi et al. 2023, Thijssens, Bollen, and Hassink 2015). Majdi et al.'s study revealed that stakeholders such as employees, community and media are more influential in CSR disclosure compared to business partners, customers and shareholders. These groups can directly pressure companies or influence public perception and reputation. They often have a higher ability to mobilize attention and hold companies publicly accountable which make managers more responsive to their CSR disclosure demands compared to more transactional stakeholders (Majdi et al. 2023). Furthermore, Thijssens et al (2015) found that stakeholders possessing the legitimacy attribute, particularly NGOs, are more likely to succeed in persuading companies to disclose their environmental information. NGOs can also influence other stakeholders like government and the community groups to join in pressuring the company's disclosure. Although salience is not always measured directly in studies, it is reflected in whose voices are heard and whose inputs shape outcomes.

2.5.6 Literature synthesis and research gap

The literature reviewed in this study shows that public participation is a multidimensional component of environmental decision-making, pursued for normative, substantive and instrumental purposes. These rationales shape expectations regarding why stakeholders should be involved and what participation is expected to achieve. Empirical studies further show that these objectives may coexist within participatory processes, while also giving rise to different and sometimes competing expectations. Participation effectiveness is not captured by a single criterion but is commonly evaluated through both process- and outcome-oriented dimensions, including inclusiveness, fairness, transparency, learning, decision quality, legitimacy, implementation and participant satisfaction. At the same time, the literature shows that participation processes do not always achieve their intended objectives. Institutional constraints, unequal power and resources, difficulties of representation,

competing stakeholder expectations, consultation fatigue and limited influence on decision-making can constrain the effectiveness of participation.

Despite advances in public participation literature, particularly within environmental governance and decision making, several areas remain insufficiently examined. First, although rationales for public participation are well established within the environmental governance and decision-making literature, less attention has been given to examining how these rationales are articulated across different levels of environmental governance, from international instruments to national policy and individual participatory processes. Sharman (2023) provides an important precedent for examining the objectives underpinning public participation in environmental governance. Through a doctrinal analysis of international environmental law, Sharman examined the extent to which participation provisions in the Rio Declaration and related sustainable-development instruments, the Aarhus Convention and Escazú Agreement, and selected multilateral environmental agreements reflect substantive, normative and instrumental objectives. The analysis found that substantive objectives were particularly prominent, while normative objectives were also increasingly reflected in international environmental governance. However, Sharman's analysis examines the objectives attributed to participation within international environmental law, while the extent to which these rationales are reflected in national participatory policy and individual environmental assessment processes remains less explored particularly in South Africa. The present study builds on this work by extending the examination of participation rationales across multiple levels of environmental governance. It examines the rationales articulated in selected international environmental governance instruments and then considers how these rationales are articulated in South African participatory policy and practice, including selected Strategic Environmental Assessments. This enables the study to examine whether rationales identified at the international level are also evident, differently emphasised or differently expressed as participation is considered within South African policy and individual environmental assessment processes.

Second, while existing research has examined participation effectiveness and the role of participation in decision making, comparatively less attention has been given to the stage at

which individual stakeholder contributions are processed between their submission and the eventual decision. Eriksson et al. (2022) conceptualise this intermediate stage as the “black box” of participatory planning. Some empirical studies have begun to trace stakeholder inputs to subsequent changes in environmental assessment. For example, an emerging body of empirical research has examined whether stakeholder and community inputs are reflected in subsequent changes to environmental impact assessment documents, demonstrating the value of examining what happens to stakeholder contributions after they enter the assessment process (Ulibarri, Scott, and Perez-Figueroa 2019, Grote 2024). These studies highlight the value of examining the treatment of stakeholder contributions beyond the provision of opportunities for participation. However, they primarily focus on whether stakeholder inputs are reflected in subsequent assessment changes, leaving comparatively less attention to whether characteristics of individual contributions and their sources are associated with variation in their documented treatment. In particular, limited attention has been given to whether observable characteristics of stakeholder inputs, including stakeholder group and input framing, are associated with whether those inputs receive substantive responses within Strategic Environmental Assessment processes. This study addresses this gap by examining individual stakeholder submissions and their documented responses within selected Strategic Environmental Assessments in South Africa, focusing specifically on whether stakeholder group and input framing are associated with the likelihood of receiving a substantive response.

Chapter 3: METHODOLOGY OF THE STUDY

This study employed a desktop research design comprising two complementary phases of documentary analysis. The two phases examined different sets of documentary sources and served distinct analytical purposes in addressing the research questions. Phase 1 focused on selected environmental governance frameworks to identify and examine the rationales underpinning public participation in environmental decision-making. Phase 2 focused on Strategic Environmental Assessment (SEA) documentation to identify participation rationales in the selected cases and examine stakeholder submissions in relation to the type of stakeholder who made the submission, how the input was framed and the associated response.

The first phase established how public participation is formally conceived and justified within environmental governance frameworks, while the second examined how participation is expressed in practice through stakeholder inputs within SEA processes. Thus, the desktop study moved from the institutional articulation of public participation to the empirical examination of participation within SEA processes.

3.1 Phase 1: Analysis of environmental governance frameworks

The first phase involved the qualitative analysis of 11 purposively selected environmental governance instruments across international, regional and South African governance levels. Relevant provisions concerning public participation were identified and analysed to determine the purposes attributed to participation. The analysis focused on three analytical categories derived from the public participation literature: normative, substantive and instrumental rationales. The findings from this phase were used to address the research questions concerning the rationales for public participation.

3.1.1 Sampling and sample selection

A purposive document sampling strategy was used to identify environmental governance instruments relevant to the institutionalisation of public participation in environmental decision-making. Purposive sampling involves the deliberate selection of information-rich

units based on predefined criteria relevant to the research purpose (Palinkas et al. 2015). Although purposive sampling has been widely applied to the selection of participants and cases, studies have also demonstrated its application to the selection of documents for analysis (Rasesemola, Mmusi-Phetoe, and Havenga 2023, Whitmore et al. 2018). In the present study, purposive sampling was therefore used to select environmental governance frameworks that met predetermined criteria and were considered relevant to the research questions addressed in Phase 1.

The selection was designed to capture variation in the level and form of institutionalisation of participation across international, regional and national governance instruments. Documents were included where they explicitly establish, recognise, regulate or provide guidance on public participation in environmental decision-making and where they provide sufficient textual material to examine the purposes attributed to participation.

3.1.2 Selection criteria

Documents were purposively selected based on their institutional relevance to public participation in environmental decision-making. Selection was guided by four criteria: (i) the instrument concerns environmental governance, environmental decision-making, or environmental assessment; (ii) the instrument explicitly recognises, requires, promotes, or provides guidance concerning public participation/involvement/consultation in environmental decision-making; (iii) the instrument contains sufficient material to identify the role, expected contribution or purposes/rationales attributed to participation; and (iv) the instrument occupies a distinct position within the environmental governance architecture, thereby allowing comparison across international, regional, constitutional, legislative and procedural levels. For the South African component, the selection was limited to instruments established or adopted from 1994 onwards to ensure that the analysis reflected the environmental governance framework that emerged following South Africa's transition to democracy.

3.1.3 The sample selected

The final Phase 1 sample therefore comprised 11 documents representing global, regional and South African environmental governance frameworks. The sample was not intended to be exhaustive of all instruments containing provisions on public participation. Rather, purposive selection was used to capture variation in the institutional level and form through which public participation is recognised, justified and operationalised, while maintaining direct relevance to environmental decision-making and environmental assessment.

International/global

1. Rio Declaration on Environment and Development (1992)
2. Agenda 21 (1992)
3. UNEP Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters (2010)

Regional

4. Aarhus Convention (1998)
5. Espoo Convention (1991)
6. Escazú Agreement (2018)
7. African Convention on the Conservation of Nature and Natural Resources (2003 revised version)

South African

8. Constitution of the Republic of South Africa (1996)
9. National Environmental Management Act 107 of 1998 (NEMA)
10. NEMA Environmental Impact Assessment Regulations (2014)
11. Public Participation Guideline for Environmental Impact Assessment Processes (2010)

At the international level, the Rio Declaration and Agenda 21 were selected as foundational instruments emerging from the 1992 United Nations Conference on Environment and Development, while the UNEP Guidelines were included because they translate the principles of Principle 10 into guidance for national legislative development. At the regional level, the Aarhus Convention, Espoo Convention, Escazú Agreement and African

Convention were selected to capture variation in the legal and institutional treatment of participation across regional environmental governance frameworks. At the national level, the Constitution, NEMA, the NEMA Environmental Impact Assessment Regulations and the Public Participation Guideline were selected to examine the progression from constitutional principles to overarching environmental legislation and the procedural and practical operationalisation of participation within environmental assessment.

3.1.4 Sources of the documents

The primary texts of the selected environmental governance instruments were obtained from authoritative institutional and government sources. The Rio Declaration and Agenda 21 were obtained from the United Nations. The UNEP Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters were obtained from the United Nations Environment Programme (UNEP), while the Aarhus Convention was obtained from the United Nations Economic Commission for Europe (UNECE). The Espoo Convention and the Escazú Agreement were obtained from the United Nations Treaty Collection, and the African Convention on the Conservation of Nature and Natural Resources was obtained from the African Union. The South African instruments, namely the Constitution of the Republic of South Africa, NEMA, the Environmental Impact Assessment Regulations and the Public Participation Guideline, were obtained from the South African Government website.

3.1.5 Analytical approach

The selected instruments were analysed using directed qualitative content analysis. Directed qualitative content analysis uses an existing theoretical or conceptual framework to guide the classification and interpretation of relevant content within textual data. Unlike a purely inductive approach, in which categories are developed from the data during analysis, directed content analysis begins with concepts established through existing theory and examines how these concepts are reflected in the material being analysed (Assarroudi et al. 2018). In this study, the three rationales for public participation established in Chapter 2 constituted the predetermined analytical categories. The normative, substantive and instrumental rationales

therefore provided the deductive analytical framework for examining the selected instruments. The purpose of the analysis was to examine how these established rationales are articulated within environmental governance frameworks.

3.1.6 Coding framework and procedure

Following the selection of the 11 instruments, a second level of text selection was undertaken to identify the specific provisions used in the rationale analysis.

