



**EXPLORING THE SOCIAL IMPACTS OF THE EXPANSION OF THE PORT OF
DURBAN**

BY

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2021

Declaration

I declare that this dissertation is my work. It is being submitted for the Degree of Masters in Public Policy in the College of Humanities, School of Social Sciences, University of KwaZulu-Natal, South Africa. It has not been submitted before for any degree or examination in any other University.

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Signature



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14/08/2020

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Date: 4 December 2020

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I acknowledge and dedicate this dissertation to:

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Abstract

Current research demonstrates that spatial developments are mostly the cause of social, environmental, and economic problems. While businesses expand, the quality of life in most communities deteriorates due to the social impacts that are associated with the expansion of industries. Governments are increasingly prioritizing and commissioning infrastructure of megaprojects such as ports, which are often supported by economic impact studies. The port of Durban is currently experiencing capacity constraints as a result of the congestion problems facing the harbour. The port developers (Transnet) proposed to expand the port as a solution to the congestion impediments. The old Durban airport relocated to La Mercy, presenting an opportunity to Transnet to purchase the old airport site at South Durban Basin (SDB) to commence the expansion of the port of Durban. The expansion plans include building a new port, construction of a link road from the Bluff through Clairwood, Austerville, and Merebank to connect with the national roads network. This research aims to explore the social impacts of the expansion of the port of Durban for the communities in the South Durban Basin. Underpinned by the Social impact theory and the Psychological impact theory, this study seeks to explore the extent to which the expansion of the Port of Durban will impact on SDB communities as well as determining whether the port expansion is justified for port development. The study used both primary and secondary data. The results of the research indicate that the magnitude of the social impacts and enormity of it all are such that the change in the lives of people living in SDB will be for the worst, given the current problems existing in the area. The expansion plans have been viewed to cause more “havoc” in the area. Moreover, the expansion of the port is not justified for port development because expanding the port may not necessarily mean that they will be to the degree required to remain competitive.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.0 Introduction

This study is exploring the social impacts of the expansion of the port of Durban. Chapter one presents the background of the study. It outlines the research problem and clearly states the main aim of the study. The research questions and objectives are then listed. Subsequently, an explanation dealing with the rationale behind the study and the significance of the research is outlined. Lastly, this chapter provides an outline of the structure of the dissertation.

1.1 Background

Ports are the heart of the world economy and play a significant role in the countries and cities in which they are situated, facilitating and allowing information sharing, materials, and resources within and between countries and across oceans. Ports are usually located not far from urban areas or cities and have assisted in the consolidation and growth of many port areas in terms of economy, culture, ideas, and people (Fenton, 2017:271).

The port of Durban was established in the 1800s by the first European settlers who had envisioned a trading port. The Natal Bay, in which the port of Durban was one of the few natural harbours available along the east coast of South Africa (Scholtz, 2017:19). Initially, the Durban harbour was a large body of water surrounded the Bluff on its south, north, and west entrances (Trevor and Fair, 1991:26). There was substantial growth in terms of the first European settlement through a thriving sugar cane export market. This developing market attracted more immigrants to the port of Durban for economic reasons over the likely success of the port. However, it was unable to handle huge seagoing vessels at the time. The Natal government viewed the slow growth of the colony as being caused by the thin sandbar at the entrance of the bay, which led to the appointment of John Milne as the port engineer, making significant changes to the infrastructure development towards the end of 1840. The infrastructure development marked the growth of a highly successful port, which played a role in the rapid development of Durban (Arjunan, 2004:16).

The Port of Durban is the busiest port with the biggest container terminal in Africa (Ramsay *et al.* 2010:29). It plays a crucial role in meeting the imports and export demands of Durban, KwaZulu-Natal, Gauteng, and the Southern African region at large. About two-thirds of South

African vessels, equating to around 2.7 million twenty-foot equivalent units (TEUs) per annum, and substantial fluid fuel and vehicle cargoes travel through Durban. The demand for upgraded handling facilities in Durban will surpass 12 million TEUs over the next 30 years. The pressure is now evident on the port of Durban and related infrastructure to keep up with the volume growth. Transnet, as an essential economic driver for South Africa, is compelled to expand the existing port facilities to suit these increasing cargo volumes and bolster the developing South African economy (Transnet, 2013:5). The old Durban International Airport (DIA) site has been bought and made available for the proposed expansion. The DIA is at the South Durban Basin (SDB), an industrial hub within the eThekweni municipality, and is close to residential areas. The 91-year-old Clairwood Racecourse will be sold to develop a warehouse and logistics park to service the port. The expansion also included construction plans for a link road from the Bluff through Clairwood, Austerville, and Merebank to connect with the national roads network. These plans will result in forceful removals of some communities and businesses in the SDB area where the development will take place.

1.2 Problem statement

The transportation business is doing exceptionally well in terms of economic and regional balanced development and also for the effect it has on the national integration to the world commercial market. Ports play a crucial role in economic activities in seaside areas. An increase in the number of commodities produced yearly means the need for proper infrastructure, provisions, and other related services increases. The benefits of these to the economy and the country will not be the same. Moreover, ports are essential for assisting economic activities in the surrounding area as they act as a critical link between sea and land conveyance. As a provider of employment, ports act as both an economic and a social function (Dwarakish and Salim, 2015:295). Port development and expansion require a bigger land, normally land appropriated from the local communities, but the hiring cost is often lower than its opportunity cost. Other than that, negative port externalities such as traffic congestion, land use, and environmental issues affect mostly the local communities; meanwhile, the positive gains from operational activities of a port primarily the generation of taxes and duties are country-wide Tilakos, 2012:4).

The effects of ports on local communities consist of everything that is an impact caused by port development that can potentially change the towns such as displacements of people, disruption of the daily life, and the creation of shanty towns and others. The modernisation that comes with the development of ports is likely to interfere with the events, rituals and customs that

people share and exposing the locals to more accidents (Merk, 2013: 41). These are some of the effects that the expansion of the Port of Durban will have on the SDB community as the expansion of the Port of Durban will see an immense number of residents and businesses relocated to accommodate the port developments. The study aims to explore the social impacts of the expansion of the port of Durban for the communities in the South Durban Basin.

1.3 Research Questions

- What are the views and perspectives of the South Durban Basin communities about the expansion of the port of Durban?
- To what extent will the effects of the expansion of the port of Durban affect the communities in South Durban Basin, and how can the effects be mitigated?
- Is the expansion of the port of Durban justifiable for port development?

1.4 Research Objectives

- To discuss the views and perspectives of the South Durban Basin communities about the expansion of the Port of Durban.
- To explore the extent to which the effects of the expansion of the port of Durban affect the communities in South Durban Basin and find ways in which the effects can be mitigated.
- To determine if the expansion of the port of Durban is justifiable for port development.

1.5 Motivation and significance of the study

Economic development projects are very beneficial for a country but can unintentionally and negatively have harmful effects on humans and the environment. Human actions have interfered and interrupted social and shared harmony, the loss of employment, introduction of new sicknesses or diseases, and the change in the environment resulting from the destruction of renewable resources. Current research demonstrates that spatial developments are mostly the cause of social, environmental, and economic problems. While businesses expand, the quality of life in most communities deteriorates. In such a development, there is a need to identify and evaluate the impacts associated with them. Such effects do not only have to be identified and measured, but it is also imperative that they manage them in such a way that port developments can be enhanced positively and sustainably. The available literature focuses mainly on how beneficial the expansion will be for the province and the country. The study

will contribute to the existing body of research because it explores the social aspect of port expansion. This research hopes to help fill the gap that exists mainly in impacts of port development in Durban.

1.6 Structure of this dissertation

Chapter one: Introduction

This chapter presents the background and problem statement. The general study key research questions and objectives are set forth. Lastly, the researcher describes the motivation to undertake the study and how it is going to contribute to the existing literature.

Chapter two: Literature Review

This chapter reviews the existing research on the subject matter. Broadly, the chapter focuses on the literature relevant to the problem being studied, clearly showing the link between the literature review and the research questions. This chapter defines the term port; a discussion on the pressure to expand the port of Durban then follows. After that, the chapter explores the effects of port development on communities. This chapter also examines ways to mitigate the impacts of the port. Perspectives and views on port expansion are explored. Lastly, the chapter discusses port expansion as a justification for port development.

Chapter three: Theoretical Framework

The theoretical framework is the manual for writing the entire study. It determines the type of research design used. The theoretical frameworks which serve as a guiding instrument for the study are clearly outlined in this chapter. This chapter pronounced the Social Impact Theory and the Psychological Impact Theory as the theories guiding the research.

Chapter four: Methodology

The methods used for data collection are presented in this chapter. The study used both primary and secondary data, employed qualitative methods. The chapter presents an overview of the research methodology, sampling method employed, data collection and data analysis methods adopted. Issues of validity and ethical considerations are considered. A review of limitations is presented in this chapter.

Chapter five: Research findings and discussions

The central focus of this chapter is presenting the findings of the study undertaken to explore the social impacts of the expansion of the port of Durban. This chapter presents the findings of

the study based on primary and secondary data. The discussion is drawn from primary data to the existing literature facilitated by the theoretical framework adopted for the study.

Chapter six: Conclusions and Recommendations

In the last chapter, the study is summarized and provides recommendations that can be used to solve the problem relating to port development and social impacts.

1.7 Conclusion

This chapter presented the broader context within which the study is based. It introduced the background of the study to conceptualize the issue for the reader. The guiding questions and objectives of the study were also presented. It is in this chapter that the researcher's rationale and significance of the study were discussed. The dissertation structure was also outlined. The succeeding chapter focuses on a review of the existing literature related to the topic to unpack the study problem.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Ports have always been considered a source of wealth for their local societies. Nonetheless, this notion is highly contested because the port industries use technologies that are automated and are no longer labour-intensive. On the other hand, ports are capital intensive. However, because of the international capital markets and integration strategies of the global port's actors, the benefits are extended to other regions and not only restricted to port regions. Furthermore, port development and expansion require more land, land generally taken from the local communities (Alexandros, 2012). Such actions create inconsistencies. For instance, the social impacts such as traffic congestion, land consumption, and environmental problems mainly affect the local communities.

In contrast, gains from port functioning such as the generation of taxes and duties benefit the country at large. This chapter focuses on the literature related to studies relevant to the problem investigated. This chapter seeks to explore the literature about the research questions of the study. The chapter defines the term port, discusses the pressure to expand the port of Durban. After that, the section explores the effects of port development on communities and examines ways to mitigate the impacts of the ports. Perspectives and views on port expansion are also explored. Lastly, the chapter looks at port expansion as a justification for port development.

2.1 Defining “Port.”

A port is an area on a seaside where at least one ship can land and transfer cargo. Ports sites are carefully chosen to improve access to land and safe water, for business purposes, and shelter from wind and waves (Dwarakish and Salim, 2015:296). Ports are one of the main segments of the general transportation industry and linked to the growing world economy. Ports are a way of integrating into the international economic system. The maritime sector incorporates a variety of services, and the main one is the conveyance of commodities and passengers (ibid). A port is a place or location where people, goods, and culture are exchanged amongst land and oceanic space (Parveen, 2014:69). It is a point of ocean interaction and inland transport (Parveen, 2014). The terms port and harbour are used interchangeably.

Parveen (2014) argues that a harbour is the fundamental transfer point for the quantity of trade, allowing the imports of merchandise, which were not enough, and the export of things which

the nation has an abundance or has a competitive edge to produce adding to the growth of its economy. The effectiveness of a port is vital in international trade since a seaport is the nerve of foreign trade of a nation. A port is also a place for the provision of further services, which contributes significantly to the items transported and further helps the growing demand for trade (ibid).

