Public participation prior to and during the EIA process: Transnet Case Studies

BE Schoeman
21251185

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Supervisor: Prof LA Sandham

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PREFACE

Declaration

I, Biance E. Schoeman, hereby declare that the work contained in this mini-dissertation is my own original work and that I have not submitted it previously in its entity or in part to any other university.

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Biance E. Schoeman
Date:

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ABSTRACT

Since the global introduction of Environmental Impact Assessment (EIA), the importance of public participation (PP) in environmental decision-making (EDM) has been widely acknowledged. The implementation of the traditional EIA process which allows for a unilateral decision making approach has created various obstacles for effective PP. Numerous definitions have been developed for PP and include the requirement for a continuous and increased exchange of information and an opportunity to impact and/or influence decision making. The objective of PP is to provide opportunities for stakeholders to raise their interests and concerns regarding their desired outcome, and thereby to increase the quality of decision-making.

The PP process in EIA is, however, often viewed by developers as a regulatory “add on” or “tick the box” exercise, which limits its value. Public participation is currently not implemented throughout the project lifecycle, and concerns and interests raised by the interested and affected parties (I&APs) are often not considered and therefore have a limited impact on the decision making. Literature has focused on the effectiveness of PP and the role that the public plays in the EDM, but little attention has been directed at the timing of public participation in decision making, specifically in mega infrastructure projects.

The aim of this research is to investigate the need for PP in the early project phases prior to the EIA process in Transnet SOC Ltd case studies in South Africa. Research objectives include an investigation of the perception of PP prior to and during the EIA, an examination of the influence of PP on the proposed development and decision-making and an evaluation of whether PP prior to the EIA enhances the prescribed EIA PP process.

It was found that there is indeed a need for PP in the early project phases prior to the EIA process. Furthermore, the study found that that the public has a limited, if any, influence on the final decision and therefore there is still a widespread concern regarding the limited integration and consideration of concerns and interests raised by I&APs in the EIA and the final decision. The study also found that PP prior to the EIA process is perceived as enhancing the EIA PP process but further and more detailed research is recommended to investigate to what extend PP prior to the EIA actually enhances the prescribed EIA PP process.

Keywords: Public participation, early project phases, environmental decision-making, environmental impact assessments, interested and affected party.

OPSOMMING

Sedert die wêreldwye bekendstelling van omgewingsinvloedbepaling (OIB), het die belangrikheid van openbare deelname (OD) tydens die omgewingbesluitnemings-proses duidelik geword. Die implementering van die tradisionele OIB proses wat dit moontlik maak vir 'n eensydige besluitneming benadering het verskeie struikelblokke vir effektiewe openbare deelname geskep. Verskeie definisies is ontwikkel vir openbare deelname en sluit in die vereiste vir aaneenlopende en toenemende uitruil van inligting en ook die geleentheid om die besluitneming proses te kan beïnvloed. Die doelwit van OD is om geleenthede te skep vir belanghebbendes om hul belange en bekomernisse te kan stel volgens hul gewenste uitkoms ten einde die gehalte/kwaliteit van die besluitneming te verbeter.

Ontwikkelaars sien openbare deelname in die OIB egter net as 'n regulerende "byvoeging" of "merk in die boks oefening" en dit beperk sodoende die waarde van OD. Openbare deelname word tans nie tydens die algehele lewensiklus van projekte geïmplementeer nie. Die bekommernisse en belange van die belanghebbende en geaffekteerde partye (B&GP) word dikwels nie in ag geneem nie en het dus 'n beperkte invloed op die besluitneming. Navorsingsliteratuur fokus op die doeltreffendheid van OD en die rol wat die publiek speel in die omgewingbesluitnemings-proses, maar beperkte navorsing is al gedoen wat fokus op die tydsberekening van openbare deelname in besluitneming, spesifiek in mega infrastruktuurprojekte.

Die doel van hierdie navorsing is om die behoefte aan openbare deelname in die vroeë projekfases voor die OIB-proses in Transnet MSB Bpk[1]. gevallestudies in Suid-Afrika te ondersoek. Navorsingsdoelwitte sluit die ondersoek van openbare deelname voor en tydens die OIB in, 'n ondersoek na die invloed van OD op die voorgestelde ontwikkeling en besluitneming en die evaluering om te bepaal tot watter mate OD voor die OIB die OD tydens die voorgeskrewe OD in die OIB proses verbeter.

Daar is bevind dat daar wel 'n behoefte aan OD tydens die vroeë projekfases is, nog voor die gereguleerde OIB-proses begin. Die studie het ook verder bevind dat die publiek ‘n beperkte, indien enige invloed op die finale besluit het en dus is daar steeds ‘n wydverspreide besorgdheid oor die beperkte integrasie en inagneming van kwellinge en belange wat deur B&GP tydens die OIB geidentifiseer is en wel in die finale besluit in ag geneem is. Verder het die studie ook bevind dat die publiek ‘n persepsie het dat OD voor OIB die OD tydens die OIB proses verbeter, maar meer indiepte navorsing word aanbeveel om te bepaal tot watter mate vroeë OD werklik die OD tydens die OIB verbeter.

Sleutelwoorde: Openbare deelname, vroeë projekfases, omgewingsbesluitneming, omgewingsimpakstudies, belanghebbende en geaffekteerde partye.

[1] Maatskappy in staatsbesit

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Acronyms/Abbreviations

CA	Competent authority
CONNEPP	Consultative National Environmental Policy Process
CRR	Comments and responses report
DBU	Durban Berth Upgrade
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DJP	Durban-Johannesburg Pipeline
DN-SRL	Davel to Nerston Swaziland Rail Link
EAP	Environmental assessment practitioner
ECA	Environmental Conservation Act, 73 of 1983
EDM	Environmental decision-making
EIA	Environmental impact assessment
EIAMS	Environmental impact assessment management system
EIR	Environmental impact report
GNR	Government Notice Regulation
IAP2	International Association for Public Participation
I&AP's	Interested and affected parties
IEM	Integrated environmental management
KZN	KwaZulu-Natal
MDS	Market demand strategy
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NEMA	National Environmental Management Act, 107 of 1998
NGO	Non-governmental organisation
NMPP	New Multi-Product Pipeline
PICC	Presidential Infrastructure Coordinating Commission
PP	Public participation
SIP	Strategic Integrated Projects
TPS	Total population sampling

CHAPTER 1
INTRODUCTION

From the 1960s there has been increased global interest in environmental issues, specifically on sustainability and responsible development. International, governmental and non-governmental pressures have resulted in environmental impact assessment (EIA) being included in various legal frameworks to promote sustainable development across the world (Boyco, 2010:9; Morgan 2012). EIA is now a well-established and commonly used planning aid for large-scale development projects (Robinson & Bond, 2003:46; Boyco, 2010:1). Following the introduction of EIA, the importance of public participation (PP) in environmental decision-making has since been widely acknowledged (Glucker *et al*., 2013:104). This chapter provides a background of EIA and PP in order to contextualise the study, followed by the problem statement, study aim and objectives and concluding with the layout of the dissertation.

1.1 Background and research context

The notion of the public participating in matters that affect them prior to decisions being made has been around for many years. A global shift emerged and changed the centralized decision-making process to a more inclusive and participative process; the subsequent increased access to information resulted in better, more inclusive decisions (Eckerd, 2014:2; Scott & Oelofse, 2005:448). Increased environmental awareness resulted in environmental legislation being developed to govern environmental problems. Management tools were, however, required to assist with the implementation of the legislation. The relationship between development and the environment started to unfold and it became clear that development could not commence without considering the environment (Mebratu, 1998:501). In 1972, a milestone was achieved when the United Nations Conference on the Human Environment accepted and committed to EIAs being implemented (Mebratu, 1998:500).

Although the link has been established between development and the environment, the concern remains of how to ensure a beneficial balance between addressing environmental protection whilst enabling economic growth (El-Fadl & El-Fadel, 2004: 553; Voss, 2014:27). Developing countries are specifically impacted by this problem, as environmental protection needs to be maintained whilst economic growth is a priority of the country. Voss (2014:27) states that a mitigating approach to address some of the development issues is to involve the concerned and affected parties in environmental matters and for them to participate

when a decision is made that will affect their lives. The importance of PP in environmental decision-making (EDM), specifically in EIA, has been acknowledged and contributed to the requirement of providing opportunities for formal PP in major developments (Glucker *et al*., 2013:104; Richardson *et al.*, 1998:202; Salomons & Hoberg, 2014:69). The desire to protect the environment and for the public to participate to ensure protection, grew in parallel. International agreements were developed for countries to commit to implementing environmental management and to provide the public with an opportunity to be part of EDM (Ewing, 2003:1). Principle 10 of the Rio Declaration on Environment and Development focuses specifically on access to justice and information and to promote participation in EDM in order to address environmental problems (Bastidas, 2004:4, Li *et al.,* 2012c:65; Mauerhofer, 2016:481; UCT & UNITAR, 2007:5; UN, 1992a).

Section III of Agenda 21 acknowledges the need for the public (individuals or groups) to be involved in EIA and the decision making process (Bastidas, 2004:5, UN, 1992b). The international agreements also identified and provided the requirements to ensure an effective PP process. The 1998 Aarhus Convention ("Convention on Access to Information, Public participation in Decision making and access to Justice in Environmental matters") is based on three interdependent pillars as developed from the Rio Declaration namely– "The Access to information pillar"; "The Public participation pillar" and "The Access to justice pillar" (Bastidas, 2004:5; Glucker *et al*., 2013:104; Hartley & Wood, 2005:320). Article 6 of the Convention provides the requirements for effective PP in decisions and can be summarized as follow (UNECE, 1998:9-11):

- The public will be informed of the proposed activity early in the EDM process in an effective and timely manner;
- Enough time will be provided to the public to examine all relevant information and to provide comments in order to participate effectively; and
- Early participation will be implemented when all options are open and the public should be notified swiftly once a decision has been made.

De Santo (2016:93) states that the Convention focuses more on the process and lacks the enforcement tools for the principles provided. The "early participation" requirement of the Aarhus Convention is not defined and a search began to determine the requirements for an effective PP process (Webler *et al.*, 2001:435).

The main problem encountered by various countries and governments is the lack of consensus on the concept of PP, as role-players have different goals and methodologies (McDaid & Kruger, 2004:1). Although it has been widely accepted that EDM requires the

public to participate, the question of who, when and how to involve the public remains difficult to answer. Salomon and Hoberg (2014:69) blame the “open-ended nature” of PP in EIA. In order to grasp the latter statement it is necessary to comprehend the different components in the statement itself: What is EDM? Who is the public? What is PP?

Firstly, EDM refers to any process involving a decision that has to be made where significant environmental impacts are a possibility, and includes licensing, strategic planning and EIAs (Ewing, 2003:2). The EDM process can become complex as environmental impacts are not boundary-confined and conflicts sometimes requires value trade-offs. PP assists with the trade-offs required between environmental protection, social equity and economic growth. For EIA to be effective and legitimate, the collective decision needs to present the values and interests of the broader public (Salomons & Hoberg, 2014:69). Secondly the term “public” in its broadest sense can be defined as any individual or member of an organization who is impacted or interested in the decision, whether it is for strategic or project planning purposes. PP is mostly determined by a country’s specific legislation and the attitude of the public (Ewing, 2003:2; Kruger & McDaid, 2005:3).

Recent changes to Canada’s EIA legislation provides a different perspective on what is meant with “public” as they have restricted participation and indirectly the meaning thereof. Participation is limited to those who are “directly affected” or have “relevant information” (Salomons & Hoberg, 2014:69). Directly affected parties are mostly determined by property rights or impacted by means of costs or health and safety. Whether information is relevant or not, is at the discretion of the decision maker.

Lastly, the concept of participation was defined by Arnstein in 1969 (Arnstein, 1969:216) as a method for “redistribution of power that enables the have-not citizens to be deliberately included into the future”. In literature the terminology of “participation” and “consultation” is often used interchangeably but Hughes (1998:3) and Bickerstaff *et al*. (2002:61) differentiate between these two terms by stating that participation is where participants can influence decision making through their concerns being incorporated and have significant control of the process whereas consultation asks the public their opinion and concerns but does not need to integrate them; the public therefore has limited opportunity to influence the decision making process.

Du Plessis (2008:172) describes the PP phenomenon that infiltrated EDM globally by referring to it as a “participation explosion”. The rationale of this explosion is the need of developing and developed countries to advance democracy and efficiency by creating an

opportunity for the governed to engage in their own governance (Du Plessis, 2008:172; Irvin & Stansbury, 2004:55; Scott & Oelofse, 2005:445; UCT & UNITAR, 2007:5). PP in EDM was introduced in all institutional levels – national, provincial and regional. In the legal context Du Plessis (2008:193) explains that PP, as part of EDM, promotes good governance and this then provides the foundation for the practical implementation of environmental rights. Environmental governance requires the inclusion of stakeholders and PP is a critical component of administrative and legislative decision-making (Drazkiewicz *et al*, 2015:211; UCT, 2007:5).

Participation in EDM has broadened the public's view on democracy and has evolved from an optional "nice to have" to a fundamental democratic right (Boyco, 2010:2; De Santo, 2016; Reed, 2008:2418; Scott & Oelofse, 2005:448; UCT & UNITAR, 2007:5). Another valuable characteristic that links with PP as a democratic right is that PP forms the foundation for an accountable government (Li *et al.*, 2012c:66). Hourdequin *et al*. (2012:38) list the following as fundamental democratic EIA PP principles: equal opportunity, equal access to information, genuine deliberation and shared commitment. PP therefore requires balance between administrative efficiency and democratic participation. Greyling (1998:1) emphasises that PP is not a "silver bullet" that can instantly solve all problems in the decision-making domain, but rather that the PP process should be designed to address the perceptions of what PP is and what it should achieve in order for it to be successful. According to Li *et al*. (2012c:66), when the government includes PP in EDM they (1) provide the necessary information to the public about their concerns; (2) provide opportunities to raise and discuss alternatives; (3) empower the public to make a collective decision.

1.2 Problem statement

PP as part of EIAs and EDM is a well-researched topic in literature. The studies conducted encompass a wide field of topics that include but are not limited to the purpose of the PP process, PP as a fundamental right, developing a framework for effective PP, public perceptions and the reasoning behind non-participation or protests, the influence and role of PP in EDM, problems faced and lessons learned from PP in EIA and investigating PP in major infrastructure projects across the globe (Bawole, 2013; Du Plessis, 2008; Eckerd, 2014; Glucker *et al.*, 2013; He *et al*., 2016; Jami & Walsh, 2014; Lawal *et al*., 2013; Li *et al*., 2013; Marzuki, 2015; Nadeem & Fischer, 2011; O'Faircheallaigh, 2010; Olsen & Hansen, 2014; Peterlin *et al*., 2006; Rydin *et al.*, 2015; Webler *et al.*, 2001; Wiklund, 2011).

The timing of PP is raised continuously in research conducted on PP in EIA, although it might not necessarily have been set as an objective in these studies. Hartley and Wood (2005) emphasise that the influence on the final decision is directly linked with the timing of the PP. Various studies (Li *et al*.,2012a; Olsen & Hansen, 2014:73; Sayce *et al.*, 2013:58; Wiklund, 2011:172) recommend that the public must be engaged and actively involved early on during the decision-making process instead of PP being a reactive or therapeutic exercise that is completed during the EIA after most of the key decisions have been made. Jami and Walsh (2014:196) support this approach by stating that early involvement of the public provides them with an opportunity to consider the proposed project without feeling threatened, after which they can clearly determine how they can benefit. Doelle and Sinclair (2006:189) identify the lack of recognizing the need for early and ongoing PP as part of EIA as a fundamental problem because legislation governing PP usually only requires PP to be implemented in the assessment stage rather than in the planning phase. The early implementation of PP is therefore infrequent.

The concept of early engagement is a golden thread throughout literature that focuses on PP in EIA. According to Wende *et al*. (2012:9) and Mitchell (2013) early engagement in Germany and Canada means to involve the public when the scoping phase commences, as this allows the public to positively contribute and influence project designs and changes. “Early” can, however, have different meanings in country-specific EIA systems. Another question arises of when is early too early? Glasson *et al.* (2012:148) provide clarity by stating that a balance needs to be developed. This balance needs to determine the earliest that participation can be implemented to be able to influence the decision and when participation will be regarded as too early as limited information is available to promote discussions. Hourdequin *et al.* (2012:42) support the latter by stating that extensive PP of the wrong kind and too little participation of the right kind will each cause their own problems that will prevent the development of a viable solution.

Research has established that PP in the decision-making process must be applied throughout the project life cycle and must have a specific function in each phase – from concept development, baseline data collection, project design, screening and scoping, alternatives, prediction and evaluation, project decision, thorough to monitoring (Doelle & Sinclair, 2006:189; Marzuki, 2015:24; Murombo, 2008:11; Reed, 2008:2422; Robinson & Bond, 2003:65). Voss (2014:32) provides some clarity on the involvement of PP in the project stages: The planning stage allows the public to be involved when various options still exist and nothing has been fixed yet, therefore allowing the public to inform EDM, whilst in the approval stage, PP has a limited scope and influence.

The timing of the EIA is also critical, as it will influence the timing of the PP. Glasson *et al.* (2012:146) state that project changes requested by the public early on in the planning phase can be considered more cheaply. Warburton (2014:76), however, disagrees by stating that EIA should be conducted once the project designs have been finalized, as EIA completed prior to detailed planning and design results in costly assessments and work being repeated. It is therefore evident that the timing of conducting different stages of an EIA is still unclear. The lack of understanding of the lifecycle of an EIA hinders the holistic understanding of the EIA process and PP. This often results in EIA and PP implementation being insufficient and labelled as a "rubber-stamp" or information session of the project rather than an opportunity for the public to "voice their opinions" (Li *et. al.*, 2012b:48; Voss, 2014:35; Zhang *et al.*, 2013:149).

The Republic of South Africa (henceforth South Africa) adopted EIA as a planning instrument and the process is similar to that prescribed by the National Environmental Policy Act 1969 of the United States of America. Like many other developing countries, South Africa experienced the pressure to increase PP in EDM. Prior to 1994, there was very limited inclusiveness of the public in decision making in South Africa. PP grew speedily after the end of the apartheid era as the new constitution required comprehensive PP in a wide range of issues, not only EDM. South Africa as a country is in a phase where extensive infrastructure developments are required. Environmental legislation that governs these developments namely the National Environmental Management Act, 107 of 1998 and the EIA regulations are reviewed continuously to ensure the effectiveness of the tools being implemented.

The "Ten Years of EIA in South Africa Conference" held in 2008 discussed the results of an independent study that reviewed the efficiency and effectiveness of EIA practice in South Africa. The investigation indicated that the objectives for integrated environmental management are not sufficient to ensure proper environmental management and that EIAs should apply a more holistic and strategic approach (VanBerkum *et. al.*, 2009:26). The need for the establishment of an EIA management strategy (EIAMS) was identified. The National Development Plan (NDP) and the requirement for an EIAMS are interlinked. The focus of the NDP is that by 2030 South Africa would have shifted to a more environmentally sustainable, low carbon economy and just society by means of implementing different phases (DEA, 2014:69) The phases developed are referred to as Medium Term Strategic Frameworks and each framework consists of various sub-outcomes that address the immediate problems. As part of the 2009-2014 MTSF the need to develop a common system for environmental impact management was identified and the development of the EIAMS is therefore a direct

response to this strategic priority (DEA, 2014:70) In addition to the latter, the Infrastructure Development Act, 23 of 2014 (South Africa, 2014a) gives further effect to the NDP by focusing on the identification, facilitation and coordination of strategic infrastructure developments of South Africa. Strategic integrated projects (SIPs) are public infrastructure projects which are of significant economic or social importance to South Africa and which have the potential to facilitate regional economic integration into Africa (South Africa, 2014a). This act however, allows these projects that require an EIA to be completed in a shortened timeframe and creates a tension between environmental management and government critical developments. With the shortened EIA timeframes the, PP conducted is impacted as limited time is allowed for engagements.

Transnet SOC Ltd (henceforth Transnet) as a state owned company (SOC) is a government-owned entity and acts as the custodian of freight rail, pipelines and ports in South Africa. Transnet plays a critical role in the development of the South African economy through delivering freight reliably. In 2012, Transnet adopted the market demand strategy (MDS) which focuses on specific infrastructure development in line with the country's NDP and SIPs. Transnet is currently involved in the five geographic SIPs which focus mainly on unlocking various mineral resources and the improvement and expansion of port and railway infrastructure. The main aim of the MDS is to expand the country's pipelines, ports and rail infrastructure (Transnet, 2015). The MDS infrastructure developments require the execution of numerous projects that differ in scope (upgrade of existing infrastructure and the construction of new infrastructure) and scale (small to mega) with possible significant environmental impacts, placing Transnet as a key EIA proponent in South Africa. PP during these processes is critical to ensure collaborative decision-making that will significantly impact various other parties. However, limited research has been conducted to investigate Transnet's implementation of PP as part of EDM. The aim of this study was therefore to investigate the need for PP in the early project phases prior to the South African EIA process in Transnet case studies.

1.3 Research aim and objectives

A few studies have been conducted focusing on South African PP in EIA to investigate their effectiveness and to improve the mechanisms currently being implemented (Aregbeshola *et al*., 2011; Hoosen, 2010; UCT & UNITAR, 2007). The studies focused mostly on the effectiveness of PP and the role that the public plays in EDM. During the evaluation of research conducted, it was evident that limited information is available on the timing of PP in EDM in South Africa and in mega-infrastructure projects specifically.

In order to achieve this study aim, the following objectives were set:

1) To investigate the perception of PP prior to and during the EIA in a sample of Transnet projects;
2) To examine the influence and enhancement extent of PP prior to and during the decision making process for the proposed developments.
3) To evaluate the possible enhancements of public participation prior to and during the EIA process.

1.4 Structure of dissertation

Chapter 1: Introduction – This chapter introduces the background to the study, the problem statement and research aim and objectives.

Chapter 2: A review of environmental decision making public participation literature – This chapter provides an overview of participation models and provides a detailed literature review to discuss the concept and interpretations of PP in EDM. The objectives and benefits of PP are discussed and the chapter further focuses on PP as part of the EIA process. The chapter concludes with a review of timing of PP in EIAs.

Chapter 3 Public participation and EIA in South Africa – This chapter discusses the emergence of PP in South Africa. It explains the environmental legal framework that governs the implementation of EIAs in South Africa specifically. The chapter describes and compares different EIA regulations revisions and briefly explains the EIA process in South Africa. The PP requirements as outlined by the South African EIA regulations are discussed in detail. The chapter concludes with an overview of studies that focused on PP as part of EIA in South Africa.

Chapter 4: Methodology – This chapter describes the methodology followed to address the research aim and each research objective. All three of the EIA cases are discussed by means of a high-level scope and a detailed PP table indicating what was implemented as part of the EIA. This chapter describes the development of the survey and the influence framework based on the Nadeem and Fischer (2011) framework and lists the limitations of the study.

Chapter 5: Data analysis and findings – This chapter discusses the results and provides a detailed analysis and interpretation. The data collected from the survey are analysed in

detail and graphically presented. Each EIA case is evaluated against the influence framework and the results of the evaluation are presented in this chapter.

Chapter 6: Conclusion – This chapter concludes the study by addressing the research aim and by providing recommendations for further research on this topic

CHAPTER 2
A REVIEW OF ENVIRONMENTAL DECISION-MAKING PUBLIC PARTICIPATION LITERATURE

2.1 Introduction

In order to grasp the concept of public participation (PP), it is important to understand the principles and frameworks that provide a firm foundation for its implementation. Generic PP and related global requirements are dealt with in Chapter 1. Although chapter 2 mostly focuses on PP in the context of environmental decision-making (EDM), it is acknowledged that PP also exists outside of this framework. There is no "one size fits all" PP process and various studies have investigated different forms and models of PP. This chapter starts with an overview of PP models in order to provide context for different forms of PP in EDM. PP in EDM and environmental impact assessments (EIAs), together with the timing of implementation, are also discussed.

2.2 Public participation models

The earliest development of a participation model is Arnstein's (1969) "Ladder of Citizen Participation", where different types of participation are described by means of eight levels. The ladder classifies PP as real PP if there is a partnership (partially or wholly) with the participants (Bickerstaff *et al*., 2002:62). Since the development of Arnstein's ladder of participation, the model and concepts described have been debated. Connor (1988:250) published the "New Ladder of Citizen Participation" that differed from Arnstein's ladder by not focusing on the redistribution of citizen power but rather concentrating on approaches to prevent public disagreement. In 1998, "Arnstein's Ladder of Citizen participation" was used by the South Lanarkshire Council to develop the "Wheel of Participation" that aimed at identifying the most efficient engagement technique based on the required objective that needs to be achieved (Davidson, 1998). Various other models have been developed which ranged from being too simplistic and failing to provide correct analytic data or others that are too complex and therefore not user-friendly (Prieto-Martin, 2014:3).

Various PP models are used for specific purposes, and sometimes two or more models need to be implemented as one model addresses the weaknesses of the other. Prieto-Martin (2014:3) identified the gaps by reviewing the timeline of participation models and developing a participation schema. The participation schema was developed based on generic

principles for PP as well as addressing the gaps identified. Although the terminology might differ, the participation schema includes critical elements from the Arnstein participation ladder and the Internatinal Association for Public Participation (IAP2). The design of the participation schema is based on the following dimensions: what, where, when, who and how. The participation schema was designed as a tool with which to analyse and communicate the features of a participation process (Prieto-Martin, 2014:12). The intensity of collaboration (the "what" dimension) consists of four detailed categories with two to three levels of PP in each category that are aligned with Arnstein's participation ladder. Arnstein's ladder focuses mainly on participation opportunities generated by an "administration" process, where opportunities are governed by the developer or government. The participation schema, however addresses this limitation by adding another category, namely as "conflict", where participation opportunities are initiated by the affected parties (Prieto-Martin, 2014:4). Figure 2-1 illustrates the participation schema that was developed by Prieto-Martin (2014) based on Arnstein's participation ladder.

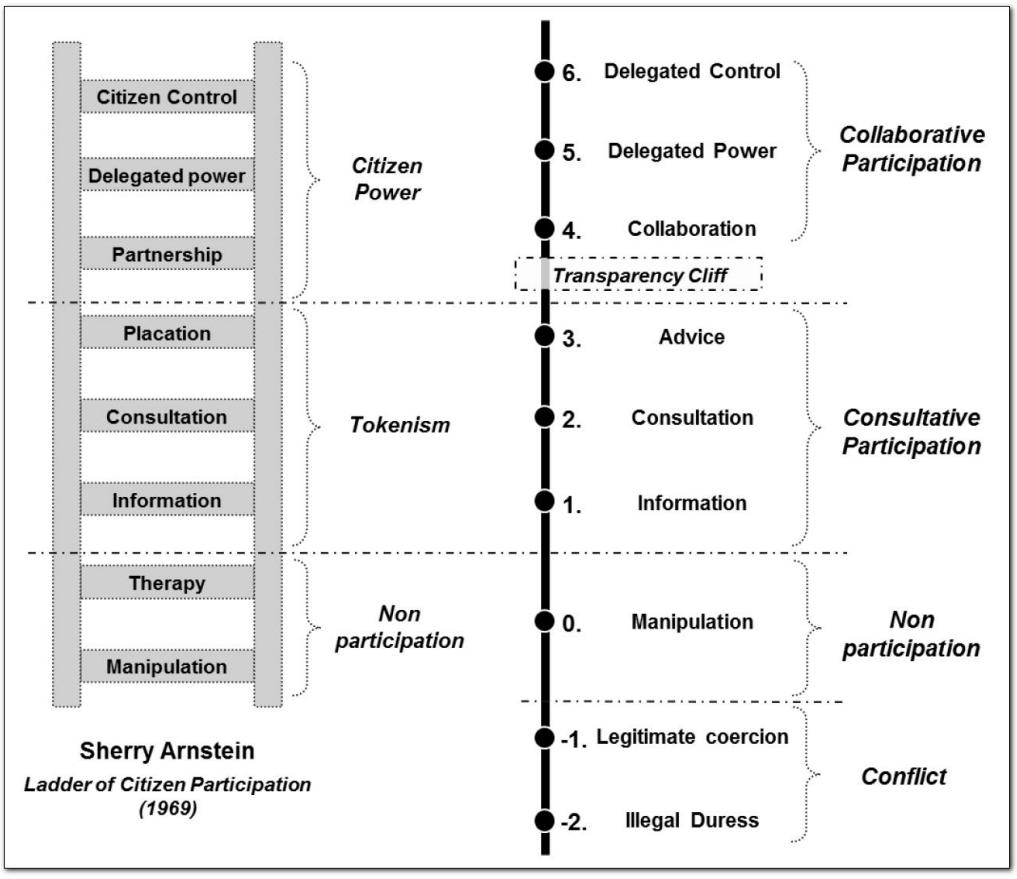

Figure 2-1: Participation schema to analyse and categorise different levels of participation (Prieto-Martin, 2014:2-10)

Table 2-1 provides a more detailed description of each of the categories (from the bottom up) of the "what" dimension as part of the participation schema.

Table 2-1: Description of participation schema categories (Prieto-Martin, 2014:6)

Category	Level		Description
Conflict Provides an opportunity for the affected to provide their perspectives and develop their own participation opportunities (negative level).	-2	Illegal duress	Extreme measures are implemented because of fundamental rights being violated, e.g. violent demonstrations.
	-1	Legitimate coercion	The public uses legal frameworks to ensure that their demands are recognised.
Non participation Deceive or soothe the public without the intention to seriously consider their concerns or proposal.	0	Manipulation	The decision maker manipulates the public and the participation mostly involves ratification of a decision that has already been made.
Consultative participation The decision maker gathers information, knowledge and opinions from interested and affected stakeholders but remains the final decision maker.	1	Information	The decision maker provides information regarding the proposed plans/developments to the affected parties.
	2	Consultation	Two-way participation where the affected parties/citizens can provide feedback on the information.
	3	Advice	Affected parties/citizens are encouraged to raise concerns and provide recommendations.
Collaborative participation Participation is based on trust and collaboration. The public thus influences the decision-making process in a meaningful way.	4	Collaboration	The affected parties/citizens influence the decision. All of the participants contribute to ensure that the best solution is chosen.
	5	Delegated power	The participation committee/institution is allocated limited powers/responsibilities as part of the decision making process.
	6	Delegated control	The control of a certain part of the decision making process (area or subject) is delegated to a participation committee/institution. The decision maker is, however, responsible for the monitoring.

An important concept illustrated in Prieto-Martin's (2014) participation schema is the "transparency cliff" (Figure 2.1). The cliff indicates that in order for consultative participation to shift to collaborative participation, transparency is vital (Prieto-Martin, 2014:8). The discussion of participation models utilised in generic PP needs to be integrated as part of PP conducted in EDM. The PP processes should therefore take the categories and levels described above into consideration when planning and implementing PP in EDM. The next section will provide more details about PP as part of EDM.

2.3 Overview of public participation in environmental decision-making

There are many definitions for PP, but no concise, clear and universal definition has been developed and accepted. Schroeter *et al.* (2015) reviewed PP definitions currently captured in various studies in order to determine common criteria. The following characteristics were identified:

- PP is voluntary;
- The PP process is organised and systematic;
- The PP process allows for a continuous and increased flow of information; and
- PP can have an impact on and influence decision making.

In the development and project context, PP can be defined as "the involvement of groups and individuals that can/will be positively and negatively impacted, or that are interested, in a proposed project, plan, policy or programme that is subject to a decision-making process" (André *et al*., 2006:1). PP therefore refers to an engagement opportunity (by means of different methods and techniques) with the affected and interested parties for them to raise concerns for consideration in the decision-making process. For the purpose of this study, a combined, practical definition of PP will be adopted: PP is a set of processes (not a single event) that includes different social representatives in a decision-making process to result in a better decision that was jointly/collectively made by the various parties working together (Greyling, 1998:1; Schroeter *et al*., 2015).

An important element that captures the true essence of participation is that the public should actively participate and the PP process should ultimately influence the final decision (Jami & Walsh, 2014:196; O'Faircheallaigh, 2010:20). As stated by Schroeter *et al.* (2015), it is important that it is communicated from the onset of the PP what the participants' mandate and the power of influence on the decision-making process could be. It is very important to clearly understand the meaning of the public *influencing* the decision, as the main aim of PP involvement in EDM is for the public to improve the quality of the decision rather than to make the decision.

An obstacle of PP is that there is no consolidated and clear consensus on what is meant by the implementation of PP (McDaid & Kruger, 2004:1). It is evident that PP does not consist of the implementation of a single and rigid component but rather a combination of various elements. McDaid and Kruger (2004:2) and Du Plessis (2008:194) agree that the implementation of PP should be based on a hybrid framework in order to improve liability for effective resource management. PP is viewed in different ways by different parties, resulting

in various perspectives of the process. The PP process involves various parties (including decision maker(s), general public, affected parties and developer(s)) at different stages of the process and will therefore result in different influences and outcomes (Glasson *et al.*, 2012:24).

The PP process in EDM is often viewed by developers as a regulatory "add on" or "tick in the box exercise", which limits the value of the process. The theoretical PP process aims at achieving a democratic decision through public involvement, where the power of the government and the public collaborates, but in practice the process is mostly implemented in order to meet the minimal legal/process requirements (Eckerd, 2014:3; Peterlin *et al.*, 2006:186; Olsen & Hansen, 2014:72; Scott & Oelofse, 2005:448). The public or stakeholders, on the other hand, mostly view PP as a "feel-good exercise", where the decisions have already been made prior to the engagement. Eckerd (2014:19) concurs that the primary objective of PP is perceived as justifying a decision. The latter implementation method refers to the decide, announce and defend (DAD) principle (Greyling, 1998:2; Hourdequin *et al.*, 2012:42). This principle directly contradicts what PP aims to achieve, as PP strives to develop a decision that was made in a transparent manner and that the stakeholders support because of their input and influence (He *et al.*, 2016:2).

When evaluating PP as part of EDM in a specific country, it is important to be cognisant of two components: firstly, how PP requirements have been integrated into the country's environmental and decision-making legislation and secondly how it is practically implemented. Gera (2016:506) states that the strength of PP is often reduced by the limitations in legislation on providing access to information. In instances where the legislation requirements for PP are not sufficient, various tools have been developed to close the current gaps and supplement existing tools. In the Czech Republic, non-governmental organizations (NGOs) organised a PP process that runs parallel to the formal EIA process but providing more opportunities for participation and utilising a wider variety of participation methods (Richardson *et al.*, 1998:202).

In Canada environmental agreements are implemented for major projects in order to ensure participation of specifically the aboriginal people throughout the project life-cycle (construction, operation, rehabilitation and decommissioning) as EIA PP is not considered sufficient (O'Faircheallaigh, 2007:320).

Furthermore, PP is usually conducted in various forms as determined by factors like the scope of the policy/programme/project, the kind of decisions that need to be made, the

political context, time and financial resources available (Shaffer, 2012). According to Stærdahl *et al.* (2004:3) PP can be implemented in three different forms as presented in Table 2-2. The different forms of PP can also be linked to Arnstein's ladder of PP.

Table 2-2: Forms of public participation (PP) (Stærdahl *et al*., 2004)

Legitimizing participation	Instrumental participation	Democratic participation
The purpose of this form of PP is a checklist exercise to legalise the process and, therefore, the public has limited opportunity to influence the decision. This form of participation can be associated with therapy (Arnstein's (1969) participation ladder) and manipulation (participation schema) techniques of the non-participation level (Figure 2-1).	In this form of PP, the public is used to improve the quality of the environmental impact assessment (EIA) reports by proving information and local knowledge. The public's concerns and comments, however, are not resolved or considered. This form of participation can be associated with information or consultation techniques of tokenism (Arnstein's participation ladder) and consultative participation (participation Schema) level (Figure 2-1).	The purpose of this form of PP is to gather the public's interests and views and to include and consider them during the decision-making process. This would be the ultimate implementation of EIA PP. This form of participation can be associated with partnership (Arnstein's participation ladder) and collaboration (participation schema) techniques of the citizen power/collaboration participation level (Figure 2-1).

2.4 Objectives and benefits of public participation in environmental decision-making

Although the need and requirement for PP is captured in legislation, standards and procedures, a lack of guidelines and tools hinder the practical achievement thereof (Du Plessis, 2008:176). Despite the traditional perception of PP in EDM, which mainly focuses on the discussion of potential significant impacts, the actual rational of discussions should go beyond and include deliberations on alternatives, characteristics of the activities and agree on an appropriate way forward (Petts, 2003:275). The rationale for PP in EDM is to offer the public an opportunity to participate in a two-way dialogue that takes the preferences and opinions of the stakeholders/public into account to provide a legitimate decision of good quality (Bawole, 2013:386; Olsen & Hansen, 2014:79; Petts, 2003; Sayce *et al*., 2013:58). It is, however, important to note that the rationale will depend on and change according to the form of participation implemented as described in Table 2-2.

Successful PP is determined by whether the public was engaged early and sincerely and whether the objectives where achieved (Voss, 2014:38). The objectives can be determined by the country's legislative PP requirements or by the decision makers. For the purpose of this study the objectives and benefits of PP implementation in the context of sustainable

development(s) will be described simultaneously. It is therefore assumed that, should the objectives be achieved, then the benefit will also be gained. Table 2-3 provides a detailed list of objectives and benefits of PP in EDM (Bawole, 2013:387; Du Plessis, 2008:181; DOE, 1998; Jami & Walsh, 2014:196; Li *et al*., 2012b:48; McKinney & Harmon, 2002:156; Mitchell, 2013:3-5; Murombo, 2008:9; Nadeem & Fischer, 2011:36; O'Faircheallaigh, 2010:22; Olsen & Hansen, 2014:72).

Table 2-3: Objectives and benefits of effective public participation (PP) in environmental decision-making

Objectives	Benefits
To ensure that the PP implemented motivates the public to trust the process and the decision makers.	Developing a trust relationship and gaining public acceptance and confidence of the project because of transparency and the integration of relevant issues; encouraging perceived ownership of the project/process due to the involvement.
To open up the decision-making process and to build reliability.	Building credibility when the decision-making process is open; evaluating issues and alternatives fairly, followed through with commitments made.
To provide opportunities for interests to be raised by all stakeholders according to their desired outcome.	Resolving the conflicts due to the different interests amongst stakeholders.
To obtain local knowledge and to provide sufficient participation opportunities to the stakeholders.	Creating an opportunity for the public to suggest ideas, solutions and resources to address complex issues.
To produce better proposals and alternatives.	Developing more innovative and collaborated solutions and alternatives.
To exchange information for mutual learning, problem solving and understanding.	Enhancing the desire to safeguard the natural environment and to achieve a sustainable project lifecycle by means of sharing information and creating awareness.
To increase the quality of project decision making.	Ensuring that well-informed decisions are made as all relevant and public information is available and was scrutinised during the decision-making process.
To minimise project risks (delays, costs and operational).	Identifying key concerns early on in the process, leading to better project planning and decision making by decision makers, as they can consider the holistic impact of the activities; reducing project cost and time as a result of community acceptance; reducing the possibility of risks emanating for the project such as increase in project time and costs.
To improve accountability of decision makers and developers.	Protecting the environment and communities by improving the accountability for the effective management and development.