The unit of analysis was the individual provision or passage within an instrument that addressed public participation, consultation, involvement or a substantively similar form of public engagement and provided evidence concerning a purpose or justification attributed to participation. Potentially relevant provisions were identified through a combination of keyword searches and contextual reading of each instrument. Terms relating to public participation and associated processes, including public involvement, consultation, stakeholder involvement, interested and affected parties, and related terminology, were used to locate potentially relevant text. The identified passages were examined within their surrounding textual context to determine their relevance to the analysis.

Given the broad scope of some of the selected documents, particularly Agenda 21, not every reference to participation was included in the analysis. Provisions that mentioned public participation, consultation or stakeholder involvement without attributing a purpose, expected contribution or justification to such participation were excluded. Where multiple provisions addressed similar aspects of participation, text selection prioritised provisions that provided sufficient information to clearly show the rationale(s) or justification(s) attributed to participation. The analysis aimed to obtain sufficient textual evidence to establish the rationales represented within each instrument rather than provide an exhaustive account of all provisions concerning public participation.

The retained provisions were coded according to the three analytical categories established in Chapter 2. Coding was based on the meaning and purpose attributed to participation within each provision rather than on the presence of particular keywords alone. A provision could be assigned more than one rationale where the text provided evidence supporting multiple

purposes or justifications for participation. Multiple coding was therefore permitted where a provision simultaneously reflected, for example, a normative principle and a substantive contribution to environmental decision-making. The identification of rationale evidence considered both explicit and implicit expressions of participation purposes, contributions or expected outcomes. Where a rationale was not directly stated, it was identified from the meaning and surrounding context of the relevant provision where the textual evidence supported the classification. The coding matrix recorded the instrument, relevant textual provision, location within the instrument, identified rationale(s), explicit or implicit classification, and the reasoning supporting each coding decision. Following coding, the contextual instances were organised at both the individual-document and source-group levels. The analysis examined the presence of substantive, normative and instrumental rationales across individual documents and compared their distribution across three source groups: international environmental governance instruments, South African participatory policy, and the selected SEA cases. Because a contextual instance could contain more than one rationale, the analysis distinguished between contextual instances and rationale occurrences, with multiple rationale occurrences recorded where applicable. The coded material was then descriptively tabulated to show the distribution of rationale categories within individual documents, across source groups and across the full set of analysed documents.

3.2 Phase 2: Analysis of public participation in selected Strategic Environmental Assessments

Phase II examined public participation within two Strategic Environmental Assessment (SEA) processes conducted in South Africa. Whereas Phase I examined how public participation is conceived and justified within environmental governance frameworks, Phase II examined how participation was articulated and documented within SEA processes and how stakeholder inputs were treated within the selected cases. The phase comprised two related analytical components. The first examined the rationales attributed to public participation in the selected SEA processes. The second examined stakeholder inputs and their documented responses, using binary logistic regression to assess whether characteristics of stakeholder inputs were associated with the likelihood of receiving a substantive response.

3.3 Study area and case selection



Figure METHODOLOGY OF THE STUDY.3 South African Provinces. Source: <https://www.exploresouthafrica.net/map/>

South Africa is located near the southernmost point of the African continent, along both the Indian and South Atlantic Oceans. It shares borders with Namibia, Botswana, Mozambique, and Zimbabwe to the north, while Lesotho is entirely enclosed within its borders and Eswatini lies along its north-eastern boundary. South Africa is divided into nine provinces: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape. These provinces differ considerably in their ecological, socio-economic, and development characteristics.

South Africa was selected as the study context because its environmental governance

framework provides an established institutional basis for public participation in environmental decision-making. Following the transition to democracy in 1994, public participation became embedded within the country's constitutional and environmental governance framework, with the Constitution of the Republic of South Africa (1996) and the National Environmental Management Act 107 of 1998 (NEMA) providing important foundations for participatory environmental governance. (Constitution of the Republic of South Africa 1996, Khan 1998, Maphazi et al. 2013). Public participation is operationalised through environmental assessment processes, including Strategic Environmental Assessment (SEA). This institutional context provides a relevant setting for examining both the rationales attributed to public participation and the treatment of stakeholder inputs within environmental decision-making processes.

The first case was the Strategic Environmental Assessment for Wind and Solar Photovoltaic (PV) Energy, which supported the identification of areas of strategic importance for renewable energy development. The SEA was undertaken in phases. The first phase, completed in 2015, identified eight Renewable Energy Development Zones (REDZs). The subsequent Phase 2 SEA built on the outcomes of Phase 1 to identify additional areas of strategic importance for wind and solar PV development. The Phase 2 process incorporated industry priorities, the identification of key mining and industrial municipalities, public comments and environmental and technical assessment to identify focus areas for further assessment. The process ultimately informed the recommendation of three additional REDZs in eMalahleni, Klerksdorp and Beaufort West.

The second case was the Strategic Environmental Assessment for the Square Kilometre Array The second case was the Strategic Environmental Assessment for the Square Kilometre Array (SKA) Phase 1 in South Africa. The SEA assessed the environmental, social and economic risks and opportunities associated with the SKA Phase 1 infrastructure and activities in South Africa. The study area comprised a core area consisting of 38 farms and three spiral arms comprising 131 land parcels. Stakeholder engagement formed part of the SEA process and focused, among other things, on the exchange of local knowledge within the study area and the review of the draft Integrated Management Plan. The SEA therefore provided documented material through which stakeholder inputs and their subsequent

treatment within the assessment process could be examined.

The two cases were selected purposively because they provide contrasting strategic environmental decision-making contexts while offering documentary records of public participation suitable for the analyses undertaken in Phase II. The REDZ SEA involved the identification and assessment of spatial areas across South Africa considered suitable for renewable energy development, with the assessment encompassing both wind and solar PV development across multiple provinces. In contrast, the SKA SEA focused on the Northern Cape, where South Africa's component of the Square Kilometre Array is being developed. The Northern Cape provides a suitable setting for radio astronomy because of its low population density, limited electromagnetic interference and extensive open landscape (Walker and Chinigo 2018). The participatory process consequently involved stakeholders connected to the land and communities within the area affected by the development. The cases therefore provide variation in geographical scale, type of strategic development and participation context, while both contain documented stakeholder inputs and responses required to examine the research questions.

3.3.1 Data sources

The empirical material for Phase II was obtained from the documentary records of the two selected SEA processes. The SEA reports and associated public participation records were obtained from the Council for Scientific and Industrial Research (CSIR) and the Department of Forestry, Fisheries and the Environment (DFFE). For the Wind and Solar PV Energy SEA, the Phase 2 SEA report and the associated record of stakeholder participation were used. For the SKA SEA, the SEA documentation and associated public participation records were used to identify statements concerning the purpose and expected contribution of participation, stakeholder inputs, and documented responses to those inputs.

The documentary material served two related purposes. First, SEA reports were examined for statements articulating the purpose, expected contribution or intended outcome of public participation. These statements constituted the textual material for the Phase II rationale analysis. Second, the documented stakeholder submissions and corresponding responses

formed the empirical dataset for the analysis of stakeholder inputs. A total of 100 stakeholder inputs meeting the specified selection criteria were identified and constituted the full dataset used in the subsequent quantitative analysis.

3.3.2 Analysis of participation purposes and rationales

The first analytical component of Phase II extended the rationale analysis undertaken in Phase I to the two selected SEA processes. In Phase I, the rationales underpinning public participation were identified in selected international, regional and South African environmental governance instruments through directed qualitative content analysis. The same deductive rationale framework, comprising substantive, normative and instrumental rationales, was applied to the SEA documentation to examine how the purposes and expected contributions of public participation were articulated in practice.

The analysis focused on statements within the SEA documentation in which the purpose, contribution or expected outcome of public participation was explicitly articulated. A contextual instance was defined as a discrete statement or passage conveying such a purpose, contribution or expected outcome. General descriptions of participation activities were not treated as rationale evidence unless they explicitly articulated a purpose, contribution or expected outcome.

Each contextual instance was examined for evidence of the three rationale categories established in Phase I. Coding was based on the meaning and purpose expressed in the statement rather than on the presence of particular keywords. Where a contextual instance expressed more than one rationale, multiple rationale codes were assigned. The coded instances were then organised by rationale category and SEA case for presentation and interpretation in the results.

3.3.3 Analysis of stakeholder inputs and documented responses

The second analytical component examined stakeholder inputs and their documented responses within the selected SEA processes. Unlike the first component, which examined how the purpose and rationale of participation were articulated by the SEA processes, this

component focused on the treatment of individual stakeholder inputs and provided the empirical basis for testing research question 2 and 3. A total of 100 stakeholder inputs identified from the participation records of the two selected SEAs constituted the dataset for the quantitative analysis.

Stakeholder inputs were identified from the documented participation records of the two SEA cases based on the following criteria:

Inputs were included if they:

- I) raised an issue directly relevant to environmental decision-making within the SEA;
- II) contained content relevant to the assessment, proposed activity, or its potential effects and implications; and
- III) had a traceable documented acknowledgement, consideration or response within the SEA process.

Inputs that were limited to administrative or procedural matters, such as requests for access to documents or other information that did not concern the substance of the environmental decision, were excluded. These criteria ensured that the analysis focused on stakeholder inputs directly relevant to the environmental decision-making process and for which a documented response could be examined.

3.3.3.1 Content analysis of stakeholder inputs

In addition to the variables used in the quantitative analysis, the substantive content of the 100 stakeholder inputs was analysed to provide a descriptive account of the issues raised through participation. The analysis was undertaken to identify the range of concerns raised by stakeholders and to examine whether different stakeholder groups emphasised different substantive issues. Content categories were developed through reading the stakeholder submissions and identifying recurring issues across the inputs. Six categories were identified: spatial, land-use and property; environmental issues; technical issues; socio-economic and livelihoods; infrastructure and development; and participation, governance and rights. Individual inputs could be assigned to more than one category where they addressed multiple

issues. The content analysis was used to characterise the concerns raised by stakeholders and their distribution across stakeholder groups. The coded content categories were summarised using frequencies and percentages to describe the distribution of issues raised across the stakeholder inputs and stakeholder groups.

3.3.3.2 Public Participation Input Profiling Framework (PPIS)

A Public Participation Input Profiling Framework (PPIS) was developed in this study as a novel descriptive framework for characterising stakeholder inputs across three dimensions: input framing, stakeholder salience and substantive response. The framework was developed to examine how these characteristics can occur in different combinations within individual stakeholder inputs. PPIS is not intended to measure stakeholder influence or to produce a ranking of inputs. Instead, the framework provides a structured means of representing the characteristics of individual inputs through categorical identifiers.