2.2 Pressure to expand the port of Durban

Port development is seen as a catalyst to stimulate economic activity and create employment. On-going trends, such as global trade growth, increasing vessel sizes, and the need to modernize port facilities, are driving essential investments in ports (Organization for Economic Co-operative and Development, 2014). The failure to keep up with global trends will mean a loss of trade and competitive position. Similarly, Khawula (2015) found that the lack of space to accommodate the increased demand was a driving force behind the expansion of the port of Durban to retain business and be globally competitive.

The port of Durban is a bigger and busier container terminal in the African continent serving KwaZulu-Natal, Gauteng and most of the South African surroundings. The port is doing exceptionally well in terms of containers, vehicles, and bulk liquid handling. Despite Durban being a developed port with increasing operations, there are prospects of growth through the reconfiguration of existing areas in Point, Maydon Wharf, and in Island View due to the pressure that already exists on the harbour, the roads, and the port-related businesses. Unless a significant expansion occurs, the South African growth will be compromised, forcing cargo to relocate to distant ports and worsening the high transport logistics costs. This will also negatively affect the South African economy's global competitiveness (Transnet, 2010). The expansion may be an ideal solution to the current state of the port. However, such plans should be made holistically as suggested by Maharaj (2013), who argues that the development of the port may be necessary and desirable for the long-term future of the city of eThekweni. However, decisions on such a critical project that affects the city should be made considering its interests and that of the people.

Moreover, the decisions ought to be further driven by thorough information and analysis rather than misinformation. The current plans are fragmented and motivated by the pursuit to remain globally competitive without a holistic view (Maharaj, 2013). Improving the Durban-Gauteng cargo route, together with the expansion of the port as well as better inland transport connections and reduce congestion in the back-of-port activities will reduce business costs and

enhance productivity, which will create employment and create wealth (Transnet, 2010). Notwithstanding that, the expansion will create many jobs during and after construction, thus increasing the Gross Domestic Product (GDP) of the country but these jobs are not long-term and sustainable, instead, they will be short-term and will only benefit a small number of already well-off individuals.

2.3 Effects of port development on communities

“Social impacts are the consequences to humans of any actions (public or private) that change the way people live in terms of how they live, work, play and relate to others, as well as meeting their needs and generally coping as members of society” (Glasson, 2000). Succinctly, this means that social impacts are the impacts experienced by people that are caused by development actions. The Centre for good governance (2006) advances this definition by stating that social effects include changes in people’s lifestyles, their culture, community, political systems, environment, health and wellbeing, their personal and property rights, as well as their uncertainties and desires. The change includes changes to the norms, values and beliefs that guide and shape them to be who they are in society. Landfill and hazardous waste disposal areas, power and industrial plants and reservoirs, and roads and linear developments are examples of projects causing significant social impacts that expose people to health risks and loss of amenity, create community stress from the influx of workforce and pressure on infrastructure, as well as relocations causing interferences with the daily life of people and land use” (Centre for good governance, 2006).

Finsterbusch, (2012:72) developed the following list of social impacts that occur because of project-related changes:

- *“Economically, as employees who lose or gain income or jobs;”*
- *“Environmentally, as residents whose habitat is altered or confiscated;”*
- *“Commercially, as consumers who are affected by changing the prices of goods and services;”*
- *“Transportation-wise, as drivers, riders, or pedestrians who gain or lose accessibility;”*
- *“Socially, as relatives, friends, members, participants, viewers and tourists whose social and leisure patterns may be altered;”*

- *“Biologically, as organisms which are vulnerable to disease, injury, and other bodily insults; and.”*
- *“Psychologically, as persons who experience stress, esteem, love, fear, deprivation, self-realization, etc.”.*

People can experience more than one of these categories of social impacts. Some social results have massive consequences on the psychological state of a person, as shown by strain, and unhappiness. The most well-known effects are the loss of employment, substantial loss of income, involuntary displacements, and bodily harm. Termination of employment creates a feeling of worry over looking for another job and starting a new one as well as a dire state of survival if unemployment lasts longer. A loss of income reduces means to consume at normal levels and can destroy meaningful relationships. Enforced removals isolate the public from the environment they are used to, which they are usually firmly attached to (Finsterbusch, (2012).

Ports and urban areas have always been traditionally connected, but the connection between port and city development has weakened. Economic advantages frequently show in other areas, while undesirable impacts are restricted to the city where the port is located. Ports impact affects their cities, both positive and negative. Many of the positive effects are associated with economic benefits. Environmental, land use and traffic impacts are some of the critical negative impacts (Merk, 2013:17).

When assessing the impact of ports on urban communities, one should remember that they will affect the port in different ways, changing the relationship with the city relationship. This effect varies and may be positive and negative and direct and indirect. In this manner, the impacts can be in four different ways, namely, direct, indirect, induced, and catalyst (Ferrari *et al.* 2010). The various aspects can directly affect the performance of either the port or city. For instance, the establishment of the container pier directly affected job opportunities in the port (Veenboer, 2014: 36). The changes in the port and city relationships are also subject to indirect impacts. The difference is seen in the shift in employment because of the integration of international supply chains and internationalization policies in the shipping sector (Veenboer, 2014: 36).

Both the direct and indirect induced impacts are reflected in the employment level and related spending of income. For example, the change in employment rate is caused by the automation practices or supply chain integration that negatively influences the level of income spent in urban communities. The catalytic impact mirrors the consequence of the efficiency of port

actors flowing to different actors in the port or city. They could, in this manner, increase the attractiveness of the place and can draw in new firms or a general increase in the level of employment, impact economic growth (Cech, 2004). Unintended effects of port development can extend to urban activities (Ferrari *et al.* 2010).

Ports affect the cities located in both positively and negatively. The positive and negative impacts of ports on urban communities vary in the essence of the effects. A number of the positive impacts on cities are economically orientated, while the negative includes but not limited to the environment, the use of land and traffic impacts (Merk, 2013). Despite the adverse effects affecting cities economically in the long-term, there is a balance between port efficiency and social goals. In one perspective, port actors and authorities as well as governments, try to stimulate and enhance port efficiency and development in ways that improve income and employment, however, contradicting social goals that concern an unpolluted environment and the quality of life for the people living in the city (Benacchio and Musso, 2001). For instance, the SDB was a promising business area before 1938. The Durban City Council then changed and developed the place into an industrial area with black people of these residences working for the industries. Consequently, the site is now one of the most heavily air-polluted places in South Africa (Peek, 2002).

With a variety of large industries and vast transport networks, the communities at SDB have been primarily affected by several environmental impacts. One of the significant problems in the area is the impact of air pollution on the human health and the environment resulting from the emissions of the high level of toxins, chemical waste and contents of sulphur dioxide generally used for industrial processes and activities (Jaggernath, 2010). Due to the residential closeness with the industrial area, the dwellers in Merebank are disgruntled about the pollution. Engen refinery, Mondi paper mill, and Sasol fibres are the three big industries located at Merebank. Both Mondi and Sasol industries are close to Umlaas canal- just north of the old Durban airport which runs between Merebank and the airport (Jaggernath, 2010).

There are inconsistencies between the costs and benefits of port operations, where the negative impacts are felt disproportionately by the local population, whereas the benefits are extended to other places (Merk, 2013). Such is evident when people across the country benefit from access to consumer goods, while communities around ports bear a disproportionate burden from the environmental and social impacts such as health problems resulting from these activities (The United States Environmental Protection Agency, undated). Unlike the effects of

criteria pollutants that are often measured regionally or globally, health risks tend to be localized. To be precise, people living near the source of pollution will have more health problems compared to those farther away (ICF International, 2016). The local environment is the one that assists the port with required inputs of labour, land, and capital. However, the local environment is also the one that pays the price of the port operations in terms of exposure to pollution, congestion, and opportunity cost for land use (Ferrari et al. 2010).

The effects of ports negatively affecting urban communities are, in most cases, health-related and caused by air, water, and noise pollution. Air contamination endangers the health of communities by causing breathing problems such as and cardiovascular sicknesses, while water contaminated water from port-related activities can cause skin and neurological medical issues (Human Impact Partners, 2010 cited in Merk 2013).

Furthermore, nitrogen oxides are also dangerous as they can damage the breathing apparatus when their concentration is beyond 100 mg/m³ and can be fatal when the level is 300-400 (Batistelli *et al.* 2012). Particulate matter also worsens the wellbeing of people by causing health issues such as premature mortality, asthma attacks, and absenteeism at work (Miola *et al.* 2009). These environmental impacts directly endanger the living conditions of communities. Some studies reveal accidents and pedestrian safety as health matters directly associated with living close to a port. According to the British Department of Transport (2011) (cited in Merk 2013), the removal of parks, community centres, and clinics that can help maintain good health in populations are considered indirect health impacts.

Air pollution, as well as nitrogen dioxide generated by various port operations, are associated with bronchitis symptoms. Exposure to this gas is likely to cause breathing problems and premature births. Also, the movement of trucks in and out of the port contributes to the pollution of the air, thereby producing emissions that deteriorate air quality (Merk 2013). The noise produced by ports through their port activities can cause stress-related illnesses such as high blood pressure and heart diseases. Moreover, the noise produced can slow the ability of children to learn in public health literature. The noise is mostly generated by diesel motors drawing nearer and waiting and those that load and unload merchandise (Moretta et al. 2008).

A study by the ICF International, (2016) examined the geographic distribution of health risk in the community areas most affected by the port-related activities of the Port of Long Beach and Port of Los Angeles. It found that the average population with health risks due to air pollution in the South Coast Air Basin (SCAB) is 367 in a million. Closer to the ports of Los Angeles

and Long Beach, this risk increases to 480 in a million. However, the ports were found not to be the only source of health risks within the port's areas. Other sources were those that are not directly related to the ports such as refineries, rail yards, and other stationary and non-port mobile sources.

These risks increase in areas closer to developments, along freeways and national routes that are used for goods movements. For dwellers residing within nearly 1.25 miles of the ports and significant goods movements routes, the health risks from port-related operations of the two ports are 143 in a million (San Pedro Bay Ports 2009). Similarly, the SDB is environmentally degraded, with high levels of air pollution and waste disposal issues (Jaggernath, 2010). A report by Jaggernath (2010) that ranked all air pollution monitoring stations in South Africa documented that four of the most polluted are in SDB. Other severe environmental issues in the SDB are massive transport interruptions of residential roads, accidents caused by trucks, noise pollution, and the illicit dumping of harmful wastes in the area. Therefore, the expansion plans of the port of Durban will further deteriorate the living conditions of the communities at SDB and may result in permanent irreversible negative economic, environmental as well as social consequences for those communities.

Despite congestion viewed to indicate a healthy economy, extreme congestion can create problems for those affected by it. Such issues include loss of productivity, loss of personal time, stress, excess of fuel consumption, and air and noise pollution (Hennessy *et al.* 2000). If port-related trucks are partly responsible for excessive congestion, they also contribute to these harmful effects. The effects of high volumes of traffic and heavy-duty trucks on pedestrians and cyclists are extensively studied. Findings show that these variables diminish the compatibility of roads with other means of transportation and that heavy-duty trucks can restrict other forms of transportation such as bicycling (University of Washington, 2012). The existence of heavy vehicles may not be a direct input into some of the commonly used methods for calculating the pedestrian level of service. However, heavy-duty vehicles intensify a number of the negative impacts that vehicle traffic has on the people affected, such as conflicts with other means of transportation, challenges with visibility, the anxiety of travelling close to such vehicles, and many more.

2.4 Mitigating ports impacts

Mitigating the effects of ports is very crucial for the continued existence of both the port and their cities. Ports can generate substantial local economic benefits, retain global

competitiveness and industrial development, but the failure to mitigate the negative impacts related to their development results in ports being unsustainable. These impacts include but not limited to land use, traffic congestion, noise pollution, and relocations (Merk, 2013). Many policy instruments such as regulation, information, incentives, and technology upgrades are adopted to combat environmental impacts resulting from port operations. What follows is a discussion of policies used to mitigate these impacts and risks, drawing from other ports around the world.

