



**UNIVERSITY OFTM
KWAZULU-NATAL**

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YAKWAZULU-NATALI**

**Assessing the Prospects and Challenges of the Dube Trade-Port
(Durban) Aerotropolis**

BY

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A Dissertation submitted in the partial fulfilment of the requirements for the degree

Master of Development Studies

Submitted at the School of Built Environment and Development Studies

University of KwaZulu-Natal

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Declaration

- (i) The research reported in this dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged.
- (ii) Where other written sources have been used or quoted, then:
 - a) their words have been re-written but the general information attributed to them has been referenced; and
 - b) where their exact words have been used, their writing has been placed inside quotation marks and referenced.
- (iii) This dissertation has not been submitted for any degree or examination at any other university.

Signature:

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ACKNOWLEDGEMENT

I would like to acknowledge a number of people and groups because this study would not have been completed without their help and support. It is through their assistance that I have had the strength to complete this dissertation.

Firstly, I would like to acknowledge and thank my supervisor, Dr Isaac Khambule. I appreciate your trust in me and the space that I was given to develop my own critical thought. I am grateful for your continued input and critique, as it has made this research significantly more comprehensive.

Lastly, my family who have given me unwavering support during these difficult times.

ABSTRACT

Airports around the world are being expanded from transportation centers to economic hubs. This new development phenomenon is driven by what is increasingly known as aerotropolis or airport metropolis, a new type of urban airport-led development that functions as centres of economic activity for local and global markets. This is primarily because air travel has become the fastest and trendiest means of transportation and one of the main contributors to the globalization of cities through the brokerage role of airports. While this development phenomenon has mainly been studied through aerotropolis models in developed countries, there is a lack of studies on aerotropolis development in developing countries.

Against the above background, this study is a developmental investigation into the prospects and challenges of the Dube Tradeport Aerotropolis project headed in conjunction with the KwaZuluNatal provincial government and other private-public partnerships at the King Shaka International Airport. Methodologically, the study used secondary qualitative data to unpack the prospects and challenges of an aerotropolis development in the context of a developing nation.

The study finds that the Dube Tradeport Aerotropolis development has the prospects of improving the economy of KwaZulu-Natal, particularly in ensuring trickle-down benefits from the eThekweni Metropolitan Municipality to neighbouring municipalities such as KwaDukuza and Ndwedwe. This is evident in the number of jobs created by this mega-project and the overall investment in new ventures in and around the airport through the Dube Tradeport Economic Zone. The study found that the Dube Tradeport Aerotropolis poses challenges to the poor by not prioritizing inclusiveness in the economy and wealth generated by this development. Job creation has been a by-product and the indirect inclusion of the poor in developing this Aerotropolis, as evident in the temporary jobs that phase one of this development has provided. The study recommends prioritizing decent, sustainable and full employment of the poor from the emerging aerotropolis city to help address the country's high unemployment rate.

Keywords: Aerotropolis, Dube Tradeport, Neoliberalism, Cities, Development

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LIST OF ACRONYMS AND ABBREVIATION

ACSA	Airports Company South Africa
ANC	African National Congress
CBD	Central Business District
CEO	Chief Executive Officer
DIA	Durban International Airport
DTP	Dube TradePort
DTPC	Dube TradePort Corporation
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GGP	Gross Geographic Product
GVA	Gross Value Added
ICC	International Christian Centre
IMF	International Monetary Fund
KSIA	King Shaka International Airport
KZN	KwaZulu-Natal
LED	Local Economic Development
PPPs	Public-Private Partnerships
RDP	Reconstruction Development Program
RED	Regional Economic Development
SAA	South African Airways
SIP	Strategic Infrastructure Projects