The ultimate objective of PP remains that the public and stakeholders should be able to influence the end results through timely input. Moreover, the public should be informed of how their inputs were addressed and whether they were included or excluded. Instances where the public was consulted prior to the project designs being finalised, enabled the public to include their concerns (Hughes, 1998; Nadeem & Fischer, 2011:45; Shaffer, 2012:7). From the table above it can be seen that the implementation of PP provides benefits, but various factors can limit and complicate the PP process. The following are obstacles for PP implementation: conflict of interests, unequal political influence amongst stakeholders; unequal distribution of pollution costs and project benefits; broad spectrum of values and beliefs from different stakeholders, perceived impacts and risks; mistrust and

dissatisfaction of the PP process; it is regarded as a timeous process and the lack of understanding the technical information (Del Furia & Wallace-Jones, 2000:458; Hourdequin *et al.*, 2012:37; Jami & Walsh, 2014:194; Li *et al.*, 2012c:66; Marzuki, 2015:24). Existing PP literature focuses mostly on the benefits, limitations, rationale and how the public can be involved and has shown that traditional PP methods often do not necessarily improve the decision as the public does not really influence the decision (Jami & Walsh, 2014:196; Marzuki, 2015:34).

The discussion above provides a detailed foundation for PP as part of the broader EDM process. EDM, however, consists of various tools and processes and therefore the next section will focus specifically on PP as part of EIAs.

2.5 Public participation in the environmental impact assessment process

EIA is a well-established and commonly used planning aid and management tool typically for large-scale development projects (Boyco, 2010:1; Nadeem & Fischer, 2011:45; Robinson & Bond, 2003:46). EIA aims, as explained by Bawole (2013:386), to balance the decisions made between socio-economic development and environmental concerns. It acts as a planning tool that integrates natural, social and economic issues into decision making and motivates the improvement of environmental awareness in society in order to achieve sustainable development (Doelle & Sinclair, 2006:185; Mannarini *et al*., 2009:262; Peterlin *et al*., 2006:186; Rajanvanshi, 2003:296). For the purpose of this dissertation, the definition of EIA will be a combined definition to capture the essence of its true function: EIA is a process of identification, prediction, evaluation and mitigation of bio-physical, social and other relevant effects as determined by a qualitative assessment of proposed developments prior to major decisions being taken. This assists developers and public authorities to identify impacts at an early stage to improve the quality of both project planning and decision making (Boyco, 2010:9; Looijen, 2004:2). Fuggle and Rabie (2009:981) and Glasson *et al.* (2012:7) elaborate on the latter by emphasising that EIA is not a decision-making tool but a decision-supporting tool to assist with the trade-offs required for the proposed development.

Drazkiewicz *et al*. (2015:211) explain that environmental quality (environmental considerations and implementations) in decision making is improved by including stakeholders that represent environmental values. The PP should not only assist in determining the common development goals or minimise negative impacts but should also strive to maximise positive impacts (Peterlin *et al*., 2006:184). Doelle and Sinclair (2006:188) agree with this by stating that EIA will contribute more effectively to sustainability by

identifying the net positive contribution of the proposed development by considering the interests of affected parties equally and fairly instead of only focusing on mitigating the impacts.

PP has been recognised as a central part of effective EIA (Aregbeshola *et al*., 2011:1276; Bawole, 2013:386; Boyco, 2010:2; Glucker *et al*., 2013:104; Nadeem & Fischer, 2011; Petts, 2003; Wiklund, 2011:160; Shaffer, 2012). The correlation between PP, EIA and sustainable development can be explained as follows: PP is regarded as a critical component of EIA and EIA aims to encourage, support and enable sustainable development and, therefore, effective PP can be regarded as a building block for sustainable development (Marzuki, 2015:21; Murombo, 2008:4). There are, however, different views on the latter. Fuggle and Rabie (2009) and Saidi (2010) state that instead of EIA being perceived as a vehicle to promote sustainable development, it has become a "handbrake", "hurdle" and "obstacle" to such development. Project developers mostly perceive EIA and PP as a time- and cost-consuming process and consequently miss the opportunity for effective PP, which can improve project design, ensure project long-term viability and assist with community acceptance (Doelle & Sinclair, 2006:190). This can be resolved, as PP can encourage sustainable development if the alternative project design is considered earlier in the project planning phase (Betey & Godfred, 2013:48; Doelle & Sinclair, 2006:190).

Scott and Oelofse (2005:446) explain that although EIA policy and legislation have acknowledged the social and environmental democratic right, poor implementation efforts have been made. Doelle and Sinclair (2006:186) agree by stating that legislation that governs EIA PP is mostly designed and implemented based on a few "if" assumptions: (1) if a process is legally in place, it will be properly implemented, (2) if an opportunity is provided, the public will participate actively and comments will be integrated in the project design and (3) participants are treated as if they were part of the project planning, design and assessment stage. For the current (practical) PP implementation to be aligned with theoretical PP as required by policies and legislation, a number of changes need to be made. The procedural implementation of EIA needs to be shifted towards a more participatory process. Rydin *et al.* (2015:140) emphasize that although PP is a legal requirement, allowing it only in the EIA permitting phase provides limited opportunity to impact the decision and only creates mistrust of and doubt in the decision making. Despite the increased acknowledgement of PP, the implementation thereof is still used as an "outside box" of the EIA process that only needs to be included in certain stages of EIA. Sayce *et al*. (2013:64) suggest designing a PP process that involves the public during the planning and decision-making stage, which will ensure that the public has an opportunity to

affect the design and outcomes. PP is a unique and country-specific process as the implementation occurs in different socio-political contexts and hence the influence on the final EIA decision will differ between countries.

The manner in which people engage in PP depends on the decision-making framework and culture of the decision makers. Doelle and Sinclair (2006:203), Wiklund (2011:171) and Olsen and Hansen (2014:78) agree that in order to achieve effective PP, the approach needs to be tailored and planned according to the context and the decision-making process. The PP process therefore has to be designed specifically for the project while not compromising the best practice and unique public involved. The level of PP intensity during the EIA will also be determined by the specific project. PP in EIAs will be more intensive for projects with an irreversible and long term health and environmental impact with a high procedural risk than for projects with a minimal impact and risk (Hourdequin *et al*., 2012:42). The success of an EIA can be determined by the PP process and timing as effective PP tends to improve social suitability, environmental soundness and project design (Hartley & Wood, 2005; Hughes, 1998; Zhang *et al*, 2013:151). According to Glasson *et al.* (2012:144), PP can contribute positively to the different stages in an EIA by providing local knowledge of the proposed area; proposing alternatives and mitigations and evaluating the significance of the impacts.

The traditional EIA process has created various problems that prevent effective PP, including strict project life cycles, limited time, financial constraints as well as limited availability for the collection of data (Hughes, 1998). General practice is more focused on saving time on project schedules and EIA consultants prepare EIA reports and mitigation actions prior to the public meeting and hence narrows the opportunity for discussion and change. The limiting factors implemented to ensure a short and affordable EIA and PP process ultimately leads to ineffective PP, EIA/project delays and increased costs on the original limiting factors. A case study in Canada supports this by indicating that the time that would have been lost in the design stage during early PP would have been made up in the implementation stage due to community support (Doelle & Sinclair, 2006:196).

In two case studies in China, the public aimed to stop the development. After various participation opportunities and mass media actions, the Xiamen PX project and the Liu Li Tun garbage incineration power plant was not approved and alternative locations for the two projects had to be investigated (Li *et al*., 2012c:66). In another Chinese case study, the Jingshen high-speed rail project was delayed by four years as a result of public protests on various issues such as EIA insufficiency, location of the railway line, proposed impacts and insufficient participation procedures (He *et al*., 2016:6). The study recommended that the

public should be engaged early, as “social acceptance is a major institutional risk in large infrastructure projects”.

The roles and responsibilities of the participants in the PP process are crucial and contribute to the success thereof. Furia and Wallace-Jones (2000:457) opine that the public is responsible for effective participation by grasping the participating opportunity provided during EIA. This is supported by Li *et al*. (2012c:71), who state that PP is dependent on whether access to participation is desired by the public and within the public’s capacity. To be able to refine and improve PP in EIAs, all parties would need to be open to develop and implement new approaches (Hourdequin *et al.*, 2012:43).

It is evident that PP is a key component of EIA and in order for PP to be regarded as effective, the objectives as highlighted in Table 2-3 of involving the public need to be satisfied. In 2011 Nadeem and Fischer developed a country specific evaluation framework to assess the performance of public participation in EIAs within Pakistan. The EIA PP practice evaluation framework consists of ten major components namely (1) legal requirements; (2) effectiveness of methods used; (3) access to/quality of information; (4) Timing; (5) venue of consultation; (6) time given to component; (7) composition and awareness of the public involved; (8) methods and framework for consultation; (9) consideratrion of public concerns in the EIA report and incorporation of public concerns into the final decision and (10) transparency of decision making process (Nadeem & Fischer, 2011:38). The results of the framework concluded that the PP had a weak influence on the quality and decision of the EIA due to stakeholders not being involved early in the EIA process and concerns not being addressed prior to irreversible decisions being made. For the purpose of this study the Nadeem and Fischer framework will be revised in order to suit the South African EIA process and to only focus on component (9) Consideration of public concerns in the EIA report and incorporation of public concerns into the final decision. The revised framework is addressed in more detail in Chapter 4 and Chapter 5.

2.6 Timing of public participation in environmental impact assessment – early participation

There is currently no standard available for the quality and timing of PP in EIA. The 2013 International Association for Impact Assessment (IAIA) conference shed some light on what is meant by “good” and “early” engagements by highlighting that early engagements provide a more holistic view to the public about proposed projects’ scope resulting in all issues being identified and studied (Mitchell, 2013). Early engagement should focus on providing an

opportunity for the public to be able to affect the design. Although PP in the scoping phase is a legal requirement in most EIA processes, the question should be raised whether this stage provides adequate opportunity to influence the design or to discuss project alternatives. Mandatory early public notification is required in Ontario, Canada, and the public is invited to provide comments in the initial conceptualisation stage, to raise issues that need to be addressed and to identify potential alternatives (Doelle & Sinclair, 2006:187).

The inclusion of the public is captured by Li *et al*. (2013:124), explaining that in developed countries it is general practice to involve stakeholders throughout the project lifecycle, whereas in developing countries the involvement is limited to project level as part of the EIA. Rajanvanshi (2003:303) explains this limited public involvement during PP in developing countries is required by EIAs that were developed without a firm theoretical foundation. When compared to countries with best practice EIA processes, the legislation explains and outlines the approach, method and proposed phases for the implementation of PP. El-Fadl and El-Fadel (2004:566) provide another perspective by indicating that where the PP requirements are specified in legislation it does not necessarily mean that it is adequately implemented. The timing of PP is crucial in order to ensure an impact on the decision made. According to Richardson *et al.* (1998:203) the quality of PP in EIAs is determined by the timing, content and methods used. The quality of an environmental decision can therefore be improved by early PP (Reed, 2008:2422; Shaffer, 2012:2). However, according to Doelle and Sinclair (2006:191), early PP needs to be combined with ongoing PP throughout the EIA process and the openness of the proponent to reconsider the project when engaging the public in order to contribute to an effective PP process.

The opportunity to influence the decision is usually not achieved because of the PP process being initiated too late in the EIA process. Timing of PP has been identified as one of the elements that limits the public to participate in the EIA process and it is therefore very crucial that the public should be consulted in the planning stage where the EIA report is being prepared and no irreversible decisions have been taken (Del Furia & Wallace-Jones, 2000:467; Nadeem & Fischer, 2011:39; Peterlin *et al.*, 2006:202). This statement is supported by Zhang *et al.* (2013:149), who emphasises that PP that is implemented too late and too fast prevents the public from participating. The implementation of PP towards the end of EDM aggravates rather than resolves public conflict (Richardson *et al.,* 1998:214). Doelle and Sinclair (2006:191) point out that legislation should promote an “extensive front-end consultation”, which would result in PP commencing at project conception and selection stage. Various countries, including Greenland, have acknowledged that early PP in the

decision-making process assisted in achieving the desired outcomes and promotes local adaption (Olsen & Hansen, 2014:72).

Once the feasibility stage of the proposed project has been finalised the possibility of influencing alternatives being considered is low. Although Table 2-3 highlights the benefits of effective PP, the following are the key benefits of early PP as identified by Doelle and Sinclair (2006:191-203):

- The public will benefit as the power balance between public and the proponents shifts in order to motivate proponents to consider and address the public's concerns.
- The proponent will benefit from improved project design, certainty in the process and community acceptance if the project is approved to continue. Further, the proponent will be guarded against investing unnecessary resources (time and money) due to the project being identified as "unacceptable" early on in the process.
- The government/decision maker benefits from an improved process and more sustainable projects that meet the needs of the community.

The Funnel Approach, developed by McDaid and Kruger (2004) (Figure 2-2) that captures the essence of PP timing in the context of projects/developments and EIAs. This tool was developed with the aim of achieving a fair and effective PP process in EIAs.

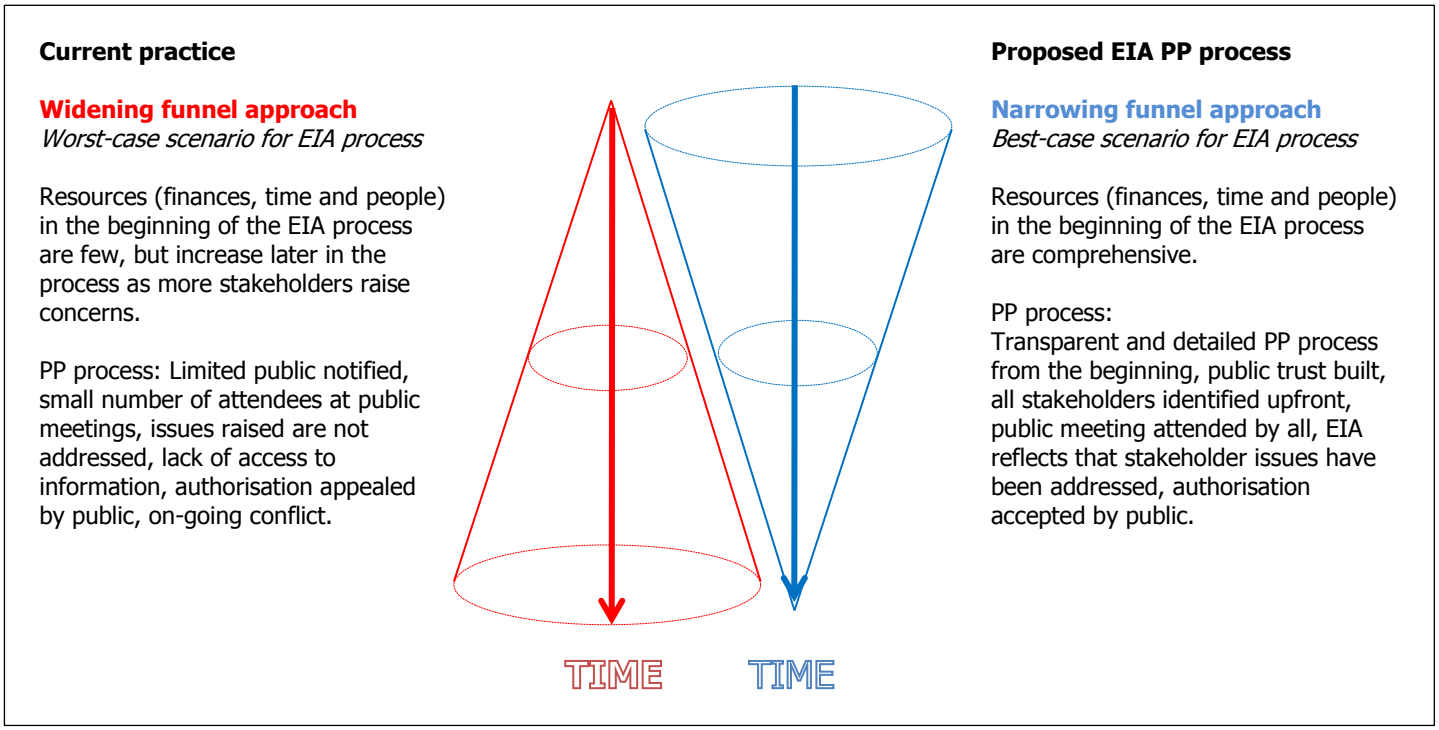

Figure 2-2: Public participation (PP) funnel approach in the environmental impact assessment (EIA) process (McDaid & Kruger, 2004:5-7)

The hypothetical worst case scenario as captured by McDaid and Kruger (2004) explains that the current practice of EIA and PP is based on a widening funnel approach. The resources, scope and public engagements are very limited in the beginning of the EIA and tend to increase as the process continues. This then results in limited public being involved or participating and in general then appeal the decision made due to limited influence.

The hypothetical best case scenario is used in the narrowing funnel approach that focuses on more resources (financial, human and time) in the beginning of the process that is the opposite of the current trend that tends to widen as time continues. McDaid and Kruger (2004:10) propose that many of the current PP process problems in EIAs can be resolved by adapting the narrowing funnel approach as this allows for comprehensive PP to be conducted from the onset of the project and the EIA process. This approach was developed to provide a baseline level of standardisation for PP in EIA. The EIA is a time-limited process and is confined by the timelines/requirements as per the country specific EIA legislation.

The focus of the narrowing funnel approach is that from the onset of the EIA PP, the scope (participants, time and resources) should be at its broadest. The funnel approach proposes that as the EIA process continues, the PP scope should decrease because of alternatives being considered, the public's issues being addressed and the public gaining more trust in the process, design and project(s) (McDaid and Kruger; 2004:10). The PP scope will therefore narrow once the decision has been made by the decision maker. From the previous sections it can be seen that PP is not only required early on in the EIA process but that there is also a need for PP throughout the project lifecycle. In the broader context of the development/projects, however, PP should rather be viewed as a "tube/pipe" that continues with the same scope throughout the development and will include the specific execution, monitoring and feedback PP requirements.

2.7 Conclusion

The chapter discussed the concept of PP. PP was captured as a process or series of opportunities that enables the public to be involved during the decision-making processes. Firstly, the chapter discussed PP in the broader context and a brief overview of the various participation models was provided. The participation schema is a comprehensive PP model and a detailed overview was provided on the "what" dimension. The participation schema included another level, namely conflict, where the public initiates participation opportunities. This provides a wider spectrum of PP.

The next part of the chapter focused on PP in EDM specifically. The chapter highlighted that if PP is implemented effectively, numerous objectives and benefits can be achieved as listed in Table 2-2. The chapter further elaborated on PP as an important component of EIAs. It was indicated that PP as a building block and EIA as planning tool aims to encourage and enable sustainable development. The impact of PP in EIAs was also discussed and it is clear that PP has an impact on the costs and time invested in EIAs.

The next section of the chapter focused on a vital part of the study, namely the timing of PP in EIA. An overview of various studies confirmed that the quality of PP is determined by the timing of PP. If PP is implemented too late, it aggravates the public instead of building trust in the process and EDM. Specific benefits linked with early PP were also listed. The PP funnel approach as an EIA specific approach to PP was discussed, which indicated that PP can either be a narrow or widening funnel and influences the timing of PP. The funnel approach as proposed by McDaid and Kruger (2004) provide a baseline for PP implementation in EIA by means of a narrowing approach – the broadest PP is to be implemented at the beginning of the process and is "reduced" as time continues. The next chapter reviews the current PP frameworks and PP research in the South African context.

CHAPTER 3
PUBLIC PARTICIPATION AND ENVIRONMENTAL IMPACT ASSESSMENT IN SOUTH AFRICA

3.1 Introduction

This chapter reviews the emergence of public participation (PP) in South Africa and then details the legal framework for environmental impact assessments (EIAs). The chapter concludes by describing different EIA legal regimes and explaining the EIA process in South Africa. To reiterate, the following key aspects of the EIA process were explored in this study: the generic EIA process and then the detailed PP requirements as part of the EIA process.

3.2 Emergence of public participation in South Africa

From the context provided in the previous chapters, is evident that PP is regarded as a critical component in any decision-making process. This was not always the case in the South Africa. The inclusion of PP in decision-making was very limited during the South African apartheid era. The regulated structures and political dynamics during the apartheid era was race-based and led to limited and suppressed PP specifically for the Indian, Coloured and African communities (Nyalunga, 2006). PP during apartheid was exclusively for technical experts and if participation was extended to the general public, the process was mainly an information-sharing exercise than a participation opportunity (Rossouw & Wiseman, 2004:133). The apartheid era created a specific stakeholder group referred to by Scott and Oelofse (2005:447) as the “invisible stakeholders”, who were historically impacted by developments but were excluded from the assessment process at that time.

It was only once democracy was implemented in 1994 that the public’s voice was valued. Since democracy, the aim of the South African government was to repeal all unconstitutional laws, endeavouring to distribute decision power and to promote PP by creating new legislation that restored historical issues, such as competing for land use, and to ensure that economic and infrastructure development achieved long-term sustainability (DPME, 2014:124; South Africa, 2013:10). This resulted in a national shift, where policies had to be remade and the public had to be consulted about sensitive historical matters (Greyling, 1998:6). In 1996, the focus of PP changed significantly with the development of South Africa’s new constitution. PP was acknowledged by the government as the “cornerstone of democracy” and the public’s participation during the design, planning and implementation of

development plays a key role in democratic practice (Nyalunga, 2006). Global influences and trends, as discussed in the previous chapters, guided South Africa to adopt fundamental principles at the highest legislation level, such as the constitution, regulating the access to information and ensuring access and sustainable use of natural resources (McDaid & Kruger, 2004:2). The post-apartheid era created a platform where social impacts and public involvement are included in the development of environmental legislation and policy agenda (Greyling, 1998:6; Hoosen, 2010:1). When reviewing the past 20 years of democracy (DPME, 2014:124), it is evident that environmental frameworks and principles have been developed to correct previous issues and to address fragmented environmental governance.

In 2013, a public participation framework was generated for the South African legislative sector. The scope of the framework focused on Parliament and provincial legislature institutions in order for these institutions to align their current PP processes with the framework and to create a PP strategy going forward (South Africa, 2013:21). The *Public Participation Framework for the South African legislative sector* (henceforth *Public participation Framework*) defines participation democracy as follows: "the Constitution stresses the need for recognition of participatory democracy which requires the active involvement of the public in decision-making processes" (South Africa, 2013:7). Nyalunga (2006) states that PP is seen as the "vehicle" to stimulate and introduce good governance. The post-apartheid era focused on the effective implementation of the new legislation and an active shift towards strengthening the core functions, e.g. affected parties has a right to be involved in the decision-making process and to know how their input affected the decision, and developing PP strategies (South Africa, 2013:10). The principle of PP is more than just a right to vote, it is a political right provided to all South African citizens that focuses on promoting a better life for all (Nyalunga, 2006). The post-apartheid legislation provides the impression of "participatory democracy", but the application thereof is not necessarily being achieved (Scott & Oelofse, 2005:44 6).

The *Public Participation Framework* was developed based on the International Association for Public Participation core values (IAP, 2007a) and Arnstein's ladder of participation in order to ensure that the framework is aligned with internationally acceptable standards. The PP process should simultaneously aim to reach the highest level of participation and to implement of participation corresponding to the level of public interest (South Africa, 2013:29). All methods of PP in South Africa should be implemented according to the ladder as adopted from that of Arnstein as illustrated in Figure 3-1.

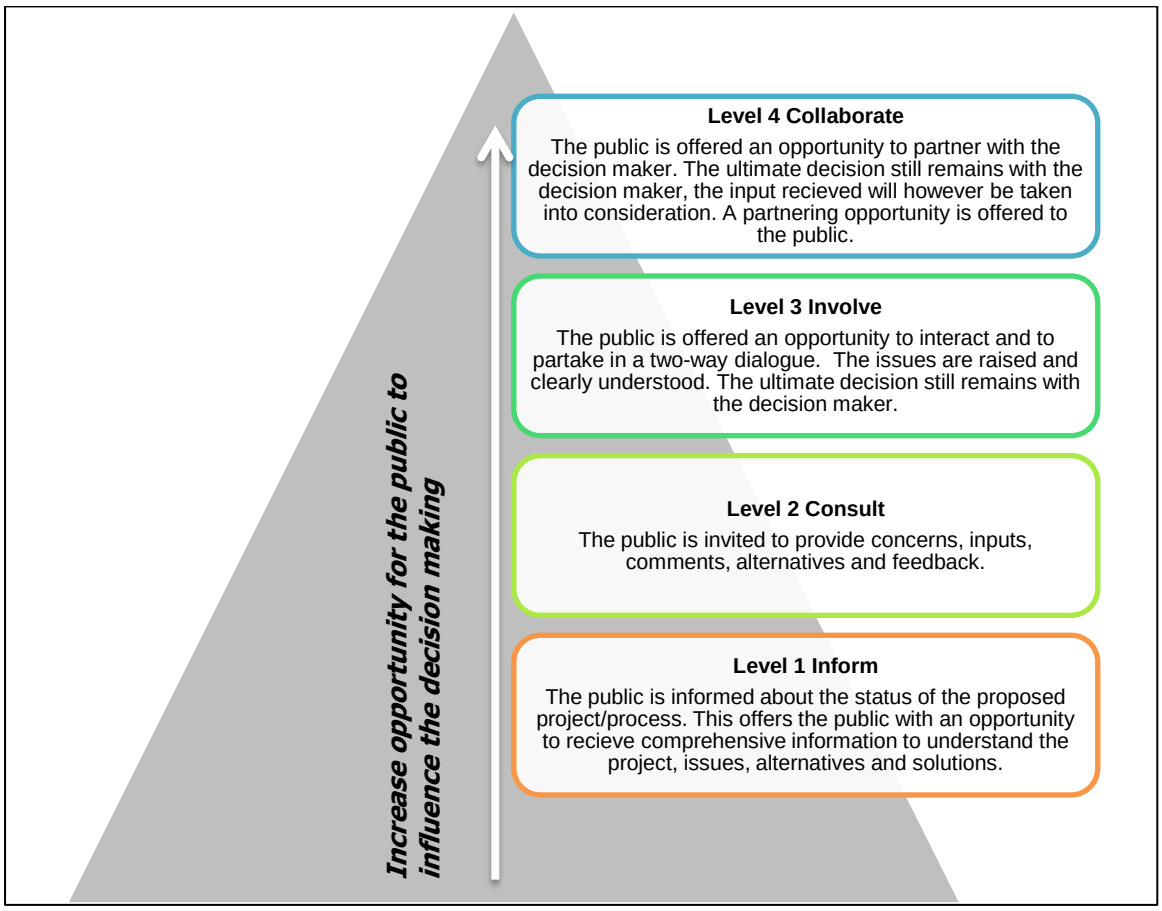

Figure 3-1: Ladder of public participation in South Africa (Arnstein, 1969; South Africa, 2013:28)

Various PP frameworks and models include another level of participation, namely empower/delegate control/delegate power, where the public is empowered to make the final decision or a part there of (Arnstein, 1969:217; IAP, 2007b; Prieto-Martin, 2014:6). This level is not included in the *Public Participation Framework* and will also not be included in this study, as the granting of environmental authorization (EA)/approval ultimately rests with the competent authority (CA)[2]/decision makers and hence the highest level that can be reached as illustrated in Figure 3-1 is Level 4 (collaborate). Ideally Level 4 should be utilised for PP processes, but in the South African context this may not be possible yet and, therefore the *Public Participation Framework* aims to achieve a Level 3 participation (involve) (South Africa, 2013:29). In order for EIA PP to move to the next level, a review of EIA legislation and more stringent enforcement of EIA and PP requirements is required (Jami & Walsh, 2014:198). The next section will discuss how the PP framework has been embedded in environmental and ultimately EIA legislation and regulations in South Africa.

[2] Competent authority is the agency responsible for issuing the environmental authorization

3.3 South African environmental impact assessment legal framework

In order to be able to understand the PP framework and PP requirements embedded in environmental legislation, it is important to first have an holistic view of the environmental legislation which acts as the foundation for environmental management. The environmental legislation in South Africa, as enacted after the apartheid era, has advanced and changed to accommodate continuous environmental management changes. Briefly, the South African EIA regulations have evolved from the first published regulations in 1997 to 2006 and to 2010, with the latest change as recent as 8 December 2014. In order to fully understand EIA PP requirements in South Africa, the legal framework that drives this principle of PP and the requirement of EIAs need to be outlined first. For the purpose of this study, all pieces of legislation relevant to PP will be referred to and briefly discussed in numerical (year) order. The pieces of legislation that deals directly with PP in the EIA process will be discussed in more detail. Figure 3-2 illustrates the timeline of environmental and EIA (including PP) legislation that will be discussed in more detail below. The green elements present principal legislation and the blue elements presents the regulations as required by the principle legislation.

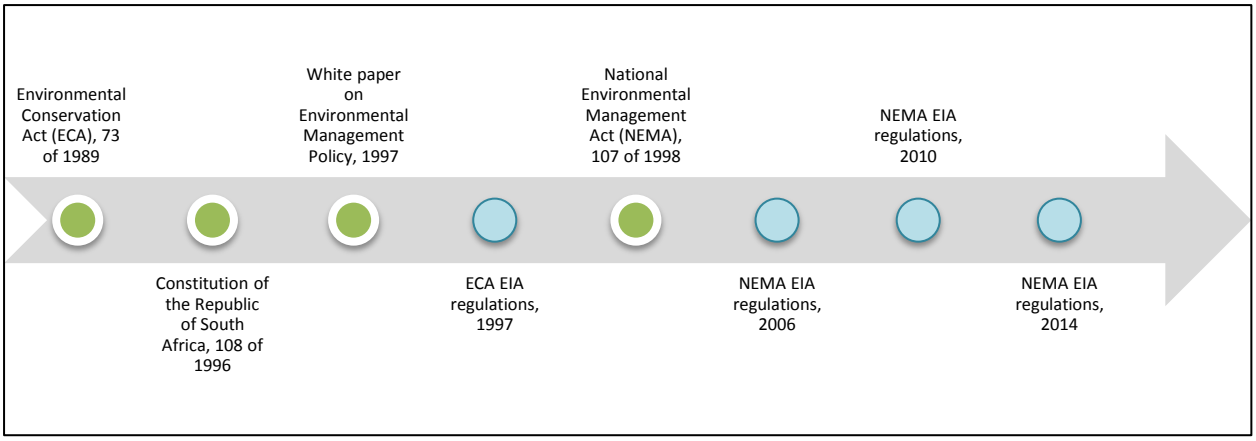

Figure 3-2: Timeline of South African legislation relevant to environmental impact assessments (EIAs).

3.3.1 The Environment Conservation Act, 73 of 1989

The timeline for EIAs in South Africa started in the 1970s and 1980s when the implementation of EIAs were already being discussed as a management tool. In 1983 the Council of Environment and the EIA committee published a document titled “Integrated Environmental Management in South Africa” (Rossouw & Wiseman, 2004:136; Stærdahl *et al.*, 2004:6). The integrated environmental management (IEM) concept encouraged a unified structure for environmental management and decision making in South Africa and this was pinned as the first approach to environmental management by means of voluntary EIA’s

(Duthie, 2001; UN, 1997). The development of IEM in South Africa reflected the integration of social and environmental justice (Scott & Oelofse, 2005:446). As the EIA implementation at this stage was voluntary, the administrative systems were limited and there was no specific procedure to follow. Although the voluntary EIAs in South Africa dates back to the 1980s, it was only in 1992 when the Department of Environmental Affairs and Tourism (DEAT) published the Environmental Management Guideline Series, stakeholders became more aware of the range of tools available to assist with EDM and opportunities for the public to participate (DEAT, 2004a). The series guideline encourages IEM to be implemented. Stædahl *et al.* (2004:7) describe the introduction of EIAs in South Africa as a combination of learning and copying. "Copying" refers to the government introducing an existing tool that has been utilised by other countries to resolve environmental problems. Scott and Oelofse (2005:462) confirm this by stating that the South African environmental management approach was adopted from Western democracies. The "learning" component refers to the South African government that developed a country-specific system to suite the socio-economic and environmental contexts of South Africa.

Only with the enactment of the Environmental Conservation Act (ECA) 73 in 1989 (South Africa, 1989) did the first voluntary EIA process start, which later became mandatory. It was during the 1980 and 1990s when EIA as part of mainstream environmental management was adapted as a tool to evaluate developments (Scott & Oelofse, 2005:447). The first EIA regulations were published in 1997. Section 3.3.6 and Section 3.3.7 of this study discuss the EIA regulations and the relevant PP requirements in more detail. Section 21 of ECA (South Africa, 1989) identified activities that can have negative impacts on the environment and these activities were divided into eleven categories. Section 22 of the ECA (South Africa, 1989) specifically indicates that none of these activities can commence without authorisation, after the review of an environmental impact report (EIR) by the CA. Section 26 (South Africa, 1989) outlines the content requirements of the EIR. Despite specific EIA sections in the ECA, the activities include a broad range and are not detailed enough to ensure streamlined and specific assessments.

3.3.2 The Constitution of the Republic of South Africa, 108 of 1996

The next piece of legislation was a turning point in South African history and introduced a new era of environmental management. With the adoption of the Constitution of the Republic of South Africa (1996) the values of environmental rights and justice raised to the forefront of environmental policies (Rossouw & Wiseman, 2004:132).

In South Africa, the requirements for environmental management are clear and the foundation thereof is rooted in the Constitution. The Constitution acts as the highest level of legislation and creates a foundation for all legislation in South Africa. The commonly known "Bill of Rights" as captured in Chapter 2 of the Constitution (1996), highlights thirty five (35) basic human rights that confirm the democratic values of freedom, equality and human dignity (South Africa, 1996). Although the Constitution brought alignment with regards to environmental rights, it also brought some confusion regarding the management of the environmental right. The Constitution gave rise to the development of a governance system that consisted of national, provincial and local authority and the environmental function became fragmented between these three spheres (Rossouw & Wiseman, 2004:132). The environmental right that is captured in Section 24 of the Constitution (1996) which states:

"24. " Everyone has a right to
(a) an environment that is not harmful to their health or well-being; and
(b) have the environment protected, for the benefit of future generations, through reasonable legislative and other measures that:
(i) prevent pollution and ecological degradation ;
(ii) promote conservation; and
(iii) secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development."

The other two basic human rights that are relevant to PP are mentioned in Section 32 of the Constitution, namely the "right to access to information", which ensures that the public has effective and transparent access to information, and Section 33, namely the "right to just administrative action". The Promotion of Access to Information Act 2 of 2000 and the Promotion of Administrative Justice Act 3 of 2000 give effect to these two human rights (South Africa, 2000a; 2000b).

3.3.3 White paper on Environmental Management Policy, 1997

Principle 17 of the 1992 Rio Summit, acknowledged and made a commitment to the implementation of EIA in various countries including South Africa. Principle 17 requires that "[e]nvironmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority" (IAIA, 2009). The White Paper on Environmental Management in South Africa was generated with the Rio Summit agreements in mind. The Rio summit focused on the integration of environmental

components in the different phases of a development (DEAT, 1997). The main aim of the development of the environmental management policy was to implement the environmental rights as stated in the Constitution. The vacuum in the national legislation for environmental justice and rights motivated for the development of the first national environmental policy process, which created a platform for stakeholder participation. The Consultative National Environmental Policy Process managed the implementation of PP in EDM (UCT & UNITAR, 2007:5). The White Paper provided a framework for environmental management by generating guiding principles and goals. These principles and goals promote effective PP through access to information in order to ensure environmental governance.

3.3.4 National Environmental Management Act, 107 of 1998

The National Environmental Management Act (NEMA), 107 of 1998 came into effect on 29 January 1999 and is the principal legislation in South Africa that governs and implements the environmental principles contained in the Constitution. NEMA identifies tools that assist with these principles such as EIAs in order to promote sustainable development; it motivates integrated environmental management and provides cooperative structures (McDaid & Kruger, 2004:3; Rossouw & Wiseman, 2004:135; South Africa, 1998). Section 24(b) of the Constitution (South Africa, 1996) is enforced by means of NEMA specifying activities that can cause a significant negative impact on the environment and requires EIA to be conducted (Aregbeshola *et al*., 2011:1278). NEMA also governs the involvement of civil society in environmental matters by means of the following: Environmental Management Cooperative Agreements and the requirement for PP as part of the EIA process (South Africa, 1998). Section 2 of the NEMA expounds the principles as developed by the White Paper on Environmental Management Policy and guides developments to ensure social, economic and environmental sustainability.

The sustainability principles listed in Section 2(4) of the NEMA specifically addresses PP and require that an adequate opportunity is provided for PP and that the interests and needs of the public are taken into account in an open and transparent process (South Africa, 1998). The NEMA sustainability principles require EDM to provide an event or series of events for the public to participate; the minority groups must be involved and decisions should take public needs into account. The legal definition according to NEMA for the “public participation process” as part of an EIA process is as follows: **“**public participation process in relation to the assessment of the environmental impact of any application for an environmental authorisation, means a process by which potential interested and affected

parties are given opportunity to comment on, or raise issues relevant to, the application" (South Africa, 1998)".

Rossouw and Wiseman (2004:135) conceptualise the definition, description and requirements of PP according to NEMA in that NEMA provides the "Rolls Royce" approach for PP, the practical implementation thereof is however quite difficult. When analysing and unpacking the definition of PP in NEMA, the gaps in this definition can immediately be identified. Nonetheless, the open-ended definition can be both positive and negative. Firstly, the definition limits PP to the EIA process focused on project applications and hence does not provide for the PP to be included in environmental programmes or policy processes. Another grey area is the purpose of PP, as per definition it simply requires the provision of an opportunity to participate; whether the comments and concerns should be considered is not addressed as a requirement in the definition. The NEMA requirement of PP can also create a limiting factor for the public to participate effectively (Murombo; 2008:32). On the positive side, the definition states that "potential interested and affected parties" (I&APs) can participate and therefore includes all stakeholders and does not limit the public that can participate.

Chapter 5 of NEMA governs IEM and Section 24 governs the environmental authorisations where the minister may identify the activities that cannot commence without authorisation being granted and regulations may be generated in order to lay down the authorization procedure to be followed. The next section discusses the EIA process and regulations in more detail.

3.3.5 Environmental impact assessment process in South Africa

The EIA process implemented in South Africa is an integrated and all-inclusive approach that addresses economic, social and environmental issues simultaneously (Murumbo, 2008:2). This approach reflects positively and negatively because of the complexity when trying to integrate all three components of sustainability (economic, social and the environment) in the EIA process and balancing benefits and losses. EIAs conducted for specific projects are referred to as "first generation EIAs" (South Africa, 2010e). EIAs are often utilised as an administrative tool rather than being aimed at achieving sustainable development as captured in NEMA. Rossouw and Wiseman (2004:138) and the Presidency (DPME, 2014:126) agree that even after many years of democracy, the environmental instruments, systems, processes and legislation that have been put in place require effective implementation, monitoring and continuous stakeholder involvement for the

country to move forward. Effective implementation will address the shortfalls that currently hinder effective EIA and PP processes in South Africa. The shortfalls as identified by Warburton (2014:10) for the EIA process specifically in the South African context are the following:

- The EIA does not allow a phased approach that will enable the applicant to assess the relevant impacts and determine the mitigations at the most appropriate time when the information is available to the public;
- The implementation of EIA in the planning and design stage of a project, does not allow for sufficient information and knowledge of the real impacts and mitigations to be developed;
- The potential of the scoping phase to assist the EIA is not reached as the scoping phase is not applied correctly;
- The PP as required by EIA regulations focuses on the CA to be made aware of I&APs comments and not necessarily on addressing or influencing the process; and
- Limited legal requirements to ensure that I&AP comments are incorporated in the EIA.