2.4.1 Information

Ports are dominating the measures developed for regulating international emissions but also the cause that the emission reduction policies were created (Merk, 2013). It is essential that port authorities first conduct a thorough port emission inventory. The inventories assess emissions from port-related sources such as off-road cargo handling and equipment. Emission inventories such as those of the port of Los Angeles identify emissions levels produced at a particular place as per their sources, such as ships vessels coming in and out and production facilities (APEC, 2009). In some countries, ports are adopting more ways of monitoring and reporting, and integration emission inventories into broader sustainability reports that provide a course of action for different environmental impacts and mitigation ideas. The efforts of determining the figures are significant as they provide the baseline for tracking progress and can measure the performance. Many ports have started using systems that monitor compliance with clean air regulations (Merk, 2013). For instance, the port of Tallinn in Estonia installed two automatic stations designed to measure the level of air pollution. If the levels surpass the predetermined limits, the port authorities are automatically notified so that actions can be taken to lower the emissions. Modelling is used to trace where the pollution is generated along with a set of guidelines and activities that can assist lessen the emissions. The port of Helsinki in Finland implemented a similar programme for compliance endeavours, which is managed as and when emissions rise through an online platform (Norsworthy and Craft, 2013).

Port State Controls are essential in enforcing monitored standards. In the port of Antwerp, the Port State Controls Agents can directly access the information and monitoring system and can use this to identify vessels that require inspection. Also, the United States coast guard introduced an initiative called the quality shipping for the 21st century that issues certificates to ships that are doing well in reducing environmental impacts. Certificate holders receive fewer inspections compared to the others for over two years, and this is beneficial considering the intensification of such controls in the United States after the 9/11 event (Badino *et al.* 2010).

2.4.2 Regulation

At an international level, one of the main instruments utilised to regulate discharge from seaborne is Annex IV of the MARPOL convention 1973/8. In a general sense, Annex IV is a set of regulations that concern the release of liquid within proximity of land (Merk 2013). Deep oceans have been viewed as being able to integrate and prevent problems associated with raw sewage coming from natural bacteria processes. Government and port authorities can use numerous measures to ensure that the harmful impacts on water quality are kept very minimal. Regulating discharge limits mainly concerns controlling areas permitted for discharge and those that are not, as well as limiting how much can be released. Regulating how much is allowed for discharge is often controlled through permits and licenses (APEC, 2009). In the United States, merchant vessels and cruise ships qualify for the Vessel General Permit, which details general limits covering different kinds of discharge such as lubrication, oil, and wet exhaust.

2.4.3 Port noise

Many legal frameworks talk to port noise. The IMO stipulates a noise limit of 70dB (A) of listening ports of ships (Merk and Hesse 2012). There are other International Organizations for Standardization codes for vessels in addition to the IMO with possibilities of other national and regional noise limits in the port area, and municipal codes regulations. Some seaports and their surroundings in the Europeans are regulated by the Environmental Noise Directive of the European Commission (Moretta *et al.* 2008). The Directive requires a strategic noise map for the noise assessment exposure for industrial port areas near territories with over a hundred thousand dwellers with typical density for urban areas. Moreover, the directive stipulates that information on environmental noise and its impact should be made transparent to the public, which actions ought to be taken as per the noise map and consultation with the public (Moretta *et al.* 2008).

Noise measurement is a requirement for ports to handle noise pollution appropriately. Ports across the globe have invested in noise measurement. For instance, the port of Valencia has three noise distributors installed around the port that takes measurements every second the whole day (Rizzuto *et al.* 2010). Noise maps can determine areas needing urgent intervention. There are three types of measures that the literature documents for reducing noise impacts of ports: technical possibilities for source mitigation, port design and barriers, and adaptations in residential areas.

Technical possibilities such as silencers on the use of diesel generators can lessen the noise from ships. Another solution to adopt can be to reroute the central engine exhaust. Other methods of reducing the circulation of noise in the air are to add mineral wool to fan rooms or the use of cylindrical silencers, baffle silencers, and noise reducing louvres (Merk 2012).

Port layout and design can be a solution to the noise nuisance in urban areas through the overall design and planning of residential areas, railways, and roads. In Italy, the port of Livorno modelled a new approach for the passenger terminal to reduce noise levels in the urban area with 5Db-6Db (A) as a result of tourist traffic joining the regular road traffic (Moretta *et al.* 2008). Another way of reducing the noise impacts of ports is by moving the noisiest activities somewhere else such as the entrance gates, berths, or even the terminal. Port planning schedules can also be considerate of noise impacts. The noise generated by ships can be excessive and irregular at times, so it can be wise to berth a vessel with the noisiest side facing the opposite direction of sensitive areas in the port (Merk, 2012). Ships can also disseminate information on the noise they generate so that the vessels causing excessive noise can be berthed away from residential areas. This can be done together with financial incentives. For instance, higher berthing fees can be charged to ships refusing to cooperate on making noise impact information available as well as the vessels with higher noise impacts. Noise limits can be included in license schemes, just like in Denmark, where this encourages high-speed ferries that generate low frequencies in port (Van Breemen, 2008).

Noise in urban areas can also be reduced through a variety of measures. These measures include insulating houses, sound-insulating windows and communication, and neighbourhood groups. The port of Hamburg in Germany is an example of the demand for alleviating port emissions. The core port areas were located in very close proximity to the cities' urban transformation projects. In the areas that were very close, a scheme of noise control was introduced, limiting the noise in the evening (between 10 p.m. and 6 a.m.) across different levels between 55dB (A) and 63 Db (A) depending on the way the land has been used (Norsworthy and Craft, 2013).

Moreover, soundproofed windows and buildings with alignment that accommodate noise are approved to reduce noise impacts. Property agreements in port-related areas include a tolerance clause that accompanies these public regulations to do away with complaints or legal issues from residents who move to these. Also, monitoring noise impacts and training port officials on how to quickly and positively respond to noise. All the measures, as mentioned earlier, are most likely to yield positive results if included in an integrated action plan (Merk and Hesse

2012). There is no universal solution to noise mitigation of port-related activities since each port has its characteristics such as positioning and height of noise sources, the proximity between the port and residential areas, operation hours and the busyness of the port.

2.5 Perspectives and views on port expansions

People may hold different opinions and perspectives about a particular issue. Some individuals may have an interest while some may have concerns, and those people are called stakeholders. Freeman (1984:46) defines stakeholders as anyone that can affect or be affected by an accomplishment of an organizational purpose. Mitroff (1983:4) views stakeholders as a variety of forces (economic, social, or political) that affect an organization's operations, practices, and policies, including interest groups, parties, petitioners, and institutions. This view means that a person or group at some point through linkages can be a stakeholder of a given organization.

Port management usually encounters so many problems that are not easy to define. Port policies are sometimes created from unrealistic perspectives and market factors, with almost no consideration or understanding stakeholder strategies (Henesey *et al.* 2003:1). For instance, the different elements and interests of the local community and environment are often overlooked during the development of port plans. Moglia and Sanguineri (2003) argue that port authorities struggle to simultaneously deal with the needs of the local communities, the strategic objective of the government, and responding to the needs of the port and port operators, which are influenced by market forces and globalization. The port system is a very complex one with numerous internal and external factors that are considered stakeholders in a port community, each with their interests and objectives (Henesey *et al.* 2003:1).

Hoyle (2001) observed that almost every country or city globally with water frontage is growing and redesigning their ports and waterfront, given that they have financial means to do so. Ports are part of a coastal zone, where there is a significant degree of pressure from different stakeholders. The pressure from stakeholders affects the management of ports. Hershman (1988) (cited in Selsky and Memon, 1997) indicates that these stakeholder differences are the reason for community conflict because they spark particularly when the management of a port has a solid business introduction, as is usually the case. Therefore, these spatial undertakings (expanding and upgrading of the ports and waterfronts) trigger public disputes (Coppen, 2014).

Coppen (2014) mentions that spatial developments are largely contested, and contested planning projects create conflict, not merely a competition but rather an unmanageable clash. Gask (1984:11) (cited in Sequeira and de Carvalho (2012:118) defines conflict as the views of

someone whose goal attainment is being hindered by another, with stress or tension as the outcome. Considering the history of planning, it shows that planning together with planners always create a conflict of stakeholder's interests and conflict between aims of planning (Campbell 1996). To date, solving disputes and confrontations requires that contemporary planners try to treat all stakeholders equal while attaining a balance between all three fundamental goals (social, environmental protection, and economic development) and still pursuing sustainable development.

The conflicts at SDB show that there is no balance between the three fundamental goals (social, environmental protection and economic development). This is evident when Peek (2002) reveals that conflict between the industries and local communities at SDB can be traced back to the apartheid period when Mondli bought land from the Durban council and started operating without any form of engagement with the local communities. As stated by Wiley *et al.* (2002) that there are insufficient interventions aimed at mitigating the poor operational practices of firms that have been the reason for continuous oil spills and industrial accidents in the SDB. For instance, between 1998 and 2008, the South Durban Community Environmental Alliance (SDCEA) documented 120 accidents and pollution instances such as massive oil spills, work-related employee deaths, and fiery explosions in the industries operating at SDB. Moreover, a leak in one of the petrol pipelines led to the release of over a million litres of petrol into the soil under the community's homes (Mersham, 2016).

Consequently, this has resulted in endless conflict or tension between residents, big businesses, and environmentalists over insufficient mitigation measures that are not only dubious but also disdain. Black communities have often been exposed unjustly to toxics and continue to be targets of environmental injustice within established democratic political systems of governance. Apartheid in South Africa was a disgraceful example of environmental injustice. The zoning and separate racial policies forced black people in the country to be placed in overcrowded homelands and shantytowns close to industrial complexes (Durning, 1990). As such, Blacks in South Africa are unequally exposed to industrial pollution and denied socio-economic status as a significant number is forced to live and work in hazardous industries to make a living.

Section 24 of the South African constitution state that all persons whether Black, White, Coloured or Indian regardless of ethnic differences, have the right to an environment that is safe and not harmful to their health and to have the environment protected and preserved for

future generations. These rights can be achieved through strict legislative measures that prevent pollution and environmental degradation, promote conservation while encouraging good economic and social development (Scotts, 2003). However, the need to remain globally competitive, calls for the development of dirty industries such as the port dependent industrial-like Shell and B.P. South African Petroleum Refineries (SAPREF) has constrained the South African government in its capacity to give substance to this section of the constitution (Mersham, 2016). Many industries at SDB, if not all, have violated these rights, and pollution remains an infringement of the environmental rights of poor black communities. The failure to honour these rights results from the lack of harmonization between economic growth and environmental modernization laws. The lack of harmonization shows in development policies focusing on expanding and growing the sectors of the economy operating across many countries in the world, such as petrochemicals and paper and pulp processing. The current policies identify the SDB as a strategic point for further industrial growth, meaning that the environmental risks from the constant developments such as the expansion of the Port of Durban at SDB fall disproportionately on black communities (Scotts, 2003).

Coppen (2014) argues that public participation is the primary source that influences conflict in spatial developments. However, Hoyle, (1994) highlights the role of public participation as being fundamental to the formulation of spatial projects plans and policies and argues that community groupings act as ideas generators which have the potential to impact on trends and change in any development. The conflict between stakeholders can be from two different perspectives, the societal and environmentalist view or the economist/firm's perspective.

The societal and environmentalist outline and perceive sustainable development as the intersection of the economic, societal equity, and environmental principles. (Bansal, 2002:124). The economist perspective (comprised of port developers, business and firms) has a different understanding, describing sustainable development as sustainable corporate development, which is an approach embedded in neoclassical economics. Unlike the societal and environmentalist perspective, they only consider a sustainable competitive advantage (Bansal, 2002).