The first dimension, input framing, comprises three categories: informational (1), diagnostic (2) and prognostic (3). The categorisation follows the framing approach used in the study, with informational inputs primarily providing or seeking information, diagnostic inputs identifying problems or concerns, and prognostic inputs proposing solutions, recommendations or courses of action. The ordering of the categories retains the assumption applied in the analysis that prognostically framed inputs represent the most solution-oriented form of stakeholder input. The second dimension, stakeholder salience, is based on the three attributes identified by Mitchell et al. (1997): power, legitimacy and urgency. For the purpose of PPIS, stakeholders were assigned a salience category according to the number of these characteristics attributed to their stakeholder type. Stakeholders associated with one, two or three characteristics were assigned categories 1, 2 and 3, respectively. These categories are used only as identifiers within the framework and do not represent a composite influence score.

The third dimension, substantive response, records the nature of the documented response associated with each stakeholder input. Responses were classified as substantive (1) or non-substantive (2). The numerical designations are categorical identifiers and are not summed or otherwise treated as quantitative scores.

The three dimensions are combined to produce an input profile expressed as **F-S-R**, where F represents framing, S represents stakeholder salience and R represents substantive response. For example, **F3-S3-R2** represents a prognostically framed input submitted by a stakeholder possessing all three salience characteristics that received a non-substantive response. Conversely, **F1-S3-R1** represents an informationally framed input from a stakeholder possessing all three salience characteristics that received a substantive response. Table 3 provides an illustrative application of the framework using four selected stakeholder inputs. The examples were selected to demonstrate contrasting combinations of framing, stakeholder salience and substantive response rather than to represent a separate analytical sample.

Table 3 Application of the input profiling framework

Input	Framing	Salience	Substantive response	PPIS profile
A002	Prognostic (3)	3 characteristics (3)	Non-substantive (2)	F3-S3-R2
A006	Informational (1)	3 characteristics (3)	Substantive (1)	F1-S3-R1
A008	Prognostic (3)	2 characteristics (2)	Substantive (1)	F3-S2-R1
A018	Informational (1)	2 characteristics (2)	Non-substantive (2)	F1-S2-R2

These contrasting configurations illustrate the analytical value of the framework. They show that framing, stakeholder salience and substantive response do not necessarily correspond in a fixed manner. For example, a prognostically framed input from a stakeholder possessing all three salience characteristics may receive a non-substantive response, while an informationally framed input from a stakeholder with the same salience classification may receive a substantive response. Similarly, substantive responses may occur across different combinations of framing and salience. PPIS therefore provides a structured basis for identifying and comparing configurations of stakeholder inputs, rather than assuming that particular forms of framing or stakeholder characteristics are associated with a particular type of response. The framework is introduced and applied solely within the methodology as a methodological innovation for demonstrating a structured approach to characterising

stakeholder inputs. The PPIS profile itself is not used as a variable in the subsequent statistical analysis and is not presented as a separate empirical finding in the results. Rather, the underlying dimensions of framing, stakeholder salience and substantive response remain analytically distinct and are used elsewhere in the study where appropriate. The selected examples therefore serve only to illustrate how these dimensions can be combined to characterise individual inputs and to identify contrasting configurations.

3.3.3.3 Variable construction

Each selected input was classified according to stakeholder type, framing type and sector. Framing was classified using the framing categories applied in the analysis: diagnostic, prognostic and informational. While framing theory traditionally distinguishes between diagnostic, prognostic and motivating frames, the empirical analysis required a slight adaptation because no inputs in the dataset corresponded to motivating frames. A distinct category, termed “*informational framing*”, was therefore assigned to inputs that were neither diagnostic nor prognostic, including inputs in which stakeholders primarily shared concerns or sought clarification on particular issues. Stakeholder type identified the group or category to which the submitting stakeholder belonged, while sector captured the sectoral context associated with the input. The stakeholder-input variables were also summarised descriptively using the number of inputs and their corresponding percentages. Cross-tabulations were used to examine the distribution of documented responses across stakeholder groups, framing types and content categories.

The documented response associated with each stakeholder input was examined and classified according to whether it constituted a substantive or non-substantive response. A non-substantive response was defined as an acknowledgement, clarification, explanation, information provision, or similar response that did not indicate substantive engagement with the issue or a clear commitment to further action or consideration. A substantive response was coded when the documentation indicated that the SEA either (a) substantively engaged with the stakeholder input or (b) explicitly committed to further assessment, consideration, investigation, or addressing of the issue raised.

3.3.3.4 Data management and coding

The coding of stakeholder inputs and documented responses was recorded in a structured dataset, with each input assigned a unique identification number. The dataset contained fields corresponding to the analytical variables, including SEA case, stakeholder type, sector, framing type, documented response and substantive-response classification. The coded variables were recorded systematically for all 100 stakeholder inputs and used to construct the dataset for quantitative analysis. The dataset was reviewed for completeness and consistency before statistical analysis, and the categorical variables were coded numerically as required for the logistic regression.

3.3.4 Stakeholder classification

Stakeholders and their associated inputs were classified according to the stakeholder categories recorded in the SEA reports. Government departments and agencies participating in the SEA process were classified as government agencies. This classification distinguished participating government bodies from the institutions responsible for commissioning or conducting the SEA.

Other stakeholder categories included local residents, non-governmental organisations (NGOs), non-profit organisations (NPOs) and Other. The latter category comprised participants who did not fall within the other stakeholder categories but participated as interested members of the public or other interested parties. Stakeholder classification was used in the subsequent analysis of stakeholder inputs and in the assessment of stakeholder salience.

3.3.5 Logistic regression analysis (n=100)

The second component examined the association between characteristics of stakeholder inputs and the likelihood of receiving a substantive response within the SEA process using binary logistic regression. The sample of 100 stakeholder inputs were used for the regression analysis. The dependent variable, substantive response, was coded as 0 for a non-substantive response and 1 for a substantive response. Logistic regression estimates the probability of an

event occurring as a function of a set of predictors (Brooks 2008, LaValley 2008), allowing the model to assess how characteristics of stakeholder inputs are associated with the likelihood of a substantive response.

In logistic regression, the relationship between the predictor variables and the binary outcome can be expressed in two mathematically equivalent but conceptually different forms. The first is the logit form which models the natural logarithm of the odds (log-odds) of the event occurring as a linear function of the predictors:

$$\ln[\text{odds}(Y = 1)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots + \beta_n X_n \dots \dots \dots (1)$$

This is known as the logit form of the model, where $\ln$ denotes the natural logarithm, Y is the binary outcome variable (with $Y=1$) indicating the event occurs, and $Y=0$ otherwise), β_0 is the intercept, and $\beta_1 \dots_n$ is the coefficient representing the change in the log-odds of the event for a one-unit increase in corresponding predictor $X_{1\dots n}$. Alternatively, the model can be expressed in terms of the predicted probability of the event occurring, using the logistic function as follows:

$$P(Y = 1|X) = \frac{e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots + \beta_n X_n}}{1 + e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots + \beta_n X_n}} \dots \dots \dots (2)$$

This formulation translates the linear combination of predictors into a probability bounded between 0 and 1. While Equations (1) and (2) are mathematically related, Equation (2) being the inverse of the logit transformation in Equation (1), they offer different interpretive advantages. The logit form emphasizes the linear relationship with log-odds, while the probability form directly conveys the predicted likelihood of the event occurring. In Equation (2), e represents the base of the natural exponential function.

For this study, the model is specified as:

$$P(Y = 1|X) = \frac{e^{\beta_0 + \beta_1 \text{Inputtype} + \beta_2 \text{Stakeholdertype} + \beta_3 \text{Sector}}}{1 + e^{\beta_0 + \beta_1 \text{Inputtype} + \beta_2 \text{Stakeholdertype} + \beta_3 \text{Sector}}} \dots \dots \dots (1)$$

where $Y=1$ represents a substantive response and $Y=0$ represents a non-substantive response. The principal predictors were framing type, stakeholder type and sector.

3.3.5.1 Supplementary stakeholder salience model

To further examine the relationship between stakeholder characteristics and substantive response, a supplementary logistic regression model was estimated in which stakeholder type was replaced by a stakeholder-type-based salience proxy. The proxy was informed by Mitchell et al.'s (1997) stakeholder salience framework, which identifies power, legitimacy and urgency as the three attributes underlying stakeholder salience.

Given the nature of the available data, salience could not be assessed directly for individual stakeholders or individual stakeholder claims. Detailed information required to assess stakeholder-specific power, such as access to resources, political connections, legal authority or other forms of leverage, was not consistently available in the SEA documentation. The same limitation applied to assessing legitimacy and urgency at the level of individual claims. The supplementary analysis therefore used a simplified stakeholder-type-based operationalisation rather than claiming to provide a comprehensive measure of stakeholder salience.

Each stakeholder type was assigned a binary score of 0 or 1 for each of the three attributes based on the characteristics associated with that stakeholder category. Power was assessed using indicators such as legal or political leverage; legitimacy reflected considerations such as a recognised right to participate or direct affectedness; and urgency reflected whether stakeholder concerns were considered time-sensitive. The three attributes were summed to produce a salience score ranging from 0 to 3:

$$\text{Stakeholder salience score} = \text{Power} + \text{Legitimacy} + \text{Urgency}$$

Government agencies were assigned a score of 3; NGOs, NPOs and local residents a score of 2; and stakeholders classified as "Other" a score of 1. The resulting classification is presented in Table 3. The salience score was entered as a continuous predictor in an alternative binary logistic regression model, with substantive response as the dependent variable and framing type and sector retained in the model.