CHAPTER ONE

1.1 INTRODUCTION

There is an emerging trend that is transforming airports from transportation centres to economic hubs across the globe. Goetz and Graham (2004) state that air travel has been one of the key contributors to the globalization of cities by introducing the quickest and trendiest means of transport. Aerotropolis or airport metropolis are new types of urban areas that should act as landuse economic centers that connect local and global markets (Liou et al., 2018). Airport spaces allow “cities to invade one another’s space and promote both the connection and the competition between cities” (Ayres, 2001:22). Owing to the emergence of airports as hubs for these links, organizational and strategic environments have shifted dramatically. The idea of the aerotropolis has increasingly become a gateway to national and regional economic development (Canaday, 2000). Many governments have been forced to study the impact of airport-related developments on urban growth and expansion. However, Liou, Hsu and Chuang (2016) reported that expanding airports from an air transport depot to an international business center is not problematic. In particular, the importance of social infrastructure and networks as key components of this new identity cannot be grasped by executives who overemphasize physical infrastructure.

Airports and their ecosystems turn out to be modern commercial anchors that take on multiple destination retail characteristics of metropolitan areas (Appold and Kasarda, 2011). The transformation of passenger terminals into shopping centers and relaxation environments, strings and groups of retail shops, inns, hotels, entertainment complexes, conference centers and aviationoriented companies located along the airport’s corridors have led to a more prominent aerotropolis (Kasarda and John, 2008). This new organizational framework demonstrates that airports are evolving from basic aeronautical infrastructure to complex multifunctional projects that address aeronautical needs and business growth (Kasarda, 2006). On a global scale, air travel is expected to rise by 200% and 300% between 2000 and 2030 (UK Department for Transport, 2003). The idea of an aerotropolis would raise air transport demand and build airports surrounded by industries. Development proposals for airports will gradually expand the aerotropolis to revitalize new investments, build jobs and create new business opportunities (Yeo et al., 2013).

This research utilizes neoliberalism as the theoretical framework to clarify the impacts of largescale neoliberal developments on urban areas. This study will involve a basic analysis of the idea of the ‘aerotropolis’ (Kasarda, 2006; 2008a; 2008b) and the privatization of airports in the global industrialist society. Kasarda’s aerotropolis model has not been thoroughly studied in relevance to creating aerotropolis-driven developing cities in developing countries. Utilizing King Shaka International Airport (KSIA) as a case study, this research assesses whether the spatial concentration of key economic activities around an airport establishes an economic environment that supports the economic potential of the surrounding zones. It further looks into the challenges that airport-related development brings in the development landscape.

1.2 MOTIVATION/ BACKGROUND

In recent years, rapid urbanization has been at the forefront as a tool for economic growth in many countries and cities. Many developing countries have taken the route of developed countries to prioritize mega-projects, aiming to enhance urban economic infrastructure (Robbins, 2015). Megaprojects have gained tremendous popularity and are the central characteristics of cities where major players are willing to stimulate economic growth (Robbins 2015). While this facet is not relatively new, recent urban planning practices conclude that, through various ways of public-private partnerships, these ventures include highly dynamic mixed-use environments (Robbins, 2015). With mega-projects growing global economic integration, a new type of airport-centric commercial development has emerged and is rapidly spreading worldwide. Subsequently, city airports have become ‘airport cities’ or so-called ‘aerotropolis’ and have emerged as a critical factor in the high-demand tourism and trade of goods. More than 30% of the world travels by air as cities are connected globally by technically networked trends that have shaped organizational and economic structures (Grahm and Marvin, 2001; Kasarda, 2013).

The purpose and vision of the Dube Trade Port plan are to restructure KwaZulu-Natal’s economy and drive growth and expansion in the northern corridor of the eThekweni region. The site covers 2040 hectares of land developed jointly with Airports Company South Africa (Dube Trade Port, 2011). According to Ralfe and Wilkinson (2011), the proposed aerotropolis, north of Durban and incorporating KSIA, is Africa’s first purpose-built aerotropolis. The Dube Tradeport is promoted to gain a competitive advantage over other cities – both nationally and internationally. This is

because successful airport developments such as the Ekurhuleni became an aerotropolis because of competitive advantage. At the same time, the Dube Tradeport is built upon the needs of businesses and the city of Durban's economic ambitions (Cassimu, 2014). This region's growth and infrastructural development are being championed by the partnership between the Dube Trade Port, Tongaat Hullet Developments, and the eThekweni Municipality.