The complicated stakeholders setting in maritime transport chains means that the clashing interests of the stakeholders are involved. The urge or need to advance personal interests may cause conflicts between individual stakeholders and lead to non-convergent objectives (Bichou and Gray, 2004:51). In many instances, businesses are rather paying attention to particular

matters instead of the entire chain (Horst and de Langen, 2008:111). Personal conflicting interest became pertinent amid the restructuring of ports as nodal points in the maritime transport chain. Conflicts arise as a result of opposing stakeholder objectives of port and city development, environmental protection, working conditions, interest of people, or general economic development. Nonetheless, the success of change processes relies on the support of pertinent stakeholders (Wolff, 2014).

Port-related literature shows the necessity of dealing with stakeholders. The absence of awareness of stakeholder's relative importance is because there is no understanding of their primary characteristics (Meersman *et al.* 2009:155). Martino *et al.* (2008:577) write that insufficient frameworks represent the intricacy of the community. Notteboom and Winkelmanns (2002) uphold that developments in the port environment require unbiased stakeholder relations management, including knowing and categorizing stakeholders and an assessment of their influence on the port. Stakeholder relations management is the heart of a functioning port and development (Notteboom and Winkelmanns, 2002:19). Henesey *et al.* (2003:6) opine that port managers hardly have an all-inclusive representation, and stakeholder management often is of a particular purpose without being dependent upon any framework that could evaluate potential actions and reaction patterns in terms of the relations of stakeholders.

2.6 Port expansion a justification for port development

Ports facilitate socio-economic infrastructure and create a better transportation network that benefits all the companies relying on the port for their continued business, which is something not visible to the general public. This means that consent has to be granted whenever port facilities are expanded (Chang, 1978). Today, it has been widely debated whether ports contribute to the city located, national or regional economies. Shan *et al.* (2014) note that ports have a significant role they play in the economic growth of a country. On the contrary, Deng *et al.* (2013) argue that ports do not stimulate economic growth in any way. The constant decline of jobs due to the use of new technologies that eliminate human labour and containerization of goods that took away the direct economic contribution of ports (Munim and Schramm, 2018).

Economic impact studies are essential for justifying the economic contribution of significant infrastructure developments. Lakshmanan (2011) maintains that improving freight services ultimately generate more trade, followed by improved labour supply and technology diffusion. Some port impact studies have observed the role that port plays on regional or national

economies. For instance, in the context of China, Shan *et al.* (2014) found that a percentage increase in port cargo throughput can increase the Gross Domestic Product per capita growth by 7.6%, and the port throughput of a country positively impacting neighbouring economies. Chang *et al.* (2014) similarly revealed that the economy in South Africa could decline by 17% due to a single unit shortage in port activity. Countries are continually making intensive investments in a variety of projects to gain competitive advantage as well as access to new markets. Such projects include the development of new ports or expanding the existing ones. Recently, the role of ports goes beyond cargo handling and incorporates the provision of improved logistics services to keep up with the increasing demands of global supply chains (Munim and Schramm, 2018). Some studies have discovered that better quality of port infrastructure and logistics performance can mostly benefit the economy of a country.

Ports that retain direct port-related employment fail to compete for cargo, leading to a decrease in the number of jobs in the long-run. The attainment of economic development critically relies on the long-term capability of a port to attract more customers while creating and retaining employment and income. For that reason, if the quality of port infrastructure is rarely improved, it may have a significant negative impact on the economy of a country (Helling and Poister, 2000).

2.7 Conclusion

Chapter Two has examined both the theoretical and practical literature relevant to the problem being investigated, showing clearly the linkage of the literature review to the research questions. This chapter defined the term port. A discussion on the pressure to expand the port of Durban then followed. After that, the chapter explored the effects of port development on communities. This chapter also examined ways to mitigate the impacts of ports. Perspectives and views on port expansion were explored. Lastly, the chapter discussed port expansion as a justification for port development. The discussion now turns to Chapter Three, where the theoretical tool used to answer the research questions is explained and discussed.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.0 Introduction

A theoretical framework is a vital aspect of research. The framework is the foundation for all the knowledge generated for a study. It assists in structuring and supports the rationale for the study, the problem statement, the purpose, the significance, and the research questions. The theoretical framework provides a grounding base for the literature review, and most importantly, the methods and analysis. It is essential to have theory-driven thinking when selecting a topic, the development of research questions, and the conceptualization of the literature review, the design approach, and the analysis plan for the research study. This chapter discusses the Social Impact Theory as well as the Psychological Impact Theory as they are the theoretical framework employed to facilitate the study.

3.1 Social Impact Theory

The social impact theory (SIT) was introduced in 1981 by Bibb Latane as a framework for understanding the general rules that guide how communities and relationships are created. Latané notes that social impacts refer to multiple kinds of changes in physical appearances and feelings, motives and emotions, cognitions and beliefs, values, and behaviour that become visible in a person resulting from real, implied, or imagined presence or actions of other people Gonzalez, (2016). Similarly, Perez Vega *et al.* (2016) explain that the SIT details how social influence brings about change in people's behaviour, attitudes, and beliefs caused by their interaction with fellow humans. Turner (1991) defines social influence as the direct and indirect influence processes that can control the interpersonal, group, or socio-cultural level and allow effects that may be subconscious or conscious and can interfere with reasoning, judgments, and observable behaviours. For instance, behaviours caused by conforming to certain things as a result of peer pressure. Cialdini and Goldstein (2004) divide social influence into three sub-types: norms, compliance, and conformity. Norms- customs or the way things are done. Compliance- the action to consent to a particular request, and all the justifications relating to this behaviour. Conformity- the act of changing a person's behaviour to correspond with the responses of others.

Conformity behaviour involves changing an opinion due to succumbing to external pressure by others, such as bullying, teasing, and criticism. The pressure can be real or created in one's mind and can be direct or indirect. Conformity can mean departing from one viewpoint to a

contradictory one. However, it does not mean changing to an opposite view, and it can also involve not changing a perspective at all as a result of peer pressure (Sorrels and Kelley, 1984). Conformity is seen as responding to the strength of social norms (Goldberg, 1954). Conformity employs social influence to fulfil psychological needs (Deutsch and Gerard, 1955). In brief, the needs can be the need for correctly assessing how the external environment operates, which is viewed as the informational influence, and the need to be approved by the society (normative social influence). People conform to the views, perceptions, and behaviour of others as influenced by these needs. The Social Impact Theory advances the idea that conformity is gained if the source of external pressure has three key things: strength, immediacy, and numbers, and the social impact experienced by individuals is a product of these three forces (Perez Vega *et al.* (2016). The strength of social impact is described as the significance of the social group to the person being influenced. The status, age, socio-economic status, previous relationship with, and future power over the targets are some of the determinants for the social strength of an influencer (Tefertiller, 2017). The Social Impact Theory also distinguishes strength as either being trans-situational or situation-specific (Latané 1981). Trans-situational strength refers to the importance of the influencing source that can be related to the source itself, such as age, physical characteristics, or perceived intelligence. Situation-specific strength alludes to the intensity of the influencing source that is context-specific to roles that the influence and influenced inhabit, such as teacher and class, an actor and an audience prompting stage fright (Perez Vega *et al.*, 2016).

Immediacy is the proximity of the influencing source and the person that is targeted by the influence. It also includes communication transparency and the absence of intervening imparting information barriers. The more immediacy increases, the same goes for the extent of social impact (Perez Vega *et al.* 2016). Three types of immediacy are worth noticing: physical immediacy (geographic location, seat spacing, crowding), temporal immediacy (time between announcement and duration), and social immediacy (views that some individuals are like others). Immediacy can also be explained through a psychological distance that is defined as the subjective experience that something is close by or far from a person and accepts the subjectivity of immediacy of objects, events, and individuals (ibid). Most empirical work done on physical immediacy has been primarily on behaviours and cognitions. In a study, Pedersen *et al.* (2008) found that physical proximity of university students is one of the reasons behind the level of alcohol consumption at tertiary institutions. Bourgeois and Bowen (2001) found that friends that were close to each other physically shared similar beliefs to those that were far

in other courses. The number influence refers to the numerical figure of influences, and the direct link that is if the influence increases, the extent of the social impact also rises (Latané, 1981). This argument can be criticised for its shortcomings. For instance, many studies debate about whether continuing to increase numbers results in similar increases in social impact through conformity. Asch and Guetzkow (1951), in their study, tested this notion and found that three sources increased conformity, but beyond that, no further gains in social impact were made. The Social Impact theory can be criticised for being a static theory; nonetheless, predicting influence on one factor at a time and from an individual or crowd to another. In reality, influence is reciprocal and on-going. This notion means that a person is influenced as she influences other people, and it continues like that as people constantly influence others on different issues over time (Harton and Bullock (2007). With that said, the social impact theory is valid and supported by numerous studies. French *et al.* (1959) identified the following five types of authority powers that support the social impact theory:

- Legitimate power- this authority is of high-level status. For instance, eThekweni municipality directing the port authorities to identify land for logistics, industrial, business and residential development in a new major node for the Port of Durban and surroundings in order to retain the status of the port being the busiest and biggest port in Africa.
- Reward power- this refers to those that have money or who can perform favours. For instance, elites, this group of people play an influential role in decision-making processes. In the case of SDB, the wealthy people with businesses that export and import goods through the port of Durban.
- Coercive power- can be exercised by people who can punish others such as teachers and parents.
- Expert power- people viewed knowledgeable such as specialists.
- Referent power- people who belong to groups one respects, such as interest groups and gangs.

The powers, as mentioned earlier, fit well with the social impact theory because they elucidate why orders by a person may have social force. In some instances, one may have a mixture of the powers mentioned, such eThekweni Municipality having authority power, reward power, coercive power over the Port of Durban as it can budget and prioritize spatial developments for

the port, and can delay and reject new development plans for the port if they do not mirror the municipality's vision. The use of powers shows that social force is spread out between everyone that is directed at. If social force is directed at one person, they have no choice but to conform or obey (Rowe (undated)). The social impact theory suggests that an increase in the interaction of source strength, source immediacy, and the number of sources produce social impacts.

3.2 Psychological impact theory

The psychological impact theory is explained through one of its strands; the psychological stress theory. The psychological stress theory was developed by Selye in 1936. The theory explains that the body copes with harmful or unpleasant agents from the environment caused by a variety of nonspecific physiological reactions known as the general adaptation syndrome. As a reaction towards fear, the body mobilizes coping mechanisms such as the emotion-focused coping, for instance, one successfully avoids thinking about threats that do not bother them. Some of the coping ways are applied during the resistance stage. Usually, an appropriate adaptation is achieved, but if the coping mechanisms are applied, the adaptive reserves continuously can run out and cause a physiological breakdown (Selye, 1956). In other words, the theory describes a process whereby government actions (environmental events or forces) threaten the wellbeing of people and people respond. The unpleasant event is the stressor, and the response is the coping mechanism or coping behaviour, which leads to adaptation should it succeed and requires more coping efforts if unsuccessful. If the stress condition does not come to an end and continues over time, it can result in one having physical or mental disorders (Fensterbusch, 2012).

3.2.1 Conceptualizing stress

The concept of stress dates back to the 17th century. The term was initially used to describe sorrow, suppression, discomfort, and hard times (Peplau, 1968). The terminology later changed to include the meaning of a strong influence used on a physical object or a person (Raya, 1993). The word stress is interpreted differently by different people. Some people define stress as events or circumstances that affect people in a way that they eventually feel tension, pressure, or negative emotions such as anxiety and anger. Others perceive stress as a response to these situations. This response includes physiological changes such as increased heart rate and emotional as well as behavioural changes. Psychologists, on the other hand, view stress as a

process that involves one's interpretation and response to a threatening event (Baqtayan, 2015).