Before the South African EIA regulations can be discussed in detail, a high-level generic description of the South African EIA process will be provided. The initial step to start an EIA process is a screening exercise. The screening process evaluates if an EIA should be completed and what level of assessment is required (DEAT 2002a). Figure 3-3 illustrates the general steps that form part of an EIA process once it has been established that an assessment is required. Although the PP component, illustrated as stakeholder engagement in Figure 3-3, is part of each phase, the role of the engagement differs. The scoping phase determines the methods that will be implemented to consider reasonable alternatives and to identify significant issues (DEAT, 2002a:4). It is therefore not only critical that the identified I&APs are part of this process (Warburton, 2014:30), but that the proponent is still open to considering alternatives during this stage.

The assessment phase involves a comparative assessment of each alternative and describes the significance of each environmental issue identified (South Africa, 2012b). The South African EIA process, required PP during the following EIA stages: scoping phase (draft and final reports), the draft EIR phase that contains alternatives and must be provided to the public for evaluation and comments, and lastly, the final EIR phase where the public's comments, the applicant's responses and the final preferred alternative is submitted to the CA /decision maker (DEAT, 2004b). This has however changed with the enforcement of the

2014 EIA regulations and no draft reports are required to be reviewed. The EIA regulations only requires the basic assessment report, scoping report and EIR submitted to have been subjected to a PP review process. The generic illustration is therefore still relevant for the 2014 EIA regulations as well as the stages still require PP.

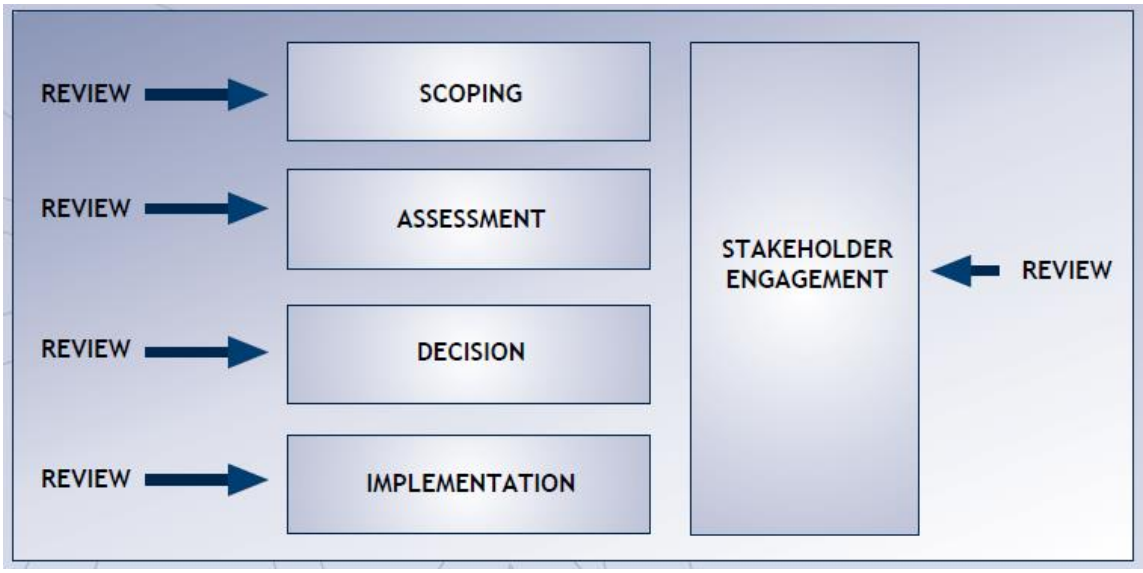

Figure 3-3: Illustration of a generic EIA process and the stages where review can be applied (DEAT, 2004b)

3.3.6 South African environment impact assessment regulations

The regulations for the implementation of EIAs in South Africa have changed over the past decades. In order to understand this evolution, the different sets of EIA regulations and the legislative administrative requirements are discussed simultaneously. The comparison of the key areas relevant to PP in the EIA regulations is dealt with in Section 3.2.7..

Prior to September 1997, EIAs were conducted voluntarily. Due to the numerous developments required to resolve the apartheid era's problems, a mandatory tool with increased openness and transparency was required. In other words, a tool that could implement stricter environmental protection actions was required. On 5 September 1997, the first set of EIA regulations known as "Government Notice Regulation (GNR) 1182 (South Africa, 1997a) and 1183 (South Africa, 1997b)" were promulgated in terms of Sections 21, 22 and 26 of the ECA (73 of 1989) and became key to EIA implementation. GNR 1182 provided a list of activities that requires an EIA process and EA before the activity can commence. The EIA process to be followed was described and set out in GNR 1183. The EIA regulations were generated to guide the developers on the following matters: what activities would require approval from the CA, the approval process that needs to be

followed and locating the administrative function to a specific CA (national or provincial level) (Duthie, 2001:215; Gerber, 2009:36). These EIA regulations guided the applicant on the requirements (such as the process and reports) to lodge an application with the relevant environmental authority.

The second revision of the EIA regulations was published in 2006. These were the first set of EIA regulations published in line with Chapter 5 of NEMA and repealed the previous EIA regulations developed under ECA. The 2006 NEMA EIA regulations were similar to the 1997 ECA EIA regulations and contained EIA procedure regulation GNR 385 (South Africa, 2006a) and two listed activities regulations, GNR 386 and GNR 387 (Gerber, 2009:52; South Africa, 2006b,2006c). A key change was that Regulation 6(3)(a) of the 1997 EIA regulations (South Africa, 1997b) was deleted, which previously enabled the CA to accept the "scoping report and consider the information as sufficient without further investigation required". The basic assessment process required by GNR 386 (South Africa, 2006b:20) was included for the first time in the 2006 NEMA EIA regulations in order to reduce the exemption applications submitted under Section 28A of the ECA (Warburton, 2014:32). According to Murombo (2008), the central reason why the 2006 NEMA regulations were developed was to assure that a more effective PP process is conducted during the EIA process.

The National Environmental Management Amendment Act, 62 of 2008 administered the third revision of the EIA regulations. The final amendments resulted in the replacement of the 2006 EIA regulations with the 2010 EIA regulations (DEA, 2014). The 2010 EIA regulations were similar to those of 2006, which consisted of EIA regulation GNR 543 (South Africa, 2010a). GNR 543 explained the EIA process step-by-step, as well as its requirements and timelines. Listing Notice 1 GNR 544 (South Africa, 2010b), listed the activities that need a basic assessment process to be conducted. Listing Notice 2 GNR 545 (South Africa, 2010c), listed the activities that need an EIA process to be conducted and Listing Notice 3 GNR 546 (South Africa, 2010d), listed specific activities within specific geographical areas that require a basic assessment process.

At the time of this present study, the legislation for governing EIAs in South Africa includes the National Environmental Management Laws Second Amendment Act, 25 of 2014 with effect from 2 September 2014 (South Africa, 2014b). The most recent amendment process was completed with the replacement of the 2010 NEMA EIA regulations with the fourth revision of the EIA regulations, which was promulgated on 8 December 2014. The 2014 NEMA EIA regulations consisted of a revised EIA regulation, GNR 982 (South Africa, 2014c), a revised Listing Notice 1 GNR 983 (South Africa, 2014d), a revised Listing Notice 2

GNR 984 (South Africa, 2014e) and a revised Listing Notice 3 GNR 985 (South Africa, 2014f). The scope and requirements for the EIA regulation and Listing Notice 1–3 are similar for the 2010 and 2014 NEMA EIA regulations. A current shortfall identified by Warburton (2014:23) is that although the sustainable principles listed in NEMA follow a precautionary and preventive approach in order to ensure sustainable development, the EIA regulations are list-based and do not necessarily strive for and motivate sustainable development.

In summary, legal requirements for EIAs in South Africa have, to date, been managed by four different EIA legal processes. The first being the ECA EIA legal process from 1996 until June 2006, the second being the NEMA EIA legal process from June 2006, the third being the NEMA EIA legal process from August 2010 and the fourth being the EIA legal process also governed by NEMA that came into effect on 8 December 2014. The amended 2014 EIA regulations were released to the public in October 2015 for comments and a fifth regime of EIA regulations can be expected in the near future.

3.3.7 Public participation requirements in the environmental impact assessment regulations

PP in the EIA process is a mandatory and statutory requirement in South Africa and is the only requirement that exemption cannot be applied for (Scott & Oelofse, 2005:451; South Africa, 2012b). A number of guidelines have been developed to support and guide the implementation of PP, e.g. the IEM Information Series no. 3 (Stakeholder Engagement) Guideline 7 addresses “Public participation in the Environmental Impact Assessment process” (DEAT, 2002b; South Africa, 2012a). Certain provinces in South Africa have also developed PP guidelines, e.g. the Western Cape that provides clear and specific requirements based on the EIA regulations (DEA&DP, 2013).

Stakeholders that form part of the EIA process are referred to as I&APs. The legal definition for I&AP’s as per NEMA is “any person, group of persons or organization interested or affected by such operation or activity and any organ of state that may have jurisdiction over any aspect of the operation or activity” (South Africa, 2014b). The definition is still broad without a clear distinction between affected and interested. Scott and Oelofse (2005:452) provide some clarity regarding the different stakeholders that can be implemented to distinguish between I&APs:

- Primary stakeholders are those stakeholders, including their living environment, that will be directly impacted by the proposed development, e.g. land owners and

communities. In the South African context this can include the “affected” public as per the NEMA legal definition of I&APs.

- Secondary stakeholders are those stakeholders that are concerned with the project in a broader sense and normally represent groups like conservationists, planners and private businesses. In the South African context this can include the “interested” public as per the NEMA legal definition of I&APs.

DEAT (2002b:9) reiterates that engagement with I&APs should commence in all project stages: screening, scoping, assessing and mitigating impacts, decision and monitoring. Warburton (2014:51) emphasises that in South Africa the public is mostly not involved in the feasibility stage of the project where alternatives are being considered. The implementation of PP forms part of the scope of the independent environmental assessment Practitioner (EAP) that is appointed by the project proponent. From the onset of EIA regulations, Chapter 3, Section 1(f) of GNR 1183 of the 1997 EIA regulations requires the applicant to appoint a consultant that “is responsible for the public participation process to ensure that all interested parties, including government departments that may have jurisdiction over any aspect of the activity, are given the opportunity to participate in all the relevant procedures contemplated in these regulations”.

The main difference between the 1997 ECA EIA regulations (South Africa, 1997b) and the 2006, 2010 and 2014 NEMA EIA regulations (South Africa, 2006a, 2010a, 2014c) is that the latter requires the EAP’s responses on the comments made to be submitted to the CA. The implementation guidelines that were published for public comments in 2010 required that PP documentation submitted to the CA must explain how the public input influenced the project and if there was no influence, then an explanation for this needs to be provided (South Africa, 2010e). However, this requirement is captured nowhere in the EIA regulations. The 1997 EIA regulations did not prescribe a specific timeframe that had to be provided to the public and government for participation and simply stated that an interested party had to respond within the time agreed between the relevant authority and applicant. The commenting and participation time frame would therefore differ from project to project.

Chapter 6 of the second (2006), third (2010) and fourth (2014) EIA regulations describes the PP process and includes sections requiring all I&APs to be registered, advertising the proposed activities/project and providing an opportunity for the public to comment (South Africa, 2014c). The regulations also require the submission of a complete description of the PP process that was implemented. A detailed list of I&APs, together with all comments raised during PP, should be submitted to the CA. Although the 2006 and 2010 EIA

regulations require PP, it is only in Chapter 2 Section 3(8) of the 2014 EIA regulations that specifically requires a PP process to be conducted for at least 30 days (South Africa, 2014c:13). The days in the regulations refers to calendar days but exclude public holidays and the holiday season (15 December – 5 January) (South Africa, 2012a, 2014c:13). The EIA regulations require a PP process in the basic assessment process and in the scoping and EIR assessment, first during the scoping and screening phase and secondly in the impact assessment phase.

The PP requirements as stipulated in the 2014 EIA regulations have changed substantially from the previous requirements. The 2014 EIA regulations do not make a clear distinction between draft and final reports anymore and only states that the basic assessment report, EMPr, scoping report and EIR must be available for public comment for at least 30 days. The 2014 EIA regulations further require the reports where significant changes or significant new information has been added will be subjected to another PP process for at least 30 days again. The 2014 EIA regulations also tightened the timeframes on the EIA process and despite providing timeframes to which the Competent Authority needs to comply with, the applicant and EAP are also provided with timeframes for when the reports needs to be submitted. Furthermore the 2014 EIA regulations provide an opportunity where PP can commence prior to the application being submitted to the CA but an opportunity must also be provided to comment on the report once the application has been submitted. The changes to the 2014 EIA PP requirements can be experienced as beneficial or posing constraints. The prior PP possibly creates more opportunities for the public to comment and participate prior to the commencement of the application process but this requires proper and detailed planning earlier in the EIA. The stringent timeframes imposed once the application process starts are however deemed as constraining EAPs from implementing innovative methods and creating additional participation opportunities as there are fewer PP opportunities throughout the EIA process.

From the establishment of the EIA regulations, there has been a distinction between different types of developments and associated activities, e.g. linear activities and ocean-based activities. It is therefore important that, for the purpose of this study, the PP requirements for linear developments[3] are also highlighted. Chapter 3, Section 16(1) of the NEMA EIA regulations (2006–2014) requires written consent from the landowner before applying for approval if the applicant is not the owner of the land. Section 16(3), however, indicates that Section 16(1) is not applicable to linear developments "provided that the applicant has given

[3] Linear activity means an activity that is arranged in or extending along one or more properties and which affects the environment or any aspect of the environment along the course of the activity, and includes, railways, roads, canals, channels, funiculars, pipelines, conveyor belts, cableways, power fences, runways, aircraft landing strips, and telecommunication lines.

notice of the proposed activity to the owners of the land on which the activity is to be undertaken as soon as the proposed route or alternative routes have been identified" (South Africa, 2006a:18). This section is open-ended and no proof of notification or timeframe is legislated.

3.4 Public participation in South African environmental impact assessment research

Various studies have contributed to scrutinizing and analysing PP as a part of EIAs and EDM in South Africa. These studies mostly focus on public governance, especially in light of South Africa's apartheid history. The key focus areas of the studies were evaluating the South African EIA process (Boyco, 2010; Rossouw & Wiseman, 2004; Stærdahl *et al.*, 2004), the role of the public in EDM in South Africa in the post-apartheid period (UCT & UNITAR, 2007), the role of PP in achieving social justice (Hoosen, 2010; Kruger & McDaid, 2005), PP as a tool for sustainable development (Aregbeshola, 2009), a legislative review of PP in the EIA regulations (Murombo, 2008), how to include South Africa's "invisible" stakeholders (Scott & Oelofse, 2005) and reviewing the PP conducted as part of an EIA for a major infrastructure project, the Gautrain (Aregbeshola *et al.*, 2011; Warburton, 2014). The studies highlight that PP implemented in South Africa is relatively effective. However, in some studies the public experiences PP as a "waste of time" due to its implementation commencing too late in the project life-cycle. Moreover, the EIA is not used as a decision-making aid but rather as mitigation tool that justifies developments without integrating public concerns (Kruger & McDaid, 2005:12; Warburton, 2014:49). Since PP as part of EIA is a legal requirement in South Africa, "how" it is implemented is critical in determining whether social justice and democracy are achieved (Scott & Oelofse, 2005:464).

A core study that provides support for this study is research conducted by the University of Cape Town (UCT) in 2007 on the "Public participation in environmental decision-making in the new South Africa" (UCT & UNITAR, 2007). The study aimed to determine whether stakeholders' expectations are met and to assess the various aspects of PP in EDM, including influence on the decision. The case studies in the UCT study included the review of PP in environmental legislation processes, strategies, regulations and EIAs. One of the key findings was the timing of PP in the EIA process. The public felt that the PP process needs to be initiated earlier in the process (UCT & UNITAR, 2007:70). The public also indicated that PP should be implemented while there are still development options, e.g. locations and designs. Another key finding that links with timing is that the public's expectations should be

met; the public expects to be engaged in the various stages of the decision-making process (UCT & UNITAR, 2007:75).

When and how the public is engaged still requires improvement. A recent study that evaluated the South African EIA process in the context of the Gautrain project (Warburton, 2014) supports the statement of absence of effective PP in EIA, as a detailed review of the PP revealed the shortcomings. The Gautrain study (Warburton, 2014) is of value to this study as the Gautrain case study was a linear project. The public perceives PP in EIA as ineffective as it is rare that comments and recommendations raised are fully incorporated in the EIA and decision-making process (Warburton, 2014:49). The results indicated that common practice in PP in EIAs is to consult and submit a table of comments from the I&APs rather than to participate with them. The comments and responses report therefore does not provide details on whether and how public comments and recommendations were included or explaining why it was not included. Warburton (2014:50) recommends that this can be rectified if the EAP can demonstrate that the public comments have been analysed and assessed. Current research fails to provide guidance on the early timing of PP as part of EIA process.

3.5 Conclusion

This chapter provided a detailed overview of PP in South Africa. The first part of the chapter focused on PP in the broader context and it can be seen that PP was born in the democratic era and promotes good governance. The South African participation framework is based on international frameworks and models such as Arnstein's participation ladder. The next section of the chapter provided a comprehensive background on the legal framework that underpins EIAs in South Africa. The legislation that governs EIAs has evolved over time and has been amended to close the gaps and to improve efficiency. The South African EIA process is similar to that of other traditional EIAs implemented by developed countries and consists mainly of screening, scoping, assessment, decision making and implementation. The EIA process requirements are defined by the South African EIA regulations that have changed over time. Furthermore, this chapter provided a review and comparison of the different EIA regulation revisions.. Lastly, the chapter concluded with an overview of PP research that has been completed in the South African context. The optimal timing for PP is however absent in the research studies.

CHAPTER 4
METHODOLOGY

This chapter explains in detail all research methods used in order to achieve the research objectives. The three selected environmental impact assessment (EIA) cases are discussed in detail. Furthermore, the survey and influence framework that was developed is explained. This chapter concludes by describing the limitations to this study.

4.1 Introduction

Mixed method research is a less known research method where the researcher collects and analyses data by means of both quantitative and qualitative methods (Creswell, 2003: 15); the mixed methodology therefore addresses the limitations posed by each method when used on its own. Different mixed method strategies can be implemented and for the purposes of this study, a concurrent procedure was applied. Concurrent procedure, as explained by Creswell (2003:16), refers to a research process where the researcher collects both forms of data at the same time and integrates the interpretation of both data sets in the results. The investigation of a specific event, activity or process such as a case study, is regarded as a qualitative approach, whereas surveys designed for data collection are regarded as part of a quantitative approach (Creswell, 2003:14). For this study, both open- and closed-ended questions were used in the survey for data collection and both quantitative and qualitative data analysis were implemented.

A qualitative case study enables the researcher to study and investigate an occurrence within its context, using different sources and therefore broadening the “lens” through which the occurrence is studied (Baxter & Jack, 2008:544). Broadening the viewpoint, it allows multiple aspects to be discovered and understood. If a study wants to investigate a “how” or “why” question where the contextual conditions are relevant to this question and the behaviour of the study participants cannot be influenced, then a case study approach should be considered (Baxter & Jack, 2008:545; Goodrick, 2014:2; Yin, 2004).

The methodology described below focused on providing methods and frameworks to achieve the study objectives which were:

1) To investigate the perception of PP prior to and during the EIA in a sample of Transnet projects;
2) To examine the influence and enhancement extent of PP prior to and during the decision making process for the proposed developments.

3) To evaluate the possible enhancements of public participation prior to and during the EIA process.

4.2 Data selection

Patton (1990:169) states that purposefully selected sampling concentrates on selecting information-rich cases that can provide comprehensive details on a central issue for the purpose of research. In order to select the correct sampling method, the researcher needs to link the research objectives with the sampling method and determine where, with whom and how the sampling will be implemented. An informed sampling process improves the quality of the research. The purpose of research synthesis, as stated by Suri (2011:63), is to clearly link different individual studies by developing new knowledge that could previously not be seen. A sample of three Transnet EIAs was chosen to investigate engagement prior to and during the South African EIA process. Based on the sampling strategies described by Patton (1990:183) and Palys (2008:699), the selected EIA cases could be categorized as criterion sampling. The purpose of criterion sampling is to select cases that meet a predefined criterion and to develop a comprehensive understanding of the cases selected (Suri, 2011:70).

In order to be able to place boundaries on the cases used regarding time, place and activity, the sampled EIA cases were selected based on the following criteria:

(1) Transnet was the applicant of the proposed development;
(2) The proposed development could have a significant environmental impact(s);
(3) The proposed development was regarded as of national importance and attracted the attention of the wider public;
(4) The proposed development affected people belonging to different socio-economic groups;
(5) The proposed development required scoping and EIA to be conducted in terms of the National Environmental Management Act (NEMA), 107 of 1998 Chapter 5 (South Africa, 1998) and the relevant EIA regulations;
(6) The proposed development and final decision was influenced by the interested and affected parties (I&APs);
(7) The proposed development had already been granted an environmental authorization (EA) by the competent authority (CA) at the time of the study;
(8) The EA is not older than five years; and
(9) The appeal period had lapsed for the proposed development and, if any, all appeals lodged have been closed out.

The three Transnet EIAs could be regarded as mega-infrastructure developments with significant environmental impacts and formed part of the identified strategic integrated projects (SIPs) as part of the South African National Infrastructure Development Plan that is facilitated and monitored by the Presidential Infrastructure Coordinating Commission.

This study contains more than one EIA case and is therefore regarded as a multiple-case or collective case study that enables the researcher to investigate and analyse each individual case setting as well as the differences between the three different case studies (Baxter & Jack, 2008:550; Goodrick, 2014:1). The similarities and differences will therefore be revealed and understood. According to Baxter and Jack (2008:550), the multiple-case study method is considered "robust and reliable". Khan and Van-Wynsberghe (2008:34) agree by stating that in cross-case analysis where commonalities and differences are compared, the researcher's expertise extends beyond a single case that prompts new questions and opens new dimensions. The three selected cases are "replications" of each other as each represents the EIA and PP conducted for a specific development.

4.3 Study area

The study was focused on South Africa. The reviewed EIA cases consisted of three Transnet EIAs in the Gauteng, Mpumalanga, Kwa-Zulu Natal and the Free State provinces of South Africa. The scope of the three EIAs differed on a case-by-case basis and included: a linear railway development, a linear pipeline development and a port development. The level of the PP process implemented differs between the three EIA cases depending on the scope of the proposed development. All three the EIAs were conducted by an independent environmental assessment practitioner (EAP) as required by South African EIA regulations. One of the EIA cases was governed by the 2006 EIA regulations and the other two by the 2010 EIA regulations. Since Transnet is a state owned company, the CA is the National Department of Environmental Affairs (DEA).

The following three EIA cases were selected and are discussed in detail in the section below:

- **EIA Case 1** – New Multi-Products Pipeline (NMPP). The EIA was conducted for the construction of a 554.8km linear pipeline from Jameson Park (Heidelberg, Gauteng) to Durban (KZN). The EIA process was finalized in November 2008 and the EA was granted in February 2009. An appeal was lodged against the decision but DEA dismissed the reasons for an appeal and the EA granted remained unchanged. The EIA process was governed by the 2006 EIA regulations.

- **EIA Case 2** – Durban Berth Upgrade (DBU). The EIA was conducted for the deepening, lengthening and widening of Berth 203 to 205, Pier 2, container terminal in the Port of Durban (KZN). The EIA process was finalized in August 2014 and the EA was granted in January 2015. An appeal was lodged against the decision and DEA dismissed a few reasons and considered the other reasons. The EA was there for amended based on some of the appeal reasons. The EIA process was governed by the 2010 EIA regulations.
- **EIA Case 3** – Davel to Nerston Swaziland Rail Link (DN-SRL). The EIA was conducted for the upgrade of the existing and construction of a new railway in Mpumalanga. The EIA process was finalized in June 2014 and the EA was granted in February 2015. No appeals were lodged against the decision. The EIA process was governed by the 2010 EIA regulations.

4.3.1 Environmental impact assessment Case 1 – New Multi-Products Pipeline (NMPP)

The old Durban-Johannesburg pipeline is a 12-inch pipeline that was commissioned in 1965 and was reaching its economic life whilst operating in full capacity and still not meeting the inland demand. The NMPP project was therefore motivated by the increasing need for South Africa to ensure a consistent and secure supply of fuel inland. Shortly, the NMPP project involves the construction of a pipeline that can efficiently transport refined fuels (93 & 95 octane petrol, low and high sulphur diesel and aviation/jet fuel) from Durban to Jameson Park, Heidelberg (Figure 4-1). The total length of the trunk line is 555 km. The overall project scope consisted of various activities including the following (Zitholele Consulting, 2008a):

- Replacing the 12-inch Durban-Johannesburg pipeline with a bigger, 24-inch multi-products liquid fuel pipeline (trunk line) running from Durban to Jameson Park;
- Three initial pump stations that will be increased to eight pump stations by 2030 to pump the fuel via the trunk line;
- A coastal fuel terminal in Durban to accumulate the fuels in dedicated tanks with enough capacity for up to five days' consumption before being sent via the pipeline; and
- An inland fuel terminal and pumps station at Jameson Park to accumulate the fuels in dedicated tanks with enough capacity for up to five days' consumption before fuel distribution inland.

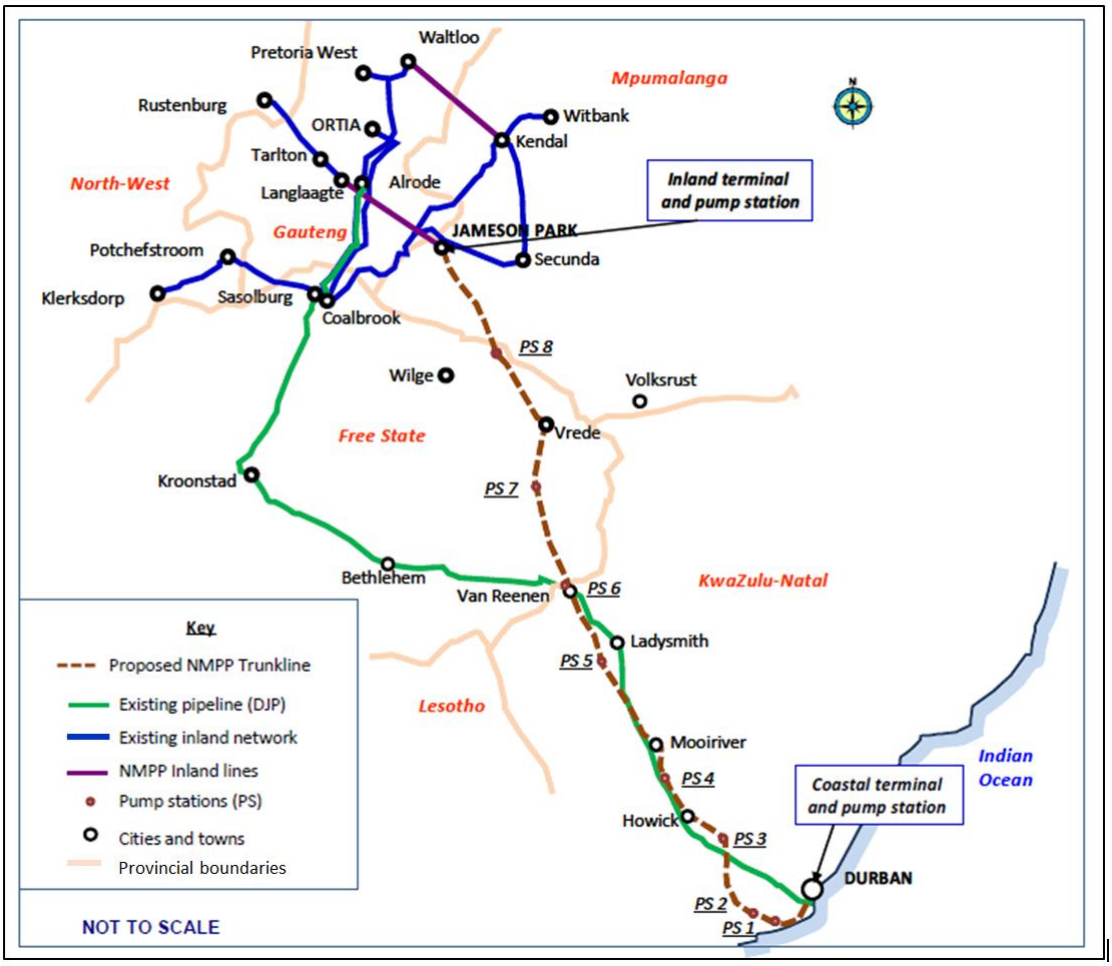

Figure 4-1: The New Multi-Products Pipeline (NMPP) project at a glance, indicating Transnet's existing inland pipeline network (Zithole Consulting, 2008a:1).

The proposed development triggered activities in all three the 2006 EIA listing notices, i.e. Government Notice Regulations (GNRs) 385, 386 and 387, and therefore required a scoping and EIA study to be conducted as part of the legislated EA process. The DEA was the lead decision-making authority in consultation with the environmental departments of the four impacted provinces (Gauteng, Mpumalanga, Free State and KZN) and other relevant authorities. An independent EAP was appointed to conduct the legislated EIA. Various alternatives were assessed as part of the EIA specifically the route of the trunk line. In total, 18 comprehensive specialist studies and nine supplementary reports were conducted to determine the significance of the impacts and to develop specific mitigations measures (Annexure 1). In the final environmental impact report (EIR) submission to DEA, the EAP recommended that an EA should be granted for the NMPP.

The trunk line covers a substantial distance and the assessment of and decision regarding the trunk line was completed in phases. The initial route proposed by Transnet was subjected to a screening exercise by the appointed EAP that resulted in a study corridor that

could be utilized during the scoping stage. This was called the scoping base case route. This route was discussed extensively with affected landowners, authorities and other I&APs. The scoping base case route was presented to the stakeholders and the comments and suggestions raised resulted in the development of the EIA base case route. The latter was used for the specialist studies as part of the EIA phase. This EIA base case route measured 548.3 km and the length of the revised route as submitted in the final EIR was 554.8 km. The optimal alignment based on stakeholder comments and specialist expertise resulted in the final EIA revised route. Figure 4.2 illustrates the route decision process.

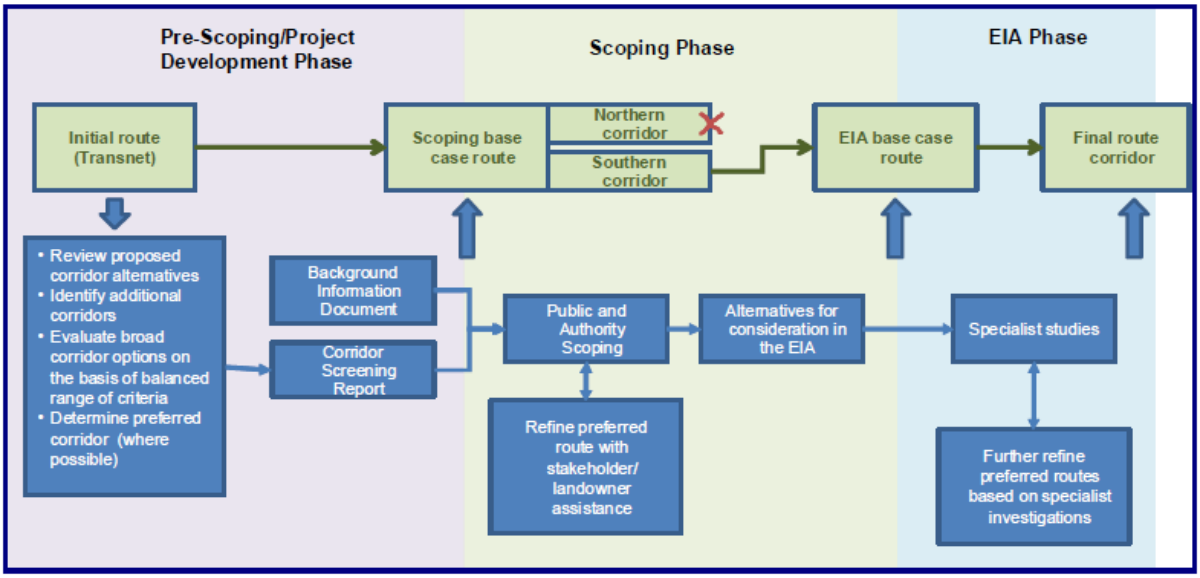

Figure 4-2: Process followed to develop, evaluate and screen alternative trunk line routes (Zithole Consulting, 2008a:124)

As required by Chapter 6, regulations 56–59 of the 2006 EIA regulations, a PP process needed to be conducted. Table 4.1 provides a summary of the PP activities that were implemented as part of the initiation, scoping, EIA and the EA phases.

Table 4-1: Environmental impact assessment (EIA) Case 1 – New Multi-Products Pipeline (NMPP) EIA public participation (PP) process (Zithole Consulting, 2008a:125-152, 2008b, 2008c)

EIA CASE 1 – NMPP	
Initiation phase	
Pre application meetings	a) Pre-consultation meetings with Department of Environmental Affairs (DEA) were held in June and September 2007. b) During the initial corridor screening process between July and November 2007, meetings were held with farmers' associations; traditional council offices and community leaders along the route to inform them of the upcoming EIA and to request permission to access the proposed development areas.
Application stage	The application was submitted on 30 November 2007.
Notification stage	a) The initial notification and registration of the interested and affected parties (I&APs) commenced in January 2008 in four different languages (English, isiZulu, Sesotho and Afrikaans).

b) Alternative pipeline corridors were analysed and a corridor screening report and the background information document (BID) was made available to the public in January 2008.
c) 550 directly affected landowners were notified telephonically.
d) Advertisements were published in national, provincial and local newspapers from 16 to 25 January 2008.
- 14 local and regional advertisements were placed (7 x English, 2 x isiZulu and 5 x Afrikaans).
- 2 national advertisements were placed (1 x English and 1 x Afrikaans).

e) 9 focus group meetings were held with key stakeholders during the BID review phase from 5 February to 12 March 2008.
f) A socio-economic baseline study was conducted for the southern part of the pipeline in March 2008 to capture all potentially affected households within a 4m corridor and to allow trunk line adjustments to avoid nearby households
g) Invitation letters, BIDs, registration and reply sheets, corridor screening reports, a provisional list of affected properties and A3 maps were distributed as indicated by the table below:

Background Information Document distributed in English, Zulu, Afrikaans and Southern Sotho	
Distribution	**Number of BIDs distributed**
Mailed to 3 274 stakeholders on direct mailing list.	3 274
BIDs placed in 54 Public places along the proposed pipeline route (e.g. libraries, post offices, office receptions of stakeholder organisations, etc).	2 171
BIDs distributed during focus group meetings with local communities and directly affected landowners along proposed trunkline corridors.	2 147
BIDs handed out during one-on-one meetings with stakeholders.	329
Knock-and-drops (hand delivery to affected properties and individuals)	300
BIDs distributed with site notice placements	109
BIDs hand delivered on Southern Corridor (Zulu)	97
BIDs hand delivered to communities along the route	100
BIDs distributed during Open Houses in June 2008	100
Total (5 569 English, 1 677 Zulu, 955 Afrikaans and 426 South Sotho)	**8 627**

Scoping phase

Report review, PP and main concerns

a) The draft scoping report was available for public review from 23 May to 23 June 2008 in four different languages (1775 hardcopies in English, 460 hardcopies in Afrikaans, 1210 hardcopies in isiZulu and 305 hardcopies in Sesotho).
b) The public requested an extension of the commenting period and the extension was granted until 7 July 2008.
c) The draft scoping report was made available in soft copy format on the environmental assessment practitioner (EAP's) and applicant's websites.
d) Hardcopies were made available at various public places/libraries:
- 32 public places in Kwa-Zulu Natal
- 11 public places in the Free State
- 3 public places in Mpumalanga
- 9 public places in Gauteng

e) A total of 1728 stakeholders registered as I&APs to be part of the scoping and EIA phase.
f) A total of 90 focus group meetings were conducted during the scoping stage and attended by well over 1000 I&APs.
g) By the end of June 2008, 250 meetings were held with affected landowners individually or in groups, including rural and previously disadvantaged communities.
h) A total of 19 open houses (open public meetings) were held from 8 June to 2 July 2008, where information was visually displayed by means of posters and detailed maps was explained in local languages where required.
i) A total of 754 comment sheets and written submissions were received from the I&APs as part of the scoping phase.
j) Three route tours (site visits) were conducted for I&APs and landowners from the 29 June 2008 to 15 July 2008.
k) The EIA specialist teams walked the northern and southern route corridors with the landowners. Where possible, landowners indicated where the sensitive and historical areas are that added great value to the specialists and engineers and 46 changes were made and documented.
l) The following can be noted as high level concerns raised during the scoping

	phase: • Site selection issues – the stakeholders questioned the selection of the Island View and Durban International Airport terminal sites and queried whether additional sites were considered; • Air quality; • Water use, effluent and water quality; • Flooding and inundation; • Human health risks due to the combustible gases and liquids; • Pollution to water, aquifers, wetlands and aquatic life during construction and operation; • Loss of productive land, impacts on private land, infrastructure and the compensation thereof; • Rehabilitation of affected areas; • Social pathologies – influx of job seekers, social disruption, spread of HIV/AIDS; • Transportation and infrastructure – roads were already congested; and • Waste management and aesthetic related issues.
Acceptance/rejection of scoping	a) The final scoping report was submitted to DEA on 14 July 2008. b) A notification letter was sent to registered I&APs to inform them of the submission of the final scoping report to DEA. c) The final scoping report was approved by DEA on 7 August 2008.
EIA phase	
Review period and PP	a) It was agreed upon with the councillors during the scoping phase PP that local youth will be trained from the area to distribute information about the project in the area and record the issues of the communities. The trained youth was referred to as public consultation contacts (PCCs). A total of 18 PCCs were appointed b) A notification letter was sent to registered I&APs to inform them of the review period of the draft environmental impact report (EIR) on 9 September 2008. c) Email and telephonic follow-up was conducted. d) Various options were provided for receiving the draft EIR – full set of documents, specific reports, all maps or individual maps. e) I&APs could receive a hardcopy, CD with soft copy, could download it from the website, by email, also receiving copies at the open houses or visiting 54 public places. f) The draft EIR was available for review from 22 September to 27 October 2008 in three different languages (English, Afrikaans and isiZulu). g) The following PP meetings were held from 6 to 24 October 2008: • 8 open-house meetings; • 19 workshops with communities, landowners, tribal council, non-government organizations and councilors; • 1 workshop held with South Durban Community Environmental Alliance; and • 5 workshops with the authorities a) Two additional specialist studies were conducted: • Groundwater investigation in the vicinity of pump station 4 (requested by landowners); and • Verification of pipeline crossings of 3rd and 5th order streams/rivers to ensure minimal ecological risks caused by route.
Acceptance/rejection of EIR	The final EIR was submitted to DEA in November 2008.
Environmental authorization (EA) phase	
EA granted or refused	EA was granted on 10 February 2009. The EAP notified the I&APs of the Department's decision via SMS notifications.