The literature on airport development has given very little insight into airport-related development impacts (Francis, Fidato and Humphreys, 2003). Scholars such as Gomez-Ibanez and Meyer (2011) have stated that airport transport in developing countries is viewed as a luxury form of transport; therefore, only a small population uses this form of transportation. However, airport developmental models seek to include citizens of lower-classes by providing jobs through the many industries that operate alongside the aerotropolis models. Crosby and Maharaj (2015) have argued that, in South Africa, airport transport has been in many controversial debates as South Africa struggles to increase direct international flights. This might present pressure to the city of Durban as it thrives upon passenger tariffs and tourism as a whole. Without a doubt, the necessity of airport-centric development in a developing city is a vital contribution to a city's role as an engine of growth, , employment, and development.

1.3 PROBLEM STATEMENT

Over the past few decades, there has been a constant rise in airports and commercial air transport worldwide. Connectivity and growth have played a significant factor in many countries investing in airports and commercial air transport (Kasarda and Green ,2005). Connectivity is a crucial component to unlocking a country's economic potential. Airports allow cities to invade one another's space, and they promote both the connection and the competition between cities (Ayres, 2001). Aerotropolis proponents hail this modern urban type as economically effective, competitive, desirable, and sustainable globally (Goetz and Boschmann, 2018). Pluemarom (n.a) pointed out that airport cities promise to build strong local economic development engines, draw tourism-related industries, generate local jobs, and add value to neighboring communities. The outgrowth in a country's tourism, foreign investment, and human capital leads to many countries commercializing air transport to boost economic growth. Grancay (2009), asserts that air transport

greatly influences global economics and experts placed the contribution of this industry to the global Gross Domestic Product (GDP) at approximately 3.6 trillion USD in 2006.

The expansion of airports is considered to stimulate the growth of airports and surrounding areas, which are also viewed as economic drivers of urban environments. If KSIA is to grow as an Airport City and Regional Aerotropolis, it needs to be understood in the post-apartheid context of social change. KSIA shares much of its landscape with historically divided regions such as Tongaat and Stanger, which face a shortage of skills and basic services, illegal settlements, invasions of territory, service delivery strikes, unemployment, and continued violence (Crosby, 2012). In terms of accessing the market, inhabitants are substantially limited, and most informal activity occurs within these sections. As such, the developers and key holders expect the construction of the KSIA to facilitate the economic development of La Mercy, Tongaat and Stanger, thereby promoting Durban as South Africa's primary tourist destination.

In developing cities, Charles, Barnes, Ryan et al (2007) stated that the aerotropolis development model is a relatively new concept and has not been adequately studied. Reference to such airport-centered development strategies have only been recently introduced in South African studies and contributed to the conceptualization of economic development through the Durban and Ekurhuleni aerotropolis. Crosby and Maharaj (2015) have indicated that large sums of public funds are being injected into the development of Africa's first purpose-built aerotropolis surrounding King Shaka International Airport. Most literature on airport development has primarily focused on western developed cities instead of cities in developing countries. This literature gap hides the urban growth differences in these vast socio-economic countries and superimposes a one-size-fits-all developmental approach. Development is context specific, and therefore acknowledging different fundamentals in urban growth of developed and developing countries is vital.

Airport privatization, joint with inadequate research on the impediments and impacts of airport expansion in developing cities, has produced uncertainty about the prospects and challenges of an airport-led development of this magnitude. It becomes essential to assess the prospects and challenges of the planned Durban aerotropolis project. This study's importance through the Durban Aerotropolis project is that it will delineate the challenges and opportunities of developing purpose-built aerotropolis concepts in the context of a developing city.