Mills (1982) defined stress as the emotional reaction of people to the things happening and demands placed on them. People are generally exposed to stress when they are anxious, worried, ashamed, or angry, whether the source of the feeling is the people themselves, other people, or anything that happens to them. Stress can be correctly dealt with only when the two components of stress are considered- the external events and demands in people's lives and their reactions to them (Baqtayan, 2015). According to Sandhu *et al.* (1994), stress is the adaptive physiological response of human beings to internal and external occurrences that intrude on the homeostatic balance of the person. Psychological stress comes to existence as a result of someone perceiving environmental demand surpassing coping abilities.

The existing scientific literature differentiates stress according to three meanings. First, it refers to stress as any event or environmental stimuli that makes a person experience tension. In this case, stress is an external factor. Second, stress refers to a subjective response, which is an internal mental state in this case. It is the inner interpretive, emotive, and coping mechanisms happening in an individual. The coping processes can either yield positive results such as growth and maturity or negative results such as mental strain. Lastly, stress can be how the body physically responds to demand or damaging intrusions. The physical reaction serves to support behavioural and psychological attempts at coping (Baum, 1990).

Some authors have criticised the conceptualisation of the stress concept. Lazarus and Folkman (1984) posit that the word stress is unclear in definition and that viewing stress as a rubric consisting of different variables and processes can probably be more useful rather than just regarding stress as a variable. Arguably, what one finds stressful can be pleasurable to somebody else. People differ in sensitivity and vulnerability to particular events. Kenneth *et al.* (1997) postulate that a suitable definition for stress is one that describes it as a person's psychological and physiological reactions to a situation one cannot cope with as it exceeds the coping resources. Many psychologists consider the problem as the stress and the resulting response as distress, recognizing that it is the latter that can cause health issues and deteriorates the lives of people. The way people react to stress depends on a variety of factors, including how in control one feels about a situation, knowing the intensity of the stressor and individual perspective. For instance, the noisy buzzing activities of a congested area may be music to one and unbearable to another. There may be disagreements about the conceptualization of stress.

However, it noted that most of the definitions provided portray tension as a psychological state which reflects a much broader process of interaction between people and their environment (Cox, 1993).

3.3 Sources of stress

The psychological stress theory is broad and complex. The author will only outline it here. Sources of stress or stressors are not the same in terms of the dimensions that influence the severity of the stress they generate. The immanency, suddenness, duration, unusualness, and significance of the expected stressor mostly worsen the anxiety. Stress levels increase just before the event. Unexpected events do not give people enough time to prepare for them properly. For as long as the stressor exists, it becomes more grievous and coping weakens. Unfamiliar events are more threatening than familiar because people usually do not know whether they can handle them or not Finsterbusch, (1982).

The effects of many stressors grow, and often they grow in large numbers. The stress experienced over numerous stressors is higher than if experienced separately. There is a greater chance of experiencing exhaustion and psychological or physical breakdown under multiple stressors (ibid). Lazarus and Cohen (1977) identify three categories of sources of stress-cataclysmic phenomena, powerful events, and daily hassles. The cataclysmic phenomena are a significant event that is unique and happens unexpected, which impacts a large number of people, such as hurricane or dam, forcing the removal of communities. Powerful events are significant events in people's lives that necessitate substantial changes, such as the death of a loved one, marriage, retrenchment, relocation, and others. Daily hassles are the opposite of the events mentioned above. Daily hassle events are repetitive issues of day-to-day life, such as job dissatisfaction, marriage issues, traffic congestion, and many more. The increasing effects of these stressors can be severe, while the impact of a once-off event may be minor (Lazarus and Cohen (1977). It is dubious that a once-off event can have insignificant effects as compared to that of many stressors. For example, a factory explosion that leaves one disabled has significant changes in a person's life.

Life events and their relationship to stress were a research focus for many authors in the late 1960s. Holmes and Rahe (1967) define social stressors as events that change the everyday living of people. The authors developed a list of relatively common stressful life events that they named the Readjustment Rating Scale (SRRS). The items are assigned weights called life change units (LCU) determined by the ratings of point of adjustment necessitated by the event.

The SRRS is for measuring cumulative stress that one experience over a specified period. Holmes and Rahe conducted many studies that used the scale and found stress levels related to bad health. In his research, Rahe (1972) assessed the health status of the United States Navy personnel. The study found that many people reporting 150 and less LCU in one year reported good health the subsequent year while half of those that reported above 150 LCUs reported health issues the following year, and 70 per cent reported more than 300 LCUs had illnesses reported in the next year.

The SRRS has also received criticism. The Readjustment Rating Scale has been refuted for mixing positive and negative life events when it is most adverse events that cause physical or psychological (Brown and Birley, 1968). The SRRS includes items that some would consider as positive as well as negative and ambiguous items. For instance, a positive event such as the birth of a child can be an enjoyable experience at the same time stressful for the parents of the child. When detrimental events are controlled, all the life stress events are practically not linked with psychological disturbances (Mueller *et al.* 1977). Moreover, some health issues such as personal injury or the change in eating habits that are contained in the scale somewhat confuse independent and dependent variables when assessing the effects of life events on bad health or sickness (Thoits, 1981). In a different index from the SRRS used by Thoits, (1981) found that, when health-related events are controlled, other undesirable events do not have much effect on psychological distress.

It is indubitable that Holmes and Rahe's life events can contribute to stress levels. However, the authors fail to account for the different ways in which people experience events. For instance, family gatherings may be stressful for some people, while for some, they are ways for relaxation. The assumption that life events affect people the same way fails to consider that people are different. The effect of life events on stress levels can be less felt depending on the coping strategies that an individual use to adjust to the changes of an event. While some adopt effective coping strategies to ease the stressful period, others do not, and the consequences of that could be a more stressful life for them. For instance, a child that loses her parents may benefit from being able to spend time with relatives and close friends. On the other hand, someone who deprives herself of social support and isolates herself during grief may find it more difficult and stressful to come to terms with the loss.

Government actions assessed in social impacts affect employment, environment, opportunities, markets, and accessibility of people in different ways that can be measured accurately so. Most

of the social impact assessments endeavour to measure these impacts, but neglect the fact that these are related to the psychological effects. For new developments, governments usually use agencies to conduct social assessments that can estimate the social consequences of their actions on people, groups, organizations, and communities. These assessments look at the positive and negative social impacts, but usually, the focus is on the adverse effects of actions that are proposed for their economic impacts. The negative impact assessed on people and groups should also be based on an understanding of how people experience hard times.

The psychological stress theory describes the process whereby environmental events threaten the state of a person's health and the reaction of the person. The threatening event is the stressor, and the response or reaction is the coping mechanism, which leads to adjustment if successful, and more coping ways if unsuccessful. If the stress does not come to an end over time, it can lead to physical or mental problems. The theory is used to explain the social impacts of the expansion of the port of Durban. The development of the port in Durban South Basin means that there will be disruption of lifestyle, interference with cultural traditions and everyday life of the local communities, increasing risks of accidents, and relocation of people. All these threaten the wellbeing of the communities. The psychological impact theory adopted helps this the study explore the views and perspectives of the SDB communities about the expansion of the port of Durban.

Social Impact Theory describes how social influences bring change in people's behaviour, attitudes, and beliefs caused by their interaction with fellow humans. Turner (1991) defines social impact as the direct and indirect influence processes that can control the interpersonal, group, or socio-cultural level and that allow effects that may be subconscious or conscious and can interfere with reasoning, judgments, and observable behaviours—for instance, conforming to certain things as a result of peer pressure. Transnet and eThekweni municipality exercised authoritative powers to execute their plans to expand the port of Durban in the Durban South Basin. The social influence of Transnet and eThekweni municipality will see a change in the community in terms of their judgments, reasoning, and behaviour. The strength of the parties that advance the expansion, the immediacy, and the number of people exerting the influence put social force on the SDB communities, which put pressure on the people to change their behaviour. This theory is used to explore the pressure to expand the port, the social impacts of the port on the SDB communities as well as determining if the expansion of the port of Durban is justifiable for port development in conjunction with the psychological impact theory. The psychological theory describes how social impact affects people of which the social effects are

a result of social forces that pressure individuals to change due to the strength, immediacy, and numbers of the social forces.

3.4 Conclusion

Chapter Three pronounced Social Impact Theory and Psychological Impact Theory as the theoretical framework adopted by the researcher. The chapter discussed the concepts and theories related to the study. The views employed are reasonable because they allow the researcher to explore the study questions. The next chapter will discuss the methodological approaches used to analyze the social impacts of the expansion of the port of Durban.

CHAPTER FOUR

METHODOLOGY

4.0 Introduction

Research, in simple terms, refers to a search for knowledge. In other words, research is a scientific and orderly search for information related to a particular topic (Kothari, 2004). Research methods and a research methodology are both techniques used to collect and analyze data. These methods seek to safeguard that the information acquired is reliable and valid (Govender, 2015:36). The use of a research design allows the researcher to employ suitable research methods to achieve the objectives set out in Chapter One. For this reason, it becomes mandatory to discuss the research design and methodology, considering that they serve as a plan or blueprint for the study. This study adopted an interpretive research paradigm and a qualitative research approach, with interviews being the appropriate research method, forming a bridge between the research question and the practical execution of the study. This chapter also incorporates the ethical issues considered that informed gathering and analyzing the data, type of data collection methods used, limitations of the study as well as how the data was analyzed.

4.1 Research paradigm

4.1.1 Interpretative Paradigm

Given (2008:591) posits that “Paradigms determine how members of research communities view both the phenomena their particular community studies and the research methods that should be employed to study those phenomena.” This suggests that a paradigm is a range of assumptions by a research community of how they interpret and understand what they see or notice (Venter, 2016). A research paradigm can, therefore, be defined as an interpretative system that is informed by beliefs about the world and how it has to be perceived. In research, specific methods are used to answer questions within a particular context, and these methods are guided by the research paradigm (Venter, 2016).

Interpretative paradigm alludes to the belief that reality is socially constructed, and its understanding is based on individual interpretation. The interpretative paradigm provides a better understanding of complex lived experiences, from the perspective of those who endured the difficulties and continued to live (Schwandt, 1994). Blanche *et al.* (2006) define interpretative as a research paradigm that strives to understand circumstances observable from

within their context actively. Interpretivism studies aim to make sense of and elucidate daily events, experiences, and social systems as well as the beliefs attached to such phenomena (Vosloo, 2014).

Interpretivism is a method that views the social world as something that only people can produce and replicate every day. What holds today may not be the same tomorrow, or in a different environment (social environment). Knowledge is developed, and theory is built on developing ideas that are based on observing and interpreting social constructions. This paradigm is adopted to assist the researcher understand and make sense of what is happening with the expansion of the port of Durban and also produce findings that may be beyond scientific knowledge. Consequently, interpretivists endeavour to fully comprehend subjective realities and provide eloquent explanations for the partakers of the research. Reality should be understood by making use of the meanings that people give to their lives. These meanings can only be learnt through language and not solely using quantitative analysis (Schwandt, 2007).

Interpretivists further perceive the social world as something that cannot be understood through the use of social principles taken from the natural sciences. The social science varies in terms of the research philosophy. According to Blumberg *et al.* (2011:17), the three underlying principles of interpretivism are:

- The social world is created and made meaningful subjectively by human beings. Humans are subjects that have a mind, while the behaviour of individuals is affected by knowledge of the social world, which occurs merely relating to people.
- The researcher is included in what is observed, and
- Research is interest-driven based.

In terms of research methodology, the interpretive part is grasped through interactive, field-based inductive methodology, to carefully connect the practice in a specific context (Henning *et al.* 2004:20). Livesey (2005) suggests that observation and interpretation are the most suitable methods for interpretative research paradigm; hence, advances that the researcher should understand how people experience and view their world.