The CA granted EA on 10 February 2009. As part of the EIA process, it was the responsibility of the applicant and the EAP to notify the I&APs of the Department's decision within a specific period of time as described by the EIA regulations and EA. The EAP for the NMPP had to notify all I&APs of the decision made by the CA within 10 days and had to provide them with provisions on the appeal process in line with Chapter 7 of the EIA regulations. A notice of intent to appeal had to be submitted within 10 days of receiving

notice of the decision. The appeal procedure as stipulated in Chapter 7 provides a detailed step-by-step guide with timeframes and what is required by the appellant (whether it is the applicant or I&AP) and the Department. An appeal was lodged against the Department's decision to grant EA for the NMPP by an environmental non-governmental organization (NGO) (Table 4-2).

Table 4-2: Environmental impact assessment Case 1 – New Multi-Products Pipeline summary of appeal against the competent authority decision

Appeal	• An appeal was lodged against the environmental authorization on 20 March 2009. • An appeal decision was received on 12 August 2009 and all grounds of appeal were dismissed by the Department of Environmental Affairs.

The ground for the appeal covered a variety of issues such as that limited feasible alternatives were investigated, insufficient PP process, no lifecycle assessment specifically relating to decommissioning, compensation of affected communities for all foreseen and unforeseen impacts, no independent investigation was conducted by the government departments to provide relevant environmental and social information and lastly insufficient commitments to safeguard the affected communities in the event of the pipeline leaking. For the purposes of this study, the reasons for appeal that specifically relate to the PP process and the responses to these concerns are discussed in detail.

One of the grounds of the appeal by the appellant stated that the PP process was insufficient and that it was merely an advertisement for the pipeline with "misleading euphemistic portrayals" and minor exposure to the affected parties. The appellant emphasised that a true PP process offers all affected parties an opportunity to be educated and to understand all potential results. In summary, the appellant indicated that PP was based on insufficient information, distorted facts and a lack of effort to involve the lower-income South Durban communities. In the responding statement the applicant indicated that the PP process implemented, addressed all requirements in terms of Sections 56–59 of GNR 385 2006 EIA regulations. The responding statement provided the detailed consultation report that outlines all engagements that commenced as part of the EIA process. The applicant highlighted all media used for the engagements and stated that all of the EIA reports (scoping and EIR) hardcopies were delivered to the appellant. The responding statement provided details to the appellant regarding additional site notices, flyers, community notifications and meetings that were implemented over and above the legal PP process requirements in order to ensure participation.

The DEA dismissed all grounds of appeal submitted against the EA and the appeal was dismissed on 12 August 2009. The reason for appeal relating to the PP process was dismissed as DEA agreed that the PP requirements as prescribed in the EIA regulations had been met.

4.3.2 Environmental impact assessment Case 2 – Deepening, lengthening and widening of Berth 203 to 205, Pier 2, Container terminal, Port of Durban: Durban Berth Upgrade (DBU)

The existing block work quay wall along Pier 2 container terminal (Berth 203-205) in the Port of Durban was originally designed to support dock cranes that can lift up to four tons. Due to the increase in export and import as well as the changes in the sizes of vessels, the quay walls were operating beyond their design capacity and did not meet the minimum Eurocode 7 safety standards (Nemai Consulting, 2013a). Berths 203-205 could not accommodate new generation, fully laden vessels because of insufficient water depth. In order to improve the safety and efficiency at Berths 203-205, the berths needed to be deepened, lengthened and widened. Figure 4.3 illustrates the locations of the berths at the Port of Durban.

Figure 4-3: Diagram illustrating berths 203–205 at Pier 2, Port of Durban (Red letters A-G represents locations where photographs were taken for EIA purposes and are not applicable to this study)

The deepening activities included the berth basin, approach channel and vessel turning basin to be deepened from -12.7 m to -16.5 m (-17m) chart datum port. The lengthening included the westward lengthening of Berth 205 by 170 m and the eastward lengthening of Berth 203 by 100 m (Nemai Consulting, 2013a). The widening included the widening of

Berths 203-205 towards the sea by 50 m. Figure 4.4 illustrates the proposed deepening, lengthening and widening of Berths 203-205. Other activities included in the scope of the proposed upgrade were the construction of caissons, storage of sheet piles or pre-casting of elements of the deck on pile at Bayhead Lot 10, offshore disposal of dredge material, offshore sand winning for infill material and the installation of new ship-to-shore cranes and associated infrastructure.

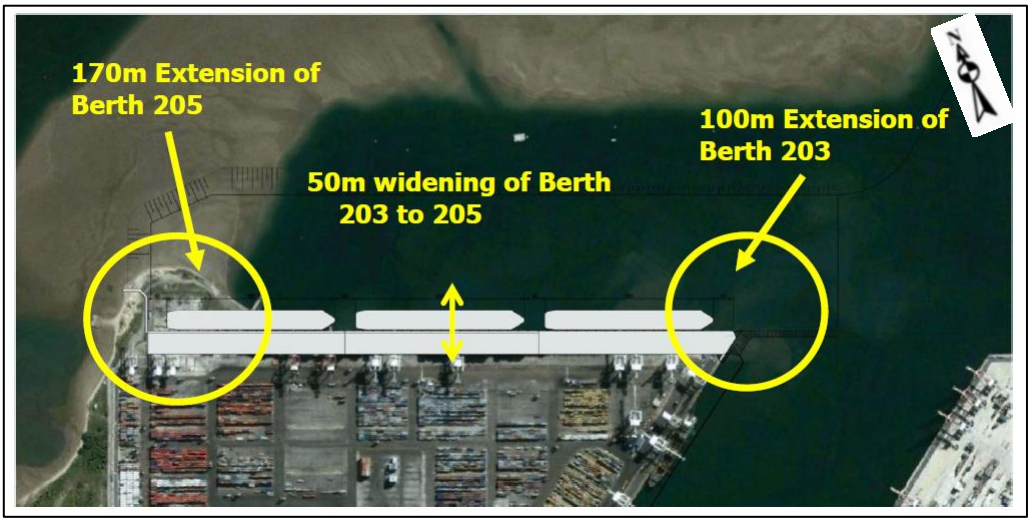

Figure 4-4: Conceptual diagram illustrating the components of the quay wall upgrades at Port of Durban Berths 203–205

The proposed DBU triggered activities in all three 2010 EIA listing notices, GNR 544–546 and therefore required a scoping and EIA study to be conducted as part of the environmental authorization process. The DEA was the lead decision-making authority in consultation with the environmental department of the impacted province (KZN) and other relevant authorities. An independent EAP was appointed to conduct the legislated EIA. Various alternatives were assessed as part of the EIA, such as the design of the quay wall and the dredge footprint. A total of 16 comprehensive specialist studies were conducted to determine the significance of the impacts and to develop specific mitigation measures (Annexure 2). In the final EIR submission to DEA, the EAP recommended that an environmental authorization should be granted for the DBU.

As required by Chapter 6, regulations 54–57 of the 2010 EIA regulations, a PP process needed to be conducted. Table 4.3 provides a summary of the PP activities that were implemented as part of the initiation, scoping, EIA the environmental authorization phases.

Table 4-3: Environmental impact assessment (EIA) Case 2 – Durban Berth Upgrade (DBU) EIA public participation (PP) process (Nemai Consulting, 2013a:186-228, 2013b)

EIA CASE 2 – DBU	
Initiation phase	
Pre-application meetings	Discussions were held with the Department of Environmental Affairs (DEA) Oceans and Coast Department to clarify the disposal at sea permit requirements. No prior engagements held with the public or key stakeholders.
Notification stage	The applicant for the proposed development was the land owner and therefore no notification to the landowner was required.
Application stage	The application was submitted to DEA on 10 February 2012.
Scoping phase	
Report review, PP and main concerns	a) A focus group meeting was held on 22 February 2012 and the main concerns raised were: • Socio economic impacts relating to job reductions and opportunities; • Logistics planning relating to the impact on tenants and businesses in the port and the traffic in the area; • Impacts on Central Sandbank – this led to a number of meetings between the specialist and the project team and resulted in a number of dredge footprint alternatives; and • Impacts on birds and mangroves. b) A one-on-one meeting was held with key stakeholders such as the Wildlife and Environmental Society of South Africa and the South African Association for Marine Biological Research (SAAMBR) on 27 February 2012. c) A meeting was held with the following authorities on 29 February 2012 to discuss the proposed development: • DEA Oceans and Coast Directorate; • KwaZulu-Natal (KZN) Department of Agriculture, Environmental Affairs and Rural Development; • South African Heritage Resource Agency – Maritime Archeology unit; • eThekwini municipality; and • KZN Department of Economic Development and Tourism. d) Background information documents (BIDs) were provided to all properties within 100m of the Port of Durban and site notices were placed on 9 March 2012. e) Newspaper advertisements in English were placed in two newspapers on 9 March 2012. f) The draft scoping report was distributed to the interested and affected parties (I&APs) for review from 9 March – 30 April 2012 (a total of 53 days). g) Random interviews/surveys were conducted in five different areas during the scoping phase to determine the public's concerns with the proposed development. Similar concerns as were raised as under (a) above. h) A public open day was held on 12 April 2012 to introduce the project, share information and to present and overview of the draft scoping report. i) Site visits were organized during the public review period for I&APs (mostly key authorities) that requested an opportunity to visit the site on 24 and 26 April 2012. j) The final scoping report was also made available to the I&APs for a period of five days from 25 May to 1 June 2012.
Acceptance/rejection of scoping	a) The final scoping report and plan of study was submitted to DEA on 4 June 2012. b) A site visit and consultation meeting with the DEA commenced on 11 July 2012. c) Acceptance of the final scoping report was received on 27 August 2012. d) The DEA scoping acceptance letter specifically requested the environmental assessment practitioner (EAP) to ensure that comments from relevant stakeholders (as listed in the acceptance letter) were submitted and proof of correspondence.
EIA phase	
Report review and Public participation	(a) BIDs were provided to all tenants surrounding Lot 10 on 9 October 2012. (b) Onsite notices in English were placed at various strategic locations that served as notification of the project and provided details on the review of the draft environmental impact report (EIR).

EIA CASE 2 – DBU	
	(c) Newspaper advertisements where placed in English in four newspapers on 9-12 October 2012. (d) I&APs were notified of the final scoping report acceptance and the notice of the public review of the draft EIA report on 10 October 2012. (e) The public review of the draft EIR was from 10 October to 10 November 2012, but was extended to 3 December 2012. (f) An eight-hour public open day was held on 31 October 2012 to share information and to present an overview of the draft EIR. (g) Public comments focused on the need for an additional climate change specialist study describing how sea level was incorporated into the quay wall design. (h) Key PP meetings were held with specific stakeholders namely KZN Ezemvelo Wildlife, eThekwini municipality and SAAMBR to present the findings of the 1st draft EIR on 1 and 2 November 2012. (i) A DEA site visit and meeting commenced on 17 January 2013 to discuss the draft EIR and way forward. (j) The 2nd draft EIR was made available for public review from 24 April to 14 May 2013, and was extended until 24 May 2013. (k) PP meetings were held with the eThekwini municipality on the 2nd draft EIR on 22 April and 24 June 2013.
Acceptance/Rejection of EIR	The final EIR was submitted on 1 August 2013 but was rejected. The DEA requested that a climate change study needed to be conducted. The amended EIR was submitted on 5 August 2014.
Environmental authorization (EA) phase	
EA granted or refused	EA was granted on 21 January 2015. The EAP notified the I&APs of the Department's decision via SMS and email (26 January 2015) and adverts in English were published in 4 local newspapers (27-28 January 2015).

The CA granted EA on 21 January 2015 (DEA, 2015a). As part of the EIA process, it was the responsibility of the applicant and the EAP to notify the I&APs of the Department's decision within 12 days of the date of the EA and provide them with provisions on the appeal process in line with Chapter 7 of the EIA regulations. A notice of intent to appeal had to be submitted within 20 days of the date of the EA. The appeal procedure as stipulated in Chapter 7 of the EIA regulations provides a detailed step-by-step guide with timeframes as well on what is required by the appellant (whether it is the applicant or an I&AP) and the Department. An appeal was lodged against the Department's decision to grant EA for the DBU by two environmental NGOs (Table 4-4).

Table 4-4: Environmental impact assessment (EIA) Case 2 – Durban berth upgrade summary of appeals against the competent authority's decision

Appeal	• Two appeals were lodged against the environmental authorization (EA) (21 January–6 February 2015). • An appeal decision was received from the Department of Environmental Affairs on 9 September 2015 and all grounds of appeal were dismissed and the appeal was subsequently dismissed. • The DEA issued an amended EA that rectified previously incorrectly authorized activities and included additional conditions related to monitoring and extension of the Central Sandbank.

The grounds for the two appeals covered a variety of issues, such as the importance of the Central Sandbank, mitigation options considered, incorrect EIA documentation, the need and desirability of the project, authorized scope, climate change, the role of the public, excessive turbidity and altered current velocities in the surrounding water, loss of ecological systems, rehabilitation and cumulative impacts. For the purposes of this study, the reasons for appeal that specifically relates to the PP process and the responses on these concerns will be discussed in detail.

The first appellant raised the concern that there was no comment and responses report (CRR) available for the I&APs to review and was not included in the final EIR. Appellant 1 requested that the final EIR and the CRR must be made available to the public for 30 days in order for them to review it and provide furhter comments. The appeal process makes provision for the applicant to submit a responding statement to the appeal. In the responding statement the applicant provided a detailed table indicating the dates on which the EIA documents were distributed to Appellant 1 for review. It is interesting to note that Appellant 1 was not part of the scoping phase because of the appellant not registering to be part of the EIA process. The EIA regulations clearly stipulate that potential I&APs must request the applicant to place their name on the PP register. A registered I&AP is entitled to receive all reports and provide comments.

Appellant 2 raised the concern that the PP process was flawed and that environmental groups, organizations and different communities in Durban were not involved in the PP process. Appellant 2 also perceived that the Durban communities were being forced to act as spectators and had limited access to recreational and ecological resources as the applicant did not consider local interest and needs. The applicant's responding statement, however, provided a detailed breakdown of the EIA PP that was conducted and motivated that because of the extensive PP that was conducted, the alternatives were developed and ultimately resulted in an alternative being approved.

The two aforementioned PP grounds of appeal were dismissed as the DEA agreed that the minimum PP requirements as prescribed in the 2010 EIA regulations had been met. Furthermore, the DEA indicated that the comments raised during the EIA PP process were responded to and adequately addressed. An appeal decision was received on 9 September 2015 and all grounds of appeal were dismissed. The CA subsequently issued an amended EA that rectified previously incorrectly authorized activities and included additional conditions related to monitoring and offset commitments.

4.3.3 Environmental impact assessment Case 3 – Proposed upgrade and new construction related to the development of the Swaziland rail link project, from Davel to Nerston (Mpumalanga): Davel to Nerston –Swaziland Rail Link ((DN-SRL).

Transnet in collaboration with Swaziland Railway identified the need in 2012 for the construction and upgrade of the railway line between Davel (Mpumalanga) and Richards Bay (KZN), connecting via the railway network in Swaziland as illustrated in Figure 4.5. An inter-rail memorandum of understanding was signed between the two countries in November 2012 to reinforce the coorporation and relationship (Aurecon, 2014a). The project was motivated by the need to develop a strategic multinational rail corridor and to divert the general freight traffic off the dedicated heavy haul coal line. The rail link aimed to enhance regional integration and to provide viable connections. At a high level, the scope of the project is twofold: (1) in some areas there was an existing railway network, which only required upgrades and re-building and (2) in other areas, the construction of an entirely new railway network was required. The entire scope of the project stretched over a distance of 570 km and in order to ensure that area-specific impacts were captured, the proposed development and EIAs were divided into three applications, namely: Davel Yard and connections, Mpumalanga rail line from Davel to Nerston and KZN railway line from Golela to Nsezi (Aurecon, 2014a). An EIA was conducted for each of these three sections. EIA Case 3 in this study, however, only focusessed on the section of line within South Africa from Davel to Nerston that would require the upgrade of existing railway line (Davel to Lothair) and the construction of a new railway line (Lothair to Nerston).

The proposed development triggered activities in all three of the 2010 EIA listing notices, GNR 544–546, and therefore required a scoping and EIA study to be conducted as part of the environmental authorization (EA) process. An independent EAP was appointed to conduct the EIA process. The DEA was the lead decision-making authority in consultation with the environmental department of the impacted province (Mpumalanga) and other relevant authorities.

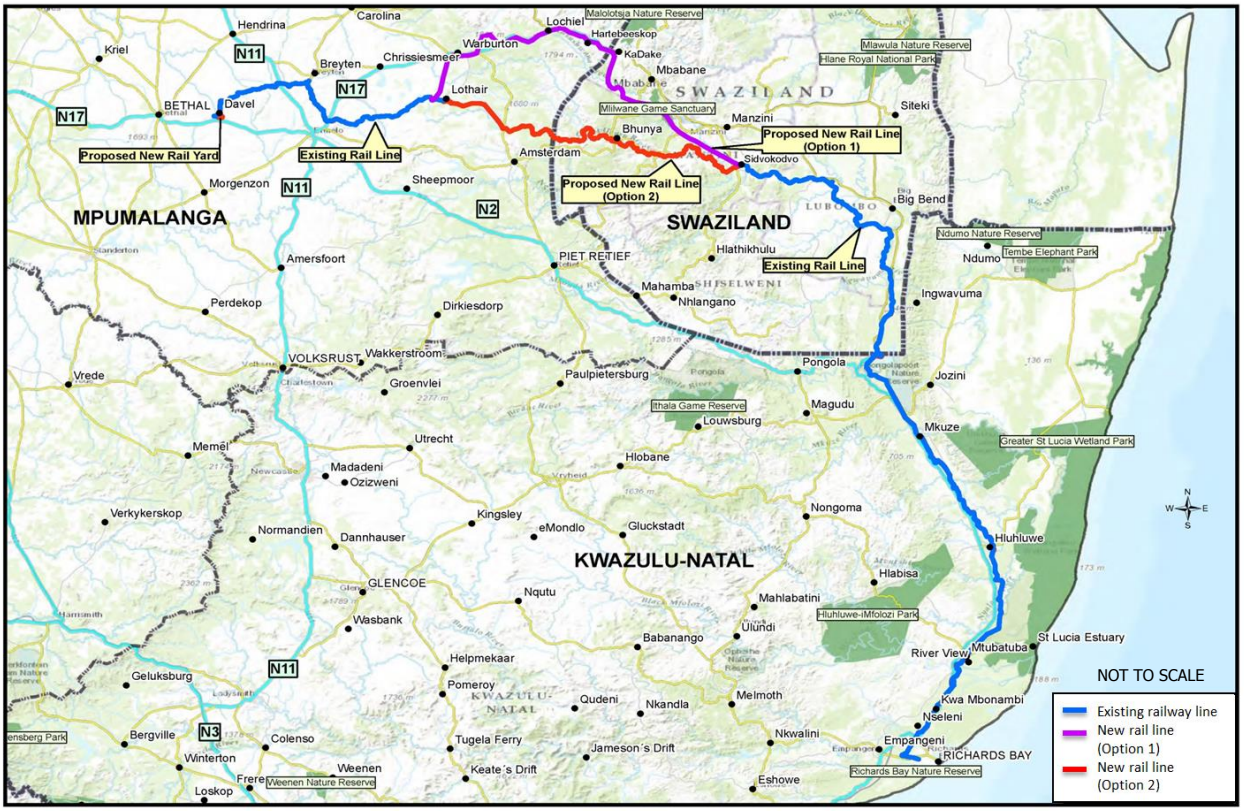

Figure 4-5: The proposed Swaziland railway link alignment from Davel (Mpumalanga) to Nsezi (KZN)[4]. The blue line in Mpumalanga and red line from Lothair to the border of Swaziland is applicable to this study

Although the EIA process already included alternatives, new alternatives were suggested by the public (specifically the affected landowners) during the PP process and were included in the EIA studies. During the scoping phase, a new railway alignment alternative was proposed by the farmers' association for the section between Westoe dam up to the Swaziland border (Figure 4-6). The farmers' alternative and variations thereof were investigated by the project engineers in October–November 2013. Two alternatives (Option 4 and Option 4A) were found technically feasible and were subjected to the EIA process and specialist studies. A total of nine comprehensive specialist studies were conducted to determine the significant impacts and to develop specific mitigations measures (Annexure 3). The EAP recommended that the proposed development based on the farmers alternative should be granted authorization (Aurecon, 2014a). The CA granted an environmental authorization on 16 February 2015 (DEA, 2015b) and no appeal was lodged against the decision.

[4] The red and purple lines indicate the new link alternatives from Lothair to Sidvokodvo. The blue line represents upgrade and construction sections of the existing railway line

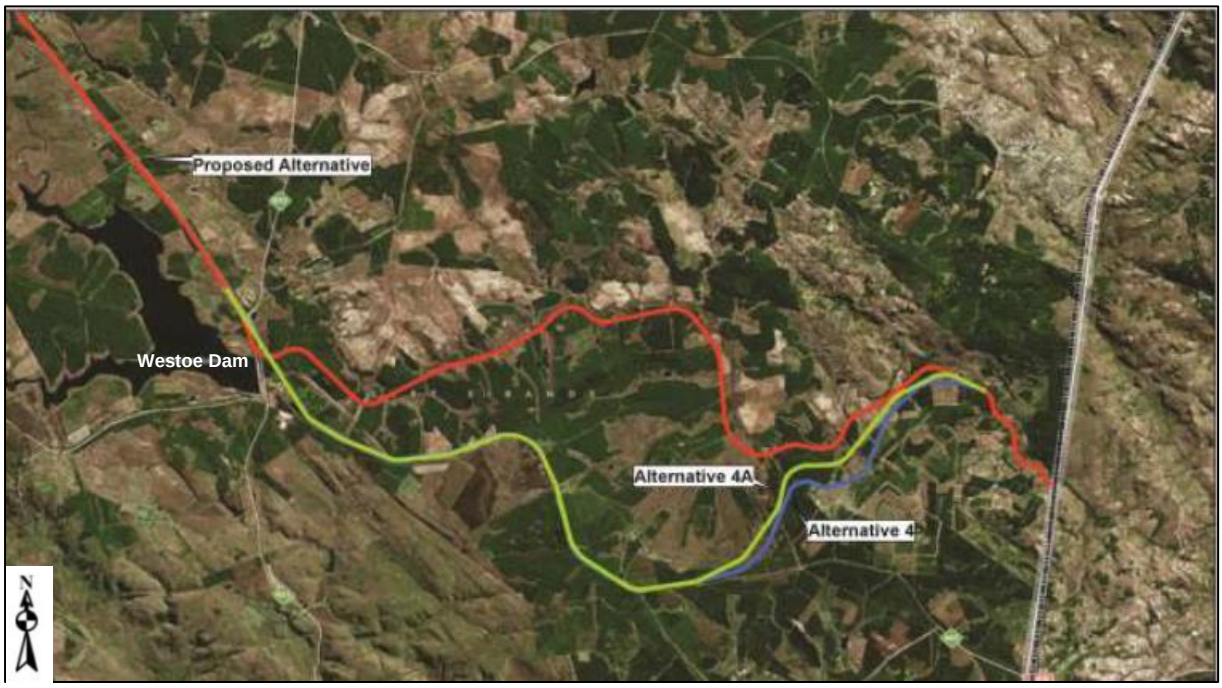

Figure 4-6: A closer view of the three feasible alternatives in the section from Westoe Dam to Nerston, Mpumalanga. (— Proposed alternative railway line; — Alternative 4 railway line; — Alternative 4A railway line)

Details regarding the PP process that was implemented for the project is summarized in Table 4-5.

Table 4-5: Environmental impact assessment (EIA) Case 3 – Davel to Nerston Swaziland Rail Link (DN-SRL) EIA public participation process (PP) (Aurecon, 2014a, 2014b)

EIA CASE 3 – DN-SRL	
Initiation phase	
Pre-application meetings	No pre-applications were recorded in the EIA reports or public participation (PP) documentation.
Application stage	The application for the Davel to Nerston section was submitted on 14 May 2013.
Notification stage	a) The initial notification and registration of the interested and affected parties (I&APs) commenced on 21 June 2013. b) Advertisements were placed in one local newspaper on 27 June 2013 (in English) and in one national newspaper on 25 and 27 June 2013 (in Afrikaans). c) Background information documents were distributed in English to directly affected parties and identified I&APs (such as organs of state, parastatals, local communities) via registered post. d) Site notices in English were placed at public facilities such as municipal buildings and public libraries.
Scoping phase	
Report review, PP and main concerns	a) The draft scoping report was available for review from 15 July to 23 August 2013. b) The report was made available in hardcopy format at relevant libraries and in soft copy on the environmental assessment practitioner (EAP) and applicants' websites. c) Registered I&APs were notified of the availability of the draft Scoping report through post, facsimile and email. d) Public and focus group meetings were held on 1, 2 and 22 August 2013. e) During the scoping phase a railway alignment alternative was proposed by

	the impacted land owners and was subsequently investigated by the engineers. f) The following can be noted as the high level concerns raised during scoping: • Proposal of alternatives; • Crossing over railway line to ensure adequate access; • Impact on hydrology; • Heritage impacts (graves); • Loss of income due to impact on forestry; • Firebreaks; • Security and safety; • Fencing of railway line; • Impacts on infrastructure and people; • Rehabilitation; and • Employment opportunities.
Acceptance/Rejection of Scoping	a) The final scoping report was submitted to the Department of Environmental Affairs (DEA) on 2 September 2013. b) Registered I&APs could provide comments directly to the DEA on the final report from 3 to 25 September 2013. c) DEA rejected the scoping report on 30 September 2013 and requested additional information relating to the project description, activities triggered and alternatives considered. d) A revised final scoping report was submitted to DEA on 10 October 2013. e) Registered I&APs could provide comments directly to DEA on the revised final scoping report from 11 to 31 October 2013. f) The DEA approved the revised final scoping report on 18 November 2013.
EIA phase	
Report review, PP and main concerns	a) The draft EIA report was available for review from 7 March to 17 April 2014. b) The report was made available in English in a hardcopy format at relevant libraries and in soft copy format on the EAP and applicants' websites. c) Follow-up focus group meetings were held to discuss the proposed alternatives from the farmers on 24 January and 10 February 2014. d) Public and focus group meetings to discuss the draft environmental impact report (EIR) were held on 25 and 26 March 2014.
Acceptance/rejection of EIR	a) The final EIR was submitted to DEA on 16 May 2014. b) Registered I&APs could provide comments directly to DEA on the final report from 16 May to 11 June 2014. c) DEA requested additional information in the final EIR on 26 May 2014. d) The revised final EIR report (dated June 2014) was submitted to DEA on 27 June 2014. e) Registered I&APs could provide comments directly to DEA on the revised final EIR report from 30 June to 12 July 2014. f) The revised final EIR was rejected by DEA on 28 of August 2014 requesting the submission of the resettlement action plan, comments from the South African Heritage Resource Agency and the PP process requesting that comments from all organs of state must be submitted or proof of efforts to engage needs to be submitted. g) The outstanding information was submitted to DEA and the revised Final EIR was accepted by DEA on 12 December 2014.
Environmental Authorization (EA) phase	
EA granted or refused	EA was granted on 16 February 2015. The alternative option 4, as proposed by the farmers was approved. The EAP notified the I&APs of the Department's decision via email on the 24 February 2015.

The CA granted EA on 16 February 2015. As part of the EIA process it was the responsibility of the applicant and the EAP to notify the I&APs of the Department's decision within 12 days of the date of the EA and provide them with provisions on the appeal process in line with Chapter 7 of the EIA regulations. A notice of intent to appeal had to be submitted within 20 days of the date of the EA. The appeal procedure as stipulated in Chapter 7 of the EIA regulations, provides a detailed step-by-step guide with timeframes as well on what is

required by the appellant (whether it is the applicant or an I&AP) and the Department. No intention to appeal or appeal was lodged against the Department's decision to grant the EA for the DN-SRL.

4.4 Research population

One purposive sampling technique is total population sampling (TPS). Lærd (2012) and Mugera (2013) explain that TPS is a sampling method where an entire population is examined based on a particular set of characteristics. Despite the three EIA cases that were selected by means of criterion sampling, the potential survey participants for the completion of the surveys were selected by means of TPS. The particular characteristics used to determine the population were the following:

1. The participant had to form part of the PP process of any one of the three selected EIA cases as an I&AP; and
2. The participant had to form part of the developer's project team conducting the proposed development's feasibility studies and designs.

In order to determine the population that formed part of Group 1 above, EIA PP databases were used that captured all registered I&APs from the selected EIA cases. In order to determine the population that formed part of Group 2, a Transnet project development team register was developed, which included the project directors and managers, engineers and environmental specialists of various projects including the three EIA cases. The total population to which the surveys were distributed consisted of the databases of Groups 1 and 2.

4.5 Data sources and collection

All data for the three selected EIA cases were provided by Transnet as the developer and therefore the EIA applicant. The documentation, as developed during the three EIA cases, was reviewed and the following strengths as identified by Yin (2004) were applicable:

- The three EIA cases' documentation was stable and could be reviewed repeatedly;
- The three EIA cases' documentation was specific, exact and spanned over a long period of time (2007 – 2015);
- The three EIA cases' documentation was developed independently and not as a result of the study; and
- The documentation was easily accessible.

Although all documents, reports and information developed as part of the EIA process is public information, a memorandum had to be developed to request approval from Transnet to use the EIA information for research purposes. The request was granted and all the required information, such as the published EIA reports (scoping and impact assessment reports) along with the PP documentation (minutes of meetings and CRRs) were provided by the environmental representatives within Transnet who conducted and managed the selected EIA cases.

4.6 Survey

A structured survey that consisted of both open- and closed-ended questions was developed to investigate the perceptions and experiences of the public regarding the timing and implementation of the PP process prior to and during the EIA. As the survey focused on two different timeframes of participation, the following clarifications were provided from the onset of the survey:

- Engagement prior to the EIA refers to all engagements that were conducted before the EIA commenced; and
- EIA PP refers to all engagements that were conducted during the legislated EIA process.

The aim of the survey was to:

1) Investigate whether the I&AP's felt that the PP was conducted during the most relevant project stage;
2) Evaluate the effectiveness of the PP process;
3) Investigate whether there is a need to participate in another stage of the project or prior to the EIA process; and
4) Investigate whether the public perceived that their participation influenced the decision-making process.

The survey consisted of 18 questions. The first questions (Questions 1–3) categorized the participants according to their role in the EIA and their previous experience of engagements prior to and during EIA. Question 4 and Question 9 focused on the purpose and need of PP prior to and during EIA by providing the participants with statements that they had to score according to a five-point Likert scale (1= strongly disagree, 2 = disagree, 3 = neutral; 4 = agree and 5 = strongly agree). Question 5 provided an overview of the various projects and EIA phases and investigated during which stage the I&APs were engaged (never, sometimes or always). Questions 6, 7 and 8 investigated PP frequency and effectiveness of

methods used in engagements prior to and during the EIA, as this could have influenced the participants' perceptions of PP and the timing thereof. Question 10–15 investigated specific components that formed part of engagements prior to and during EIA, such as timeliness, facilitation, documentation and influence on decision-making. Although Questions 1–15 were mostly closed-ended questions that required the respondents to choose from a number of options/statements, all of the questions also had an "Other" option, where the participant could supply relevant comments. (Annexure 4).

The survey concluded with Questions 16–18, which were open-ended questions, and requested the participants to provide recommendations for enhancing engagements prior to and during the EIA and to provide their opinion on why I&APs appeal environmental authorizations. The open-ended questions were analysed by direct content analysis. Hsieh and Shannon (2005:1281) explain that this direct analysis approach is mostly implemented in order to validate or expand a conceptual framework. The direct approach is used to support an existing theory and helps to determine initial coding categories (Hsieh and Shannon, 2005:1281). Coding categories indicated in Table 4-6 were used for data analysis.

Table 4-6: Coding categories used during data analyses

Question	Coding categories		
Survey Question 16 What recommendations, if any, would you make to enhance engagements prior to the environmental impact assessment (EIA) process?	1. Public participation (PP) media	4. PP audience	7. Engagement timing
	2. Project information	5.Specialist engagements	8. PP Purpose
	3. Engagement structure and process	6. No recommendations	
Survey Question 17 What recommendations, if any, would you make to enhance engagements during the EIA process?	1. Fragmented view of development	5. Lack of local knowledge consideration	8. Pressure placed on Specialists
	2. Political influence	6. Regulator influence	9. Developer involvement
	3. Interdependency	7. PP media	10. PP process in EIA
	4. No recommendations		
Survey Question 18 In your opinion, why do interested and affected parties appeal environmental authorizations?	1. Lack of public concerns and impacts integration	3. Developer historical issues	4. Lack of community relationship
	2. Process is flawed	5. Insufficient / impractical mitigations and conditions	

The survey was designed on the Survey Monkey[5] web-based survey tool. The survey design and content was pre-tested by distributing the survey to 15 general specialists in the field of EIAs such as EAPs, environmental specialists and managers. A small scale pilot study was

[5] https://www.surveymonkey.com

conducted with two key Transnet environmental specialists in order to evaluate the survey time, design and alignment with research objectives. The final survey was distributed to the total population of potential participants. The survey was distributed to a total of 1500 potential participants by means of an email hyperlink[6]. Due to technical difficulties (see Section 4.9 of this study, "Limitations of the study"), only 200 potential participants received the survey and a total of 66 participants of Groups 1 and 2 responded to the survey and will further be referred to as respondents.

Nadeem and Fischer (2011:38) developed an evaluation framework to determine the effectiveness of PP as part of the EIA process specifically in Pakistan. In order to investigate how PP influences the decision-making process as part of this study, two major components from this framework were used to evaluate how and to what extent the PP conducted for the three EIA cases influenced the decision. To determine to what extent the comments and concerns raised during the PP were incorporated into the EIA reports and final decision, the two major components and revised six-point scale based on the Nadeem and Fischer framework were used as indicated in Table 4.7.

Table 4-7: Two major components and revised six-point scale based on the public participation influence framework of Nadeem and Fischer (2011:38)

Major component	Questions/attributes
1) Consideration of public concerns in the environmental impact assessment (EIA) report	1. Were adequate significance and coverage given to environmental concerns/impacts? 2. Were adequate significance and coverage given to socio-economic concerns/impacts? 3. Were adequate significance and coverage given to spatial/physical concerns/impacts? 4. Was adequate consideration given to project alternatives? 5. Were the participants informed about how their concerns were incorporated into the EIA and project design?
2) Incorporation of public concerns into the final decision	1. Were the concerns raised by the participants adequately considered/incorporated into the final decision/conditions of approval? 2. Were new opportunities for tradeoffs or compensation to the affected identified/negotiated? 3. Were conditions of approval technically and financially achievable?
Scale to measure major component (1)	
Nadeem and Fischer framework (2011:38)	Revised framework
- Not mentioned ○ Mentioned • Discussed in detail ⭘ Discussed in detail and included in mitigation measures ◎ Discussed in detail and included in project design	A. Only mentioned B. Discussed in detail C. Discussed in detail and included in mitigation measures D. Discussed in detail and included in project design

[6] https://www.surveymonkey.com/r/MResearch_StakolderEngagement_EIA

Scale to measure major component (2)	
✓ Considered and specifically mentioned in environmental authorisation × Considered but not specifically mentioned in environmental authorization	YES: Considered and specifically mentioned in the environmental authorisation granted NO: Considered but not specifically mentioned in environmental authorization granted

The Nadeem and Fischer (2011) framework groups the comments and concerns into one of the following three categories:

1) Environmental concerns/impacts: This category focuses on matters pertaining to air, water, heritage, fauna and flora impacts, pollution and the management thereof.
2) Socio-economic concerns/impacts: This category focuses on matters pertaining to social and public impacts, relocation and compensation, access to and security of properties, noise pollution and the management of these matters.
3) Physical/spatial impacts, alternatives and others: This category focuses on matters pertaining to physical project footprint, alternatives investigated, construction process clarifications, EIA process and engagement concerns as well as the management of these matters.

4.7 Data analysis

All data from the survey were collected by the Survey Monkey tool. The raw data collected from the closed-ended questions in the survey were extracted from Survey Monkey and thoroughly scrutinized. The processed summary data and findings are presented in a graphic presentation (bar graphs) in Chapter 5 of this study. The open-ended questions were analysed by means of directed content analysis where the recommendations from the respondents were grouped together according to the proposed coding categories in Table 4-6. The summary of the coding categories is presented in a graphic presentation (bar graph) in Chapter 5 of this study. The data from the three EIA case studies were evaluated and analysed by means of the PP influence framework as mentioned in Table 4-7 in order to determine whether PP influenced the final decision. These data is presented in table format in Chapter 5 of this study.

4.8 Limitations of the study

As in any research, this study encountered limitations. Most of the limitations were encountered during the data collection and analysis phases of the study and included the following two limitations:

(1) The PP database for each of the case studies consisted mostly of participants with email contact details. Once the survey was developed, these contact details were used to

distribute the survey to approximately 1500 possible participants. Due to the following reasons, the surveys were not delivered to all participants:

- Some of the participants did not use the email address listed in the PP database anymore;
- Various government departments and large companies have secure email systems and the security of the systems blocked the survey; and
- Some of the participants' email addresses could not be found and the survey failed to deliver.

The majority of the survey requests were therefore not delivered and only 200 surveys were distributed successfully. The verification and validation of the PP contact details registers therefore caused a limitation to the gathering of data.

(2) A further limitation encountered was the lack of survey participation as only 66 (33%) participants responded to the survey. Even though 66 respondents were recorded as completing the survey, some questions were not completed by all 66 participants.

4.9 Conclusion

This chapter outlined the methods, tools and framework used to select and collect the data. The first section of the chapter provided the criteria for how the three EIA cases were selected, then went on to describe the proposed developments and tabled in detail the PP activities conducted for each of the EIA cases namely, NMPP, DBU and DN-SRL. The data collection methods implemented to review the EIA cases and survey data were discussed. The survey consisted of both open- and closed-ended questions and each question was discussed in detail. This chapter further discussed the framework used to determine whether the public's comments influenced the final decision. The chapter was concluded by discussing the limitations encountered, such as lack of response due to out-dated PP database details, technology difficulties and lack of survey participation.

The next chapter builds on the foundation provided by this chapter to analyse the data and discuss the results.