Table 4 Stakeholder type and salience scores

Stakeholder Type	Power	Legitimacy	Urgency	Salience Score
Government Agency	1	1	1	3
NGO	1	1	0	2
NPO	0	1	1	2
Local residents	0	1	1	2
Other	0	1	0	1

3.4 Overview of the research design and analytical approach

Table 5 Research design and analytical approach

Research Phase	Data Source	Analytical Focus and Methodological Approach	Research Questions Addressed
Phase I: Environmental governance frameworks	11 purposively selected international, regional and South African environmental governance instruments	Identification and examination of the rationales underpinning public participation through directed qualitative content analysis. Provisions concerning participation were deductively coded according to the normative, substantive and instrumental rationale categories established in Chapter 2.	RQ1: What rationales underpin public participation in selected international environmental governance instruments, and how are these reflected in South African participatory policy and practice?
Phase II: Participation in selected SEAs	SEA reports and associated public participation records from the Wind and Solar PV Energy SEA (REDZ)	Participation rationales: Identification and analysis of the rationales articulated in the selected SEA processes using directed qualitative content analysis and the same deductive rationale categories applied in Phase I. Stakeholder inputs and	RQ1: What rationales underpin public participation in the selected SEA processes? RQ2: Are different forms of stakeholder input framing associated with different patterns of documented response within Strategic

and Square Kilometre
Array (SKA) SEA

documented responses: The 100 stakeholder inputs were analysed according to stakeholder type, framing and sector, with documented responses classified as substantive or non-substantive for the quantitative analysis. Binary logistic regression was then used to examine the association between stakeholder-input characteristics and the likelihood of receiving a substantive response.

Environmental Assessments? RQ3: Are different stakeholder groups associated with different patterns of documented response to stakeholder inputs within Strategic Environmental Assessments?

Chapter 4: RESULTS

This chapter presents the findings of the study on public participation in Strategic Environmental Assessment (SEA). The results are presented in two parts. The first examines the rationales underpinning public participation across selected international environmental governance instruments, South African participatory frameworks and the two SEA cases. The second examines stakeholder inputs within the SEA processes, focusing on the content of these inputs, their framing, stakeholder type and the documented responses to them. The analysis of stakeholder inputs considers patterns across stakeholder groups and examines whether the framing of an input is associated with the type of response documented in the SEA process. The chapter also presents the results of a binary logistic regression examining the association between framing type and substantive response while accounting for stakeholder type and sector. A supplementary model considers stakeholder salience as an alternative representation of stakeholder characteristics.

4.1 Rationales underpinning public participation

The document analysis identified 37 contextual instances in which the purpose, contribution or expected outcome of public participation was articulated across the selected governance instruments and SEA reports. These contextual instances generated 47 rationale occurrences, as some instances reflected more than one rationale. Three categories were identified: substantive, normative and instrumental. Substantive rationales occurred most frequently (23 instances), followed by normative rationales (16) and instrumental rationales (8). Of the 37 contextual instances, 21 were identified in the international environmental governance instruments, 10 in South African participatory policy, and six in the two selected SEA cases.

4.1.1 Distribution of rationales across the individual selected instruments

The distribution of rationales varied across the individual documents. Table 5 presents the rationale categories identified in the selected instruments and SEA cases and indicates whether the supporting evidence was explicit or implicit. Because a contextual instance could contain more than one rationale, the categories are not mutually exclusive.

Table 6 Distribution of rationales across selected instruments

Selected instrument/document	Substantive	Normative	Instrumental
Rio Declaration	Explicit	Explicit	-
Agenda 21	Explicit	Explicit	Explicit
UNEP Guidelines	Explicit	-	-
Aarhus Convention	Explicit	Explicit	Explicit
Espoo Convention	-	-	-
Escazú Agreement	Explicit	Explicit	-
African Convention	Explicit	-	Explicit
Constitution of the Republic of South Africa	-	-	-
NEMA	-	Explicit	-
NEMA EIA Regulations (2014)	Implicit	Implicit	-
NEMA Public Participation Guidelines	Explicit	Explicit	Explicit
REDZ SEA	-	-	Explicit
SKA SEA	Explicit	-	-

The substantive rationale was identified in nine of the selected instruments and SEA cases. It was explicitly articulated in the Rio Declaration, Agenda 21, UNEP Guidelines, Aarhus Convention, Escazú Agreement, African Convention, NEMA Public Participation Guidelines and SKA SEA, while its identification in the NEMA EIA Regulations was based on implicit evidence. Normative rationales were identified in seven documents. They were explicitly articulated in the Rio Declaration, Agenda 21, Aarhus Convention, Escazú Agreement, NEMA, and NEMA Public Participation Guidelines, while the rationale identified in the NEMA EIA Regulations was implicit. Instrumental rationales were identified in five documents; Agenda 21, Aarhus Convention, African Convention, NEMA Public Participation Guidelines and REDZ SEA, and were explicitly articulated in each case. The Espoo Convention and Constitution of the Republic of South Africa did not contain contextual instances that met the coding criteria for a participation rationale.

4.1.2 Rationales in international environmental governance instruments

The six international environmental governance instruments that contained coded rationale evidence yielded 21 contextual instances. These generated 31 rationale occurrences, comprising 15 substantive, 12 normative and four instrumental rationales.

Substantive rationales were identified across all six instruments. They were expressed through references to the contribution of participation to environmental decision-making, access to and exchange of information, incorporation of knowledge and perspectives, and broader environmental objectives such as sustainable development, environmental protection, conservation and sustainable use. Normative rationales occurred in five of the six instruments. They were expressed through references to participation as a right, inclusion of affected groups and communities, equal opportunities, empowerment and the involvement of citizens and other stakeholders in environmental decision-making. Instrumental rationales were less widespread. They occurred in Agenda 21, the Aarhus Convention and the African Convention, with the additional occurrence in Agenda 21 associated with the expected contribution of youth participation to the longer-term success of Agenda 21. The instrumental rationale in the Aarhus Convention was associated with outcomes including implementation and public support, while the African Convention linked participation with the creation of local incentives for conservation and sustainable use. Several contextual instances incorporated more than one rationale. For example, participation was sometimes simultaneously associated with rights or inclusion and contributions to improved environmental decisions, resulting in substantive-normative coding. One provision in Agenda 21 contained all three rationales.

4.1.3 Rationales in South African participatory policy

The three South African policy documents containing coded rationale evidence yielded 10 contextual instances and 10 rationale occurrences, comprising five substantive, four normative and one instrumental rationale.

The NEMA provision was coded as normative, emphasising the participation of all interested and affected parties and the inclusion of vulnerable and disadvantaged persons. The NEMA EIA Regulations implicitly expressed both substantive and normative rationales. The

substantive rationale was expressed through requirements for access to information that may influence environmental-authorisation decisions, while the normative rationale concerned the use of alternative participation methods where individuals face barriers such as illiteracy, disability or other disadvantage. The NEMA Public Participation Guidelines contained the greatest range of rationales within the South African policy documents. Substantive rationales related to informed and better decision-making, access to understandable information, reducing or mitigating negative impacts, enhancing positive impacts, and incorporating the needs, preferences and values of affected parties. Normative rationales were expressed through the right to be informed and afforded an opportunity to influence decisions, as well as transparency and accountability. The instrumental rationale concerned the use of participation to resolve disputes and reconcile conflicting interests.

4.1.4 Rationales in practice from the selected SEA cases

The two selected SEA reports provided six contextual instances concerning the stated purposes of participation. These comprised three instrumental rationales in the REDZ SEA and three substantive rationales in the SKA SEA. In the REDZ SEA, all three contextual instances were coded as instrumental. Participation was associated with reaching agreement among government departments, the three spheres of government, the private sector and the public; securing the buy-in and commitment of key role players; and achieving early consultation and formal agreement considered important to the success of the SEA process. In the SKA SEA, the three contextual instances were coded as substantive. Participation was intended to ensure that stakeholder comments, concerns, inputs and local knowledge were taken into consideration in decision-making; to use local knowledge in considering approaches to reduce potentially negative or enhance potentially positive impacts; and to communicate stakeholder issues and inputs to other interested and affected parties and the competent authority for decision-making.

The two SEA cases therefore differed in the rationale most explicitly associated with participation. The REDZ SEA emphasised instrumental purposes centred on agreement, buy-in and commitment, whereas the SKA SEA emphasised substantive purposes involving the

incorporation and use of stakeholder knowledge and inputs in environmental decision-making.

4.1.5 Overall distribution

Table 7 The overall distribution of rationale occurrences

Source group	Contextual instances	Substantive	Normative	Instrumental
International environmental governance instruments	21	15	12	4
South African participatory policy	10	5	4	1
Selected SEA cases	6	3	0	3
Total	37	23	16	8

The results show that substantive rationales were the most frequently identified across the full dataset, followed by normative and instrumental rationales. At the international level, substantive and normative rationales were both widely represented, although substantive rationales occurred more frequently. South African participatory policy similarly contained all three rationales, with substantive rationales occurring slightly more frequently than normative rationales. The selected SEA cases showed a more differentiated pattern, with the REDZ SEA articulating instrumental purposes and the SKA SEA articulating substantive purposes.

4.2 Stakeholder inputs framing, stakeholder type and documented response

4.2.1 Distribution of stakeholder input content

Table 8 Distribution of stakeholder input content

Content category	Inputs, n (%)
Spatial, land-use and property	33 (33.3%)
Environmental issues	32 (32.3%)
Technical issues	32 (32.3%)
Socio-economic and livelihoods	28 (28.3%)
Infrastructure and development	23 (23.2%)
Issues	
Participation, governance and rights	17 (17.2%)

The 100 stakeholder inputs covered six content categories. Spatial, land-use and property issues were the most frequently identified, occurring in 33 of the 99 codable inputs (33.3%). Environmental and technical issues were each identified in 32 inputs (32.3%), followed by socio-economic and livelihood issues in 28 inputs (28.3%), infrastructure and development issues in 23 inputs (23.2%), and participation, governance and rights issues in 17 inputs (17.2%).

Content also varied across stakeholder groups. Environmental issues were particularly frequent among NGO inputs, while socio-economic and livelihood, infrastructure and development, and participation, governance and rights issues were more frequently identified among local-resident inputs. Government inputs were particularly represented in technical and spatial, land-use and property issues.

The content categories were multiple-coded, meaning that individual inputs could be assigned to more than one category. Consequently, the frequencies across categories are not

mutually exclusive and do not sum to the total number of stakeholder inputs. The full distribution of content categories across stakeholder groups is provided in Appendix A.