De Vos *et al.* (2011b:8) proposes the use of participant observation and field research techniques whereby hours and days are spent interacting with participants. Transcripts, conversations, recordings may be studied to make sense of non-verbal communication, such as the tone of their voice or to understand the interaction in its real context (Neuman, 2011:101).

The researcher engages in discussions with the participants to address social problems and develop implementable feasible solutions to the problem (Blumberg *et al.*, 2011:17).

4.2 Research design

A research design is a thorough plan for tackling the central problem of the study. It provides the overall structure of the processes that guide the researcher in terms of data collection and analysis (Leedy & Ormrod, 2010). A research design is also understood as the development of ways to acquire reliable data that increase the body of knowledge and confirm the phenomenon of education (Leedy & Ormrod, 2010). A definition advocated by Maree (2011) views research design as a plan or blueprint showing how the researcher intends to conduct the study. The definition proposed by Maree is suitable for the study because it is the plan that assisted the researcher in structuring the processes followed to collect data from the participants, showing issues that may have been discovered, analysing the issues and interpreting them. The researcher adopted a qualitative research design. This design allowed the researcher to interpret the feelings and perceptions of the community members affected by the expansion of the port of Durban. Moreover, the design was chosen because of its interpretive character and the ability to take place in natural settings using a combination of methods to collect data. The methods used to collect data for this study were secondary resources and interviews.

4.2.1 Qualitative Methodology

Qualitative research enables issues to be studied in-depth, openness, and in detail, as they endeavour to find and make sense of the common things that emerge from the data (Terre Blanche *et al.* 2006). In qualitative research, data is collected through verbal and non-verbal language or written formats, as well as observations that are documented to thematically analyse the data (Thomas and Hodges, 2010). Central to understanding a qualitative study is the ideology that meaning is socially constructed by individuals in interaction with their environment (Merriam, 2002). Consequently, qualitative researchers are interested in understanding interpretations or meaning people attach to their experience of the social world and how those people make sense of that world at a particular point in time and a particular context (Bhekie, 2002). The study findings can serve as a foundation for future studies if there is a gap in the subject matter.

4.3 Study population

The study population can be described as all the elements that meet the criteria for inclusion in the research (Burns & Groves, 2001). The entire set of individuals (or objects) having some common characteristics, sometimes called the universe (Polit & Beck, 2003). The study population includes stakeholders that are affected by the expansion of the port of Durban as participants. These include Transnet, eThekweni municipality, National government, Economic players, Environmental groups, the communities at SDB, Recreational bodies, and other stakeholders.

4.3.1 Sampling

A sample is a portion of a larger group called a population. There are two types of sampling methodologies, namely: non-probability and probability samples. In a probability sample, the elements in the population are randomly chosen and have a known probability of selection. Sometimes the probability of units selected is equal in which case groups will be represented in the sample in their true proportions (Ritchie *et al.* 2013:112). In a non-probability sample, units are deliberately selected to reflect particular features of, or groups within the sampled population. The chance of selection for each member of the population is unknown. Instead, the characteristics of the population are used as the basis of selection. (ibid: 113). Based on the objectives of the study, the research does not intend to generalise findings, instead, gain insights and generate knowledge into the expansion of the port of Durban. For this reason, the non-probability sample was employed for the study, adopting purposive and convenience sampling.

According to Baker *et al.* (2013), convenience sampling is “the process of choosing a sample equally to our suitability.” A convenience sampling was used since the population was chosen according to the researcher’s suitability. The expansion of the port of Durban has a direct impact on specific individuals and this does not imply that the development of the seaport excludes other individuals who are part of eThekweni. It means that some groups are more affected than others.

Purposive sampling refers to “a process where we choose a sample because we want them to represent a certain purpose” (Baker *et al.* (2013). The sample was selected because each population has a purpose to fulfil in the study. The Durban South Basin community members were purposefully chosen to get their experiences and thoughts about the social impacts of the expansion of the port of Durban upon their lives. Transnet is the driver behind the development

of the port. Transnet was therefore selected to provide information about the expansion plans of the port of Durban. A representative from the South Durban Community Environmental Alliance (SDCEA) was purposefully sampled to provide their views about the expansion of the port of Durban since they are a group promoting environmental sustainability at SDB. The communities selected are some of the members that will be directly affected by the expansion of the port of Durban.

4.4 Data collection method

Data was collected using both primary and secondary sources. The literature sources used were primarily secondary. The main source of information was Google scholar. When making a detailed search for the articles, the researcher used popular databases such as EBSCOhost, Research Gate, the University library database, Journal of International Business Studies amongst others with different combinations of keywords, although all related to the central topics of the study (for example, views and perspectives on the expansion of the port of Durban, the extent to which port expansions affect communities, and how can the effects be mitigated). For search strategies, the researcher commonly used the advanced search options of the search engines to limit the results. In order to supplement the search, the researcher expanded it to books from the university of KwaZulu-Natal library.

Preliminary data was collected from the field using in-depth interviews and secondary data was collected from available academic sources such as journal articles, books, and so on. The interviews were semi-structured face-to-face interviews. Schostak (2006) describes interviews as a data collection technique that permits the researcher to gain an opinion of the participants' concerns, experiences, interests, values, beliefs, knowledge, and ways of seeing, thinking, and acting. The semi-structured face-to-face interview was used to get detailed information on the port developments and related issues. The main advantage of a face-to-face research interview is that the researcher can adapt the questions as necessary to ensure that the response was properly understood (Hiller & DiLuzio, 2004:5).

Guiding questions were formulated to structure the interviews. This was done because semi-structured interviews involve interaction with participants using mainly open-ended questions (Ngcobo, 2013). An in-depth interview is an open-ended exploratory way of gaining deep insight into the respondent's view of the issues being investigated. Boyce and Neale (2006) emphasised that in-depth interviewing is a qualitative research means to lengthy discuss the

respondent's perception about a particular intervention. Books (1997) states that the strength of in-depth interviewing is that it facilitates practical cooperation.

The research approach acknowledges that the in-depth interview is likely to be biased because the respondents might have a personal interest. In this study, bias was addressed by developing open-ended questions probing respondents to express their views freely in their own words. This approach has critical characteristics that distinguish in-depth interviews from other forms of talks, which is that the researcher must present and explain in detail the topic that is investigated (Ngcobo, 2013). The interview used a tape recorder to document the responses from key informants. This form of documentation was used because it allows the interviewer to engage in the conversation without worrying about note-taking freely, and it also allows for an accurate reflection of the interview. According to (Corbetta, 2003), the interviewer may take brief notes during the interview, write down and organise notes at the end of the interview and use the tape recording to fill in information gaps or details so that none of their essential insights and discussions is missed.

4.5 Validity

According to Bashir *et al.* (2008), there is more than one way of approaching validity in qualitative research. This includes validation as an investigation, as communication and as action. The scholars further explain that the researchers use experience and literature to address the issue of validity, generalizability and reliability (Bashir *et al.* 2008). For the purpose of this study, content validity was enhanced by comparing the findings of the interviews with the preliminary literature. Also, the questions asked during the data collection process were in line with the research questions. While keeping with the semi-structured interviews, the issue of validity was addressed by making sure that the question content focused on the research objectives. To build understanding and to enable flexibility, participants were allowed to choose between isiZulu and English, which was to allow proper engagement. IsiZulu was added as an option because KwaZulu-Natal is dominated by IsiZulu speakers.

4.6 Ethical considerations

Qualitative research, in most cases, often questions the issue of ethics because the study design involves human subjects, some of whom are minors (Dooly *et al.* 2017). Researchers are professionals whose research work is guided by a set of rules and guidelines that defines their conduct. Research ethics is essential for the daily research attempts and necessitates that

scholars protect the dignity of their research participants and publish well the information that is researched (Fouka & Mantzorou, 2011).

According to Dooly *et al.* (2017), some of the rules and guidelines that define the conduct of researchers are:

- Before any research study can commence, the researcher should consider that the study does not cause any harm. If any harm is identified, the researcher should use other options that will not cause any potential liability.
- The researcher is obliged to provide sufficient information to reviewers, ethical board members and participants to understand the research project better. The participants have to be fully informed of the purpose and approach of the study.
- The researcher will always obtain informed consent from respondents before the interviews can begin. This includes being explicit about any possible risks to the interviewees, whether the participants will be compensated in any way and the data collection method used if they are going to be recorded.
- Requests for consent will always have an option to opt-out of the research.
- How the data is going to be processed will be fully disclosed to the participants before starting data compilation. This information includes not disclosing their real names and anonymizing institutions, hiding of faces in videos, pictures and deleting data that can lead to the identification of respondents such as locations.

Following the rules and guidelines of the conduct of research, all aspects of ethical considerations were adhered to. The researcher applied for ethical clearance approval from the University of KwaZulu-Natal ethics committee. The respondents were given informed consent letters to read and consent by signing before an interview could commence. The scholarly consent letters clearly stated their rights and explained how the information provided by them would be preserved. The interviewees were assured through the consent letters that their names would not be used. The letters also confirmed their right to withdraw at any time, and that their participation was voluntary.

4.7 Limitations

Ports impact affects their cities, both positive and negative. The majority of the positive effects are associated with economic benefits. Environmental, land use and traffic impacts are some

of the critical negative impacts (Merk, 2013:17). While this study covers some of the economic and environmental effects, the research is limited to social effects. A huge setback for the study has been the failure to obtain a gate keeper's letter from Transnet. All attempts to obtain the letter were unsuccessful. It has been over two and a half years, and this has delayed the progress of the study and as a result, could not be completed on record time.

4.8 Data analysis

Data analysis is described as the process of organising, putting together, structuring, and giving meaning to the mass of data collected. It is usually a messy, vague, and time-consuming process (Marshall and Rossman (1999). In general, data analysis is not a straightforward task, it is the activity of gaining understanding, interpreting, and theorising data that indicates the exploration of broad statements across various categories of data (Schwandt, 2007:6). As a result, where data analysis is concerned, some logic needs to be applied to research. Antonius (2003:2) succinctly states that, data refers to the information collected in an orderly manner and documented to assist the reader in interpreting the information correctly. Therefore, data is not collected unsystematically but concerning or responding to the study questions that the research aims to answer.

Cohen *et al.* (2007:461) describe qualitative data analysis as the process of making the research respondent's views and opinions of situations easy to understand, outlining corresponding patterns, themes, categories, and other similarities. Nieuwenhuis (2007) documents the essence of data analysis thoroughly when he defines qualitative data analysis as a continuous process that can be repeated, meaning that data collection, processing, evaluation, and reporting are closely connected and not a constant process. In brief, qualitative data analysis is a process of changing the collected data by using analytic ways into an understandable, unambiguous, insightful, reliable, and even original analysis Gibbs (2007).

Neuman (2011:518) opines that there are numerous qualitative data analysis approaches used. Schurink *et al.* (2011:403) advance this argument by stating that there are always differences in the steps taken for the same process of data analysis by different authors. Therefore, it is concluded that qualitative data analysis is a unique process for every author, but procedures are provided. The study used qualitative content analysis to analyse both the primary and secondary data. According to Babbie and Mouton (2001) cited in (Matsieli, 2014) content analysis interprets and codes textual materials across the different ranges such as documents

and oral communication. Accordingly, the recordings were transcribed, and the transcripts and field notes were thoroughly read before they were analyzed.

To summarize, the qualitative data analysis included recording responses from the respondents. This process involved breaking the data into manageable themes in accordance with the research questions. Through organizing and gaining a thorough understanding of the data, the researcher explored the social impacts of the expansion of the port of Durban for the communities at SDB.