CHAPTER 5
DATA ANALYSIS AND FINDINGS

5.1 Introduction

The previous chapters of this study described the basis of this study by reviewing the literature in order to determine the status quo of public participation (PP) as part of environmental decision-making (EDM) by means of an environmental impact assessment (EIA). EDM in South Africa was discussed in detail to provide the framework in which this study was conducted. Chapter 4 described the methodology used to achieve the objectives as set out in Chapter 1 namely:

1) To investigate the perception of PP prior to and during EIA in a sample of Transnet SOC Ltd (henceforth Transnet) projects;
2) To examine the influence of PP for the proposed development and decision-making process; and
3) To evaluate to the possible enhancements of public participation prior to and during the EIA process.

Chapter 5 presents the consolidated findings and provides a detailed discussion thereof. The detailed results are attached as Annexure 5–20. Chapter 5 is divided into different sections and the results are discussed in the following manner:

- Section 5.2 discusses the results for survey questions 1–15 and addresses objective 1;
- Section 5.3 focuses on the detailed study of the three EIA cases. The results as determined by the revised Nadeem and Fischer (2011) framework are discussed and will address objective 2; and
- Section 5.4 discusses the results for survey questions 16–18, which were analysed means of direct content analysis, and addresses objective 3.

5.2 Survey results and analysis

A total of 66 participants completed the survey. As described in Chapter 4 of this study, the survey consisted of various sets of questions focusing on specific elements of PP prior to and during the EIA process. The results of the survey are dicussed in order to investigate the perception of PP prior to and during the EIA in a sample of Transnet projects.

PP usually involves different groups of participants. The survey required the respondents to indicate which category suited them best. Figure 5-1 illustrates the distribution of the

respondents within these categories. The 11 different groups of respondents were grouped into four main respondent groups: (1) public (community members, 6.1%; landowners, 18.2%; environmental non-governmental organisations (NGOs), 13.6%; private sector/local businesses, 13.6%; associations, 3%; academia, 1.5%), (2) government (competent authority (CA), 1.5%; other authorities, 10.6%), (3) applicant (engineers, 3%; Transnet project team, 13.6%) and (4) environmental assessment practitioner (EAP). The public respondent group was the largest (56%) and the government respondent group was the least represented (12.1%) (details in Annexure 5). The views from the public are therefore dominant in the rest of the survey responses.

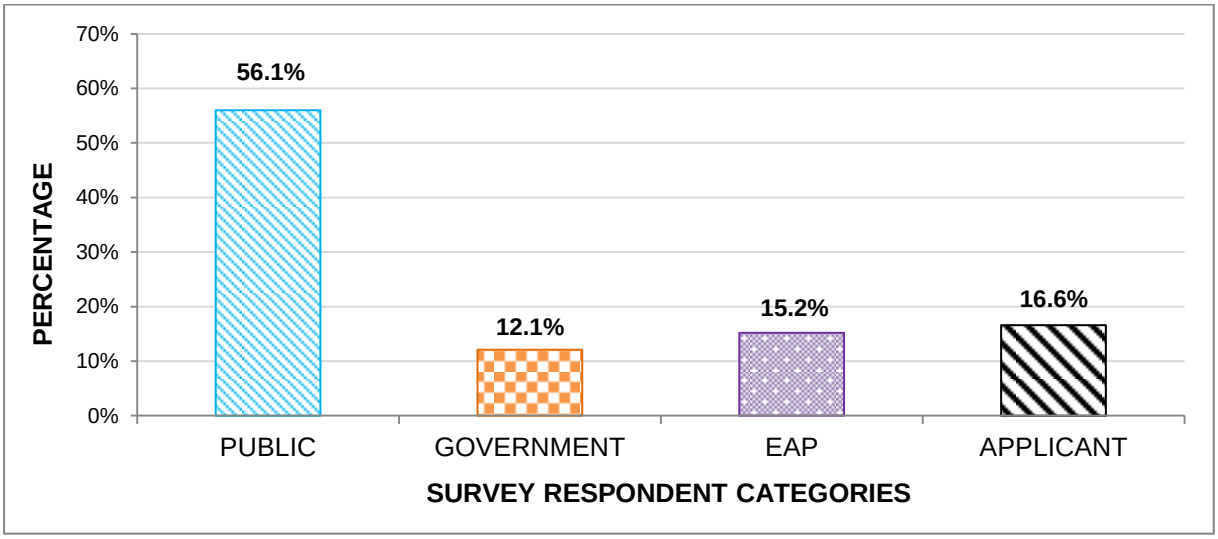

Figure 5-1: Distribution of survey respondents based on categories. (EAP: environmental assessment practitioner)

The survey further required the participants to indicate whether they have been engaged prior to and or during Transnet EIAs. As illustrated by Figure 5-2, the majority of the groups were engaged 1-3 times prior to the EIA and /or more than 3 times during the EIA. As the largest represented group, the public respondent group indicated that they were hardly engaged prior to (24.49%) and during the EIA (22.45%). The landowner and environmental NGO stakeholders represented the largest percentage of these limited public engagements. Interestingly, when the public was engaged as part of the EIA, the engagement frequency was more than 3 times (18.36%). The EAP was usually involved more than 3 times during the EIA (8.16%) but was rarely involved in prior engagements (6.12%). From the survey data it can be seen that the applicant was equally involved in prior engagements once (8.16%), more than 3 times (8.16%) and more than 3 times during the EIA (8.16%).

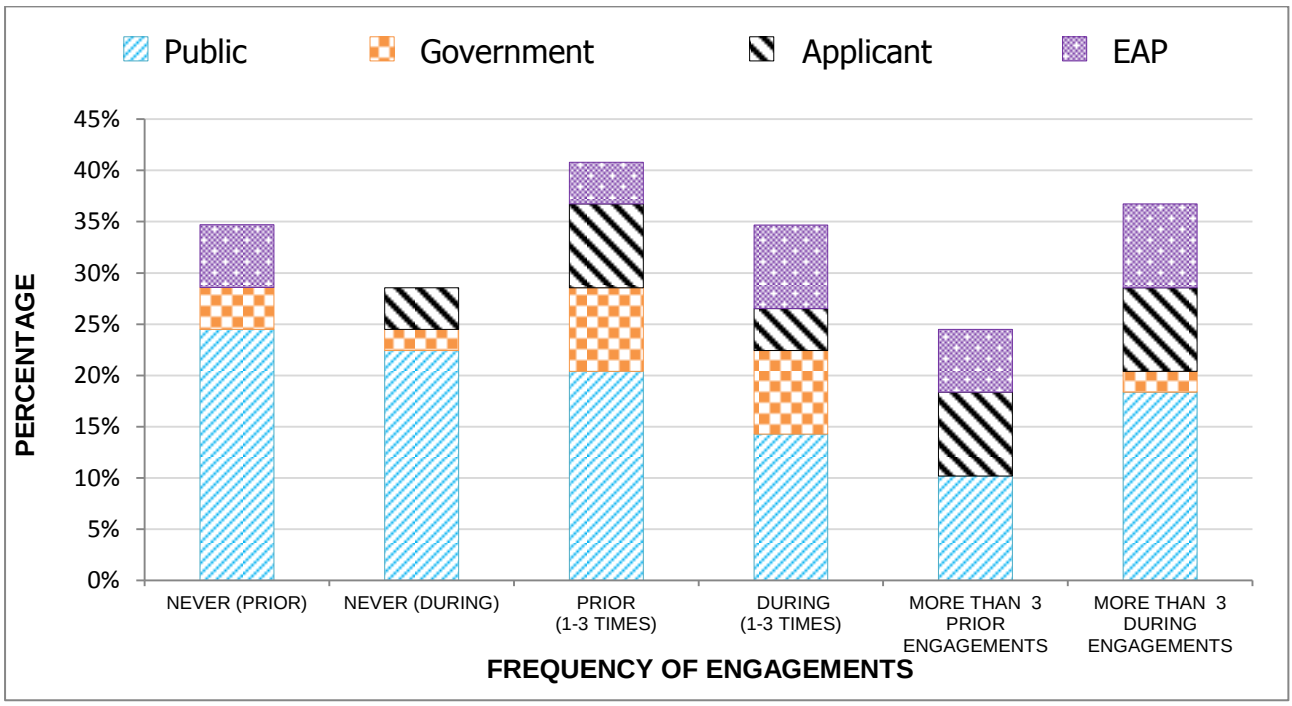

Figure 5-2: Frequency of engagements prior to and during the environmental impact assessment process for Transnet SOC Ltd projects. (EAP: environmental assessment practitioner)

The data showed that prior engagements of 1-3 times or more than 3 times during the EIA were the most common phases when stakeholders were engaged. The results indicated that all the stakeholder groups were indeed engaged prior to and during the EIA process, but the frequency differed (details in Annexure 6).

In order to investigate the respondents' perception of what stakeholder engagement prior to the EIA process means, the respondents were required to rate various statements that were relevant to the meaning of prior engagements. To be able to distinguish clearly between the various statements, the five rating categories (strongly disagree, disagree, neutral, agree and strongly agree) were grouped into three categories namely: disagree, neutral and agree.

The majority of the respondents as indicated in Figure 5-3, agreed that stakeholder engagement (PP) prior to the EIA process enhances the EIA PP process (85.42%) and the possibility of providing alternatives (85.42%). The survey respondents also perceived prior engagements as adding value to the project or EIA (81.25%) while developing a relationship with the interested and affected parties (I&APs) (85.42%). It is also evident from the results that stakeholder engagement prior to the EIA is preferred by most of the I&APs. The results showed that the respondents perceived that there is value in prior engagements and that it was beneficial to the EIA and project (details in Annexure 7).

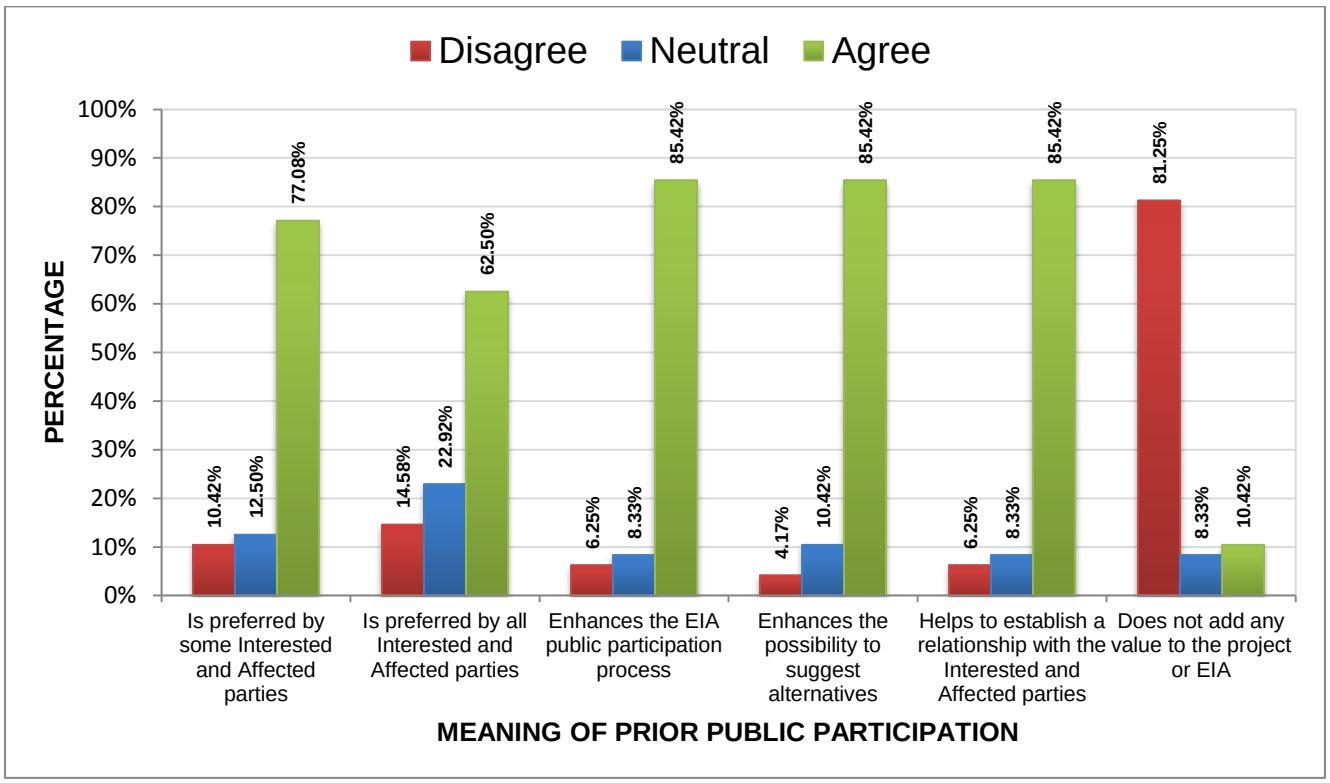

Figure 5-3: The meaning of public participation prior to the environmental impact assessment (EIA) process. (I&APs: interested and affected parties)

As discussed in Chapter 2 of this study, literature indicates that EIAs are mainly conducted for development projects. These development projects are mostly governed by some sort of project life cycle process that consists of various stages/phases. Stakeholder engagements (PP) and EIAs are usually conducted in one of these phases. As part of the survey, the respondents were required to indicate in which of the projects' stages they were mostly involved (Figure 5-4).

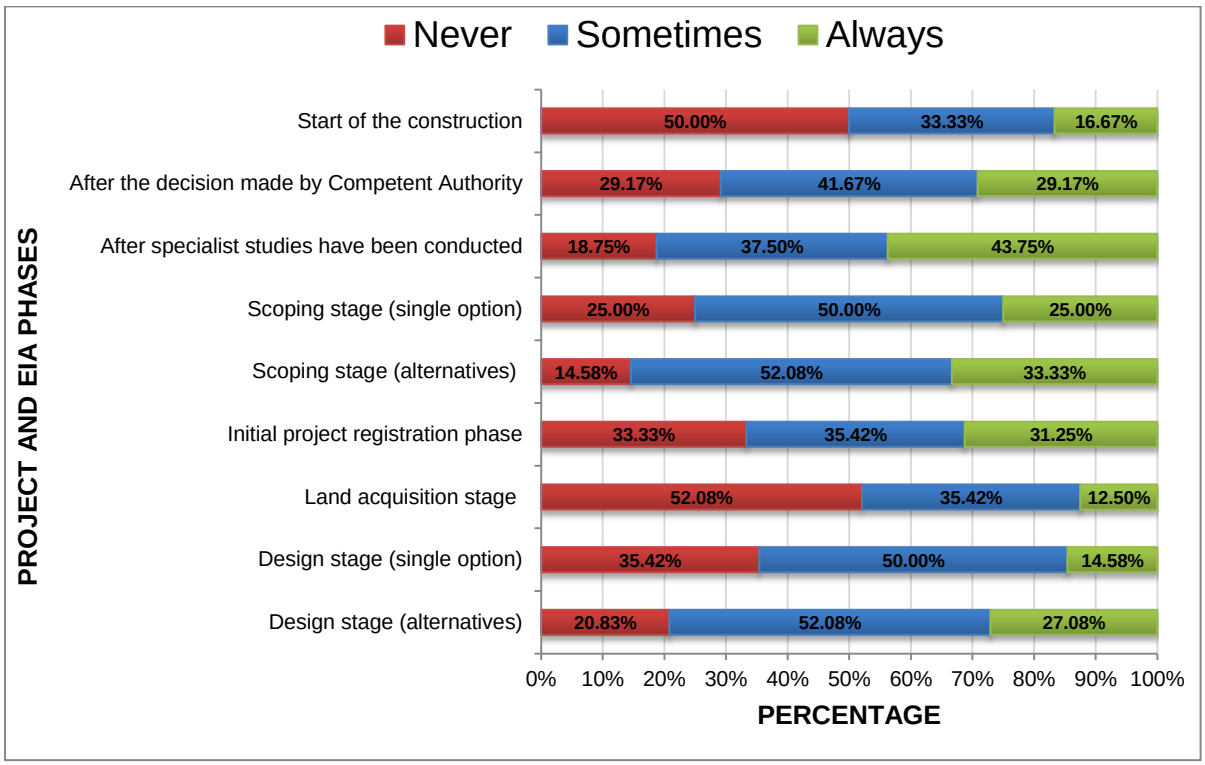

Figure 5-4: Public participation during project and environmental impact assessment phases (EIA).

The survey results indicated that the respondents were mostly engaged during the EIA phase, after specialist studies have been conducted (43.75%) (Figure 5-4). The scoping stage, where alternatives are discussed (33.33%), and the initial project registration phase (31.25%) were the second- and third-most common project phases when stakeholders were engaged. The stakeholders were almost never part of engagements commencing in the following project phases: start of construction (16.67%), design stage with a single option (14.58%) and the land acquisition stage (12.50%) (details in Annexure 8).

From Figure 5-4 it can be seen that stakeholder engagements after the specialist studies was the most common phase in which PP took place. In order to understand which stakeholders were engaged during this phase, Figure 5-5 focuses on the different stakeholders involved after the specialist studies had been conducted.

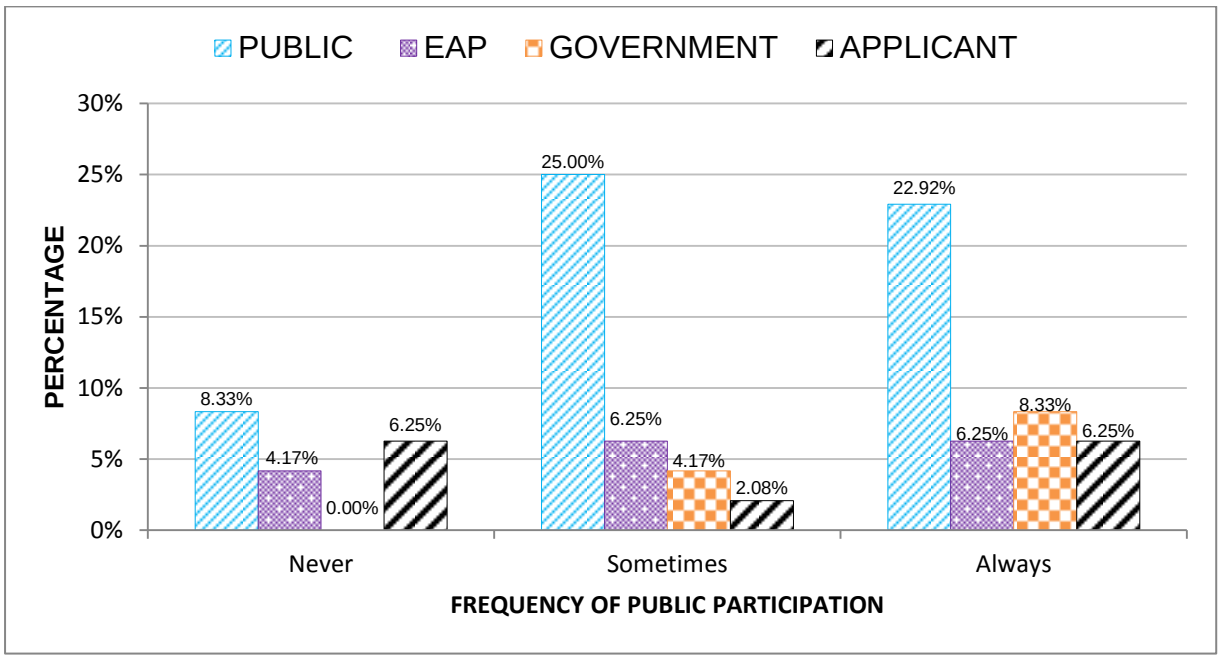

Figure 5-5: Stakeholder groups involved in public participation after specialist studies had been conducted. (EAP: environmental assessment practitioner)

From the data represented in Figure 5-5 it can be seen that the most common stakeholder groups that were engaged after the specialist studies had been conducted was the public (22.92%) and the government (8.33%) (details in Annexure 9).

Different media and methods are used for different engagements. During the survey, the respondents were required to indicate what media were mostly used when they were engaged prior to and/or during EIAs (Figure 5-6). As part of the data interpretation and analysis, the “rarely used” category was grouped together with the “sometimes used” category as there were too few data in each category. To provide a clear comparison between the different media used, the media were grouped as follows:

- Public meetings: focus group meetings, open days
- Notices: newspaper advertisements, notices posted at proposed development site/public place
- Personal: one-on-one meetings
- Telephone media: text messages (SMSs), Whatsapp messages, telephone calls
- Broadcasting media: radio and television announcements; and
- Internet media: email, Facebook

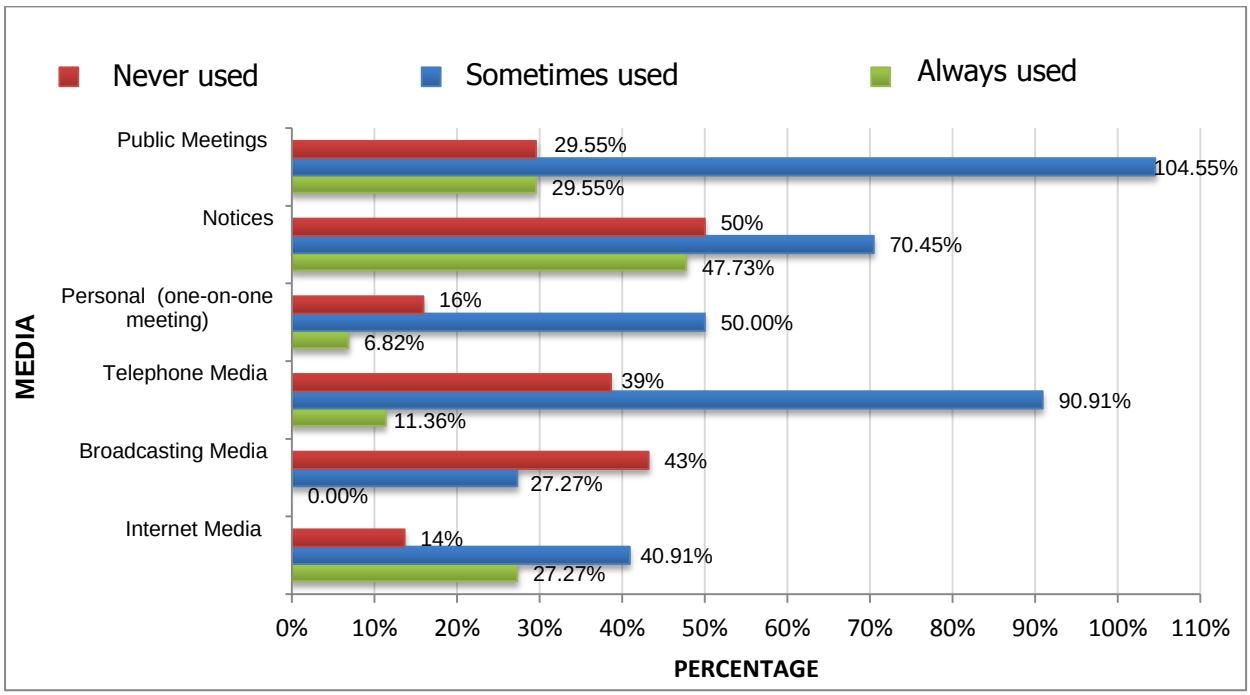

Figure 5-6: Frequency of media used to engage stakeholders via public participation prior to the environmental impact assessment process

Figure 5-6 indicates that the most frequently used media prior engagements were notices (47.73%) and public meetings (29.55%). When considering the percentage of the same media that were “never used”, the frequency of actual use was represented by the difference between the “always used” and “never used”. Notices were regarded by 50% of the respondents as having been used and public meetings have never been used according to 29.55% of the respondents. The difference between “always used” and “never used” for notices was 0% and public meetings was -2.27%. The difference showed that respondents considered the notices as equally “always used” and “never used”. Furthermore, the difference showed that 2.27% of the respondents regarded public meetings as “never used”. When considering both the “always used” and “never used” frequency percentages for all media, internet media (13.27%) could then be regarded as the most frequently used media in prior engagements (details in Annexure 10).

The frequency of media used during the EIA as indicated in Figure 5-7 concurs with that in Figure 5-6 as notices (62.79%) and the public meetings (44.19%) were the most frequently used media during the EIA. When considering the percentage of the same media “never used”, the frequency of actual use was represented by the difference between “always used” and “never used”. Notices were regarded by 62.79% of the respondents as being “not used” and public meetings were considered as “not used” by 27.91% of the respondents. The difference between the “always used” and “never used” for Notices is 0% and Public meetings is 16.28%. The difference showed that respondents considered the notices as

equally “always used” and “never used”. Furthermore, the difference showed that the respondents considered the public meetings 16.28% more as “never used”. When considering both the “always used” and “never used” frequency percentages for all media, the internet media (25.58%) could be regarded as the most frequently used media during EIA (details in Annexure 11).

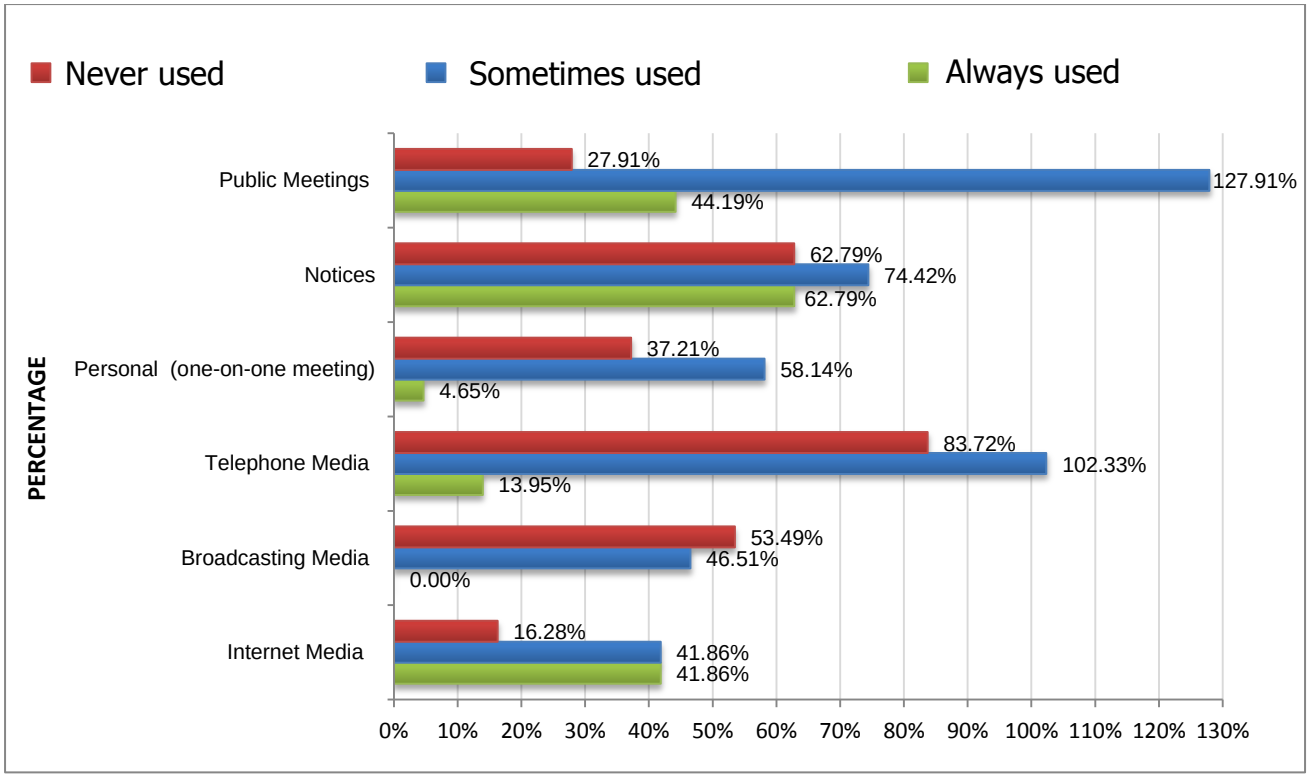

Figure 5-7: Frequency of media used to engage stakeholders via public participation during to the environmental impact assessment process

Interestingly, when the effectiveness of each of these media was rated, the most frequently used media, namely internet media, were not necessarily regarded as the most effective by the respondents. Figure 5-8 indicates that the respondents rated the use of public meetings (focus group meetings and open days) (prior to EIA, 37.5%; during the EIA, 57.5%) and personal one-on-one meetings (prior to EIA, 27.5%; during the EIA, 32.5%) as the most effective media used prior to and during the EIA engagements. The most frequently used media (internet media), as determined by Figures 5-6 and 5-7, were regarded as the third-most effective medium to use prior to (17.5%) and during the EIA (22.5%) engagements. Based on the latter description, it can be concluded that there was a distinction between which media were frequently used and their actual effectiveness; the most frequently used media were not the regarded as the most effective media by the respondents. The most frequently used media, internet media, were seen as a “quick” media for information sharing and engagement but focusessed mainly on meeting the legal requirements as the I&APs

could then be regarded as “engaged”, which would suffice to comply with EIA regulations. The reasoning for internet media being regarded as not effective is that it does not allow a direct two-way discussion or physical engagement. The media regarded by the respondents as the most effective required a “physical engagement and interaction” with the I&APs, which enabled feedback and an opportunity to participate (details in Annexure 12).

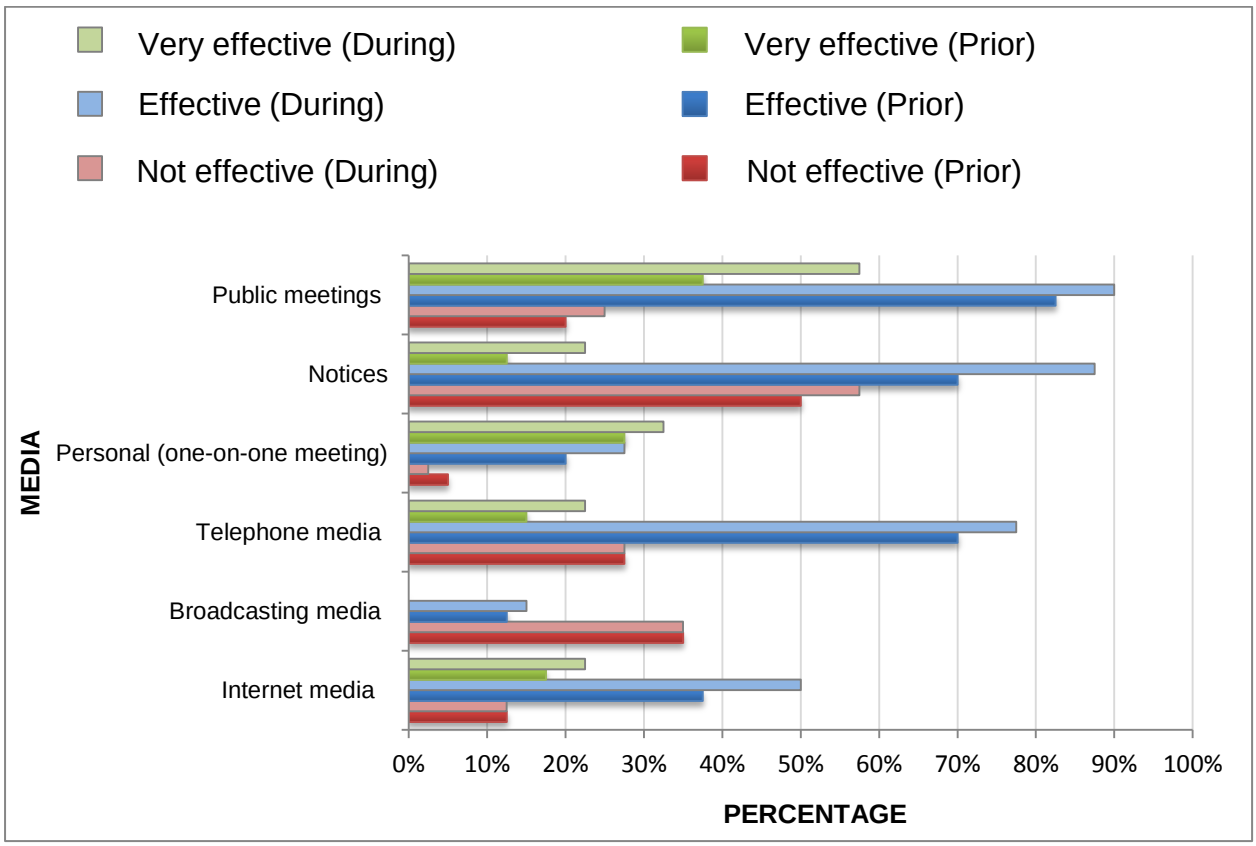

Figure 5-8: Effectiveness of engagement media for public participation prior to and during the environmental impact assessment process

As discussed in Chapter 2 of this study, the literature is filled with various aims and purposes of PP as part of the EIA process. The respondents were required to rate 17 “purpose statements”, as listed in Table 5-1, in order to indicate whether they agreed if that the theoretical purpose for EIAs was currently being implemented in practice.

Table 5-1: Environmental impact assessment (EIA) purpose statements

Purpose statements
1. To provide project and EIA related information to the public.
2. To educate the public on environmental matters and their right to be involved in the decision making process.
3. To gather local knowledge and seek public input and advice
4. To provide an opportunity to the public to suggest project alternatives.
5. To provide an opportunity to influence the environmental decision making process.
6. To enhance the quality of the decision making process.

Purpose statements
7. To promote transparency and to gain trust.
8. A “tick in the box” exercise for the developer/proponent to be granted approval.
9. To minimize environmental and social impacts.
10. To incorporate the views of the public to influence the final decision.
11. To resolve conflict among competing/conflicting interests.
12. To protect the interests and rights of vulnerable parties.
13. To provide information on job opportunities and corporate social investments.
14. To establish relationships between developers and the public for continued engagement.
15. To provide unnecessary and non-value adding jobs to environmental practitioners.
16. To facilitate engagement between developers and potential business partners.
17. To promote equality and to prevent discrimination between interested and affected parties

To be able to illustrate a clear distinction on what the respondents perceived as the current purpose of the legislated EIA PP process, the five rating categories (strongly disagree, disagree, neutral, agree and strongly agree) were combined into the following three categories: disagree, neutral and agree. Figure 5-9 provides the results of the responses pertaining to the statements listed in Table 5-1 and the number of each bar corresponds to the statements listed in the table.

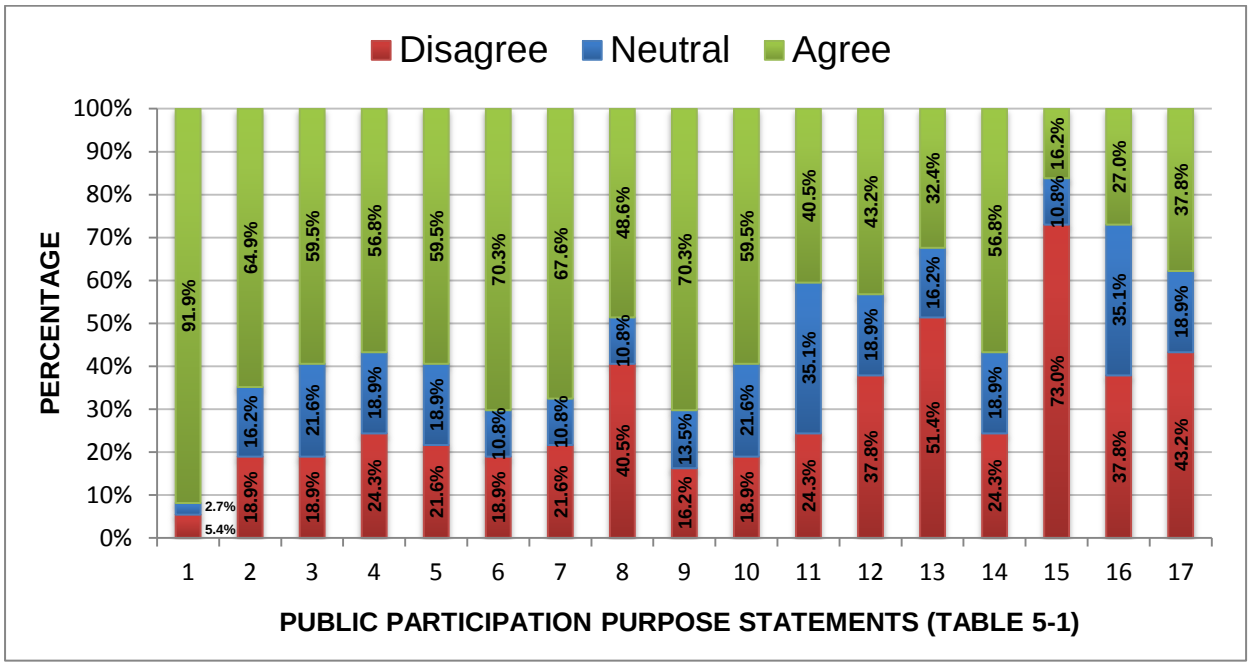

Figure 5-9: The purpose of legislated environmental impact assessment public participation process

As illustrated in Figure 5-9 the respondents mostly agree that the current purpose of the legislated EIA PP was to provide project- and EIA-related information to the public (Bar 1, 91.5%) and secondly to enhance the quality of the decision-making process (Bar 7, 70.3%) and to minimize environmental and social impacts (Bar 9, 70.3%). The respondents disagreed that the current purpose of EIA PP was to provide unnecessary and non-value-adding jobs to environmental practitioners (Bar 15, 73%); to provide information on job

opportunities and corporate social investments (Bar 13, 51.4%) and to promote equality and to prevent discrimination between I&APs (Bar 17, 43.2%). Overall, the respondents perceived that EIA PP is mostly fulfilling its purpose (details in Annexure 13).

The EIA PP process that is governed by South African environmental legislation was investigated in detail as part of the survey and the respondents had to rate various statements relating to the public's involvement during the EIA PP process. Figure 5-10 illustrates that in general the public perceived that their specific concerns and recommendations/alternatives were only sometimes considered in the EIA process. Since only 54.05–64.86% of the public's concerns and recommendations were only sometimes considered, it can be concluded that the applicant and EAP need to consider public concerns and recommendations more seriously (details in Annexure 14).