4.2.2 Stakeholder group and framing

Table 9 Stakeholder group and framing

Stakeholder type	Informational	Diagnostic	Prognostic	Total
Government Agency	7 (36.8%)	2 (10.5%)	10 (52.6%)	19
Local resident	30 (61.2%)	8 (16.3%)	11 (22.4%)	49
NGO	0 (0.0%)	2 (9.1%)	20 (90.9%)	22
NPO	1 (20.0%)	0 (0.0%)	4 (80.0%)	5
OTHER	0 (0.0%)	3 (60.0%)	2 (40.0%)	5
Total	38 (38.0%)	15 (15.0%)	47 (47.0%)	100

Across the 100 stakeholder inputs, prognostic framing was the most common framing type (47 inputs; 47.0%), followed by informational framing (38; 38.0%) and diagnostic framing (15; 15.0%).

Framing patterns varied across stakeholder groups. Local residents predominantly used informational framing, with 30 of their 49 inputs (61.2%) classified in this category, compared with 11 (22.4%) using prognostic framing and 8 (16.3%) using diagnostic framing. In contrast, NGO inputs were predominantly prognostic, with 20 of 22 inputs (90.9%) classified as prognostic and only two (9.1%) as diagnostic. Government agency inputs were more evenly distributed, although prognostic framing was most common (10 of 19; 52.6%), followed by informational framing (7; 36.8%) and diagnostic framing (2; 10.5%). Inputs from NPO and “Other” category were relatively few, comprising five inputs each.

4.2.3 Stakeholder group and documented response

Table 10 Stakeholder group and documented response

Stakeholder type	Non-substantive	Substantive	Total
Government Agency	6 (31.6%)	13 (68.4%)	19
Local resident	39 (79.6%)	10 (20.4%)	49
NGO	6 (27.3%)	16 (72.7%)	22
NPO	3 (60%)	2 (40%)	5
OTHER	4 (80%)	1 (20%)	5
Total		42 (42.0%)	100
	58 (58.0%)		

Of the 100 stakeholder inputs examined, 42 (42.0%) received substantive documented responses, while 58 (58.0%) received non-substantive responses.

The distribution differed across stakeholder groups. Substantive responses were recorded for 16 of 22 NGO inputs (72.7%) and 13 of 19 Government agency inputs (68.4%). Among NPO inputs, two of five (40.0%) received substantive responses. In contrast, substantive responses were recorded for only 10 of 49 local-resident inputs (20.4%), while one of five inputs from OTHER stakeholders (20.0%) received a substantive response. Thus, descriptively, substantive documented responses were more frequently observed among NGO and Government agency inputs than among local-resident inputs.

4.2.4 Framing type and documented response

Table 11 Distribution of documented responses across framing types

Framing	Non-substantive	Substantive	Total
Informational	33	5	38
Diagnostic	11	4	15
Prognostic	14	33	47
Total	58	42	100

The distribution of documented responses varied across framing types. Of the 38 inputs expressed through informational framing, 33 (86.8%) received non-substantive responses, while only 5 (13.2%) received substantive responses. Diagnostic inputs showed a somewhat different pattern, with 11 of 15 inputs (73.3%) receiving non-substantive responses and 4 (26.7%) receiving substantive responses. In contrast, prognostic inputs were predominantly associated with substantive responses, with 33 of 47 inputs (70.2%) receiving substantive responses and 14 (29.8%) receiving non-substantive responses.

Overall, the descriptive distribution shows a pattern in which informationally framed inputs were most frequently associated with non-substantive responses, whereas prognostically framed inputs were more frequently associated with substantive responses. Diagnostic inputs fell between these two patterns. This descriptive pattern was examined using binary logistic regression to assess whether framing type, stakeholder type and sector were associated with the likelihood of receiving a substantive response.

4.2.5 Content and documented response

Table 12 Distribution of documented responses across content categories

Content category	Non-substantive	Substantive	Total
Environmental Issues	13 (40.6%)	19 (59.4%)	32
Technical Issues	9 (28.1%)	23 (71.9%)	32
Socio-economic and livelihoods	19 (67.9%)	9 (32.1%)	28
Spatial, land-use and property	19 (57.6%)	14 (42.4%)	33
Infrastructure and Development Issues	20 (87.0%)	3 (13.0%)	23
Participation, Governance and Rights	16 (94.1%)	1 (5.9%)	17

The distribution of documented responses also varied across content categories. Technical issues had a relatively high proportion of substantive responses, with 22 of 32 technical inputs (68.8%) receiving substantive responses. Environmental issues similarly had 18 substantive responses among 32 inputs (56.3%). Substantive responses were less frequently observed for socio-economic and livelihood issues (9 of 28; 32.1%), spatial, land-use and property issues (14 of 33; 42.4%), infrastructure and development issues (3 of 23; 13.0%), and participation, governance and rights issues (1 of 17; 5.9%).

These results describe differences in the documented treatment of inputs across content categories; they do not by themselves establish that content characteristics determine the type of response received.

4.2.6 Stakeholder group vs framing vs documented response

Table 13 Distribution of documented response across framing and stakeholder group

Stakeholder	Framing	Non-substantive	Substantive	Total
Government Agency	Diagnostic	0 (0.0%)	2 (100.0%)	2
Government Agency	Informational	3 (42.9%)	4 (57.1%)	7
Government Agency	Prognostic	3 (30.0%)	7 (70.0%)	10
Local resident	Diagnostic	7 (87.5%)	1 (12.5%)	8
Local resident	Informational	29 (96.7%)	1 (3.3%)	30
Local resident	Prognostic	3 (27.3%)	8 (72.7%)	11
NGO	Diagnostic	1 (50.0%)	1 (50.0%)	2
NGO	Prognostic	5 (25.0%)	15 (75.0%)	20
NPO	Informational	1 (100.0%)	0 (0.0%)	1
NPO	Prognostic	2 (50.0%)	2 (50.0%)	4
OTHER	Diagnostic	3 (100.0%)	0 (0.0%)	3
OTHER	Prognostic	1 (50.0%)	1 (50.0%)	2

The three-way distribution provides a more detailed description of how framing and documented response occurred within stakeholder groups. The clearest pattern was observed among local residents. Of the 30 informationally framed local-resident inputs, 29 (96.7%) received non-substantive responses, while only 1 (3.3%) received a substantive response. Diagnostic inputs showed a similar pattern, with 1 of 8 (12.5%) receiving a substantive response. In contrast, 8 of 11 prognostically framed local-resident inputs (72.7%) received substantive responses, while 3 (27.3%) received non-substantive responses.

A similar pattern was observed among NGOs, where 15 of 20 prognostically framed inputs (75.0%) received substantive responses. Government agency inputs showed a more mixed distribution, although substantive responses were more frequent than non-substantive responses among both informational and prognostic inputs. Two of five NPO inputs (40.0%) and one of five OTHER inputs (20.0%) received substantive responses.

4.2.7 Regression analysis results

A binary logistic regression model was estimated to examine whether framing type, stakeholder type, and sector were associated with the likelihood of receiving a substantive response. For this analysis, a substantive response was coded as 1 where the SEA either (a) substantively engaged with the stakeholder input by providing an explanation, assessment, evaluation, justification, or other response addressing the substance of the issue raised, or (b) explicitly committed to further assessment, consideration, investigation, or addressing of the issue. Inputs that were merely acknowledged, recorded, or otherwise noted without substantive engagement or a clear commitment to further consideration were coded as 0.

The overall model was statistically significant, $\chi^2 (7) = 54.72$, $p < 0.001$, indicating that the predictors collectively were associated with variation in the likelihood of receiving a substantive response. Model fit was assessed using the Hosmer–Lemeshow goodness-of-fit test. The test was not statistically significant ($\chi^2 = 7.61$, $df = 5$, $p = 0.179$), providing no evidence of poor model fit and indicating that the model's predicted probabilities were reasonably consistent with the observed outcomes. The regression results are presented in Table 13. The reference categories were prognostic framing (recommendation), government agency (stakeholder type), and the energy sector. Predictor variables were dummy coded as follows: diagnostic framing and informational framing relative to prognostic framing; and NGO, local resident, NPO, and other relative to government agencies.

Table 14 Regression results

Depended variable: Substantive response

Predictor	Estimate (β)	Std. Error	z value	Odds Ratio	p-value
Intercept	2.241	0.775	2.894	9.4	0.004
Framing: Diagnostic	-1.321	0.86	-1.536	0.27	0.125
Framing: Informational	-2.81	0.813	-3.457	0.06	0.001
Stakeholder: NGO	-1.117	0.892	-1.251	0.33	0.211
Stakeholder: Local residents	0.490	1.110	0.441	1.63	0.659
Stakeholder: NPO	-2.295	1.231	-1.865	0.1	0.062
Stakeholder: Other	-2.961	1.372	-2.158	0.05	0.031
Sector: R&D	-3.315	1.136	-2.918	0.04	0.004

Model fit: $\chi^2 (7) = 54.72$, $p < 0.001$; $N = 100$; Log Likelihood = -40.67 ; AIC = 97.34.

A likelihood-ratio test was conducted to assess the contribution of framing type to the model. The inclusion of framing characteristics significantly improved model fit relative to a model containing only stakeholder type and sector variables ($\chi^2 (2) = 15.09$, $p < 0.001$). This indicates that framing type, as a whole, was significantly associated with variation in the likelihood of receiving a substantive response.

Examination of the individual regression coefficients indicated that informational framing was associated with significantly lower odds of receiving a substantive response than prognostic framing ($\beta = -2.81$, $p = 0.001$; OR = 0.06), corresponding to approximately 94% lower odds. Diagnostic framing was also associated with lower odds of receiving a substantive response than prognostic framing ($\beta = -1.32$; OR = 0.27); however, this relationship was not statistically significant ($p = 0.125$).

Stakeholder type exhibited mixed effects. Relative to government agencies, submissions classified within the “Other” stakeholder category had significantly lower odds of receiving

a substantive response ($\beta = -2.96$, $p = 0.031$; OR = 0.05). The association for NPO submissions approached but did not reach the conventional 5% significance threshold ($\beta = -2.30$, $p = 0.062$; OR = 0.10), while NGOs and local residents did not differ significantly from government agencies. Sectoral context was also associated with substantive response. Relative to the energy sector, submissions within the research and development sector had significantly lower odds of receiving a substantive response ($\beta = -3.32$, $p = 0.004$; OR = 0.04).

Supplementary salience model

To further examine the role of stakeholder characteristics, an alternative model was estimated in which stakeholder-type-based salience score replaced stakeholder type. The substantive findings relating to framing remained unchanged. Informational framing continued to exhibit significantly lower odds of receiving a substantive response relative to prognostic framing ($\beta = -2.49$, $p < 0.001$; OR = 0.08).