4.9 Conclusion

The primary purpose of the methodology chapter was to present a complete picture of how the study was conducted. This was deemed necessary to give the reader the context within which the study was conducted and details of how the data was obtained. The chapter presented an overview of the research methodology, sampling method employed, data collection, and data analysis method adopted. Issues of validity and ethical considerations were considered. Also reviewed in this chapter was the issue of limitation. The following chapter will present the research findings.

CHAPTER FIVE

RESEARCH FINDINGS AND DISCUSSIONS

5.0 Introduction

Chapter Four described and explained in detail the processes that were followed to collect data from the participants, showing issues that may have been discovered, analysing the problems, and interpreting them. A qualitative research method was used in this research to explore and acquire insightful information about the extent of the social impacts resulting from the expansion of the Port of Durban on the communities in SDB. This chapter systematically presents, describes, analyse, and interprets the data gathered from qualitative research. Organising and analysing the data is a process that aims at documenting the data in an intangible and interpretable form to identify common themes that relate to the research aims. In turn, the identified themes will enable the researcher to explore the social impacts of the expansion of the Port of Durban. The research results were presented as an analysis of the qualitative data obtained from the transcripts of the semi-structured interviews. The focus now turns to the analysis and interpretation of the data for this study.

Depending upon the researcher, a chapter like this one might be arranged into one or more chapters as directed by the amount of data. Babbie and Mouton (2001) believe that organising the results may also rely upon the research objectives, as well as the difficulty of the research and the amount of data collected. For this study, the findings are presented in one chapter. In a nutshell, the research looked at the data explored, more especially the one in chapter two, the literature review. Themes such as the pressure to expand the port of Durban, the effects of port development on communities, perspectives, and views on port expansion, port expansion as a justification for port development were explored using the theoretical framework presented in chapter three. This method is used because the data collection analysis is based on the theoretical framework outlined in chapter three. Saunders *et al.* (1997:340) view the use of a theme method as a pattern-matching procedure that utilises a theoretical framework to which data is matched, relating it to the broad questions that apply to all the sampled respondents.

5.1 Using the Social Impact Theory to explore the pressure to expand the port of Durban

The literature shows that the port of Durban plays a significant role in the economy of both eThekweni and South Africa. In other words, should the port underperform or experience any

inefficiency that causes it to be anti-competitive, threatens the future of South Africa, regional Southern, and global trade but more significantly the locals affected by any development. The port of Durban is the largest container port with increasing congested operations that create problems relating to the lack of capacity to handle future demand. The expansion of the Port of Durban was viewed as the only solution to the currently faced impediments, with the opportunity presented by the relocation of the old Durban airport for the development of the proposed new dig-out port in that area.

The communities at Durban South Basin are against the expansion developments taking place at SBD, citing problems like traffic, environmental, recreational issues, to mention a few. However, “economic forces” were a determining factor for the fate of the SDB communities to stop the developments of the port of Durban. The Port of Durban may be congested, but to some extent, it is sometimes impossible to improve existing port efficiency to the level required to remain competitive (Dyer, 2014). The pressures to stay globally competitive compelled Transnet to implement plans that may not necessarily mean that they will be to the degree required to stay competitive. Transnet conformed to the pressures of ensuring that the port of Durban remains the leading and busiest port in South Africa.

According to Engineering News (2019), “the global shipping and trade markets have been under severe pressure for several years. This has resulted in a significant decline in the commodity exports that South Africa relies on so heavily and in imported manufactured goods.” This decline was cited as being worsened by South Africa’s poor performance in terms of tonnage of ships calling the port of Durban. One of the councillors of SDB communities shares a similar opinion that;

“The Durban harbour is one of the most important economic vehicles for the eThekweni Municipality, KZN and South Africa as a whole. In order for our city and communities to grow and flourish, we will require the harbour to function at its most optimum capacity. One of the ways of achieving this is through the expansion of the port”.

The Social Impact Theory explains the solution by Transnet to expand the port of Durban as conforming to the pressure as a way of responding to the strength of social norms. As the theory states, conformity employs social influence to fulfil psychological needs (Deutsch and Gerard, 1955). The requirements being the need for correctly accessing how the external environment operates; this is seen as the informational influence and the necessity to be approved by the society. That is, in the case of the port of Durban, the need to remain competitive and the

enjoyment of a competitive advantage over the rest of the country. However, despite the potential impact of the port expansions on the communities, port authorities do not question the need for port expansion projects as they are viewed to be the only solution for problems like congestion faced by ports. This finding is supported by the literature, which reveals that the increasing demand for cities to be internationally competitive has the effect of boosting tourism and attracting investments, which leads to the prioritization of infrastructure for megaprojects such as ports. These are usually commissioned by governments and delivered through partnerships between public and private organizations, with many stakeholders, uncertainties and significant political stakes (Lehtonen *et al.*2016).

5.2 Using the social impact theory to explore the theme effects of port development on communities

A rapid scan of the literature suggests that the social impacts that are likely to be significant differ from one place to another, project to project, and the severity of each social effects will be different from community to community between various groups within a given population. The link road from Bluff through Clairwood, Austernville, and Merebank planned to be built to connect the national roads will produce both positive and negative consequences in the communities, as mentioned above. Research has shown that road development brings significant changes in the lives of residents in the cities and where they take place. On the one hand, road development has a tremendous impact on the living standard in peri-urban communities, such as employment (Khumya and Kusakabe (2015). On the other hand, improving roads also invite negative changes to the communities near the road upgrades (Wiegand *et al.*2017). For instance, during road construction, the sudden relocation of people often causes psychological and emotional trauma. This harms the productivity levels of the people affected, such that it deepens the income gap and affects their way of living (Porter, 1995). The SDB area is already divided in terms of the race and income gap. The plans to expand the road will cause psychological and emotional trauma for the community members in SDB. The houses or businesses that will be removed may incur additional costs to re-establish. Moreover, during the construction, the residents may be disrupted by the dust, noise and heavy equipment traffic on the roads that may endanger their health.

The residents pointed out that there is already a problem of trucks carrying concrete, driven through the residential roads in Bluff every day. The construction of the road will worsen the situation, creating more “havoc” on the streets around the port as more trucks and cars will be using the roads. It should be noted that the construction of the road will not involve private

land from communities. In an interview with the respondent, he mentioned that; *“the engagements that I have had with the city on the plans to expand the road infrastructure all relates to utilising existing roads and repurposing unused rail infrastructure along with the port. The city has indicated that their focus would be on infrastructure owned by the government to avoid expropriating any private landform communities”*.

The information provided by the respondent suggests that there will not be any displacements to accommodate the link road planned to be built. However, at this point, it cannot be guaranteed that there will not be any relocation. As stated above, there is an upsurge in infrastructure development that relates to megaprojects commissioned by governments. Moreover, for linear projects like highways and railway lines, sharp corners are not possible. This technical aspect, along with the broad buffer zones usually required, means that many people may need to be relocated to create ample space for the construction of the road (Vanclay 2017). Some community members view that the creation of the link road will create a barrier to walking and cycling, thereby increasing the need to drive. Others are concerned that the newly planned route might isolate a portion of a neighbourhood, generating new development. Moreover, discomfort and lack of access that vehicle traffic imposes on pedestrians and cyclists are also a concern.

The social impact theory postulates that social forces operating within a social structure produce social impact. That is, social impact is affected by strength, immediacy, and the number of persons. The bigger the number of sources of the social effects in a social situation the higher the extent of the impact. eThekweni Municipality is responsible for improving the economic outlook of the city. Since Transnet and eThekweni Municipality are working together to improve the city’s infrastructure to attract investment through the proposed expansion of the port of Durban, the theory explains this as the strength that affects social impact. The force of social impact is described as the significance of the social group to the person being influenced. The status, age, socio-economic status, previous relationship with, and future power over the targets are some of the determinants for the social strength of an influencer (Tefertiller, 2017). The actions of Transnet and eThekweni municipality are explained by the social impact theory that the two used legitimate powers to make plans to expand the existing port at SDB, as a result, the orders have social force. The expansion of the port has rendered debates over its port expansion proposal. The major controversy is on the forced removals of the people in the South Durban Basin communities to make way for the new port to be built in the area. In this case,

the eThekweni municipality in conjunction with Transnet plans to implement this project reflecting the values of the governing.

The port of Durban is set to be expanded at the old Durban airport area where there are several residential areas in the same precinct. The social impact theory refers to this as the immediacy, meaning that the closer the source to the target, the more significant the social impact. The closer the constructions of the new port to the communities, the higher the extent of the social impact. The review of the literature reveals that infrastructure projects like the expansion of the port of Durban tend to exclude groups from both the project and from its economic repercussions drastically. For instance, some areas in the SDB will be rezoned for logistics, forcing citizens to relocate. There will be immense social disruptions and potential loss of historical and cultural assets. The lives of the people will deteriorate further as the communities view the expansion plans as something that will cause “havoc” in the area.

A community member voiced that, *“If Transnet and government do not resolve all the issue within the Durban harbour before the expansion commences the effect on communities will be detrimental. Currently, the harbour operates without enough equipment resulting in massive amounts of trucks queuing along major routes surrounding the harbour waiting to enter the harbour. If internal operating issues and road infrastructure is addressed whilst the harbour is going through the expansion process, the impact on the SDB would be minimal”*.

There are many sources of social impact that will hugely impact the communities. For instance, environmentally, their habitat will be confiscated. One of the respondents stated that *“The Bluff has been awarded an International Whale Heritage Site status. This accreditation is based on the preservation and conservation of all cetacean life. With the disruption of the marine environment through the port, expansion could result in the Bluff losing this international status. Losing this status would negatively impact the massive tourism opportunities for the community, the city and KZN. This would also detrimentally affect job creation”*.

The noise from the port’s machinery operations and trucks loading and offloading cargo will be a nuisance to the people in the SDB residences. Pedestrians will lose accessibility; possibly increase accidents in the area. Psychologically, the residents are worried and stressed about the relocations because they are not sure which houses will be relocated. The residents are also likely to be vulnerable to disease and other bodily harms caused by chemicals and pollution coming from the port. It is also worth noting that during the construction phase of the port, jobs

will be created, creating income for some of the community members in the area. However, the jobs will be for a short-term.

5.3 Exploring the theme perspectives and views on port expansions using the psychological impact theory

The politics of the port of Durban expansion at the SDB has witnessed a radical discursive rupture. In one view, the construction of the port is planned within government overarching strategic integrated planning and infrastructure development (Transnet, undated). The expansion of the port is viewed as an economic case based on economic growth and employment. This suggests that people affected by the expansion of the port will benefit from these effects, and means for compensation can be planned (Khawula, 2015). A community representative reiterated, *“for our economy to grow the port will have to grow as well as the communities surrounding the port. If the harbour expansion contributes towards the overall happiness of the individuals living in each of these communities, then the proposed expansion would be beneficial to these communities”*.

On the other hand, the affected community members are concerned about the social impacts of the expansion of the port that will have detrimental effects causing changes in their physical appearances, feelings, values, and behaviour. The expansion project was under fire as it is perceived to be economically orientated over environmental protection and social equity. There is a contentious relationship between the SDB residents and the port developers, which is Transnet and the government. The community oppose the expansion of the port of Durban and even went as far as protesting, highlighting the negative impacts that will add to their already stressful lives (Khawula, 2015). The findings of this study also reveal that despite Transnet buying the old Durban airport site to build the new port, the project has been put on hold, and the place is currently being rented out to other people. Most of the community members in SDB are not aware of the Transnet plans to build a new port there. This lack of information questions the extent to which public participation was conducted in preparation for the expansion of the port.