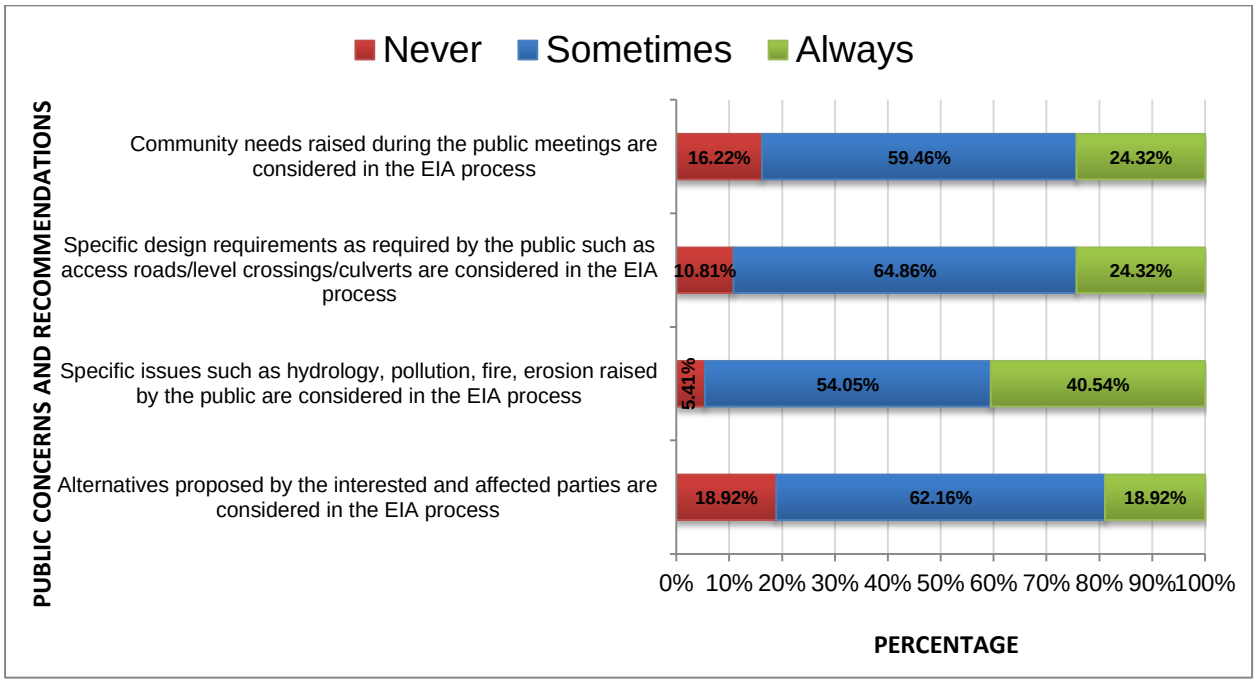

Figure 5-10: Public concerns and recommendations considered in the environmental impact assessment (EIA) public participation process

Engagements with the public (PP), whether prior to or during the EIA, require detailed planning and documentation. The survey further therefore investigated different components relating to the timing of the engagements, the engagement meetings and the documentation of the engagements. The statements listed in Table 5-2 were provided to the respondents to rate according to the following rating categories: not applicable, never, sometimes and always.

Table 5-2: Engagement planning prior to and during the environmental impact assessment process

TIMING	Survey question 12	1.1 Meetings were scheduled well in advance.
		1.2 Notifications of meetings/availability of reports were received timeously.
		1.3 Engagement/public participation enables the recommendation of alternatives.
		1.4 Engagement/public participation enables gathering of local knowledge.
		1.5 Sufficient time was available for report reviewing and providing comments.
		1.6 Meeting(s) was/were held at a time that was convenient for me.
		1.7 Sufficient time was available during the meeting(s) to promote adequate discussion/participation.
ENGAGEMENTS	Survey question 13	2.1 Meetings facilitated / promoted two-way discussions.
		2.2 Venue was ideal (close by, big enough, etc.)
		2.3 No language barrier (specifically during public meetings).
		2.4 Sufficient numbers of meetings were held.
		2.5 Engagements were held where feedback was provided on how my concerns and issues were addressed.
		2.6 Facilitators and other development representatives had adequate knowledge of the project and could answer all questions.
DOCUMENTS	Survey question 14	3.1 Minutes/formal feedback of each meeting were available.
		3.2 Documents released for review were easily accessible.
		3.3 Documents released were not too technical and technical jargon was limited.
		3.4 Documents were available in my language.
		3.5 An opportunity was provided for all draft and final documents to be reviewed.

Figure 5-11 provides the results of the responses pertaining to the statements listed in Table 5-2 and the numbers in the figure corresponds to the same numbers listed in the table. Both the engagements prior to and during the EIA are captured on the same graph, with the bars on the left representing data for engagements prior to EIA and the bars on the right representing data for engagements during EIA (details in Annexure 15).

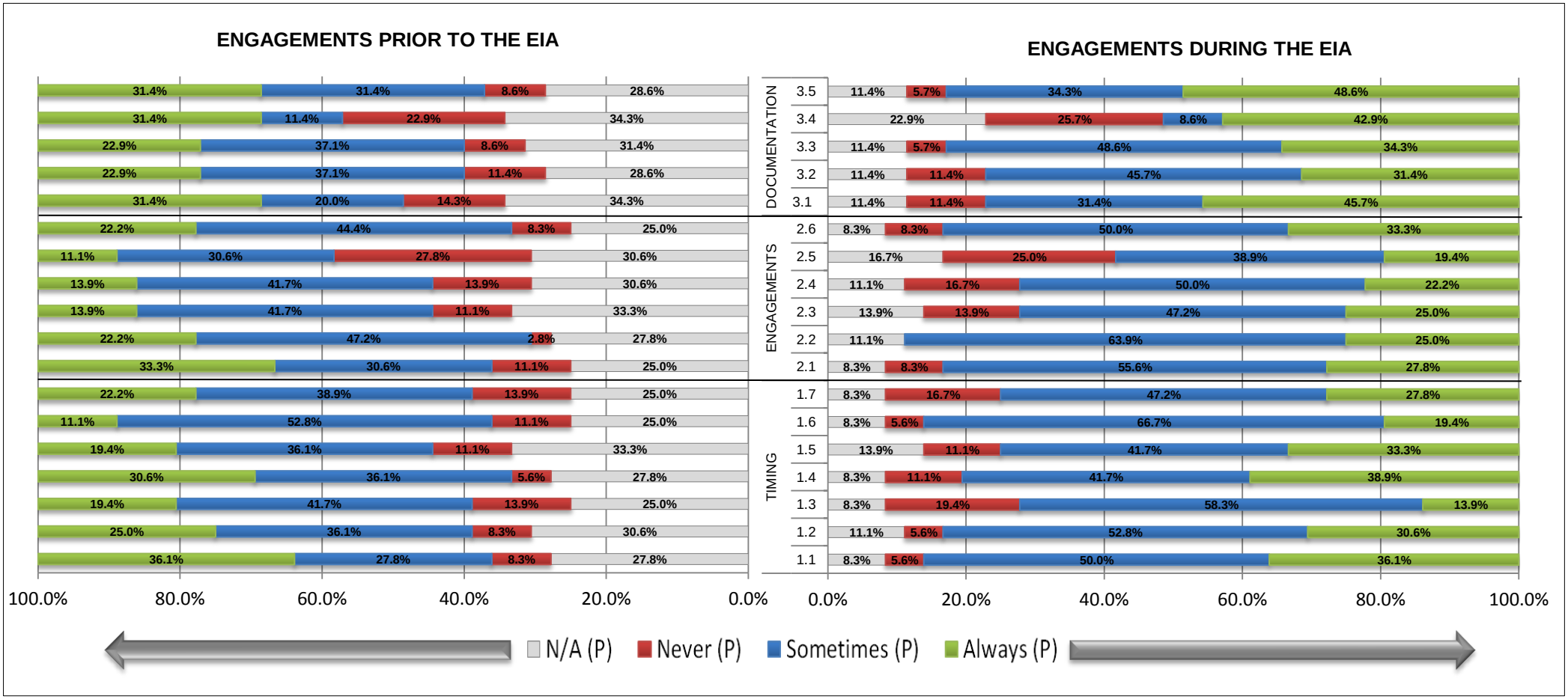

Figure 5-11: Public participation (engagement) prior to and during the environmental impact assessment process

Figure 5-11 shows that the distribution of scoring ratings was similar, relating the timing, meetings and documentation of engagements prior to and during EIA. In general, the respondents indicated that the timing of engagements were mostly scheduled in advance (Bar 1.1: prior to EIA, 36.1%; during EIA, 36.1%) and enables gathering of knowledge (Bar 1.4: prior to EIA, 30.6%; during EIA, 38.9%).The remaining statements related to the timing of engagements prior to and during EIA was perceived by the respondents as only sometimes being implemented and requiring improvement.

Figure 5-11 illustrates that the engagements prior to and during the EIA promoted two way discussions (Bar 2.1: prior to EIA, 33.3%; during the EIA 27.8%). The respondents perceived that both the engagements prior to and during the EIA were lacking feedback meetings, where I&APs were informed on how the issues and concerns raised were addressed (Bar 2.5: prior to EIA, 27.8%; during EIA, 25%). It can be concluded that the engagements (meetings) needed to be improved, as the majority of the statements relating to these engagements prior to and during the EIA was perceived as only sometimes being implemented. Generally the minutes/formal feedback of each meeting was available prior to and during the EIA engagements (Bar 3.1: prior to EIA, 31.4%; during the EIA, 45.7%). The documents were available in the respondent's language (Bar 3.4: prior to the EIA, 31.4%; during the EIA, 42.9%) and were available for review (Bar 3.5: prior to EIA, 31.4%; during the EIA, 48.6%). Consequently, the documentation could be regarded as satisfactory.

Ultimately, the engagements prior to and during the EIA should be able to influence the decision making. As part of the survey, the respondents were required to rate four decision-making statements. To be able to illustrate a clear distinction between the four decision-making statements, the four rating categories (strongly disagree, disagree, agree and strongly agree) were grouped into two categories, namely disagree and agree (details in Annexure 16).

Figure 5-12 illustrates that the respondents mostly agreed that the decision-making process was shared with the public (71.4%), that reasonable measures were taken to address the public's needs (62.86%) and that a fair opportunity was provided to influence the decision-making process (60%). The respondents disagreed that the CA took the public needs into account (51.43%).

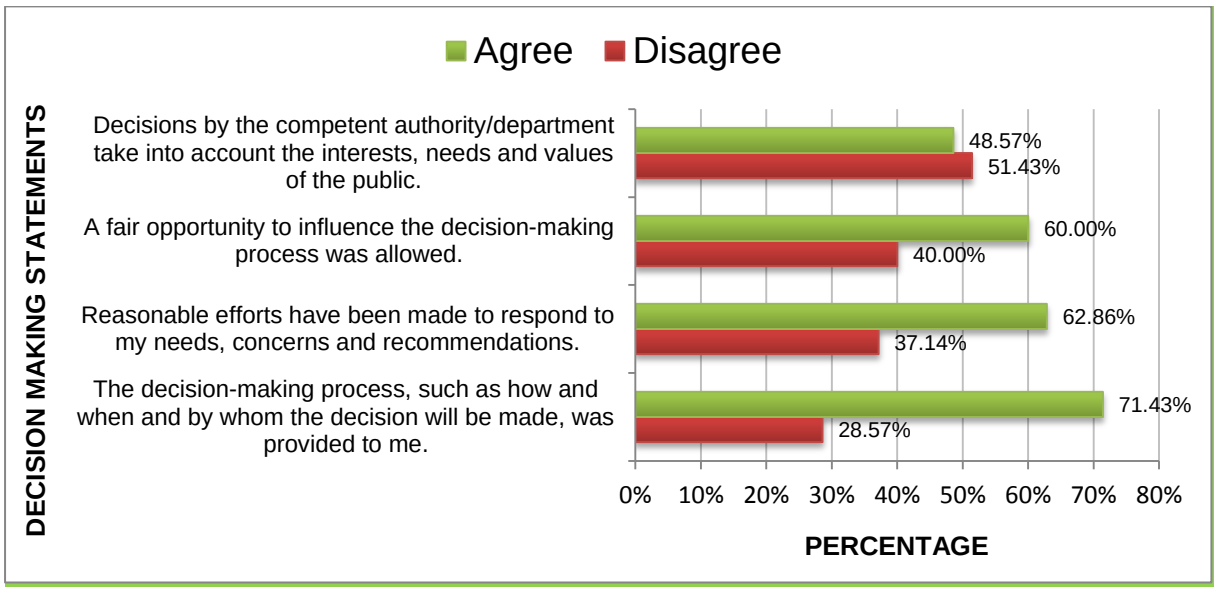

Figure 5-12: Decision making as part of the environmental impact assessment process

The respondents provided reasoning for this perception in their comments by indicating that the CA was “heavily influenced by the developer” and grants developments authorization for the purpose of “financial gains of a few politically elite at the expense of the social needs of the average citizen”. The latter is investigated further in Section 5.3 of this study.

The influence of the public on the decision is investigated briefly in the latter sections of this chapter and from the survey it can be concluded that the public perceived that their concerns were not considered and that the content of the decision did not include the concerns raised or recommendations given by the public. The next section focuses on the consideration of the concerns raised or recommendations given by the public by investigating the three EIA cases by means of the revised Nadeem and Fischer (2011) framework.

5.3 EIA case studies results and analysis

This section focuses on the study objective that aims to examine the influence of PP on the proposed development and decision-making process. A detailed review of the case studies has already been provided in Chapter 4 of this study, describing the proposed developments and the PP process that was implemented for each EIA case.

In order to examine the influence of PP on the decision(s) made for the proposed developments, the case studies were further explored by means of reviewing two major components, namely (1) consideration of public concerns in the final environmental impact assessment report (EIR); and (2) incorporation of public concerns into the final decision. These two components were evaluated by means of a six-point scale based on the

framework developed by Nadeem and Fischer (2011:38) as discussed in detail Chapter 4 of this study.

Before the three EIA cases could be investigated in detail, it was important to understand the South African EIA decision-making process and what type of information and/or processes will influence the decision. In the South African EIA process, the final decision is referred to as environmental authorisation (EA). The EA that is granted specifically lists all information and documents, including public documents, which were considered during decision-making. The three main documents that capture the public's concerns, the responses provided and mitigation measures associated with the concerns are the comments and responses report (CRR), the Final EIR and the environmental management programme (EMPr). Table 5-3 provides details on what information and reports the EA indicated was considered for each EIA case.

Table 5-3: Environmental authorisation (EA) reference of information considered in making the decision for each environmental impact assessment (EIA) case.

EIA case	Reference number in EA	Reference as per the relevant EA
EIA Case 1: New Multi-products pipeline	Annexure 1: Section 2 (b)	"The comments and responses document appended to the environmental impact report (EIR) and comments from key interested and affected parties."
	Annexure 1: Section 2 (c)	"The information contained in the final EIR, dated November 2008 and submitted to the department on 10 November 2008."
EIA Case 2: Durban Berth Upgrade	Annexure 1: Section 1 (a)	"The information contained in the final EIR dated 01 August 2013 and the amended EIR 05 August 2014."
	Annexure 1: Section 1 (b)	"Comments received from organs of state and interested and affected parties as included in the final Scoping Report (SR) dated June 2012, the final EIR dated 01 August and the amended EIR 05 August 2014."
	Annexure 1: Section 1 (c)	"The sense of balance of the negative and the positive impacts and the proposed mitigation measures as provided in the final EIR dated 01 August and the amended EIR 05 August 2014 and the EMPr."
EIA Case 3: Davel to Nerston Swaziland Rail Link	Annexure 1: Section 1 (a)	"The information contained in the final EIR dated June 2014."
	Annexure 1: Section 1 (b)	"Comments received from organs of state and interested and affected parties as included in the EIR dated June 2014."
	Annexure 1: Section 1 (c)	"Mitigation measures as proposed in the EIR dated June 2014 and the EMPr."

Based on the information in Table 5-3, it can be summarised that the EA granted for each of the EIA cases specifically indicates that the CRR, final EIR and EMPr were considered as part of the decision making. Since the EAs specifically record what information was considered during the decision making, it can be concluded that the public's comments and recommendations were taken into consideration and did indeed influence the decision made.

The Nadeem and Fischer (2011) framework was revised to be specific to the South African EIA process and to include documents and information that were considered during decision

making as indicated in Table 5-3. The original Nadeem and Fischer (2011) framework and the revised framework that was used to investigate the EIA cases are listed in Table 5-4.

Table 5-4: Revised Nadeem and Fischer (2011) framework to suit the South African environmental impact assessment (EIA) process

Major component	Nadeem and Fischer framework (2011:38)	Revised framework
(1) Consideration of public concerns in the EIA report	- Not mentioned ○ Mentioned • Discussed in detail ⭘ Discussed in detail and included in mitigation measures ◎ Discussed in detail and included in project design	A. Only mentioned B. Discussed in detail C. Discussed in detail and included in the mitigation measures D. Discussed in detail and included in project designs
(2) Incorporation of public concerns into the final decision	✓ Considered × Not considered	YES: Considered and specifically mentioned in the environmental authorisation granted NO: Considered, but not specifically mentioned in environmental authorization granted

When the concerns raised by the public in the three EIA cases were reviewed in detail, it became evident that these concerns were similar in nature. As an example, various parties in the EIA cases raised the concern about impacts on watercourses. The concerns were therefore firstly grouped according to the similarity and/or duplication. Secondly, the grouped concerns were categorised according the three concern categories identified by Nadeem and Fishcer (2011) described above.

The sections below discuss the results of the revised Nadeem and Fischer (2011) framework for each of the EIA cases in detail. The tables below list the concerns raised by the public for each EIA case. The sequence of concerns was based on the sequence of that in the EIA documentation. It is important to note that the number of concerns listed in the sections below does not represent the individual number of concerns raised in each EIA case but the number of similar groups of concerns.

5.3.1 Environmental impact assessment Case 1 – New Multi-products pipeline (NMPP) evaluation

The EIA in Case 1 was conducted for the construction of a 554.8km linear pipeline from Jameson Park to Durban. Table 5-5 lists the concerns raised by the public during the New Multi-Products Pipeline (NMPP) development in detail.

The environmental concerns raised in EIA Case 1 focused mostly on the impacts on water resources, air and sensitive ecological areas and the public required more information on the proposed rehabilitation. Generally, the environmental concerns were discussed in detail (14.29%), included in the mitigation measures (71.43%) and included in the project designs (14.29%). The majority of the environmental concerns were included in the mitigation measures (71.43%).

The socio-economic concerns required clarification of the impact on property values, access, current structures and services as well as provision that needs to be made for mechanisms to deal with social concerns/grievances. The response, in which these concerns were addressed, as indicated in Table 5-5, ranged between only mentioned (8.33%), discussed in detail (33.33%), included in the mitigation measures (33.33%) and included in the designs (25%). The socio-economic impacts were equally discussed in detail and included in the mitigation measures.

Numerous concerns were raised regarding physical/spatial impacts, alternatives and other concerns. The public requested clarity on alternatives considered for the pipeline, the pump stations and the use of fuels. Detailed responses and clarifications were subsequently provided in the CRR and final EIR. A separate route changes report was developed as part of the EIA to provide detailed information on why the criteria and process of comparing the route alternatives and to provide details why the southern route was preferred. The integration of the concerns into the EIA report differed and included only mentioning (14.29%), discussed in detail (57.14%), included in mitigation measures (21.43%) and included in the project designs (7.14%). The majority of the physical, alternatives and other concerns were discussed in detail.

Table 5-5: Environmental impact assessment (EIA) Case 1: New Multi-Products Pipeline (NMPP) – public concerns and considerations in the EIA documentation and final decision for EIA. (EA: environmental authorisation)

	Environmental concerns / impacts	Major component		Socio-economic concerns / impacts	Major component		Physical/spatial impacts, alternatives and others	Major component	
		1. In EIA & comments report[7]	2. In final decision, EA granted[8]		1. In EIA & comments report	2. In final decision, EA granted		1. In EIA & comments report	2. In final decision, EA granted
1.	Clarity on construction methods within sensitive areas such as wetland	C	YES	Limited information provided on cultural/heritage sites affected including graves	C	YES	Details required of the blasting requirements	B	NO
2.	Requesting more details on the rescue plan for the impacted biodiversity	C	YES	Negative impact on property values	B	NO	Confirmation required on whether the city / town planned open spaces were taken into account during the planning and studies	B	NO
3.	Specific sensitive areas such as Poortjie Road needs to be conserved	C	NO	Noise impacts on the surrounding residents	D	NO	Details required on what measures / processes/plans will be in place to address pipeline hazards such as explosions and leaks	C	YES
4.	Biodiversity offsets needs to be put in place to conserve biodiversity	B	NO	Relocation of structures and households	B	YES	Comparison of the two alternative routes, northern and southern, to be provided	D	YES
5.	Air quality impacts and measurements	B	YES	Role of municipalities in the EIA	A	NO	Dedicated person required in order to ensure that the maintenance of the pipe is up to date	C	YES
6.	Lack of information on what will be done at stream crossings to prevent or minimize contamination of water	C	YES	Access to properties during construction	D	YES	Proposal of alternative pump station sites	B	YES
7.	Impact on paleontological sites	C	YES	Security mitigation measures	D	YES	Request for clarification on why the pipeline alignment impacts cultivated land instead of grasslands	B	NO
8.	Water pollution/contamination during construction and operations including discharge from the terminals	C	YES	Visual impact mitigations	C	YES	Encourage the use of alternate fuels	A	NO
9.	Environmental management plan should be implemented by senior qualified environmental and social personnel	C	YES	Proposed benefits of the surrounding communities and local employment	B	NO	Final footprint and servitude of the pipeline	B	YES
10.	Rehabilitation of impacted and cleared areas – type of grass that will be used, duration, etc.	C	YES	Compensation for land, structures, houses, fences and crops impacted	B	YES	Inadequate public participation	B	YES
11.	Impacts of sea level rise	D	NO	Requirement for a community liaison officer	C	NO	Construction start date and period	A	YES
12.	Details regarding the hydrostatic testing method	D	NO	Public complaints/grievances mechanism to be developed	C	NO	Risk associated with the pipeline running through communities needs to be highlighted	B	NO
13.	Impact of pipeline on water supply (e.g. boreholes)	C	YES				Appeal process details	B	YES
14.	Invasive species management plans	C	NO				Clarity on construction methods (across a river and road, around a mountain, etc.)	C	YES

[7] **A**=Only mentioned; **B**=Discussed in detail; **C**=Discussed in detail and included in mitigation measures; **D**=Discussed in detail and included in project designs
[8] **YES**=Considered and specifically mentioned in environmental authorization (EA); **NO**=Considered but not specifically mentioned in EA

The summary of the results in Table 5-6 indicates that the environmental, socio-economic and spatial concerns and consideration were almost equally considered and mentioned in the EA granted. This EA consisted of 84 conditions (20 conditions and 64 sub-conditions). A detailed review indicated that 54 conditions (64%) were specific to the project and would therefore represent the concerns and impacts from the three categories (environment, socio-economic and spatial concerns) as indicated in Table 5-6.

Table 5-6: Summary of environmental impact assessment (EIA) Case 1: New Multi-Product Pipeline (NMPP) – public concerns and considerations

Score/criteria	EIA Case 1: NMPP Total %		
	Environmental concerns/ impacts	**Socio-economic concerns/impacts**	**Physical, spatial alternatives and other**
A=Only mentioned	0.00%	8.33%	14.29%
B=Discussed in detail	14.29%	33.33%	57.14%
C=Discussed in detail and included in mitigation measures	71.43%	33.33%	21.43%
D=Discussed in detail and included in project designs	14.29%	25.00%	7.14%
Environmental authorization (EA) granted			
Yes=Considered and specifically mentioned in EA	64.29%	50.00%	64.29%
TOTAL Yes	24/40 **(60%)**		
No=Considered but not specifically mentioned in EA	35.71%	50.00%	35.71%
TOTAL No	16/40 **(40%)**		
Total number of conditions as per EA granted	84 conditions (20 main and 64 sub-conditions)		
Number of project-specific conditions as per EA granted	54 conditions **(64.29%)**		

From Table 5-7 it can be seen that the total percentage of concerns that were considered and specifically mentioned in the EA was slightly lower (60%) than that in the project-pecific conditions (64.29%). The difference between these two percentages for EIA Case 1 is a result of one concern being mentioned in more than one condition in the EA. As an example, a concern relating to the clarification on the construction method across rivers, roads etc. was raised as part of the physical/spatial, alternatives and other impacts and twelve conditions in the EA provided clarity on this one concern.

Since 60% of the public's concerns were considered and specifically mentioned in the EA and 64% of the EA was project-specific, it can be concluded that PP influenced the NMPP project and decision to a certain extent. The content and nature of the concerns raised for the three categories were almost equally consistent with the content of the project-specific conditions.

5.3.2 Environmental impact assessment Case 2 – Durban Berth Upgrade (DBU) evaluation

The EIA in Case 2 was conducted for the deepening, lengthening and widening of Berth 203 -205, Pier 2, container terminal in the Port of Durban. Table 5-7 lists the concerns raised by the public during the Durban Berth Upgrade (DBU) in detail.

The environmental concerns focused on the impact and rehabilitation of the Central Sandbank and the dredging impact of the proposed development. Generally, these environmental concerns were discussed in detail (27%), included in the mitigation measures (60%) and included in the designs (7%). The majority of the *environmental concerns* were included in the mitigation measures. Although the impacts on the Central Sandbank were discussed in detail and were included in the mitigation measures as far as possible, clarification on what would be expected of the developer should the mitigation measures proposed for the Central Sandbank fail was not included in the final EIR or final decision. Impacts on the Central Sandbank were some of the critical concerns raised by the public. Consequently, the omission in the final decision or clarification in the final EIR regarding this matter did not satisfy the public about how the impact would be mitigated. It also reduced the trust of the public in the EIA process, its purpose and the PP process.

The socio-economic concerns raised focused mainly on the cumulative impacts including traffic impact, the lack of a social enhancement plan and possible job opportunities. All the socio-economic concerns were discussed in detail (100%) and included in the mitigation measures as part of the EMPr.

Numerous physical/spatial impacts, alternatives and other concerns were raised. The comments mainly focused on the PP process, details on the various footprints and alternatives, the lack of information on the magnetometer anomalies, the sustainable design and suitability criteria proposed for the DBU. The final EIR provided a detailed response relating to the various port design, dredging and offshore disposal alternatives. The integration of the physical/spatial impacts, alternatives and other concerns into the final EIR differed and two concerns were merely mentioned (18%), three were discussed in detail (27%), four were included in the mitigation measures (36%) and two were included in the designs (18%). The majority of the physical/spatial impacts, alternatives and other impacts were discussed in detail and included in the mitigation measures.

Table 5-7: Environmental impact assessment (EIA) Case 2: Durban Berth Upgrade – Public concerns and considerations in the EIA documentation and final decision for EIA. EA: environmental authorisation

	Environmental concerns/impacts	Major component		Socio-economic concerns/impacts	Major component		Physical/spatial impacts, alternatives and others	Major component	
		1. In EIA & comments report[9]	2. In final decision, EA granted[10]		1. In EIA & comments report	2. In final decision, EA granted		1. In EIA & comments report	2. In final decision, EA granted
1.	Proposed development and previous environmental approval (1999 Record of Decision) are in conflict with one another	B	NO	Development of new job opportunities and use of local labour	C	NO	Lack of consultation with stakeholders involved with service supply (electrical supply feeds and cables; water mains)	B	NO
2.	Impacts on the Central Sandbank are unclear and risky	C	YES	No social enhancement plan	C	NO	Lack of information of the magnetometer anomalies at the various port sites	A	NO
3.	Uncertainty of the success of the proposed extension/re-creation of the sand bank	B	NO	Impacts of dust on social communities during construction period	C	NO	Lack of transparency of risks considered – only medium and high levels indicated.	A	YES
4.	Recreation of sandbank is proposed to be implemented in phases prior to approval being granted	B	YES	Clarification requested on cumulative impacts e.g. traffic and additional services	C	NO	Request for public access to reports and specialist studies as well as the extension of comment submission deadline	C	NO
5.	Lack of clarification should the mitigation measures fail and the Central Sandbank be eroded	A	NO	Establishment, authority and roles and responsibilities of the environmental monitoring committee	C	YES	Lack of comparison between the various footprint options proposed.	C	YES
6.	Chemical composition and quality of disposed dredged material	C	YES				Proposed development has not been contextualised within the development strategy for Durban Bay	C	NO
7.	Limited information provided on storm water management plan	C	NO				No information provided on the suitability criteria and assessment process conducted for the three options of quay wall construction (caisson, sheet-pile and deck-on-pile).	D	NO
8.	Need for continuous environmental monitoring and the development of an Environmental Monitoring Committee (EMC)	C	YES				Request that a detailed explanation is provided as to why each listed activity has been triggered	B	YES
9.	Lack of baseline information	C	YES				The public participation process experienced as extremely defective	B	YES
10.	Impact on marine water quality	C	NO				Lack of information on the demolition of existing infrastructures	C	NO
11.	Inadequate information on air quality	B	NO				Clarification required on what sustainable design principles were considered	D	NO
12.	Impact of climate change on the proposed development with regards to rising sea level rise & CO^2 / greenhouse gas emissions	D	YES						
13.	Clarification on whether carbon tax was taken into account during the specialist studies	C	NO						
14.	Scour protection	C	NO						
15.	Impact of dredging on the ecological functioning of the systems	C	NO						

[9] **A**=Only mentioned; **B**=Discussed in detail; **C**=Discussed in detail and included in mitigation measures; **D**=Discussed in detail and included in project designs

[10] **YES**=Considered and specifically mentioned in environmental authorization (EA); **NO**=Considered but not specifically mentioned in EA

The summary of the results in Table 5-8 indicates that the majority of the concerns raised by the public for all three categories (environment, socio-economic and spatial concerns) were poorly integrated into the decision. The environmental concerns (40%) and the physical/spatial, alternatives and other concerns (44.44%) were almost equally mentioned in the EA granted, but still received a low integration percentage. Specific mentioning of the socio-economic concerns (20%) and recommendations were very limited in the EA granted, which consisted of 89 conditions (45 conditions and 44 sub-conditions). Based on a detailed review, it can be summarised that 51 conditions (57.30%) were specific to the project and would therefore represent the concerns and impacts from the three categories as indicated in Table 5-7.

Table 5-8: Summary of environmental impact assessment (EIA) Case 2: Durban Berth Upgrade (DBU) – public concerns and considerations

Score/criteria	EIA Case 2 – DBU Total %		
	Environmental concerns/ impacts	**Socio-economic concerns/impacts**	**Physical, spatial alternatives and other**
A=Only mentioned	6.67%	0.00%	18.18%
B=Discussed in detail	26.67%	0.00%	27.27%
C=Discussed in detail and included in mitigation measures	60.00%	100.00%	36.36%
D=Discussed in detail and included in project designs	6.67%	0.00%	18.18%
Environmental authorization (EA) granted			
Yes=Considered and specifically mentioned in EA	40.00%	20.00%	36.36%
TOTAL Yes	11/31 **(35.48%)**		
No=Considered but not specifically mentioned in EA	60.00%	80.00%	63.64%
TOTAL No	20/31 **(64.51%)**		
Total number of conditions as per EA granted	89 conditions (45 main and 44 sub-conditions)		
Number of project specific conditions as per EA granted	51 conditions **(57.30%)**		

From Table 5-8 it can be seen that the total concerns that were considered and specifically mentioned in the EA had a much lower percentage (35.48%) than that of project-specific conditions (57.30%). Similar to EIA Case 1, the difference between these two percentages for EIA Case 2 was also due to a concern raised by the public being mentioned in more than one condition. As an example, four concerns relating to the Central Sandbank (impacts, success of recreation, phases of recreation and lack of clarification should mitigation fail) was raised as part of the environmental concerns and 14 conditions in the EA provided clarity on these four concerns. The project-specific conditions therefore scored a higher percentage.

Since only 35.48% of the public concerns were considered and specifically mentioned in the EA, PP had a limited influence on the final decision made regarding DBU project. When the

project-specific conditions (57.30%) were considered as well, it can be concluded that PP had an influence on the decision made for EIA Case 2 only to a certain extent. Out of the three categories, it was mostly the environmental concerns raised by the public that had the biggest influence on the decision made.

5.3.3 Environmental impact assessment Case 3 – Davel to Nerston Swaziland Rail Link (DN-SRL) evaluation

The EIA in Case 3 was conducted for the upgrade of the existing railway and the construction of a new railway in Mpumalanga. Table 5-9 lists the comments and concerns raised by the public during the Davel to Nerston Swaziland Rail Link (DN-SRL) development in detail.

The environmental concerns focused on impacts on the water resources, firebreaks, loss of species, rehabilitation and alien vegetation management. Overall, the environmental concerns were discussed in detail and included in the mitigation measures (90%).

The majority of the concerns raised by the public were socio-economic concerns, which focused on the impacts on property values, loss of income, impact on structures/houses and the relocation thereof, access to properties and influx of job seekers. Most of these were discussed in detail and included in the mitigation measures (66.67%) and designs (11.11%). A few concerns relating to property value and income loss were however only mentioned and not adequately addressed (22.22%).

Numerous physical/spatial impacts, alternatives and other concerns were raised. The comments mainly focused on the PP process, details on the various footprints and alternatives, the construction start and sequencing. The final EIR provided a detailed response relating to all of the alternatives considered, including alternatives that were found not to be feasible. The integration of the physical/spatial impacts; alternatives and other concerns into the EIA report differed and six concerns were merely mentioned (37.5%), seven were discussed in detail (43.75%), two were included in the mitigation measures (12.5%) and only one was included in the designs (6.25%). The majority of these concerns were discussed in detail.

Table 5-9*:* Environmental impact assessment (EIA) Case 3: Davel to Nerston Swaziland Rail Link – public concerns and considerations in the EIA documentation and final decision for EIA. EA: environmental authorisation

	Environmental concerns/impacts	Major component		Socio-economic concerns/impacts	Major component		Major component	Major component	
		1. In EIA & comments report[11]	2. In final decision, EA granted[12]		1. In EIA & comments report	1. In EIA & comments report		1. In EIA & comments report	1. In EIA & comments report
1.	Impacts on the water resources in the proposed project area (rivers, wetlands etc.)	C	NO	Safety concerns related to access roads adjacent to the railway line	C	NO	Clarifications required on the legal crossings of people between South Africa and Swaziland	A	NO
2.	Concern about air pollution, noise, wildlife, and dust	C	NO	Details required regarding access roads into properties and plantations	D	NO	Concern about cattle being stolen	C	NO
3.	Request to implement firebreaks	C	NO	Loss of future income	A	NO	Details required on whether borrow pits will be required and their locations	A	NO
4.	Loss of species along the railway line	C	YES	Lack of information on what will happen to houses and graves within the proposed development area	C	YES	Date of project commencement and project duration to be provided	A	YES
5.	Impact on water service structures – irrigation and water pipelines to cattle in the vlei	C	NO	Requirement for proper fencing along the railway alignment	C	NO	Historical issues caused by similar projects	A	NO
6.	Request on proposed mitigation measures of the smoke caused by the train	A	NO	Local loading point to be considered in order to benefit the local wood farmers	A	NO	Local farmers provided an alternative and requested the engineer to investigate the feasibility	D	YES
7.	Need for continuous environmental monitoring and the development of an Environmental Monitoring Committee	C	YES	Clarity is required on how the hiring of employees will take place	C	NO	Inadequate EIA consultation process	B	YES
8.	Landowners are concerned about the use of ground water during construction	C	NO	Requested clarification on commitment to corporate social investments	A	NO	Requested whether 21 days is a reasonable timeframe for affected parties to provide comments	B	NO
9.	Request that all impacted areas are to be rehabilitated	C	YES	The community requires the transfer of skills during the implementation of this project.	C	NO	What type of commodities will be transported and whether the commodities are hazardous to be clarified	B	NO
10.	Information requested on the management of alien vegetation within the railway servitude	C	YES	Proposed benefits of local businesses and local communities	C	NO	Requested clarification on the process if neither of the railway alternatives are found feasible	B	NO
11.				Information required on compensation for land, plantations and grazing areas.	C	NO	Limited information on whether fatal flaws have been identified	A	NO
12.				Request for information on proposed relocation of houses	C	NO	Request to clarify during which stage of the EIA process does the project become irreversible	B	NO
13.				Influx of workers into the area to benefit from proposed job opportunities	C	NO	Lack of information on original alignment and alternatives that were investigated	B	NO
14.				Insufficient number of vehicle crossing points across the railway line which could lead to people being trapped in case of a fire and impact on operational costs with the transportation of harvested goods	D	NO	Construction sequence/process requested	A	NO

[11] **A**=Only mentioned; **B**=Discussed in detail; **C**=Discussed in detail and included in mitigation measures; **D**=Discussed in detail and included in project designs

[12] **YES**=Considered and specifically mentioned in environmental authorization (EA); **NO**=Considered but not specifically mentioned in EA

	Environmental concerns/impacts	Major component		Socio-economic concerns/impacts	Major component		Major component	Major component	
		1. In EIA & comments report[11]	2. In final decision, EA granted[12]		1. In EIA & comments report	1. In EIA & comments report		1. In EIA & comments report	1. In EIA & comments report
15.				Request to liaise with private land owners prior to commencement	C	YES	Lack of emergency response mitigations / procedures	B	NO
16.				Lack of sharing impacts on private properties and providing land acquisition plans	C	NO	Final project footprint and railway servitude to be provided	C	YES
17.				Public complaints/grievances mechanism to be developed	C	NO			
18.				Impact of railway line on the property value	A	NO			

The summary of the results for EIA Case 3 in Table 5-10 indicates that the majority of the concerns raised by the public for all three categories were poorly integrated into the decision granted. The environmental concerns (40%) were mostly integrated, but still received a low integration percentage. Specific mentioning of socio-economic concerns (11.11%) and recommendations was very limited in the EA granted.

Table 5-10: Summary of environmental impact assessment (EIA) Case 3: Davel to Nerston Swaziland Rail Link (DN-SRL) – public concerns and considerations

Score / Criteria	EIA Case 3 - DN-SRL Total %		
	Environmental concerns/impacts	**Socio-economic concerns/impacts**	**Physical, spatial alternatives and other**
A=Only mentioned	10.00%	22.22%	37.50%
B=Discussed in detail	90.00%	0.00%	43.75%
C=Discussed in detail and included in mitigation measures	0.00%	66.67%	12.50%
D=Discussed in detail and included in project designs	0.00%	11.11%	6.25%
Environmental authorization (EA) granted			
Yes=Considered and specifically mentioned in EA	40.00%	11.11%	25.00%
TOTAL Yes	10/44 **(22.73%)**		
No=Considered but not specifically mentioned in EA	60.00%	88.89%	75.00%
TOTAL No	34/44 **(77.27%)**		
Total number of conditions as per EA granted	44 conditions (32 main and 12 sub-conditions)		
Number of project-specific conditions as per EA granted	11 conditions **(25.00%)**		

The EA granted consisted of 44 conditions (32 conditions and 12 sub-conditions) and based on a detailed review, it can be summarised that 11 conditions (25.00%) were specific to the project and would therefore represent the concerns and impacts from the three categories (environment, socio-economic and spatial concerns) (Table 5-9). From Table 5-10 it can be seen that the total number of concerns that were considered and specifically mentioned (22.73%) had an almost equal percentage to the project-specific conditions (25.00%). In contrast with EIA Cases 1 and 2, the gap between these two percentages was smaller in EIA Case 3 because one concern raised was dealt with in one condition.

Since only 25% of the public concerns were considered and specifically mentioned in the EA, it seems that PP had very limited, if any, influence on the decision made for EIA Case 3.

5.3.4 Summary of the results for the three environmental impact assessment cases

The section below provides a brief overview of the results for the three EIA cases. Figure 5-13 illustrates the manner in which the public concerns was considered in the final EIR (details in Annexure 17).