The stakeholder-type-based salience score was positively associated with substantive response ($\beta = 1.18$, $p = 0.042$; OR = 3.26), inputs associated with stakeholder types receiving higher salience scores had greater odds of receiving a substantive response, controlling for framing type and sector. Sector also remained significant, with R&D inputs showing lower odds of substantive response than the reference sector ($\beta = -1.76$, $p = 0.008$; OR = 0.17). The Hosmer–Lemeshow goodness-of-fit test was statistically significant ($\chi^2 = 8.74$, $df = 2$, $p = 0.013$), indicating evidence of lack of fit. The results of this supplementary model are therefore interpreted cautiously.

Overall, the regression results indicate that framing type was significantly associated with substantive response, with informationally framed inputs showing substantially lower odds of receiving a substantive response than prognostically framed inputs. The supplementary model produced a consistent pattern for framing and additionally indicated a positive association between the stakeholder-type-based salience score and substantive response. However, because the salience score was constructed at the stakeholder-type level and the supplementary model showed evidence of lack of fit, this finding should be interpreted

cautiously. Taken together, the results indicate that characteristics of stakeholder inputs, particularly framing, are associated with variation in the likelihood of receiving a substantive response, while the supplementary analysis provides suggestive evidence that stakeholder characteristics may also be relevant.

Chapter 5: RESULTS DISCUSSION

This chapter discusses the findings of the study in relation to the conceptual and empirical literature on public participation in environmental decision-making. The discussion proceeds from the rationales attributed to public participation in international environmental instruments, South African participatory frameworks and the selected Strategic Environmental Assessment (SEA) processes, to an examination of stakeholder inputs and their documented treatment within the SEA processes. The analysis considers the issues raised by different stakeholder groups, the ways in which stakeholder inputs were framed, and the responses documented in relation to those inputs. It then examines the association between framing type, stakeholder characteristics, sector and substantive response using binary logistic regression.

5.1 Participation rationales on international instruments, South African frameworks and SEAs

The analysis identified substantive, normative and instrumental rationales across the international environmental governance instruments, South African participatory policy and the selected SEA reports. Substantive rationales were the most frequently identified, followed by normative and instrumental rationales. The findings therefore indicate that multiple purposes are attributed to public participation across the material examined, rather than a single rationale being consistently foregrounded. The coexistence of rationales within individual contextual instances further indicates that the categories are analytically distinct but not necessarily mutually exclusive. This is consistent with empirical research showing that different rationales may coexist within the same participatory processes (Suškevičs 2019).

Most of the identified rationales were explicitly articulated in the analysed documents. The main exception was the NEMA EIA Regulations (2014), in which both substantive and normative rationales were identified through implicit evidence. This distinction is important because these rationales were established through interpretation of the purpose and implications of the relevant provisions rather than through direct statements of the purpose

of participation. The remaining identified rationales were explicitly articulated in the documents in which they occurred.

5.1.1 Predominance of substantive rationales

The predominance of substantive rationales in the present analysis is consistent with Sharman's (2023) empirical examination of participation objectives in international environmental governance instruments, which similarly found substantive objectives to be particularly prominent. The finding is also broadly consistent with empirical research in environmental planning and assessment, which associates participation with the incorporation of scientific, local and experiential knowledge, improved evidence for decision-making and stakeholder learning (Primmer and Kyllönen 2006; Wesselink et al. 2011; Suškevičs 2019). Research specifically examining SEA similarly identifies participation as contributing to sustainability-oriented planning and the incorporation of diverse perspectives into environmental assessment and development priorities (Arbter 2019; Gauthier et al. 2011). These findings suggest that participation is often valued within environmental decision-making for its potential to strengthen the substantive basis of decisions by incorporating knowledge and perspectives that may not otherwise be available to decision-makers. The substantive rationale was particularly evident where participation was connected to the incorporation of stakeholder knowledge, information and perspectives into environmental decision-making. This was clearly expressed in the SKA SEA, where the stated objectives of participation included recording and considering stakeholder comments, concerns, inputs and local knowledge and using local knowledge to identify approaches for reducing potentially negative or enhancing potentially positive impacts. Participation was therefore presented as contributing directly to the substance of the assessment and to the consideration of possible responses to environmental impacts.

The presence of substantive rationales across the Rio Declaration, UNEP Guidelines, Aarhus Convention and Escazú Agreement also reflects continuity in the treatment of participation across these instruments. This can be considered in relation to the development of Principle 10 of the Rio Declaration as a foundation for subsequent approaches to environmental participation (Etemire 2016, Sharman 2023, Stec and Jendrośka 2019). Etemire (2016) links

Principle 10 with the subsequent development of environmental democratic rights through instruments such as the UNEP Bali Guidelines, while Stec and Jendroška (2019) identify the Escazú Agreement as the second regional legal instrument implementing Principle 10, following the Aarhus Convention. Against this background, the present analysis found that a substantive rationale was identifiable across all four instruments, with participation associated with knowledge, information and environmental decision-making. The recurrence of this rationale across the instruments therefore indicates continuity in the substantive justification for participation, although the combination of rationales differed across the instruments.

5.1.2 Normative rationale

Normative rationales were also evident across the material examined. Their presence indicates that participation was not understood solely in terms of its potential contribution to the substance or effectiveness of environmental decision-making, but was also associated with principles concerning fairness, inclusion, transparency and democratic legitimacy. This finding is consistent with empirical research that identifies these principles as important objectives of environmental participation (Glucker et al. 2013, Höppner 2009).

Notably, normative rationales were not identified in the stated purposes of participation in either of the selected SEA cases. The REDZ SEA primarily framed participation in terms of achieving agreement, buy-in and commitment among key stakeholders, reflecting an instrumental orientation, while the SKA SEA emphasised the consideration of stakeholder inputs and local knowledge in environmental decision-making, reflecting a substantive orientation. This contrasts with the broader international and South African policy frameworks, in which normative rationales were identified alongside substantive and instrumental rationales. The finding suggests that rationales articulated at the level of broader governance frameworks are not necessarily reproduced with the same emphasis in individual participatory processes. This is consistent with Suškevičs (2019), whose examination of public officials' rationales for participation suggests that the purposes attributed to participation can vary according to how participation is understood within particular planning contexts. In the present study, the difference is evident in the movement from broader

governance frameworks, where normative principles such as fairness, inclusion and transparency are recognised, to the individual SEA processes, where participation was framed primarily in substantive or instrumental terms. However, this does not indicate that normative considerations were absent from the REDZ and SKA participation processes; rather, they were not identified as purposes of participation in the SEA documentation analysed.

5.1.3 Instrumental rationale

Instrumental rationales were less frequently identified than substantive rationales, although they remained evident across the material examined. This differs from findings in some other policy contexts, where instrumental objectives have been found to play a more prominent role (Bickerstaff and Walker 2001, Höppner 2009, Van Boven et al. 2025, Wesselink et al. 2011). In the REDZ SEA, for example, participation was explicitly associated with achieving agreement, buy-in and commitment among key stakeholders. This illustrates the use of participation to facilitate particular governance and implementation outcomes, including stakeholder agreement and commitment. The finding demonstrates that instrumental purposes remain part of the rationale for participation in South African environmental assessment practice, even though they were less prominent overall in the material examined.

5.1.4 Variation and coexistence of participation rationales

The findings indicate that the purposes attributed to public participation are plural and vary across the levels of environmental governance examined. International instruments and South African policy documents contained substantive, normative and instrumental rationales, while the two SEA cases differed in the rationale most explicitly associated with participation. The REDZ SEA emphasised agreement, buy-in and commitment, whereas the SKA SEA emphasised the consideration and use of stakeholder inputs and local knowledge in decision-making.

The findings also suggest that these rationales should not be understood as mutually exclusive alternatives. Several contextual instances contained more than one rationale, indicating that participation may simultaneously be associated with different purposes. The coexistence of

rationales is consistent with research showing that participation may be pursued for multiple and overlapping purposes (Suškevičs 2019).

The contrast between the two SEA cases is nevertheless noteworthy. Although both were undertaken within the South African SEA framework, their stated participation purposes differed: REDZ associated participation primarily with instrumental outcomes, while SKA associated it primarily with substantive contributions to environmental decision-making. This suggests that the rationale attributed to participation may vary with the purposes and circumstances of individual assessment processes. The finding is consistent with Wesselink et al. (2011), who found variation in participation rationales among environmental governance practitioners, and with Suškevičs (2019), who similarly revealed that the purposes attributed to participation may vary according to planning context. However, because only two SEA cases were examined, this contrast is treated as an illustration of contextual variation rather than evidence of a general relationship between SEA context and participation rationale.

5.2 SEA input and documented-response

5.2.1 Content and Stakeholder groups: Stakeholders raised different concerns

The content analysis shows that stakeholder inputs covered a diverse range of issues within the SEA processes. Spatial, land-use and property issues were the most frequently identified, followed by environmental and technical issues, socio-economic and livelihood issues, infrastructure and development issues, and participation, governance and rights issues. More importantly, the distribution of content across stakeholder groups shows that different stakeholder groups brought different substantive priorities into the SEA process. NGO inputs were particularly concentrated on environmental issues, while local-resident inputs more frequently addressed socio-economic and livelihood, infrastructure and development, and participation, governance and rights issues. Inputs from Government agencies were more frequently associated with technical and spatial, land-use and property issues. This pattern is consistent with Cape et al. (2018), who found differences in the priorities and expectations expressed by stakeholder groups within a South African SEA, with different groups

emphasising different aspects of the SEA process. In the present study, the differences similarly reflect the distinct areas of concern associated with the stakeholder groups, providing an empirical description of the issues emphasised by each group.

The submissions encompassed concerns ranging from potential risks to birds associated with wind energy developments to potential socio-economic effects of construction-related worker influx on surrounding towns. These examples illustrate the range of issues raised by stakeholders and the different concerns brought into the SEA process. The inputs examined in the study therefore differed in who submitted them, how they were framed, and the issues they addressed.