The psychological impact theory describes a process whereby government actions in the form of environmental events or forces threaten the well-being of people, and people react to that. The unpleasant event is the stressor, and the response is the coping mechanism or coping behaviour, which leads to adaptation should it succeed and requires more coping efforts if unsuccessful. If the stress condition does not come to an end and continues over time, it can

result in one having physical or mental disorders (Finsterbusch, 2012). The actions of Transnet and eThekweni municipality through the proposed expansion of the port of Durban forces the SBD community members to find ways to cope with the social impacts as the port will be expanded at the expense of the broader community of SDB. The concerns raised by the residents, such as increasing accidents, crime, and pollution, are likely to be a permanent problem if Transnet fails to have proper plans to prevent them, causing permanent health damage to the residents.

5.4 Exploring the theme port expansion as a justification for port development using the psychological impact theory

The literature shows that economic impact studies justify the economic contribution of significant infrastructure like ports. However, these studies are controversial when used to defend or justify special planning permission likely to occur in the future (Hall, 2004). The findings of the research are line with Munim and Schramm (2018), who found that port impact studies are mainly conducted to inform the public about the economic contribution of ports. Similarly, in 2011, in preparation for the port expansion, Transnet conducted a study to determine the merits of building new gateway port for containers meant for the larger part of Durban and the Gauteng industrial complex. The investigation was mainly for economic reasons intending to retain the status of the Durban port as the busiest and leading port in Africa while overlooking the consequences of the project on the affected communities.

Thus far, the argument that ports contribute to their surrounding national or regional economies has remained contested. Chang *et al.* (2014) note that ports stimulate the economic growth of a country. Other researchers such as Deng *et al.* (2013) found that ports do not play an essential role in the economic development of a country. The constant decline in the number of jobs caused by the use of automation and containerisation of goods has removed ports as direct contributors to economic growth (*ibid*). This shows that there is insufficient justification for the expansion of the port of Durban for port development as it has been mentioned above that it is not always possible to improve the existing port efficiency to the extent to which it remains competitive. Expanding the port of Durban does not justify the disruption of the everyday life of the local communities at SDB, the likelihood of more accidents, interference with cultural traditions, and the relocation of people.

Even in situations where the communities in SDB are not physically required to relocate, the expansion project may still impact on the livelihoods of the people either temporarily or

permanently and invite other environmental and social impacts that make continuing to live there untenable. All of these factors threaten the wellbeing of the communities and the Psychological Impact Theory explains how the effects of stressors can grow. As they increase in large numbers, this results in a greater chance of individuals from the communities experiencing exhaustion and psychological or physical breakdowns. This type of reaction to the multiple stressors that the communities in SBD are being subjected to is becoming increasingly likely unless steps are taken to mitigate the effects.

5.5 Conclusion

Following from the thematic structure in the literature review, this chapter arranged and discussed the data in the themes underpinned by the research objective as well as using the theoretical approaches sub-foci within these themes. The theme pressure to expand the port of Durban was explored using the Social Impact Theory. Thereafter, the theme effects of port development on communities was also explored using the Social Impact Theory. Using the Psychological Impact Theory, the discussion exploring the theme perspectives and views on port expansions then followed. Lastly, the Psychological Impact Theory was used to explore the theme port expansion as a justification for port development. In the following chapter, which is the last chapter of this study, the summary of the findings will be presented and recommendations will be made to assist in mitigating the social impacts expected to happen when the port expansion project commences.

CHAPTER SIX

RECOMMENDATIONS AND CONCLUSION

6.0 Conclusion

This chapter is separated into two sections; the first section summarises the findings of the study (section 6.1 below). The second section presents the recommendations (section 6.2 below). This write-up set out a constructive framework for exploring the social impacts of the expansion of the port of Durban. This was done through the following objectives; to discuss the views and perspective of the South Durban Basin communities about the development of the port of Durban; to explore the extent to which the effects of the growth of the port of Durban affect the communities in South Durban Basin and find ways in which the effect can be mitigated as well as to determine if the expansion of the port of Durban is justifiable for port development.

6.1 Summary of findings

- Durban plays a significant role in the economy of both eThekweni and South Africa. When the port of Durban underperforms or is unable to achieve its maximum productivity making it anti-competitive, the future of South Africa, regional southern and global trade is threatened. The developers of the port of Durban viewed the expansion of the port as the only solution with an opportunity presented by the relocation of the old Durban international airport that paved the way for Transnet to buy the site and propose a new dig-out port. Transnet's solution to expand the port of Durban is found by the Social Impact Theory as conforming to the pressure as a way of responding to the strength of social norms. As the theory states, conformity employs social influence to fulfil psychological needs. For the port of Durban, the need to remain competitive and the enjoyment of a competitive advantage over the rest of the country.
- Despite the potential impacts of port expansion on the communities, port authorities do not question the need for port expansion projects as they are viewed to be the only solution for problems like congestion faced by ports. Research shows that the increasing demand for cities to be internationally competitive can be achieved by boosting tourism

and attracting investments. This has led to the prioritization of infrastructure for megaprojects such as ports which are usually commissioned by governments.

- The communities in SDB are against the expansion of the port of Durban describing the proposal as plans to cause “havoc” in the area, worsening the already difficult living conditions of the residents. Many social impacts are raised to be a cause of concern should the plans to expand the port continue. The social impacts include but not limited to, traffic congestion, accidents, vulnerability to diseases and other bodily harms caused by chemicals and pollution coming from the port. During the construction of the link road, the residents will be disrupted by the dust, noise, and heavy equipment traffic on the streets. There is also the psychological and emotional trauma caused by the relocations of houses and not knowing which families will be relocated. It was also discovered that most of the residents in SDB are not aware that there are plans to expand the port in their area.
- The expansion and development of the port will result in employment opportunities created during the construction phase and after its completion. However, the magnitude of the social impacts that will ultimately occur as well as the lack of strategies in place to mitigate the disruptions, certainly means that this will result in negative changes for the majority of residents in SBD. Previous research which has used the Social Impact Theory as the lens to analyze the impact of similar developments on nearby communities, clearly demonstrates that more social impacts are experienced by those individuals that are closest to sources of the activity. They are likely to experience substantial changes in their lives and if the effect of these changes is unplanned for, this generally results in negative consequences.
- The expansion of the port of Durban cannot really be justified as a necessary development that will lead to improved functionality. This is because there are congestion issues as a result of day-to-day port activity, the proposed changes will not result in the improvement of existing port efficiency to the level required for it to remain competitive. This development therefore, will not necessarily result in the changes needed to maximize efficiency and to continue to maintain competitiveness.

6.2 Recommendations

The following recommendations are suggested as mitigation measures for the expansion of the Port of Durban.

- It is recommended that the port of Durban developers or authorities assess the Durban seaport efficiency's past indicators against its own and comparable international targets to assist in showing the extent to which the port of Durban can become more efficient and used with the existing capacity.
- During the construction of both the link road and the port, the harmful effects of the construction work can be minimised by using appropriate equipment in dredging and transport for the construction materials. Moreover, the noise generated during the construction of the port can be reduced by the use of low noise equipment and installation of sound insulation walls to the new port, preventing nuisances of port equipment activities.
- The relocation of people should be carefully and thoroughly planned. Sufficient attention should be given to ensure that the affected communities participate entirely in the process. This will reduce the potential for harm and hurt. The people being relocated should not be manipulated or treated as passive victims but rather be consulted and allowed to be effective actors who can negotiate to protect their interests.
- Transport routes and methods ought to be radically reconfigured. It is therefore recommended that to better the already overloaded and overworked Bluff routes, the port developers need to invest in new rail equipment.
- Instead of the proposed seaport at SDB, it is worth considering an inland port that will be directly connected by rail and not near communities, which can be used as a storage facility since the rationale behind the expansion of the port is a capacity constraint.
- Extensive engagements should be made between Transnet and the SDB communities for meaningful public participation in the port expansion plans.

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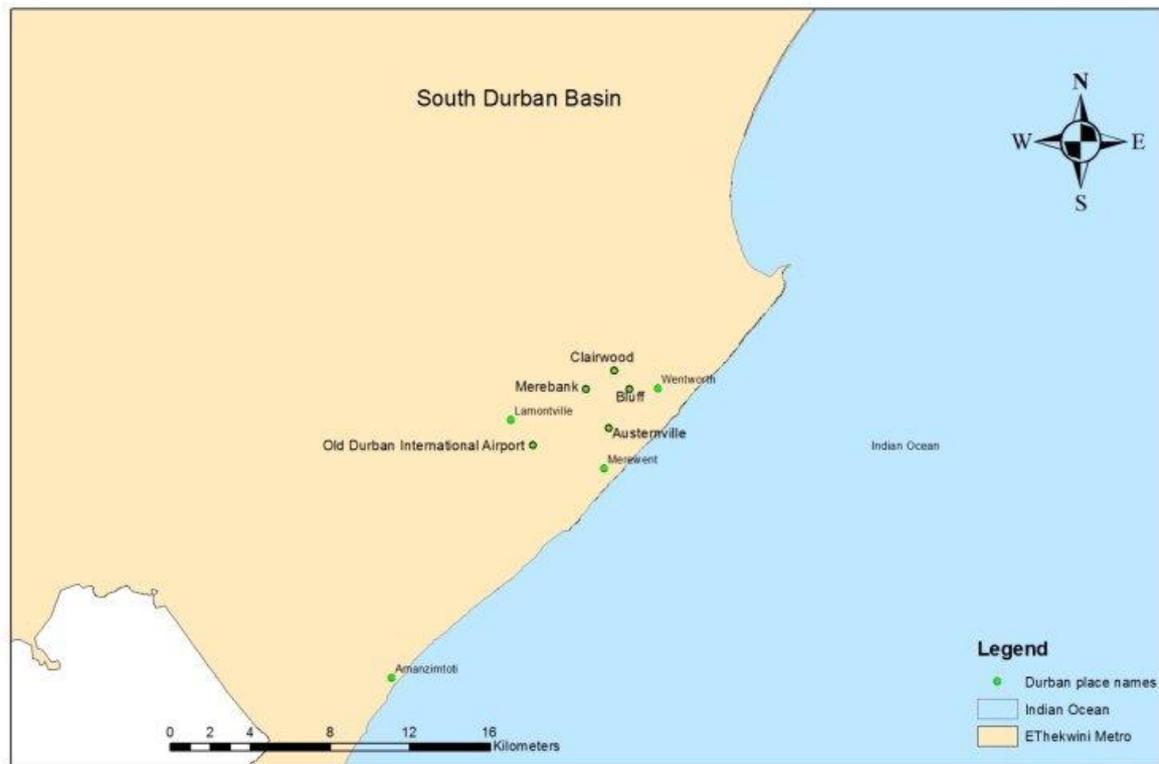
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APPENDICES

APPENDIX A: Map of the South Durban Basin area showing the proximity of the communities to the old Durban international airport.



Source: Author's Map

APPENDIX B: INTERVIEW SCHEDULE

Interview questions for a representative of the recreational bodies at Durban South Basin

- ❖ What are your views and perspective on the expansion of the port of Durban?
- ❖ With the expansion of the port of Durban at South Durban Basin. What does that mean for the recreational attractions like the Bayhead natural heritage site and sandbanks?
- ❖ As a representative for the recreational bodies in the area, has there been any consultations from Transnet regarding the port developments at the South Basin area?
- ❖ Do you think that the expansion of the port of Durban justifiable for port development?

Interview questions for the community members at Durban South Basin

- ❖ As a resident of Durban South Basin, what are your views and perspective on the expansion of the port of Durban expected to happen in your area?
- ❖ How did you find out about the expansion plans?
- ❖ In your view, to what extent will the effects of the expansion of the port of Durban affect you as a member of the South Durban Basin community?
- ❖ How long have you lived in this area?
- ❖ If you were to be compensated, would you relocate to make a way for the expansion plans?
- ❖ Do you think that the expansion of the port of Durban justifiable for port development?