1.4 AIMS

The aim of this study is to assess the prospects and challenges of airport-centered development through the Dube Trade Port Aerotropolis (Durban) Project.

1.5 OBJECTIVES

The objectives of this study are to:

- i. Assess the prospects of the Dube Trade-Port (Durban) Aerotropolis.
- ii. Explore private/public partnership outcomes.
- iii. Assess the economic development mechanisms or strategies to fulfill the vision of the aerotropolis
- iv. Explore the challenges associated with the Dube Trade-Port aerotropolis on urban poor

1.6 RESEARCH QUESTIONS

The above-mentioned objectives have been achieved through the following research questions:

- i. What are the prospects of the Dube Trade-Port (Durban) Aerotropolis?
- ii. What are the private/public partnership outcomes?
- iii. How are the economic development mechanisms or strategies used to fulfill the vision of the aerotropolis?
- iv. What are the existing impediments/challenges associated with the Dube Trade Port aerotropolis?

1.7 SIGNIFICANCE OF STUDY

This research aims to assess the challenges and prospects of the Dube Trade Port Aerotropolis that is expected to impact the surrounding areas of the airport through economic development. This study unpacks the dynamics and strategies taken to improve the outcomes of developing cities using the aerotropolis approach as a tool. It is hoped that the results of this research will produce an alternative perspective and typical information about western development methods in

developing countries. This study stands to provoke debates regarding suitable development methods for Africa and developing cities. Policymakers can draw conclusions from this study and develop policies that are suitable for airport development by tackling challenges that are currently faced during aerotropolis development.

1.8 RESEARCH METHODOLOGY

This research was conducted as a secondary qualitative (desktop) study. A desktop analysis is a method by which knowledge already available in print or distributed on the internet is collected and analyzed (Onwuegbuzie et al., 2009). Qualitative data collection is defined as “if the purpose of the study is primarily to describe a situation, phenomenon, problem or event, the information is gathered through the use of variables measured on nominal or ordinal scales” (Kumar, 1999: 10).

Sources such as newspaper articles, internet records, journals, and books provide secondary data. This approach was due to the current Coronavirus pandemic that has limited the country’s social movement to stop the spread of the virus. The relevant readings and articles that were collected focused on the topic at hand, which is the prospects of the Dube TradePort (Durban) Aerotropolis. This approach was chosen as this study assesses the prospects and challenges of the Dube TradePort Aerotropolis. Data analysis was conducted through thematic and content analysis.

1.9 STRUCTURE OF DISSERTATION

1.9.1 Chapter One

A brief overview of the subject is provided by introducing this research and outlined what this research aimed to accomplish. The idea of an Aerotropolis at the world, continental, state, and regional levels was introduced, and the background of the study and problem statement were stated. Overall, other important aspects such as the aim of the study, research questions and the significance of the study were explained.

1.9.2 Chapter Two (Theoretical Framework)

This chapter presents the theoretical framework of the neoliberal theory that has been used to drive, promote or even facilitate large-scale developments such as the aerotropolis development.

1.9.3 Chapter Three (Literature Review)

This chapter presents the literature review on the construction of the aerotropolis at a global scale, some successful case studies and the overall impact of such development. The chapter further touches on the background of the Durban aerotropolis project and the South African economic development landscape. The study also focuses on the role of mega-projects in the making of cities and global economies.

1.9.4 Chapter Four (Methodology)

This chapter explains the research methodology behind the study. It also explains and justifies each decision taken on how the research is organized. The methodology chapter will aid this study in identifying, selecting and analyzing the findings of the study.

1.9.5 Chapter Five (Data Analysis)

This chapter provides evidence or results from the secondary data analysis. Such as the Airport development models and the viability of mega-projects in developing countries. The impacts of airport development has on local economic development.