5.2.2 Stakeholder groups and framing

The distribution of framing types reveals a clear contrast between stakeholder groups. Local-resident inputs were predominantly informational, whereas NGO inputs were overwhelmingly prognostic, while Government inputs showed a more varied distribution across the three framing types. This contrast suggests differences in the orientation of stakeholder contributions. Local-resident inputs more frequently involved providing information or seeking clarification, whereas NGO inputs more frequently put forward recommendations or proposed actions. Government inputs occupied a more varied position across these forms of framing.

5.2.3 Stakeholder groups and documented responses

The distribution of documented responses varied across stakeholder groups. NGO and Government agency inputs were more frequently associated with substantive responses, whereas local-resident inputs were more frequently associated with non-substantive responses.

This pattern is noteworthy in light of the stakeholder salience perspective adopted in the study. Stakeholder salience theory proposes that stakeholder characteristics such as power, legitimacy and urgency may influence the attention afforded to stakeholder claims. The observed differences in documented response are therefore consistent with the possibility

that stakeholder characteristics may be relevant to how inputs are treated within environmental decision-making processes.

5.2.4 Framing and documented response

The strongest descriptive pattern concerns the relationship between framing and documented response. Informationally framed inputs were predominantly associated with non-substantive responses, whereas prognostically framed inputs were predominantly associated with substantive responses. Diagnostic inputs occupied an intermediate position.

This pattern is consistent with the conceptual distinction developed in the study between informational, diagnostic and prognostic forms of stakeholder input. Informational inputs primarily seek clarification or provide information, diagnostic inputs identify problems or concerns, while prognostic inputs propose directions, solutions or actions. The descriptive results suggest that these different forms of contribution were not associated with the same pattern of documented response within the SEA process. The contrast between informational and prognostic inputs is noteworthy. Informational inputs were largely associated with non-substantive responses, while prognostic inputs were largely associated with substantive responses. This indicates that the relationship between stakeholder framing and documented response warrants further examination, particularly given that the distribution of framing also varied across stakeholder groups. The association between framing type and substantive response was examined using binary logistic regression, with substantive response as the binary outcome and stakeholder group and sector included as independent variables.

5.2.5 Content and documented response

The variation in documented response across content categories is noteworthy because it shows that the pattern of response differed according to the issues raised by stakeholders. Technical and environmental concerns were more frequently associated with substantive responses, whereas infrastructure and development, and participation, governance and rights concerns were predominantly associated with non-substantive responses. Because content categories were multiple-coded, these patterns should be interpreted as descriptive distributions of documented responses across the issues raised by stakeholders.

5.2.6 Three-way analysis: Stakeholder type, framing and documented response

The strongest pattern emerging from the analysis concerns the relationship between framing and documented response. Informationally framed inputs were predominantly associated with non-substantive responses, whereas prognostically framed inputs were predominantly associated with substantive responses. This pattern suggests that the manner in which stakeholder concerns are formulated may be relevant to how those inputs are treated within the SEA process.

The three-way analysis provides further insight into this relationship by showing that the pattern was also evident within stakeholder groups, particularly among local residents. Informationally framed local-resident inputs were overwhelmingly associated with non-substantive responses, while prognostically framed inputs were more frequently associated with substantive responses. This suggests that differences in documented response cannot be understood solely in terms of who submitted an input; the characteristics of the input itself may also be relevant.

5.3 Regression results discussion: Framing, stakeholder characteristics and substantive response

The regression analysis provides further evidence that variation in the treatment of stakeholder inputs within the SEA process is associated with characteristics of both the inputs themselves and the stakeholders presenting them. Framing type was significantly associated with the likelihood of receiving a substantive response, and the inclusion of framing characteristics significantly improved model fit relative to a model containing stakeholder type and sector alone. This finding supports the relevance of framing theory to the analysis of stakeholder inputs by suggesting that the manner in which an environmental concern is presented may be associated with how that concern is dealt with within the SEA process.

5.4 Framing type, communication and substantive response

The strongest association was observed for informational framing. Relative to prognostic inputs, informationally framed inputs had substantially lower odds of receiving a substantive response. This finding is consistent with the different communicative functions of these frames. Diagnostic framing primarily identifies or defines a problem, while prognostic framing moves further by proposing solutions, recommendations or possible courses of action. Informational inputs, in contrast, primarily communicate information, raise questions or seek clarification and may not specify how the issue should be addressed. The stronger association between prognostic framing and substantive response may therefore reflect differences in the extent to which stakeholder inputs communicate an identifiable basis for action. A prognostic input can present both a concern and a possible response, potentially making it more readily identifiable as an issue requiring consideration or further action within the SEA process. This interpretation does not imply that prognostic inputs are inherently more valuable than informational or diagnostic inputs. Rather, it suggests that different forms of stakeholder communication may present different challenges and possibilities for those responsible for processing stakeholder contributions.

This interpretation is particularly relevant to understanding the intermediate stage between participation and formal decision-making. Eriksson et al. (2022) describe the handling of citizen input as a “black box” in participatory planning and show that inputs undergo

processes of categorisation, evaluation and structuring before they reach formal decision-making. Their analysis demonstrates that the handling of inputs involves multiple judgements and micro-decisions concerning how contributions are understood and processed. The present findings complement this perspective by suggesting that the characteristics of the input itself may be associated with variation in how it is treated during this intermediate stage. In particular, the substantially lower odds of substantive response associated with informational framing raise the possibility that inputs which primarily communicate information or seek clarification may be processed differently from inputs that articulate a proposed course of action.

The finding therefore extends the application of framing theory in the context of environmental participation. Framing is commonly concerned with how actors define problems, identify causes, propose solutions and encourage particular forms of action. In the present study, however, the significance of framing lies not in establishing that one frame is inherently more persuasive than another, but in examining whether different ways of communicating stakeholder concerns are associated with different patterns of treatment within an environmental assessment process. The result that prognostic inputs were more likely to receive substantive responses suggests that the communicative form of a stakeholder contribution may be relevant to its processing.

The regression results suggest that framing characteristics were associated with differences in substantive response. In particular, prognostically framed submissions had substantially higher odds of receiving a substantive response than informationally framed submissions. This difference does not necessarily reflect differences in the substantive value of stakeholder concerns. Rather, it may reflect differences in how concerns are communicated and processed within assessment processes. Stakeholders may identify important environmental or implementation issues without expressing those concerns as explicit recommendations or proposed courses of action. For example, one local resident questioned the viability of predator control following new infrastructure developments:

“...we will not be able to have electrified fences to control predators anymore, what will happen to us?”

Although coded as informational, this submission raises an implementation concern relating to the compatibility of proposed developments with existing predator management practices. The example illustrates that an informationally framed input may nevertheless contain an important concern. The classification therefore refers to the form in which the concern is communicated, rather than to the importance or validity of the concern itself. In this case, the participant raises a question concerning a potential implementation problem without explicitly identifying the problem as a diagnostic claim or proposing a particular course of action as a prognostic claim.

This may point to a communication challenge within public participation processes. Stakeholders may possess valuable local knowledge and identify important implementation issues without expressing those concerns in forms that explicitly specify a problem, proposed solution or course of action. Where stakeholder contributions must be interpreted and processed within an assessment process, differences in how concerns are communicated may therefore be relevant to how those inputs are handled. The regression finding should not, however, be interpreted as demonstrating that informational framing causes weaker responses. Rather, it indicates an association between framing type and the likelihood of receiving a substantive documented response.

The example also highlights the methodological difficulty of classifying stakeholder submissions that contain elements of more than one framing type. In such cases, classification was based on the dominant framing evident within the submission. Input A022, for example, was classified as informational because the concern was expressed primarily as a request for clarification rather than as an explicitly stated problem or recommendation.

5.5 Stakeholder Characteristics and substantive response

The results concerning stakeholder characteristics provide a complementary perspective. In the primary model, stakeholder type exhibited mixed associations with substantive response. Inputs from stakeholders classified as “Other” had significantly lower odds of receiving a substantive response than those from government agencies, while the differences for NGOs, local residents and NPOs were not statistically significant. These findings suggest that

stakeholder group alone does not provide a consistent explanation for variation in substantive response. At the same time, the pattern is consistent with the proposition underlying stakeholder salience theory that stakeholder characteristics may affect the attention afforded to competing claims. Mitchell et al. (1997) argue that stakeholder salience is shaped by power, legitimacy and urgency, which influence the degree of attention stakeholders receive from decision-makers. The observed differences between stakeholder groups therefore provide some empirical basis for considering stakeholder characteristics alongside the characteristics of stakeholder inputs.

The supplementary salience model provides further, although suggestive, support for this interpretation. Higher stakeholder salience was positively associated with substantive response, with each unit increase in salience associated with greater odds of receiving a substantive response. This finding is consistent with stakeholder salience theory, which proposes that claims associated with greater combinations of power, legitimacy and urgency may attract greater attention from decision-makers. However, the salience scores used in the present analysis were assigned at the stakeholder-type level based on the available documentary information, rather than through a detailed assessment of the actual power, legitimacy and urgency of individual stakeholders. The salience measure should therefore be understood as a simplified proxy for stakeholder characteristics rather than a comprehensive measure of stakeholder salience. In addition, the supplementary model showed evidence of lack of fit according to the Hosmer-Lemeshow test. The positive association between salience and substantive response should therefore be regarded as suggestive rather than conclusive.

Importantly, the association between informational framing and substantive response remained statistically significant and in the same direction as in the primary model. The persistence of the framing association when stakeholder type was replaced by the salience proxy provides some support for the robustness of the observed relationship between framing and substantive response. The salience result itself, however, should be interpreted more cautiously given both the simplified operationalisation of salience and the evidence of model misfit.

5.6 Sector and substantive response

The sectoral findings also indicate that the treatment of stakeholder inputs may be context dependent. Inputs relating to the research and development sector had significantly lower odds of receiving a substantive response than inputs in the reference energy sector in both model specifications. This may reflect differences in the institutional or substantive context in which stakeholder concerns were considered. However, given the limited number of sectors represented in the analysis and the case-specific nature of the study, the sectoral association should not be interpreted as evidence of a general sectoral effect. Rather, it indicates that the context in which an input is raised may also be relevant to its treatment.

These findings suggest that the treatment of stakeholder inputs within SEA processes cannot be understood solely in terms of who participates. The results indicate that characteristics of the stakeholder input, particularly its framing, are associated with the likelihood of substantive response, while stakeholder characteristics may also be relevant. Framing theory and stakeholder salience theory therefore provide complementary perspectives for understanding this variation: framing draws attention to how environmental concerns are communicated, while stakeholder salience draws attention to characteristics of the actors presenting those concerns.