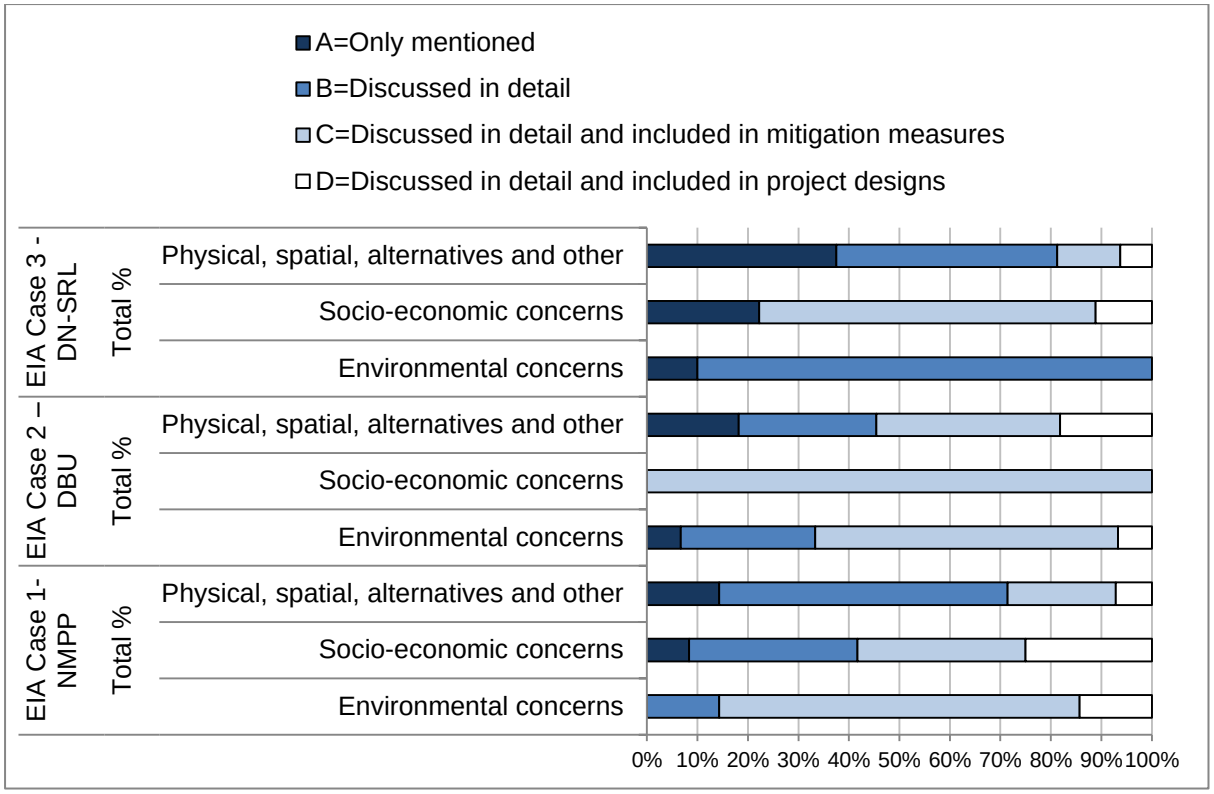

Figure 5-13: Consideration of public concerns in the final environmental impact report for the three environmental impact assessment (EIA) cases investigated in this study.
(DBU: Durban Berth Upgrade; DN-SNL: Davel to Nerston Swaziland Rail Link; NMPP: New Multi-Products Pipeline)

Out of the three EIA cases, EIA Case 2 (DBU) had the most environmental concerns raised and EIA Case 3 (DN-SRL) had the most socio-economic concerns. As seen in Figure 5-13, the majority of the concerns in all three categories were generally at level B (discussed in detail) or C (discussed in detail and included in the mitigation measures). The public concerns hardly reached level D (discussed in detail and included in the project designs). The physical/spatial impacts, alternative and other impacts raised in EIA Case 3 (DN-SRL) scored the highest in level A (only mentioned) by only mentioning 37.50% of the concerns raised in detail in the final EIR. The environmental concerns raised for EIA Case 3 also had the highest score in level B (discussed in detail) by discussing in detail 90% of the concerns raised in the final EIR. The socio-economic concerns raised in EIA Case 2 (DBU) scored the highest in level C by including 100% of the these concerns in the mitigation measures. The

socio-economic concerns raised for EIA Case 1 (NMPP) scored the highest in level D by including 25% of the these concerns in the project designs.

EIA Case 3 mostly only mentioned or discussed the concerns in detail without including the concerns in the project mitigation measures or designs and, it can be concluded that this contributed to the low percentage of presentation of the concerns specifically mentioned in the EA granted. Therefore, the more detailed and integrated the public concerns are in the final EIR and project, the more likely the concerns will be specifically mentioned in the EA granted.

Figures 5-14–5-16 illustrate whether the concerns for each category was specifically mentioned in the decision (details in Annexure 18-20). The decisions for EIA Case 2 and EIA Case 3 mostly did not specifically mention the concerns raised by the public. EIA Case 1 on the other hand, specifically mentioned most of the concerns for all three of the concern categories.

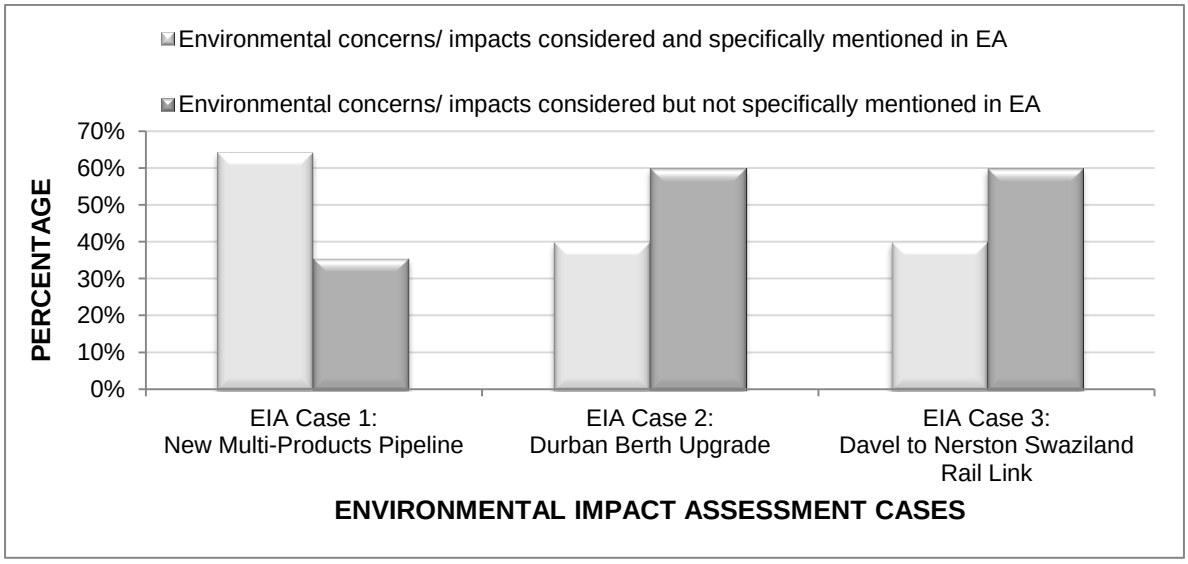

Figure 5-14: Consideration of environmental concerns for the three environmental impact assessment (EIA) cases investigated in this study. (EA: environmental authorization)

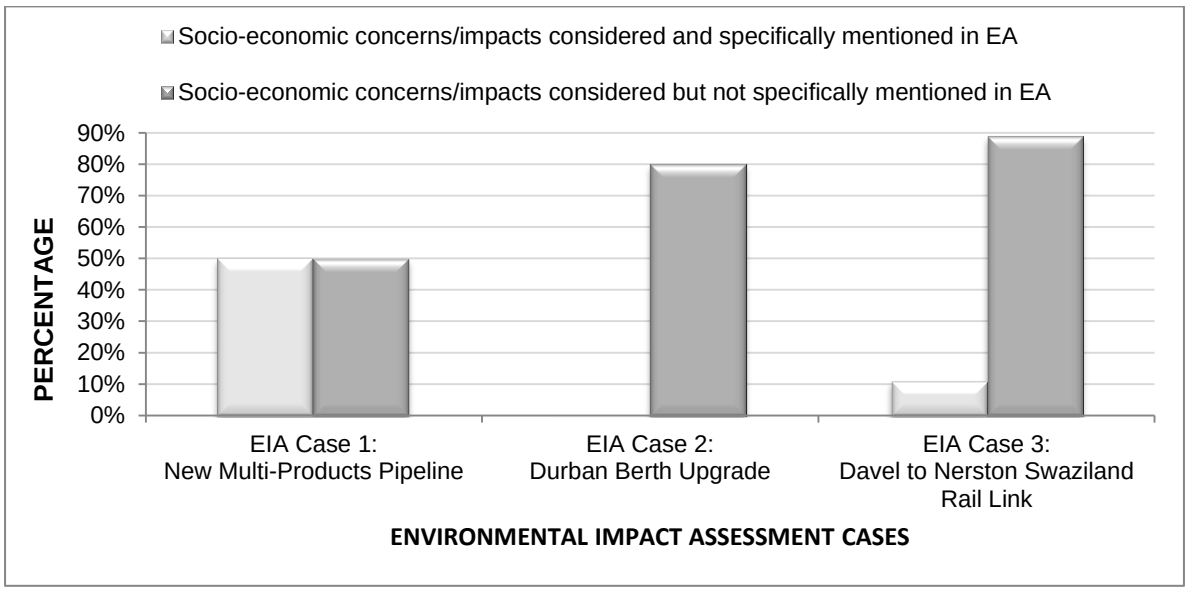

Figure 5-15: Consideration of socio-economic concerns for the three environmental impact assessment (EIA) cases investigated in this study (EA: environmental authorization)

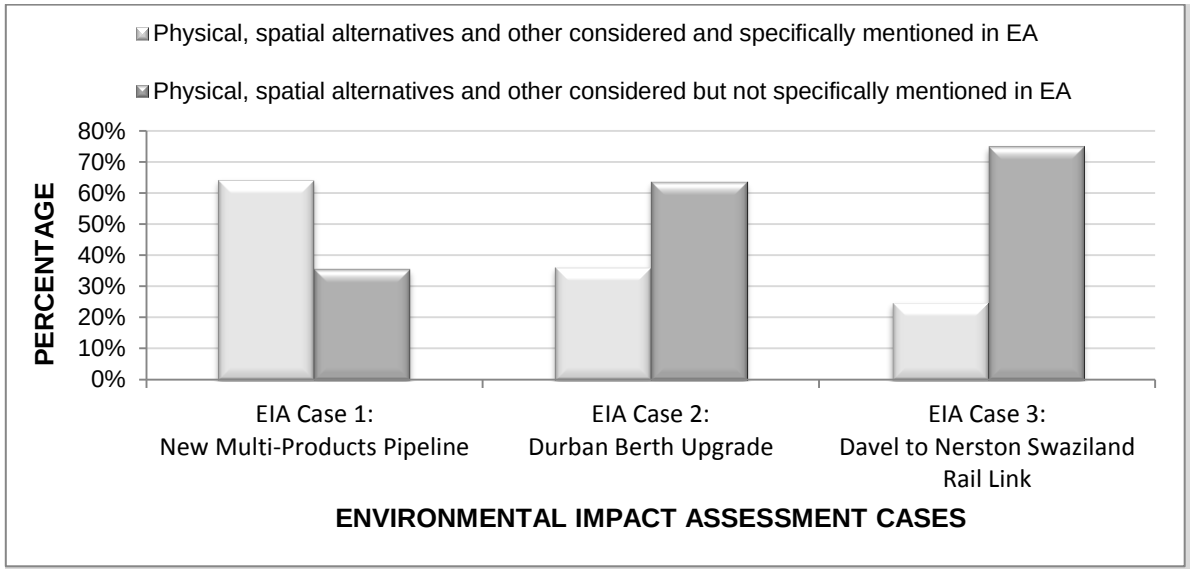

Figure 5-16: Consideration of physical, spatial, alternatives and other concerns for the three environmental impact assessment (EIA) cases investigated in this study. (EA: environmental authorization)

Figure 5-17 illustrates the total concerns considered and mentioned in the EA granted. The EA granted for EIA Case 1 specifically mentioned the majority of the concerns raised. The content of the decision/EA granted for EIA Case 1 correlated with public concerns and addressed them in detail. The EA granted for EIA Case 2 did not specifically mention all concerns raised by the public. There is, however, a great percentage of the EA that was project-specific. As described above, the content of the decision specifically only mentioned a few concerns but elaborated on each concern and hence the project-specific content of the decision/EA granted increased. The EA granted for EIA Case 3 hardly mentioned concerns

raised by the public. In contrast with EIA Case 2, because of the limited mentioning of public concerns in the decision, the project-specific content in the decision/EA granted was also limited.

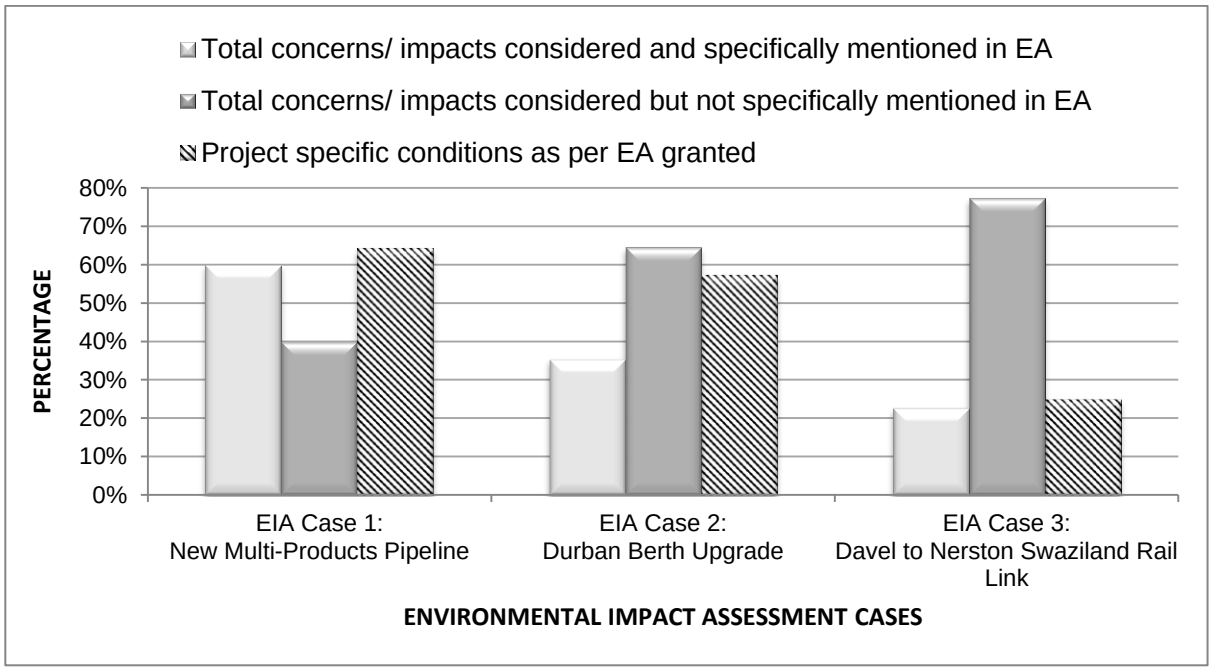

Figure 5-17: Total concerns considered and mentioned in decisions granted for the three environmental impact assessment (EIA) cases investigated in this study.

Taking all of the above into account, the following can be concluded:

- EIA Cases 1 and 3 were consistent when comparing concerns specifically mentioned in the decision/EA granted and the project-specific content in the decision;
- EIA Case 2 had the largest difference between concerns specifically mentioned in the decision/EA granted and the project-specific content in the decision; and
- Since only EIA Case 1 specifically included more than 50% of public concerns in the decision, it can be concluded that the public concerns influenced the decision.

The open-ended questions that also formed part of the survey are discussed in the next section by means of a different method (direct content analysis) to be able to present the data accurately in order to evaluate whether PP prior to the EIA enhanced the prescribed EIA.

5.4 Survey question results - direct content analysis

The open-ended questions (survey questions 16-18) relating to why the public appealed EAs and possible enhancements were investigated by means of directed content analysis

(described in Section 4.6 in this study). The investigation and analysis of why the public appeals and what enhancements they proposed will indicate to what extent PP prior to the EIA enhanced the prescribed EIA PP process. As described in Chapter 4 of this study, the reasons for appeal and recommendations were grouped in coding categories by means of direct content analysis. This means that a common word within the reason for appeal allowed them to be grouped into categories. The coding categories as determined in Chapter 4 (Table 4-6) are listed in Table 5-11 again for ease of reference.

Table 5-11: Coding categories for reasons why the public appeals used during data analyses by means of direct content analysis

Question (Q)	Coding categories		
Survey Question 18 In your opinion, why do interested and affected parties appeal environmental authorisations?	1. Lack of public concerns and impacts integration	3. Developer historical issues	4. Lack of community relationship
	2. Process is flawed	5. Insufficient/impractical mitigations and conditions	

The responses supported the results from Figure 5-12. More than half of the respondents indicated that the public appeals the decisions for projects due to their issues and suggestions not being considered (60%). This then reflects the perception of the public that their interests were ignored and that they were not heard, thus leading to a lack in trust. As already illustrated in Figure 5-17 and supported by Figure 5-18, the respondents also indicated that the "public's interests are not met by the content of the authorisation", as the CA did not really consider the public's interests. Two other prominent reasons for why the public appealed the decisions, as illustrated in Figure 5-18, were the historical non-compliances of the developer (12%) and the lack of interest from the developer to build proactive relationships with communities (12%. (details in Annexure 21).

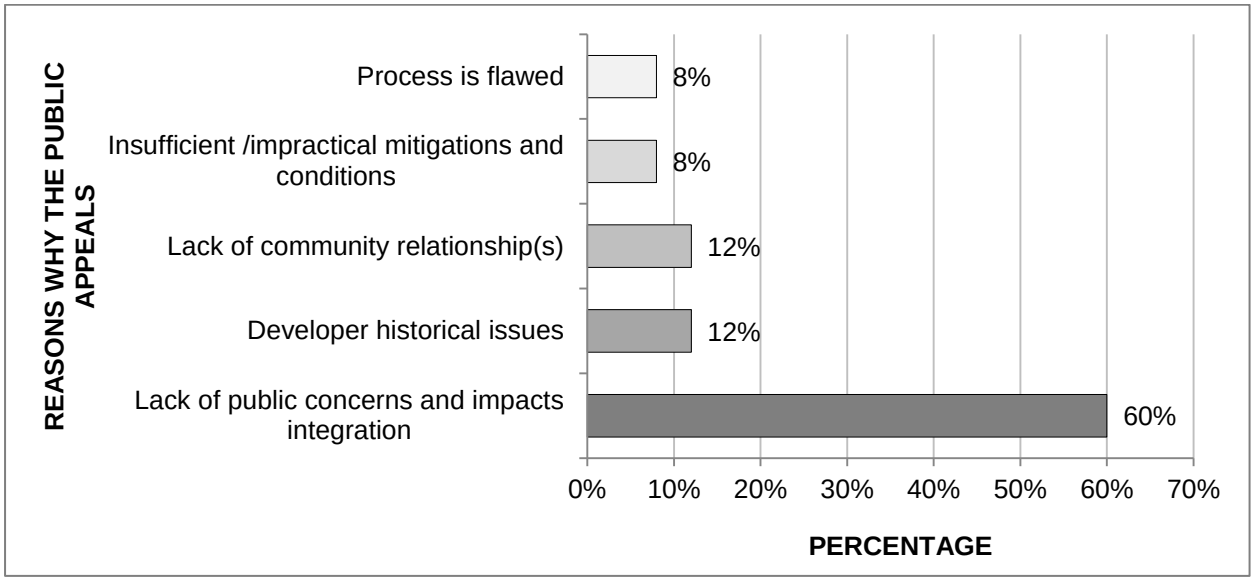

Figure 5-18: Reasons for why the public appealed environmental authorisations as indicated by the respondents in the open-ended questions of the survey

The last section of the survey required the respondents to provide recommendations for enhancing public engagements prior to and during the EIA process. As described in Chapter 4 of this study, the recommendations were grouped in coding categories by means of direct content analysis. This means that a common word within the recommendations allowed the recommendations to be grouped into categories. The coding categories as determined in Chapter 4 (Table 4-6) are listed in Table 5-12 again for ease of reference.

Table 5-12: Coding categories used for engagement recommendations during data analyses by means of direct content analysis

Question (Q)	Coding categories		
Survey Question 16 What recommendations, if any, would you make to enhance engagements prior to the environmental impact assessment (EIA) process?	1. Public participation (PP) media	4. PP audience	7. Engagement timing
	2. Project Information	5. Specialists engagements	8. PP purpose
	3. Engagement structure and process	6. No recommendations	
Survey Question 17 What recommendations, if any, would you make to enhance engagements during the EIA process?	1. Fragmented view of development	5. Lack of local knowledge consideration	8. Pressure placed on Specialists
	2. Political influence	6. Regulator influence	9. Developer involvement
	3. Interdependency	7. PP media	10. PP process in EIA
	4. No recommendations		

The recommendations from the respondents were grouped according to these coding categories. Figure 5-19 illustrates the recommendations proposed by the respondents for engagements prior to the EIA.

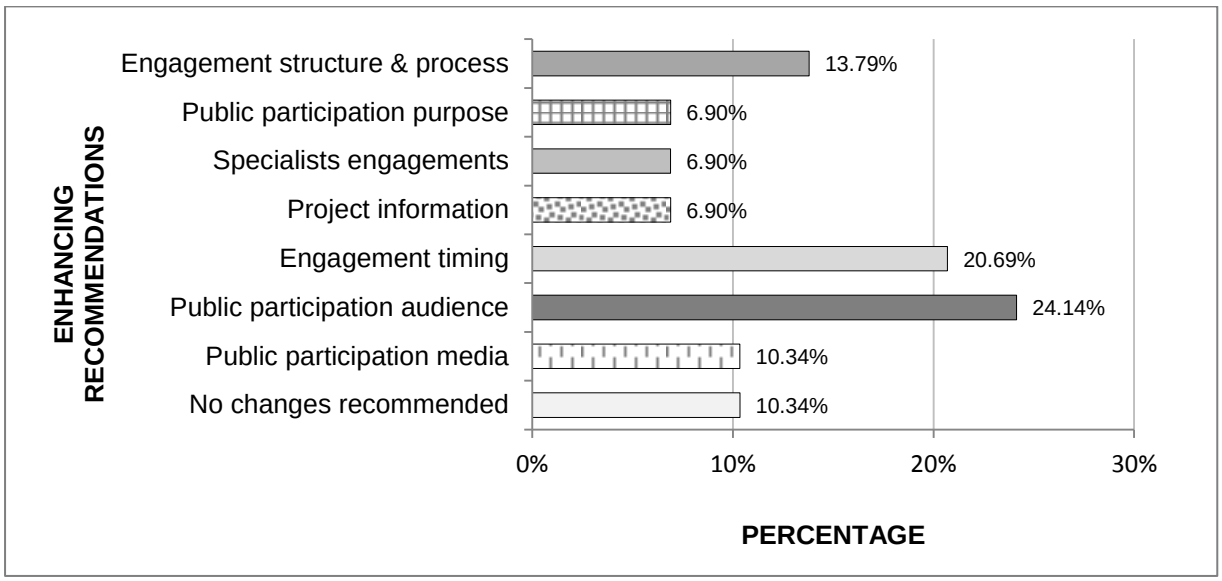

Figure 5-19: Recommendations for enhancing public engagements prior to environmental impact assessment

The main recommendation for prior engagements relates to the PP audience (24.14%). The audience should be specific for the engagements to be focused on the audience and must include all affected landowners as a minimum requirement. The second main recommendation for prior engagements relates to engagement timing (20.69%). The timing recommendations not only include when the engagement must happen but also refers to project stages and continuous engagement. The recommendation includes "shorter time-scales between the public announcement and review meetings", inclusion of "engagements…when options are identified" and to "allow for many engagements over a long period of time". The third main recommendation for prior engagements relates to the engagement structure and process (13.79%) and should be improved to ensure that the "engagements are focused, well-structured and open-ended". Another recommendation pertaining to the structure that is currently absent in the EIA and PP regulations is the "incorporation of conflict management elements in the PP approach" (details in Annexure 22).

Figure 5-20 illustrates the recommendations proposed by the respondents for public engagements during the EIA (details in Annexure 23). The main recommendation for these engagements relates to the PP process (20%) and regulator influence (20%). The recommendations regarding the PP process were contrasting as certain respondents recommended that the "EIA process should put more weight on the PP process" while others recommended the EIA process should "abandon the PP process in its entirety as it serves no meaningful purpose".

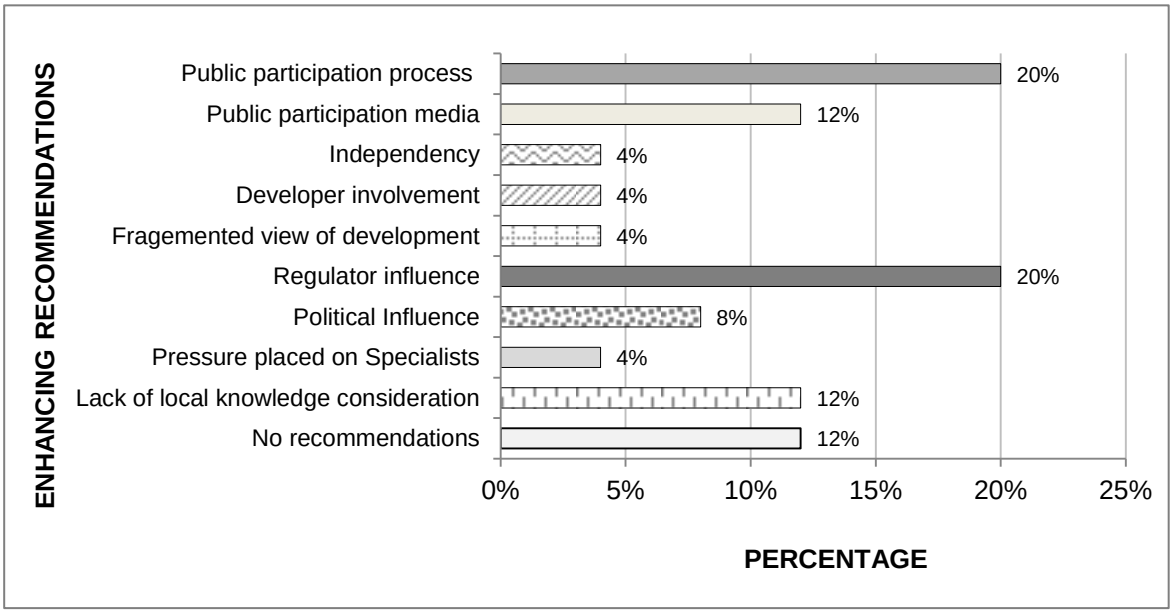

Figure 5-20: Recommendations to enhance public engagements during environmental impact assessments as indicated by the respondents

In general the respondents' recommendations indicated that the PP process as part of EIA is sufficient *if* it is implemented, but respondents perceived the PP process as not being implemented. The regulator influence recommendations required the decision maker to be competent, the CA to be more involved and the CA to "appropriately respond to correspondence around reasons for decisions". The second set of main recommendations focused on the lack of local knowledge consideration (12%) and PP media (12%). The local knowledge recommendations required the applicant "to take into consideration the importance of indigenous knowledge" and to "use personnel who understand the locality of the project to manage the public involvement and contributions". The PP media, similar to the prior engagements, required that a well-established database is developed and that the "language used is understood".

From the recommendations proposed for public engagements both prior to and during the EIA, the following commonalities could be concluded - the PP media used, the audience and certain aspects of the process such as timing and conflict management needed to be enhanced. From the recommendations the timing for engagements is motivated to commence prior to the EIA process as this is where the public will still be able to recommend and discuss alternatives. Should the EIA process however enable the public to recommend and discuss alternatives that will ultimately be able to influence the final decision, PP within the EIA process will suffice. The public therefore only requires a genuine opportunity to

discuss alternatives and to raise comments and concerns; the timing thereof is therefore irrelevant. The requirement for prior PP therefore still remains elusive.

5.5 Conclusion

This chapter discussed the results from the survey and the three EIA cases. The biggest respondent group for the surveys was the public (community members, landowners, environmental NGOs, private sector/business, associations and academia) and the views from the public were therefore dominant in the survey responses.

The survey results indicated that engagements prior to the EIA process are perceived to enhance the EIA PP process as well as providing an opportunity to provide alternatives. The results also indicated that the current PP during the EIA process is indeed achieving it purpose by providing project and EIA related information to the public, to enhance the quality of the decision making process and to minimize environmental and social impacts.

The data showed that prior engagements of 1-3 times or more than 3 times during the EIA were the most common phases in stakeholder engagement. Development projects are mostly governed by some sort of project life-cycle process that consists of various stages/phases and the survey results indicated that the respondents were mostly engaged during the EIA phase, after the specialist studies had been conducted.

Engagements, whether prior to or during the EIA, require detailed planning, media usage and documentation. At first glance it seems that public meetings and notices were the most commonly used media, but a detailed investigation indicated that internet media were the most frequently used media for PP both prior to and during the EIA public engagements. However, internet media were not regarded as the most effective media. The results indicated that public meetings (focus group meetings and open days) and personal one-on-one meetings were the most effective media used prior to and during the EIA public engagements. The results showed that the respondents perceived that there was value in prior engagements and that it was beneficial to the EIA and project. It is also evident from the results that stakeholder engagements prior to the EIA were preferred by most of the I&APs.

Ultimately, public engagements prior to and during the EIA should be able to influence decision making and the respondents generally agree, but disagree that the CA took the public needs into account. The detailed investigation of the three EIA cases supported this

statement as two out of three EIA cases failed to include the majority of the public concerns into the EA granted.

Lastly the the open-ended questions were discussed and the results recommended that public engagements, both prior to and during the EIA, the PP media used, the audience and certain aspects of the process such as timing and conflict management, needed to be enhanced.

CHAPTER 6
CONCLUSION

6.1 Introduction

The aim of this study was to investigate the need for public participation (PP) in the early project phases prior to the South African environmental impact assessment (EIA) process in Transnet SOC Ltd case studies. This was done by evaluating three particular EIA cases in the South African context.

In order to achieve this study aim, the following objectives were set:

1) To investigate the perception of PP prior to and during the EIA in a sample of Transnet projects;
2) To examine the influence of PP on the proposed development and decision making process; and
3) To evaluate to the possible enhancements of public participation prior to and during the EIA process.

This chapter addresses the research aim and objectives and concludes with recommendations for possible future research.

6.2 Limitations of the study

Limitations were discussed in details in Chapter 4, and related to collecting and analyzing data. The verification and validation of the PP contact details registers therefore caused a limitation to the gathering of data. A further limitation was the lack of survey participation.

6.3 Summary of results

The concept of “early” engagement is a golden thread throughout literature that focusses on PP in EIA. This study explored a variety of components relating to PP. In the broadest sense PP was discussed based on Arnsteins’ definition and ladder of PP. The literature review indicated that the concepts and models used to define PP and the different forms thereof have evolved since the early days of EIA. The model and form of PP is influenced by its purpose, audience, legislation and governing processes. The quality of PP is determined partly by the timing. From literature review it became clear that PP timing also needs to understand “when is early too early”. The balance between when is the earliest that participation can be implemented in order to be able to influence the decision and when will

participation be regarded as too early with limited information is available to promote discussions must be determined.

The first objective was to investigate the perception of PP prior to and during the EIA in a sample of Transnet projects. This objective was achieved as engagements prior to the EIA process were investigated and the respondents indicated that PP prior to the EIA process enhanced the EIA PP process and offered an opportunity to provide alternatives. The current purpose of the legislated EIA PP process was further investigated and the purpose is to provide project- and EIA-related information to the public, to enhance the quality of the decision-making process and to minimize environmental and social impacts

The second objective was to examine the influence of PP on the proposed development and decision-making process. This objective was achieved by investigating three EIA cases in detail against the revised Nadeem and Fischer (2011) influence framework. The study found that decision makers/competent authority (CA) did not take the public needs into account to a satisfactory degree. The results of the detailed investigation of the three EIA revealed that two out of the three EIA cases failed to include the majority of the public concerns into the environmental authorisation (EA). From the three impact categories the environmental concerns raised by the public are mostly considered during the decision making process by the CA. Thereafter the socio-economic concerns are included and the impacts that are the least considered is the physical, spatial and other. The results confirmed that the public still perceives the PP in EIA as ineffective as it is rare that the comments and recommendations raised are fully incorporated into the process or final decision. The study results reiterated that PP in these EIAs aims to only “consult” and submit a table of comments from the I&APs, rather than to facilitate genuine participation. It can therefore be concluded that public participation has a limited if any influence on the proposed development and decision-making process.

When examining the influence of PP on the proposed development and the decision-making process the appeals from the public can also be considered as an indicator of PP influence and can therefore be included in the results. The detailed investigation of the three EIA cases showed that EIA Case 1, which had prior engagements and included 50% of public concerns in the decision still had an appeal lodged against the decision. EIA Case 2 that had limited prior engagements and had the largest difference between concerns specifically mentioned in the decision and the project specific content in the decision, also had an appeal lodged against the decision. It can therefore almost seem surprising that EIA Case 3, which had no prior engagements and only considered 25% of the public concerns, had no

appeals lodged against the decision. A possible conclusion from these results is that a more active PP process can extend beyond the decision process by means of appeals. EIA Case 3, in contrast with EIA Case 1 and 2, had a relatively dormant PP that reflects lesser PP involvement, which leads to a reduced involvement in the PP process, and hence no appeal was lodged. An appeal can be seen as attempting to influencethe decision-making process after the decision has been made, which is the reason why an appeal process exists. The conclusion from this study is therefore that appeals support and are indicative of a more active PP process.

The third objective was to evaluate possible enhancements to public participation prior to and during the EIA process.. The surveys revealed the publics' perception on enhancements that can be implemented for PP prior to and during the EIA. The common enhancements focused on the PP audience, the media used and the PP process itself such as the timing and conflict management. ..

The results and recommendations from this study confirms that engagement prior to the EIA process is required as the public perception is that it is during these prior engagements where the public will still be able to recommend and discuss alternatives. If the EIA PP however address the latter requirement, then possibly the PP within the EIA process will be sufficient and no prior engagements will be needed.

6.4 Further studies

In order to address the limitations identified as part of this study it is recommended that recent and a larger number of transport cases studies are investigated to determine whether prior publication is implemented more frequently than represented by this study results. Another recommendation to test and possibly strengthen these results is to conduct interviews with key stakeholders of the various stakeholder groups for each of the case studies investigated. Further and more detailed research is recommended to investigate to what extend PP prior to the EIA actually enhances the prescribed EIA PP.

6.5 Final conclusion

It can be concluded that it is not necessarily the timing of the engagement as a stand-alone component that can enhance the prescribed EIA and PP process but also the media used, transparency of the process, sufficient opportunities provided, commitment to consider

concerns and recommendations, enabling the public to influence the decision, willingness of the developer to engage and the public to participate.

Despite the variation of PP implementation, this study highlighted that participation in decision-making has broadened the public's view on democracy and has evolved from an optional "nice to have" to a fundamental democratic right. As stated by He *et al*. (2016:6), and confirmed by this study the public should be engaged as *"social acceptance is a major institutional risk in large infrastructure projects".*

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Zithole Consulting. 2008b. Proposed new multi-products pipeline project, Transnet Pipelines, Durban, KwaZulu Natal to Jameson park near Heidelberg, Gauteng. Final environmental impact report Appendix 4-2: Record of public participation activities ((DEA reference number: 12/12/20/753), November 2008. Halfway house: Zithole consulting

Zithole Consulting. 2008c. Proposed new multi-products pipeline project, Transnet Pipelines, Durban, KwaZulu Natal to Jameson park near Heidelberg, Gauteng. Final environmental impact report Appendix 4-3: Comment on draft EIR and accompanying reports (DEA reference number: 12/12/20/753), November 2008. Halfway house: Zithole consulting

ANNEXURE 1 - *Environmental Impact Assessment Case 1: New Multi Product Pipeline specialist studies and supplementary reports*

Specialist Studies
1. Air Quality 2. Commercial farming 3. Cultural heritage 4. Ecological Risks and hazards (Operational Phase) 5. Economics 6. Geo-hydrological Risks 7. Geotechnical Risks 8. Hydrology and Inundation 9. Natural Heritage of Inland Terminal: (A) Ecological Screening; (B) Herpetofauna; (C) Avifauna; (D) Wetlands and Aquatic Systems 10. Natural Heritage of the Trunkline: (A) Ecological Screening Durban to Kiesbeen; (B) Ecological Screening Kiesbeen to Jameson Park; (C) Erosion risk hazard; (D) Wetlands 11. Noise 12. Perception study 13. Poor rural farming communities and informal settlement 14. Property value 15. Risk assessment 16. Transportation 17. Visual Aesthetics 18. Water pollution study
Supplementary reports
i. NMPP Lion park to Mpushini Environmental evaluation of routing ii. Current and future land use at the N3/Lion park interchange, Ashburton iii. Current and future land use around inland terminal iv. Land use/ Environmental framework, South Durban v. Hydrotesting of the NMPP trunkline vi. Aquatic baseline for Trunkline route vii. Possible effect of the pipeline on Borehole and spring water supply in the Curry's Post area viii. Ecological perspective of changes necessary to ensure minimization of impact on NMPP construction on two springs in the Curry's Post area ix. An ecological review of the suitability of 3rd to 5th order river crossings of the NMPP Trunkline route

ANNEXURE 2 - *Environmental Impact Assessment Case 2: Durban Berth Upgrade (DBU) specialist studies*

Specialist Studies
1. Estuarine Biodiversity specialist study
2. Avifauna Specialist study
3. Marine Archaeology Assessment
4. Economic Impact Assessment
5. Sediment and Chemical analysis of dredge material
6. Ecological impact on the Central Sandbank study
7. Assessment of indirect and direct impacts on the little lagoon
8. Sediment Plume Analysis (Internal & External) – Comparison of type of dredging
9. Shoreline stability – offshore sand winning site
10. Sediment plume analysis – Ecological impacts on the Central Sandbank
11. Water energy analysis – Offshore borrow area and Offshore disposal area
12. Water energy analysis – Ecological impacts on the Central Sandbank
13. Geotechnical study
14. Turbidity study – Impacts of dredging and sand winning
15. Bathymetric survey including: Central Sandbank; Offshore Disposal site; Sand winning site
16. Technical Assessment of the three alternatives

ANNEXURE 3 - *Environmental Impact Assessment Case 3: Davel to Nerston Swaziland Rail Link (D-N SRL) specialist studies*

Specialist Studies
1. Heritage Impact Assessment 2. Ecological Impact Assessment 3. Paleontological Assessment 4. Air quality impact assessment 5. Geo-hydrological impact assessment 6. Hydrological impact assessment 7. Noise and vibration impact assessment 8. Social impact assessment 9. Socio-economic impact assessment

ANNEXURE 4 - *Survey completed by respondents*

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INTRODUCTION

Researcher: Mrs. Biance Schoeman, Telephone no: 078 099 0369

Supervisor: Prof. Luke Sandham, Office Telephone no: 018 299 1585

Dear Respondent,

I, Biance Schoeman, a Masters candidate, in the School of Geo and Spatial Sciences at the North-West University, hereby invite you to participate in a research study entitled:

"Engagement prior to and during the Environmental Impact Assessment (EIA) process: Transnet case studies".