1.9.6 Chapter Six (Conclusion and Recommendations)

This chapter concludes the study and makes recommendations based on the findings

1.10 CONCLUSION

With the many factors that play a vital role in promoting economic development, Africa and developing cities find it difficult to move with the times in adopting appropriate and modern methods to promote development and growth. As discussed in this chapter, the challenges and prospects of aerotropolis development provide significant issues that have been difficult to tackle. This chapter highlighted the growing awareness of the need to understand the new aerotropolis model in the context of a city in a developing country. The next chapter presents the study's theoretical framework and its importance in relation to this study.

CHAPTER 2: THEORETICAL CONTEXTUALISATION

2.1 INTRODUCTION

Neoliberalism has emerged as the worldwide hegemonic ideology through the dominance of market-orientated ideas. These ideas have severely influenced multi-scalar political and developed systems in the most recent thirty years. This theoretical section addresses the issue of neoliberal development techniques in urban areas and its difficulties for society. The history of the neoliberal idea is explained in detail as an ideological progression from the Keynesian government assistance state to the post-Keynesian, post-Fordist and neoliberal governance epoch. This paradigm shift “has subsequently been referred to as the neoliberal turn” (Jessop, 2002: 453). These ideologies and political changes have been studied in urban areas all through the globe.

The role-back of the state brought about through the adoption of neoliberal ideology has brought about a critical reform between city relationships. This alleged ‘turn’ has prompted the hollowing out of the state and the decentralization of power away from central governments toward Public-Private Partnerships (PPPs) at numerous scales (Awortwi, 2004). Public-Private-Partnerships tasked with local community developments and often encompassed neoliberal development strategies (Bassett, 1995). For Crosby (2015), such a shift has severe implications for the poor, who generally bear the consequences of such neoliberal development plans. Due to the dependency on PPPs, most low-income communities bear both their negative and positive impacts. These are some of the neoliberalism outcomes that this study seeks to interrogate in exploring the prospects and challenges of aerotropolis development in developing cities.

2.2 NEOLIBERAL POLICY AND GOVERNANCE

2.2.1 Policy and Neoliberalism

Larner (2000) stated that neoliberal policy is the most widely recognized conceptualization of neoliberalism. The neoliberal policy has prompted the globalization of capital and an expanded emphasis on the economic proficiency of competition. Crosby (2015) indicated that this has implied that neoliberal policies have affected the local, national, and global scales. In a neoliberal society, “The free market is held, almost sanctimoniously, as the answer to economic depressions and the key to releasing the productive potential of the economy” (Fuller and Geddes, 2008:275).

This has resulted in business individuals obtaining power transferred from democratically elected leaders (Geddes, 2006).

Harvey (2006) has depicted neoliberalism as a political project that he referred to as the *process* of neoliberalism. Therefore, neoliberalism in strategy is accused of restoring circumstances for capital and power growth for the private sector of society. Hilgers (2012) states that, as a political project, neoliberalism requires the crucial re-designing of state operations. It also entails the adjustment of both the state and society towards the enablement of competition as a means of control. This means that formerly state-funded services fall victim to market forces and their attention shifts from welfare and public service provisioning to profit maximization.

Sectors that are lacking economically in society bear the cost of profit-orientated development due to the unavoidable price increases associated with privatization, their ability to purchase these services decline (Fourie and Burger, 2000). Privatization promotes import restrictions, escalation of tariffs, thus affecting small businesses. This has been a case for Zambia as post-privatization levels in the productivity and employment sector of medium and small-scale enterprises have depreciated. Policies that influence privatization directly influence the worsening of poverty and economic distribution in the country (Connell, 2011).

Privatization is still an economic tool promoted by the World Bank that is said to increase economic performances. Zambia was demanded by the World Bank and International Monetary Fund to commercialize the national bank. In 1991, when the president at the time removed all subsidies and import restrictions, the outcomes of the newly placed policies were not positive and this resulted in the World Bank denying debt relief for Zambia (Connell, 2011). Privatization in Zambia increased prices of essential services, which gave rise to inequality and poverty. In this case, poorly managed privatization and neoliberalization policies has undermined the Zambian national interests.