The findings contribute to the literature on public participation by directing attention to what occurs after stakeholder inputs have been submitted but before their implications for formal decisions can be established. Rather than treating participation as a relationship between opportunities to participate and eventual outcomes, the analysis highlights the importance of examining how individual contributions are processed or treated within the participatory process. In this respect, the findings support the relevance of examining the intermediate stage of participation and provide empirical evidence that observable characteristics of stakeholder inputs and stakeholders may be associated with variation in their documented treatment.

Chapter 6: CONCLUSION

Public participation has become an established principle of environmental governance, reflected in international environmental agreements and incorporated into national environmental assessment and decision-making systems. However, the formal recognition of participation does not necessarily reveal what participation is intended to achieve in practice or what happens to the contributions made by stakeholders once they enter an environmental decision-making process. Participation may be justified in terms of improving the quality of decisions, fulfilling democratic and procedural rights, or facilitating agreement, acceptance and implementation. Similarly, providing opportunities for stakeholders to submit views does not, in itself, establish how those contributions are considered or reflected in environmental assessment processes. This study therefore examined public participation at two related levels: the rationales underpinning participation within environmental governance frameworks, and the documented treatment of individual stakeholder inputs within Strategic Environmental Assessment processes.

The first part of the study examined how established rationales for public participation are expressed across international environmental governance instruments, South African participatory policy, and SEA practice. The analysis identified substantive, normative and instrumental rationales across these sources, but their relative emphasis varied across contexts. International instruments and South African policy reflected particularly strong substantive and normative orientations, while the selected SEA cases illustrated that the purposes attributed to participation in practice may differ between assessment contexts. The REDZ SEA placed greater emphasis on instrumental purposes associated with agreement, buy-in and commitment, whereas the SKA SEA reflected a substantive orientation towards the consideration of stakeholder inputs and local knowledge. The findings show that the emphasis placed on these rationales differs across the international, national and SEA contexts examined.

The second part of the study shifted attention from why participation is undertaken to what happens to stakeholder contributions once they are submitted. The analysis of 100 stakeholder inputs showed notable variation in the issues raised, the stakeholder groups

presenting them, the manner in which they were framed, and their documented treatment. The content analysis showed that stakeholder inputs addressed a diverse range of issues, with differences in the issues emphasised by stakeholder groups. NGO inputs were particularly associated with environmental issues, local-resident inputs more frequently addressed socio-economic, infrastructure and participation-related concerns, and Government inputs were more frequently associated with technical and spatial matters. This finding establishes the range of concerns represented in the SEA processes and the different priorities brought by stakeholder groups. The analysis of framing showed clear differences in how stakeholder groups expressed their inputs. Local-resident inputs were predominantly informational, while NGO inputs were predominantly prognostic. These framing differences were also reflected in the pattern of documented responses, with prognostically framed inputs more frequently receiving substantive responses than informationally framed inputs. The regression analysis provided further evidence of an association between framing type and the likelihood of receiving a substantive response, after accounting for stakeholder group and sector.

The regression analysis showed a statistically significant association between stakeholder input framing and substantive response. Informationally framed inputs had substantially lower odds of receiving a substantive response than prognostically framed inputs, and the inclusion of framing type significantly improved the model relative to a model containing stakeholder type and sector alone. The finding however, does not establish that framing causes a particular response, nor does it imply that prognostic contributions are more valuable than informational or diagnostic inputs. Rather, it indicates that the way in which a stakeholder input was framed was associated with variation in how that input was treated within the SEAs examined.

An input may contain an important concern without expressing that concern as an explicit recommendation or proposed course of action. Therefore, the observed relationship between framing and documented response should not be interpreted as evidence that stakeholders should formulate their contributions in more solution-oriented ways. Instead, it draws attention to what happens to stakeholder contributions after they are submitted and how they are interpreted within the assessment process. The finding suggests that the responsiveness of participatory processes may be partly connected to how the concerns contained within

stakeholder contributions are recognised and translated into forms that can be addressed within assessment processes.

The findings concerning stakeholder characteristics were more qualified. Although the descriptive analysis showed differences in documented response across stakeholder groups, stakeholder type did not provide a consistent statistically significant explanation for variation in substantive response in the primary regression model. The supplementary salience analysis provided suggestive evidence of a positive association between stakeholder salience and substantive response, but due to lack of model fit, this finding has to be interpreted cautiously. The results therefore do not support a straightforward conclusion that particular stakeholder groups systematically receive more substantive responses. Instead, they suggest that stakeholder characteristics may also be associated with variation in documented response, but their role was less consistent than that observed for framing.

As the literature suggests, participation does not end when a stakeholder submits an input. Between the opportunity to participate and any eventual decision lies a less visible process in which stakeholder contributions are received, interpreted, categorised and responded to. The present study provides empirical evidence that variation exists within this intermediate stage and that the characteristics of stakeholder contributions, particularly their framing, are associated with how they are documented as being treated. Stakeholder characteristics may also be relevant, although the evidence obtained in this study is less conclusive. The study provides another perspective on the intermediate stage between the participation process and decision outcomes by examining individual stakeholder inputs and their documented treatment within the assessment process. This provides a basis for considering what stakeholders contribute, how those contributions are presented, who presents them, and what can be observed about their subsequent treatment.

The study therefore highlights the value of examining public participation not only in terms of its stated purposes, but also in terms of what happens to stakeholder inputs once they enter the assessment process. The findings provide another perspective on the relationship between participation and environmental decision-making and point to the need for further research

into how stakeholder inputs are interpreted and handled within environmental assessment processes.

6.1 Addressing research questions

The first research question asked what rationales underpin public participation in selected international environmental governance instruments and how these are reflected in South African participatory policy and practice. The international environmental governance instruments examined reflected particularly strong substantive and normative rationales, while South African participatory policy similarly incorporated these rationales. The selected SEA cases showed variation in how the purpose of participation was articulated in practice. The REDZ SEA placed greater emphasis on instrumental purposes whereas the SKA SEA reflected a substantive orientation towards the consideration

The second research question was concerned with whether different forms of stakeholder input framing are associated with different patterns of documented response within SEAs. The findings provide evidence of such an association. In particular, informationally framed inputs had significantly lower odds of receiving a substantive documented response than prognostically framed inputs. The finding indicates that the manner in which stakeholder concerns are framed is associated with their documented response.

The third research question asked whether different stakeholder groups are associated with different patterns of documented response. The findings provide more limited evidence. Although descriptive differences were observed between stakeholder groups, stakeholder type did not consistently explain variation in substantive response in the primary regression model. The study therefore does not support a simple conclusion that stakeholder group are associated with how stakeholder inputs are treated.

6.2 Scientific Contribution

The study contributes to research on public participation in two ways, firstly, the study provides an empirical comparison of participation rationales across international environmental governance instruments, South African participatory policy and selected SEA

practice. This shows how normative, substantive and instrumental purposes coexist but may receive different emphasis across contexts.

Secondly, the study shows that input framing is associated with documented response. In particular, the substantially lower odds of substantive response for informationally framed inputs compared with prognostically framed inputs identifies framing as a relevant characteristic for understanding variation in how stakeholder contributions are treated.

6.3 Limitations

This study examined two selected Strategic Environmental Assessment cases, and the findings therefore reflect the specific institutional and contextual characteristics of these cases. In addition, the analysis was based on documented stakeholder inputs and responses, and therefore reflects what could be identified and traced in the available SEA documentation.

6.4 Recommendations

The findings suggest a need for attention to how stakeholder inputs are interpreted and addressed after they are submitted. Informationally framed inputs were substantially less likely to receive a substantive documented response than prognostically framed inputs. This finding raises the possibility that the form in which stakeholder concerns are communicated may be relevant to how they are addressed within the assessment process. Assessment practitioners could therefore focus on identifying the concern contained within each input, including where concerns are expressed through questions, requests for clarification or information. More systematic documentation of how individual stakeholder concerns are considered and addressed could also make their treatment more transparent and traceable within the SEA process.

6.5 Future research

This study also identifies several areas for further research. Firstly, the relationship between framing and documented response could be examined using larger datasets covering a greater number of inputs or SEAs. The present study identified an association between framing type

and substantive response, particularly the lower odds associated with informational framing. Research involving a larger and more diverse set of SEA processes could determine whether this pattern is also evident across different institutional and environmental contexts. Secondly, the role of stakeholder characteristics and salience requires further investigation. The supplementary model provides suggestive evidence that higher salience may be associated with greater odds of substantive response, but the model's lack of fit means that this finding cannot be treated as conclusive. Future research could develop more detailed measures of power, legitimacy and urgency using information about individual stakeholders and their institutional positions rather than assigning attributes primarily according to stakeholder category. Finally, future research could examine whether the documented treatment of stakeholder inputs is reflected in assessment outputs or decisions. The present study examined how individual stakeholder inputs were documented as being treated within the SEA process. Following these inputs through revisions, recommendations, mitigation measures or final decisions could extend the analysis by examining whether documented substantive responses are later reflected in observable changes to assessment outputs or decision outcomes.

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APPENDIX A. CONTENT DISTRIBUTION ACROSS STAKEHOLDER GROUPS

Stakeholder	Environmental Issues	Technical Issues	Socio- economic and livelihoods	Spatial, land- use and property	Infrastructure and Development Issues	Participation, Governance and Rights	Total coded content instances
Government agency	6	10	1	8	3	0	28
Local resident	6	10	21	12	17	13	79
NGO	18	8	1	11	1	1	40
NPO	0	3	2	1	2	1	9
OTHER	2	1	3	1	0	2	9

APPENDIX B. SUPPLEMENTARY SALIENCE MODEL

Predictor	Estimate (β)	Std. Error	z value	Odds Ratio	p-value
Intercept	-1.317	1.274	-1.034	0.27	0.301
Framing: Diagnostic	-1.201	0.778	-1.544	0.3	0.123
Framing: Informational	-2.487	0.705	-3.528	0.08	<.001
Saliency	1.183	0.583	2.03	3.26	0.042
Sector: R&D	-1.759	0.666	-2.64	0.17	0.008

N = 100

Null deviance = 136.058

Residual deviance = 86.105

AIC = 96.105

Hosmer–Lemeshow: $\chi^2 = 8.745$, *df* = 2, *p* = .013