Participating in this questionnaire is voluntary.

Sincerely,

Biance Schoeman
Research Student
18 May 2016

Respondent:
I have read and understood the above information. I hereby provide consent to participate in the questionnaire. I fully understand that participation is voluntary.

By clicking NEXT you hereby grant consent to participate in this questionnaire.

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Engagement prior to and during the EIA process: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 1. Please indicate which category describes you the best:**

Community member		Landowner		Environmental NGO		EAP/Env Consultants	
Private sector/ Business		Competent Authority (DEA only)		Other Authorities (Government Departments, municipalities, Organs of State)		Engineers/Designers	
Project team (Transnet as the Applicant)		Media (newspapers, magizines)		Associations		Academia & Scientific Institutions	

Comment / Other (please specify)

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 2. How many times have you been engaged on a project PRIOR to the Environmental Impact Assessment (EIA) process where Transnet is the applicant?**

Never	1	2	3	More than 3

*** 3. How many times have you participated in the public participation process DURING the Environmental Impact Assessment (EIA) process where Transnet was the applicant?**

Never	1	2	3	More than 3

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 4. Please select the most appropriate answer.**
Stakeholder engagement prior to the EIA process...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Is preferred by some Interested and Affected parties	○	○	○	○	○
Is preferred by all Interested and Affected parties	○	○	○	○	○
Enhances the EIA public participation process	○	○	○	○	○
Enhances the possibility to suggest alternatives	○	○	○	○	○
Helps to establish a relationship with the Interested and Affected parties	○	○	○	○	○
Do not add any value to the project or EIA	○	○	○	○	○

Comment / Other (please specify)

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 5. Please rate your involvement frequency during the following phases of project development and execution**

	Never	Sometimes	Always
5.1 Design stage where options/alternatives were discussed, evaluated and compared in order to determine the preferred option.	○	○	○
5.2 Design stage where only a single option was available and evaluated	○	○	○
5.3 Land acquisition stage was the first exposure to the project.	○	○	○
5.4 Initial project registration phase of the environmental impact assessment (EIA).	○	○	○
5.5 Scoping stage of the EIA where options/alternatives were discussed, evaluated and compared in order to determine the preferred option.	○	○	○
5.6 Scoping stage of the EIA when only a single option was available and evaluated.	○	○	○
5.7 Environmental Impact Assessment stage after the specialist studies had been conducted.	○	○	○
5.9 After the decision was made by the Competent Authority/Department during the appeal period.	○	○	○
5.10 Start of the construction of the project.	○	○	○

Other (please specify)

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 6. Please select the methods used in your engagements PRIOR to the EIA.**
Please use Not Applicable (N/A) should you not have been involved in engagements prior to the EIA.

	Not Applicable	Never Used	Rarely used	Sometimes Used	Always used
6.1 Email / Facebook / other Internet media	○	○	○	○	○
6.2 Newspaper advertisements	○	○	○	○	○
6.3 Posted notices at the proposed development site/public places	○	○	○	○	○
6.4 Public meetings / Open days	○	○	○	○	○
6.5 Focus group meetings	○	○	○	○	○
6.6 Radio & Television announcements	○	○	○	○	○
6.7 Text messages (SMS)/Whatsapp	○	○	○	○	○
6.8 Telephone calls	○	○	○	○	○
6.9 Personal (one-on-one meeting)	○	○	○	○	○

Comments/Other (please specify)

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 7. Please select the methods used in your engagements DURING the EIA public participation process**

	Never Used	Rarely used	Sometimes Used	Always used
7.1 Email / Facebook / other Internet media	○	○	○	○
7.2 Newspaper advertisements	○	○	○	○
7.3 Posted notices at the proposed development site/public places	○	○	○	○
7.4 Public meetings / Open days	○	○	○	○
7.5 Focus group meetings	○	○	○	○
7.6 Radio & Television announcements	○	○	○	○
7.7 Text messages (SMS)/Whatsapp	○	○	○	○
7.8 Telephone calls	○	○	○	○
7.9 Personal (one-on-one meeting)	○	○	○	○

Comment / Other (please specify)

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
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*** 8. Please rate the effectiveness of the methods used as selected in Question 6 & 7. Please use Not Applicable (N/A) should you not have been involved in a particular method.**

Engagement Method Effectiveness	Engagement *prior* to the EIA				EIA Public Participation			
	N/A	Not effective	Effective	Very effective	N/A	Not effective	Effective	Very effective
8.1 Email / Facebook / other Internet media								
8.2 Newspaper advertisements								
8.3 Posted notices at the proposed development site/public places								
8.4 Public meetings / Open days								
8.5 Focus group meetings								
8.6 Radio & Television announcements								
8.7 Text messages (SMS)/Whatsapp								
8.8 Telephone calls								
8.9 Personal (one-on-one meeting)								

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 9. Please rate the following statements to indicate your opinion of the current purpose of the legislated EIA Public participation process.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.1 To provide project and EIA related information to the public.	○	○	○	○	○
9.2 To educate the public on environmental matters and their right to be involved in the decision making process.	○	○	○	○	○
9.3 To gather local knowledge and seek public input and advice.	○	○	○	○	○
9.4 To provide an opportunity to the public to suggest project alternatives.	○	○	○	○	○
9.5 To provide an opportunity to influence the environmental decision making process.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.6 To enhance the quality of the decision making process.	○	○	○	○	○
9.7 To promote transparency and to gain trust.	○	○	○	○	○
9.8 A "tick in the box" exercise for the developer/proponent to be granted approval.	○	○	○	○	○
9.9 To minimize environmental and social impacts.	○	○	○	○	○
9.10 To incorporate the views of the public to influence the final decision.	○	○	○	○	○
9.11 To resolve conflict among competing/conflicting interests.	○	○	○	○	○
9.12 To protect the interests and rights of vulnerable parties.	○	○	○	○	○
9.13 To provide information on job opportunities and corporate social investments.	○	○	○	○	○
9.14 To establish relationships between developers and the public for continued engagement.	○	○	○	○	○
9.15 To provide unnecessary and non-value adding jobs to environmental practitioners.	○	○	○	○	○

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.16 To facilitate engagement between developers and potential business partners.	○	○	○	○	○
9.17 To promote equality and not to discriminate between interested and affected parties	○	○	○	○	○

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**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 10. Please rate the following statements related to the EIA process:**

	Never	Sometimes	Always
10.1 Alternatives proposed by the Interested and Affected parties (I&APs) are considered in the EIA process	○	○	○
10.2 Specific issues such as hydrology, pollution, fire, erosion etc. raised by the public are considered in the EIA process	○	○	○
10.3 Specific design requirements as required by the public such as access roads/level crossings/culverts etc. are considered in the EIA process	○	○	○
10.4 Community needs raised during the public meetings are considered in the EIA process.	○	○	○

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 11. Please rate the following statements related to the EIA public participation process**

	Never	Sometimes	Always
11.1 A public participation plan was developed specifically for the project.	○	○	○
11.2 The public participation plan was shared with the public to provide input.	○	○	○
11.3 The public participation was rolled out as established.	○	○	○

Comment / Other

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 12. Please rate the following statements.**
Please use Not Applicable (N/A) if the statement is not applicable to you.

Statement	Engagement *prior* to the EIA				EIA Public Participation			
	N/A	Never	Sometimes	Always	N/A	Never	Sometimes	Always
12.1 Meetings were scheduled well in advance.								
12.2 Notifications of meetings/availability of reports were received timeously.								
12.3 Engagement / Public participation enables the recommendation of alternatives.								
12.4 Engagement / Public participation enables gathering of local knowledge.								
12.5 Sufficient time was available for report reviewing and providing comments.								
12.6 Meeting(s) was/ere held at a time that was convenient for me.								
12.7 Sufficient time was available during the meeting(s) to promote adequate discussion/ participation.								

Comments / Other

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 13. Please rate the following statements.**
Please use Not Applicable (N/A) if the statement is not applicable to you.

Statement	Engagement *prior* to the EIA				EIA Public Participation			
	N/A	Never	Sometimes	Always	N/A	Never	Sometimes	Always
13.1 Meetings facilitated / promoted two-way discussions.								
13.2 Venue was ideal (close by, big enough, etc.)								
13.3 No language barrier (specifically during public meetings).								
13.4 Sufficient numbers of meetings were held.								
13.5 Engagements were held where feedback was provided on how my concerns and issues were addressed.								
13.6 Facilitators and other development representatives had adequate knowledge of the project and could answer all questions								

Comments / Other

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 14. Please rate the following statements.**
Please use Not Applicable (N/A) if the statement is not applicable to you.

Statement	Engagement *prior* to the EIA				EIA Public Participation			
	N/A	Never	Sometimes	Always	N/A	Never	Sometimes	Always
14.1 Minutes/formal feedback of each meeting was available.								
14.2 Documents released for review were easily accessible.								
14.3 Documents released were not too technical and the technical jargon was limited.								
14.4 Documents were available in my language.								
14.5 An opportunity was provided for all draft and final documents to be reviewed.								

Comments / Other

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Engagement prior to and during the EIA: Transnet case studies

**Engagement prior to EIA refers to all engagements that were conducted before the EIA commenced.*
**EIA public participation refers to all engagements that were conducted as required by the legislated EIA process.*

*** 15. Please rate the following statements relating to the EIA public participation process:**

	Strongly Disagree	Disagree	Agree	Strongly Agree
15.1 The decision making process, such as how and when and by whom the decision will be made, was provided to me.	○	○	○	○
15.2 Reasonable efforts have been made to respond to my needs, concerns and recommendations.	○	○	○	○
15.3 A fair opportunity to influence the decision making process was allowed.	○	○	○	○
15.4 Decisions by the Competent Authority/Department take into account the interests, needs and values of the public.	○	○	○	○

Comment / Other

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Engagement prior to and during the EIA process: Transnet case studies

16. What recommendations, if any, would you make to enhance engagements prior to the EIA process:

17. What recommendations, if any, would you make to enhance the legislated EIA public participation process:

18. In your opinion, why do Interested & Affected parties (I&APs) appeal environmental authorizations?

ANNEXURE 5 - *Distribution of survey respondents based on categories (Figure 5-1): Raw data*

	PUBLIC	GOVERNMENT	ENVIRONMENTAL ASSESSMENT PRACTITIONER	APPLICANT
Community Member	6.1%			
Landowner	18.2%			
Environmental NGO	13.6%			
Private Sector/Business	13.6%			
Associations	3.0%			
Academia & Scientific institutions	1.5%			
EAP / Environmental Consultant			15.2%	
Competent Authority - Department of Environmental Affairs only		1.5%		
Other Authorities (Government departments, municipalities, organs of state)		10.6%		
Engineers/Designers				3.0%
Project team (Transnet as the Developer/Applicant)				13.6%
TOTAL	**56.0%**	**12.1%**	**15.2%**	**16.6%**

ANNEXURE 6 - *Frequency of engagements prior to and during the environmental impact assessment process for Transnet SOC Ltd projects (Figure 5-2): Raw data*

	NEVER (Prior)	NEVER (During)	1 (Prior)	1 (During)	2 (Prior)	2 (During)	3 (Prior)	3 (During)	More than 3 (Prior)	More than 3 (During)
Public	24.49%	22.44%	10.20%	10.20%	6.12%	4.08%	4.08%	0.00%	10.20%	18.36%
Government	4.08%	2.04%	4.08%	4.08%	2.04%	4.08%	2.04%	0.00%	0.00%	2.04%
Applicant	0.00%	4.08%	8.16%	2.04%	0.00%	2.04%	0.00%	0.00%	8.16%	8.16%
EAP	6.12%	0.00%	0.00%	2.04%	4.08%	4.08%	0.00%	2.04%	6.12%	8.16%
Total	34.69%	28.56%	22.45%	18.36%	12.24%	14.28%	6.12%	2.04%	24.49%	36.72%

ANNEXURE 7 - *The meaning of public participation prior to the environmental impact assessment (EIA) process: Raw data*

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Is preferred by some Interested and Affected parties	4.17%	6.25%	12.50%	43.75%	33.33%
Is preferred by all Interested and Affected parties	4.17%	10.42%	22.92%	35.42%	27.08%
Enhances the EIA public participation process	0.00%	6.25%	8.33%	31.25%	54.17%
Enhances the possibility to suggest alternatives	0.00%	4.17%	10.42%	33.33%	52.08%
Helps to establish a relationship with the Interested and Affected parties	2.08%	4.17%	8.33%	35.42%	50.00%
Do not add any value to the project or EIA	60.42%	20.83%	8.33%	10.42%	0.00%

The meaning of public participation prior to the environmental impact assessment (EIA) process (Figure 5-3) – Summary Data

Statement	Disagree	Neutral	Agree
Is preferred by some Interested and Affected parties	10.42%	12.50%	77.08%
Is preferred by all Interested and Affected parties	14.58%	22.92%	62.50%
Enhances the EIA public participation process	6.25%	8.33%	85.42%
Enhances the possibility to suggest alternatives	4.17%	10.42%	85.42%
Helps to establish a relationship with the Interested and Affected parties	6.25%	8.33%	85.42%
Do not add any value to the project or EIA	81.25%	8.33%	10.42%

ANNEXURE 8 - *Public participation during project and environmental impact assessment phases (EIA). (Figure 5-4): Raw data*

EIA Phases	Never	Sometimes	Always
Design stage (alternatives)	20.83%	52.08%	27.08%
Design stage (single option)	35.42%	50.00%	14.58%
Land acquisition stage	52.08%	35.42%	12.50%
Initial project registration phase	33.33%	35.42%	31.25%
Scoping stage (alternatives)	14.58%	52.08%	33.33%
Scoping stage (single option)	25.00%	50.00%	25.00%
After specialist studies have been conducted	18.75%	37.50%	43.75%
After the decision made by CA	29.17%	41.67%	29.17%
Start of the construction	50.00%	33.33%	16.67%

ANNEXURE 9 - *Stakeholder groups involved in public participation after specialist studies had been conducted (Figure 5-5): Raw data*

Stakeholder group	Never	Sometimes	Always
PUBLIC	8.33%	25.00%	22.92%
ENVIRONMENTLA ASSESSMENT PRACTITIONER	4.17%	6.25%	6.25%
GOVERNMENT	0.00%	4.17%	8.33%
APPLICANT	6.25%	2.08%	6.25%

ANNEXURE 10 - *Frequency of media used to engage stakeholders via public participation prior to the environmental impact assessment process (Figure 5-6): Summary data*

	Never Used (Prior)	Sometimes Used (Prior)	Always used (Prior)
Internet Media	13.64%	40.91%	27.27%
Broadcasting Media	43.18%	27.27%	0.00%
Telephone Media	38.64%	90.91%	11.36%
Personal (one-on-one meeting)	15.91%	50.00%	6.82%
Notices	50.00%	70.45%	47.73%
Public Meetings	29.55%	104.55%	29.55%

ANNEXURE 11 - *Frequency of media used to engage stakeholders via public participation during to the environmental impact assessment process (Figure 5-7): Raw data*

	Never Used (During)	Sometimes Used (During)	Always used (During)
Internet Media	16.28%	41.86%	41.86%
Broadcasting Media	53.49%	46.51%	0.00%
Telephone Media	83.72%	102.33%	13.95%
Personal (one-on-one meeting)	37.21%	58.14%	4.65%
Notices	62.79%	74.42%	62.79%
Public Meetings	27.91%	127.91%	44.19%

ANNEXURE 12 - *Effectiveness of engagement media for public participation prior to and during the environmental impact assessment process (Figure 5-8): Raw data*

	Not effective (Prior)	Not effective (During)	Effective (Prior)	Effective (During)	Very effective (Prior)	Very effective (During)
Internet Media	12.5%	12.5%	37.5%	50.0%	17.5%	22.5%
Broadcasting Media	35.0%	35.0%	12.5%	15.0%	0.0%	0.0%
Telephone Media	27.5%	27.5%	70.0%	77.5%	15.0%	22.5%
Personal (one-on-one meeting)	5.0%	2.5%	20.0%	27.5%	27.5%	32.5%
Notices	50.0%	57.5%	70.0%	87.5%	12.5%	22.5%
Public Meetings	20.0%	25.0%	82.5%	90.0%	37.5%	57.5%

ANNEXURE 13 - *The purpose of legislated environmental impact assessment public participation process: Raw data*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9.1 To provide project and EIA related information to the public.	0.0%	5.4%	2.7%	56.8%	35.1%
9.2 To educate the public on environmental matters and their right to be involved in the decision making process.	0.0%	18.9%	16.2%	35.1%	29.7%
9.3 To gather local knowledge and seek public input and advice.	5.4%	13.5%	21.6%	29.7%	29.7%
9.4 To provide an opportunity to the public to suggest project alternatives.	13.5%	10.8%	18.9%	27.0%	29.7%
9.5 To provide an opportunity to influence the environmental decision making process.	10.8%	10.8%	18.9%	27.0%	32.4%
9.6 To enhance the quality of the decision making process.	10.8%	8.1%	10.8%	40.5%	29.7%
9.7 To promote transparency and to gain trust.	10.8%	10.8%	10.8%	35.1%	32.4%
9.8 A “tick in the box” exercise for the developer/proponent to be granted approval.	24.3%	16.2%	10.8%	13.5%	35.1%
9.9 To minimize environmental and social impacts.	8.1%	8.1%	13.5%	43.2%	27.0%
9.10 To incorporate the views of the public to influence the final decision.	10.8%	8.1%	21.6%	35.1%	24.3%
9.11 To resolve conflict among competing/conflicting interests.	10.8%	13.5%	35.1%	29.7%	10.8%
9.12 To protect the interests and rights of vulnerable parties.	13.5%	24.3%	18.9%	27.0%	16.2%
9.13 To provide information on job opportunities and corporate social investments.	10.8%	40.5%	16.2%	21.6%	10.8%
9.14 To establish relationships between developers and the public for continued engagement.	10.8%	13.5%	18.9%	43.2%	13.5%
9.15 To provide unnecessary and non-value adding jobs to environmental practitioners.	37.8%	35.1%	10.8%	10.8%	5.4%
9.16 To facilitate engagement between developers and potential business partners.	13.5%	24.3%	35.1%	21.6%	5.4%
9.17 To promote equality and not to discriminate between interested and affected parties	10.8%	32.4%	18.9%	21.6%	16.2%

The purpose of legislated environmental impact assessment public participation process (Figure 5-9) – Summary data

	Disagree	Neutral	Agree
9.1 To provide project and EIA related information to the public.	5.4%	2.7%	91.9%
9.2 To educate the public on environmental matters and their right to be involved in the decision making process.	18.9%	16.2%	64.9%
9.3 To gather local knowledge and seek public input and advice.	18.9%	21.6%	59.5%
9.4 To provide an opportunity to the public to suggest project alternatives.	24.3%	18.9%	56.8%
9.5 To provide an opportunity to influence the environmental decision making process.	21.6%	18.9%	59.5%
9.6 To enhance the quality of the decision making process.	18.9%	10.8%	70.3%
9.7 To promote transparency and to gain trust.	21.6%	10.8%	67.6%
9.8 A “tick in the box” exercise for the developer/proponent to be granted approval.	40.5%	10.8%	48.6%

9.9 To minimize environmental and social impacts.	16.2%	13.5%	70.3%
9.10 To incorporate the views of the public to influence the final decision.	18.9%	21.6%	59.5%
9.11 To resolve conflict among competing/conflicting interests.	24.3%	35.1%	40.5%
9.12 To protect the interests and rights of vulnerable parties.	37.8%	18.9%	43.2%
9.13 To provide information on job opportunities and corporate social investments.	51.4%	16.2%	32.4%
9.14 To establish relationships between developers and the public for continued engagement.	24.3%	18.9%	56.8%
9.15 To provide unnecessary and non-value adding jobs to environmental practitioners.	73.0%	10.8%	16.2%
9.16 To facilitate engagement between developers and potential business partners.	37.8%	35.1%	27.0%
9.17 To promote equality and not to discriminate between interested and affected parties	43.2%	18.9%	37.8%

ANNEXURE 14 - *Public concerns and recommendations considered in the environmental impact assessment (EIA) public participation process (Figure 5-10): Raw data*

	Never	**Sometimes**	**Always**
Alternatives proposed by the Interested and Affected parties (I&APs) are considered in the EIA process	18.92%	62.16%	18.92%
Specific issues such as hydrology, pollution, fire, erosion etc. raised by the public are considered in the EIA process	5.41%	54.05%	40.54%
Specific design requirements as required by the public such as access roads/level crossings/culverts etc. are considered in the EIA process	10.81%	64.86%	24.32%
Community needs raised during the public meetings are considered in the EIA process.	16.22%	59.46%	24.32%

ANNEXURE 15 - *Public participation (engagement) prior to and during the environmental impact assessment process (Figure 5-11): Raw data*

	Statements	N/A (P)	N/A (D)	Never (P)	Never (D)	Sometimes (P)	Sometimes (D)	Always (P)	Always (D)
TIMING	12.1 Meetings were scheduled well in advance.	27.78%	8.33%	8.33%	5.56%	27.78%	50.00%	36.11%	36.11%
	12.2 Notifications of meetings/availability of reports were received timeously.	30.56%	11.11%	8.33%	5.56%	36.11%	52.78%	25.00%	30.56%
	12.3 Engagement / Public participation enables the recommendation of alternatives.	25.00%	8.33%	13.89%	19.44%	41.67%	58.33%	19.44%	13.89%
	12.4 Engagement / Public participation enables gathering of local knowledge.	27.78%	8.33%	5.56%	11.11%	36.11%	41.67%	30.56%	38.89%
	12.5 Sufficient time was available for report reviewing and providing comments.	33.33%	13.89%	11.11%	11.11%	36.11%	41.67%	19.44%	33.33%
	12.6 Meeting(s) was/ere held at a time that was convenient for me.	25.00%	8.33%	11.11%	5.56%	52.78%	66.67%	11.11%	19.44%
	12.7 Sufficient time was available during the meeting(s) to promote adequate discussion/ participation.	25.00%	8.33%	13.89%	16.67%	38.89%	47.22%	22.22%	27.78%
ENGAGEMENTS	13.1 Meetings facilitated / promoted two-way discussions.	25.00%	8.33%	11.11%	8.33%	30.56%	55.56%	33.33%	27.78%
	13.2 Venue was ideal (close by, big enough, etc.)	27.78%	11.11%	2.78%	0.00%	47.22%	63.89%	22.22%	25.00%
	13.3 No language barrier (specifically during public meetings).	33.33%	13.89%	11.11%	13.89%	41.67%	47.22%	13.89%	25.00%
	13.4 Sufficient numbers of meetings were held.	30.56%	11.11%	13.89%	16.67%	41.67%	50.00%	13.89%	22.22%
	13.5 Engagements were held where feedback was provided on how my concerns and issues were addressed.	30.56%	16.67%	27.78%	25.00%	30.56%	38.89%	11.11%	19.44%
	13.6 Facilitators and other development representatives had adequate knowledge of the project and could answer all questions	25.00%	8.33%	8.33%	8.33%	44.44%	50.00%	22.22%	33.33%

	Statements	N/A (P)	N/A (D)	Never (P)	Never (D)	Sometimes (P)	Sometimes (D)	Always (P)	Always (D)
DOCUMENTATION	14.1 Minutes/formal feedback of each meeting was available.	34.29%	11.43%	14.29%	11.43%	20.00%	31.43%	31.43%	45.71%
	14.2 Documents released for review were easily accessible.	28.57%	11.43%	11.43%	11.43%	37.14%	45.71%	22.86%	31.43%
	14.3 Documents released were not too technical and the technical jargon was limited.	31.43%	11.43%	8.57%	5.71%	37.14%	48.57%	22.86%	34.29%
	14.4 Documents were available in my language.	34.29%	22.86%	22.86%	25.71%	11.43%	8.57%	31.43%	42.86%
	14.5 An opportunity was provided for all draft and final documents to be reviewed.	28.57%	11.43%	8.57%	5.71%	31.43%	34.29%	31.43%	48.57%

**P= Prior; D= During*

ANNEXURE 16 - *Decision making as part of the environmental impact assessment process: Raw data*

Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
The decision making process, such as how and when and by whom the decision will be made, was provided to me.	11.4%	17.1%	57.1%	14.3%
Reasonable efforts have been made to respond to my needs, concerns and recommendations.	11.4%	25.7%	54.3%	8.6%
A fair opportunity to influence the decision making process was allowed.	8.6%	31.4%	48.6%	11.4%
Decisions by the Competent Authority/Department take into account the interests, needs and values of the public.	17.1%	34.3%	37.1%	11.4%

Decision making as part of the environmental impact assessment process (Figure 5-12) – Summary data

Statements	Disagree	Agree
The decision making process, such as how and when and by whom the decision will be made, was provided to me.	28.57%	71.43%
Reasonable efforts have been made to respond to my needs, concerns and recommendations.	37.14%	62.86%
A fair opportunity to influence the decision making process was allowed.	40.00%	60.00%
Decisions by the Competent Authority/Department take into account the interests, needs and values of the public.	51.43%	48.57%

ANNEXURE 17 - *Consideration of public concerns in the final environmental impact report for the three environmental impact assessment (EIA) cases investigated in this study (Figure 5-13): Raw data*

Score / Criteria	EIA Case 1- New Multi-Products Pipeline			EIA Case 2 – Durban Berth Upgrade			EIA Case 3 - Davel to Nerston Swaziland Rail Link		
	Total %			Total %			Total %		
	Environmental concerns impacts	Socio-economic concerns impacts	Physical, spatial, alternatives and other	Environmental concerns impacts	Socio-economic concerns impacts	Physical, spatial, alternatives and other	Environmental concerns impacts	Socio-economic concerns impacts	Physical, spatial, alternatives and other
A=Only mentioned	0.00%	8.33%	14.29%	6.67%	0.00%	18.18%	10.00%	22.22%	37.50%
B=Discussed in detail	14.29%	33.33%	57.14%	26.67%	0.00%	27.27%	90.00%	0.00%	43.75%
C=Discussed in detail and included in mitigation measures	71.43%	33.33%	21.43%	60.00%	100.00%	36.36%	0.00%	66.67%	12.50%
D=Discussed in detail and included in project designs	14.29%	25.00%	7.14%	6.67%	0.00%	18.18%	0.00%	11.11%	6.25%

ANNEXURE 18 - *Consideration of environmental concerns for the three environmental impact assessment (EIA) cases investigated in this study (Figure 5-17): Raw data*

	EIA Case 1- NMPP	EIA Case 2 – DBU	EIA Case 3 - DN-SRL
Environmental concerns/ impacts considered and specifically mentioned in EA	64.29%	40.00%	40.00%
Environmental concerns/ impacts considered but not specifically mentioned in EA	35.71%	60.00%	60.00%

ANNEXURE 19 - *Consideration of socio-economic concerns for the three environmental impact assessment (EIA) cases investigated in this study (Figure 5-15): Raw data*

	EIA Case 1- NMPP	EIA Case 2 – DBU	EIA Case 3 - DN-SRL
Socio-Economic concerns/ impacts considered and specifically mentioned in EA	50.00%	0.20%	11.11%
Socio-Economic concerns/ impacts considered but not specifically mentioned in EA	50.00%	80.00%	88.89%

ANNEXURE 20 - *Consideration of physical, spatial, alternatives and other concerns for the three environmental impact assessment (EIA) cases investigated in this study. (Figure 5-16): Raw data*

	EIA Case 1- NMPP	EIA Case 2 – DBU	EIA Case 3 - DN-SRL
Physical, spatial alternatives and other considered and specifically mentioned in EA	64.29%	36.36%	25.00%
Physical, spatial alternatives and other considered but not specifically mentioned in EA	35.71%	63.64%	75.00%

ANNEXURE 21 - *Reasons for why the public appealed environmental authorisations as indicated by the respondents in the open-ended questions of the survey: Raw data*

Number	Response Text	Coding category
1	That is very simple. Because the developers usually ignore the public's concerns, raised during the EIA process. In our case, we were forced into creating a public body (Save Vetch's Association), raise millions of rands to legally challenge the authorization of a development that would have destroyed a public beach and reef that is a declared public asset. The developers used every trick in the book to have the development authorized, using municipal, local government, national government officials and even manipulating the high-water mark with the assistance of the Surveyor General.	**Public concerns & impacts**
2	Usually because they wake up to the knowledge that it will affect them personally.	**Public concern & impact**
3	when their suggestions about the project design are not being adhered to	**Public concern & impact**
4	when the decision is not in their favour	**Public concern & impact**
5	WHEN THEY FEEL THREATENED, OT THEIR CONCERNS WERE NOT ADDRESSED SUFFICIENTLY	**Public concern & impact**
6	People have a Sense of place, a history, association with a place, livelihoods and many pertinent aspects that will all be affected by developments. often young people can detach and move on and it is the older people who want things to stay the same in the area they are living.	**historical issues**
7	Only when they feel that they haven't been properly heard during the process and they can't live with the outcome	**Public concern & impact**
8	Some are appealing for opportunistic reasons.High proportion of interested parties are largely white community there are few or no African dominated ones.It variable affect the character of the appeal.	**historical issues**
9	Belief that process was flawed or decisions was railroaded through and as a result an action detrimental to the environment will be undertaken.	**process flaws**
10	If their interests and objectives are not taken into consideration.	**Public concern & impact**
11	Historical issues of non-compliance; developers do not invest in building proactive relationships with communities;	**historical issues**
12	No proper consultation is done with affected parties	**Community relationship**
13	They can see that none of their concerns were taken seriously. Answers provided to comments and issues raised are always dismissive of those comments.	**Public concern & impact**
14	Because its "In our back yards" and we know what the local conditions are like.	**Mitigations & conditions**
15	Because the client does not follow the agreed. Who polices the EIA?	**Community relationship**
16	Their interests are not met by the content of the authorisation.	**Public concern & impact**
17	For not taking certain matters into account	**Public concern & impact**
18	Their (I&APs) comments and concernes were just brushed off	**Public concern & impact**
19	Perhaps its a sign of lack of trust?	**Community relationship**
20	Simple. Because anyone with any prior experience will know that EIAs are complete window dressing. A sop to the public. The EIA, often generated by "sweetheart" scientists, will make all sorts of pious recommendations and promises but once the project gets under way it is totally ignored. In my personal experience of four of them, the construction staff have never even read it, the mandatory requirements are flagrantly breached and the DEA and on site staff who should be enforcing it, if they exist at all, have neither the will, knowledge or authority to do	**Mitigations & conditions**

Number	Response Text	Coding category
	so.	
22	As the new development affects my life and there is no mitigation or compensation for the affected parties. For example the current Richards bay to Golelea upgrade looks like all level crossings will be closed even though we have queried it. So I have to drive 8 km to get to my farm on the other side of the rail line. No compensation. Maybe toyi - toyi and burning the trains will get better results. We have specifically asked for under/ over passes. But the answer is not given its avoided so the Minister then passes things without level crossings.	**Public concern & impact**
23	NIMBY – Not in my back yard	**Public concern & impact**
24	in most cases it's when their issues and concerns were not considered during decision making.	**Public concern & impact**
25	concern about the areas we live in and the exposure we have to noise or pollution	**Public concern & impact**
26	Because they believe that the process is flawed and unjust	**Process flaws**

Reasons for why the public appealed environmental authorisations as indicated by the respondents in the open-ended questions of the survey (Figure 5-18) – Summary data

Coding category	Percentage
Public concerns & impacts	60.00%
Historical issues	12.00%
Community relationship	12.00%
Mitigations & Conditions	8.00%
Process	8.00%

ANNEXURE 22 - *Recommendations for enhancing public engagements prior to environmental impact assessment (EIA): Raw data*

Number	Response Text	Coding category
1	More time and information be given for any affected and interested parties.	**Time**
		PP Audience
2	Current model is fine	**No changes recommended**
3	its a worthwhile exercise that gets the issues of the loudest stakeholders addressed prior to taking the project public and it eases the levels of tension	**PP audience**
		Timing
4	Meetings should be held with affected communities'representatives. none	**PP audience**
5	TO USE MEDIA EFFECTIVELY	**mediums**
6	Allow for many engagements over a long period of time. Social licence to operate cannot be bought.	**Timing**
7	EIA team and specialist teams need to include some of same people	**Specialists**
8	It better when some environmental officer or consultant should act for public concern and other for Corporate groups	**PP audience**
9	None. Any engagement is appreciated and generally a sign of a good EIA to come.	**No changes recommended**
10	Announcement of the priority of the project.	**Project information**
11	Should happen more regularly; Should happen sooner in the project lifecycle; Engagement should be focused and well-structured; The right people should be engaged	**Timing**
		Structure & process
		PP audience
12	Ensure that all matters relating to the project are clearly outlined and presented to the public for engagement and inputs	**Project information**
13	Contact all landowners	**PP audience**
14	I am hesitant to serve on EIA. Because my particaption tends to legitimate a beaurocratic legal requirement. FOLLOW UP ON BREACHES OF PROCESS ARE IMPORTANT> WHO DOES THIS>>>?	**Purpose**
15	Make provision for early and open-ended engagament prior to the formal start of processes. See the process as a means to broaden participation in decision making.	**Structure & process**
		Purpose
	Incorporate elements of conflict management into the approach.	**Structure & process**
16	Do not always know about prior meetings	**mediums**
17	Engagements should occure in FEL1 when options are identified. After FEL 1, the stakeholders can just me consultet on a ad hoc basis to keep them informed	**Timing**
18	Shorter Time-scales between Public Announcement and Review Meetings	**Timing**
19	Tell the truth.	**Structure & Process**
20	to see the discipline of road ecology viewed as an actual discippline with experts in this field who are consultated prior to and during the EIA process.	**Specialists**
21	Engage the public and listen to what they have to say. For example transnet where warned of the new Mtubatuba shopping center but at the meetings the presenters insisted that the rail line was going there. They would not take the local knowledge.	**PP Audience**
22	the current engagement processes are effective	**No changes recommended**
23	Leaflets dropped door to door in areas that are likely to be effected	**Mediums**

Recommendations for enhancing public engagements prior to EIA (Figure 5.19) – Summary data

Coding category	Percentage
Mediums	10.34%
Public participation audience	24.14%
No changes recommended	10.34%
Timing	20.69%
Project information	6.90%
Specialists	6.90%
Purpose	6.90%
Structure & process	13.79%

ANNEXURE 23 - *Recommendations to enhance public engagements during environmental impact assessments as indicated by the respondents: Raw data*

Number	Response Text	Coding category
1	There are many flaws with the current system. Many developments are done in piece-meal fashion without the government or the affected parties knowing the full affects of the complete development.	**Holistic view of development(s)**
	Developers should take note of all local knowledge and not ignore it, when it does not agree with their preferred option, which is usually based on maximum profits.	**Local knowledge**
	Specialists should not buckle under constant pressure from the developers to manipulate their findings and hoodwink the authorizing department into approving their development. Specialists' reports are often based on wild speculations and refer to best case scenarios. When financial assessments are needed, they need to be updated regularly to reflect the current economic situation and not one that had been done (as in our case) over 10 years before.	**Specialists**
	Public participation notices should be made larger and advertised extensively to attract as many stakeholders as possible. Political interference is a huge concern , but not sure how we can avoid that in our country. One can understand that in many large developments, there will be some form of political pressure put on the authorities, and the developers have huge financial resources. But the objectors are usually ordinary folk that have to find the time and raise huge amounts of money to challenge the developers and seek their environmental or social justice.	**Political influence**
2	Well in this harbour development it has taken about 3 years and they have not started the job yet. So the participants will forget what went on before or may die off in the meantime.	**PP process in EAI**
3	we have one of the best EIA PPP legislation in the world so there is nothing further to be done	**No recommendations**
4	none	**No recommendations**
5	GREATER INVOLVEMENT OF THE DEA	**Regulator influence**
6	ensure the database is well established, means of communication are working, language is understood, and all hiccups are sorted out prior to commencing registration.	**Mediums**
7	Tendency for national authorities to sideline provincial authorties - separate provincial authority meetings required	**Regulator influence**
8	Public engagement officer should understand language of host communities.	**Mediums**
9	Force DEA and DMR to appropriately respond to correspondence around reasons for decisions	**Regulator influence**
10	N/A	**No recommendations**
11	Improved representation from developers (people who are able to answer questions must be there); Locations and Meeting Times are key	**Developer involvement** **PP process in EIA**
12	It should also take into consideration the importance of indigenous knowledge, their vulnerability and lack of understanding of certain issues when it comes to developments.	**Local knowledge**
13	The entire EIA process currently is severely flawed and needs to be overhauled. EAPs need to be independent from the developer paying them (rather pay them from a kitty that all developers contribute to). I also get the distinct impression that EAPs see the PP process as a drag that must be gone through but really a pain that they would prefer to avoid. They get ideas of what to look out for from the Dept of Environmental Affairs but are not really interested in doing much about the public's concerns. The public and environmental NGOs are seen as stumbling blocks for the projects not partners.	**Independency**
14	Be transparent. don't push an environmentally sensitive proposal as a dummy to the real plan. We know that trick.	**PP Process in EIA**
15	Follow up on breaches.	**Regulator influence**
17	The EIA process should put more weight on the PPP. Currently it's just a tick-box task in the EIA.	**PP process in EIA**
18	Use personnel who understand the locality of the Project to manage the Public involvement and contributions. If necessary hold separate meetings with militant groupings to get the opinions of other heard.	**Local knowledge**

19	The legislated process is fine IF it was adhered to and IF there was some prospect of the EIA being actually implemented. The reality in South Africa at the moment is that this is not the case. Therefore my recommendation would be to abandon the public participation process in it's entirety. It serves no meaningful purpose.	**PP process in EIA**
20	get competent authorities in charge. We have a good law the EIA specialists know how to hood wink the public and the Department. Ministers do not have the backing to see red flags. Altenativly they take bribes/ have to pass it as Transnet is another Gov. Department.	**Regulator influence**
21	The legislated EIA public participation process is effective, however the challenge is depending on the political influence on the project I&AP's views can be ignored. the process is effective where there is no other external factors influencing the process	**Political influence**
22	signage needs to be clearer. we have noticed that a4 documents tied to a pole facing a wall or hedge is not being open	**Mediums**

Recommendations to enhance public engagements during environmental impact assessments as indicated by the respondents (Figure 5-20) – Summarised data

Coding category	Percentage
Holistic view of development	4.00%
Local knowledge	12.00%
Specialists	4.00%
Political Influence	8.00%
Regulator influence	20.00%
No recommendations	12.00%
Developer involvement	4.00%
Independency	4.00%
Mediums	12.00%
Public participation process in EIA	20.00%