2.2.2 Public-Private Partnerships

Large-scale developments require partnerships such as Public-Private-Partnerships, which are “neoliberal governance strategies that have increased in importance since the collapse of the Keynesian welfare state in the 1970s” (Fuller and Geddes, 2008:86). With the rise of neoliberal policies and governance, PPPs have been elevated to give private funding for projects and

initiatives previously controlled and coordinated by the government (Swyngedouw, Moulaert and Rodriguez, 2002). PPPs are a product of a neoliberal, global society and are also vital contributors to the increasing entrepreneurial governance of cities (Geddes, 2006).

As a governance technique, according Bull and McNeill (2007) PPPs have expanded in the neoliberal era and are currently viewed as a vital part of local and global governance in both the developing and the developed world. Often PPPs are employed under a profile-raising blanket of empowering local societies and placing the power of development in the hands of the people (Osei-Kyei and Chan, 2016).

Neoliberal policies are adamant about promoting the privatization of service delivery and the transport industry for increased effectiveness (Denniss, 2018). The shift to private transport from the public is more than a simple transfer of responsibility. It entails the core changing of the role and aims of the transport industry and its values. Once “services are privatised, the service delivery falls prey to the so-called dynamic equilibrium of the market and profitability becomes a key objective. Those who bear the cost of privatisation and PPPs in the transport industry, are generally those marginalised sectors of society whose voices are suppressed by the power of business elites” (Crosby, 2015:14).

2.3 NEOLIBERAL SHIFTS IN SOUTH AFRICAN POLICY

Understanding the historical context of neoliberalism in South Africa brings a better understanding of the country’s present status of neoliberal developments. This, combined with the theoretical and ideological knowledge on neoliberalism, makes for a more far-reaching conceptualisation of the current study at hand.

The progression from apartheid “to a post-apartheid South Africa was almost synonymous with the progression from a leftist, basic-needs orientated policy approach, to a rightist, neoliberal policy approach” (Adelzadeh, 1996:70). Crosby (2015) emphasized that this was evident in 1996, the African National Congress (ANC) changed its development policies away from the Reconstruction and Development Program (RDP) to the Strategy for Growth, Jobs and Redistribution (GEAR). This was advised by the Washington Consensus as the IMF and World Bank developed neoliberal policies that had to be adopted by developing nations as an antidote to the challenges they were facing. Up to the 1994 democratic elections, the ANC promoted the RDP

as their primary developmental programme. RDP was much more community development and transformation first and economy second. GEAR brought neoliberal ideas into the South African development and policy agenda - the argument that with economic growth there would be redistribution of wealth and improved quality of life through the trickle down effect.

The Washington Consensus policies neglected redistribution and prescribed privatization, liberalization, deregulation, decentralization and entrenched property rights without socioeconomic justice for the formerly oppressed (Bond, 2000). Bond (2000: 148) noted that “Washington’s advice has nearly invariably contributed to rising poverty and inequality, in both macroeconomic and micro developmental spheres”. African countries were required by the Washington Consensus policies to privatize the economy and partake in ‘good governance’ (Mkandawire, 2001). Further to this, “the Washington Consensus policies only generated uneven economic development, because the policies did not invoke an equitable share of South Africa’s economic growth” (Khambule, 2019:33).

Smith (2005: 887) uses an Argentinean aphorism to describe neoliberalism in policy and this relates to the South African situation in the 1990s: *Power is like a violin. It is held in the left hand and played by the right*. Richard Peet, “critiqued the development of neoliberal policies and the promotion of privatisation, trade liberalization and deregulation” (Peet, 2002:48). He also argued that the development of neoliberal policies in South Africa was directly associated with the global neoliberal trends. It is argued by many scholars that such neoliberal strategies served to deepen the problems and contradictions of capitalism in South Africa. Bond (2006) states that such evidence can be seen in the countries socio-economic state (increased poverty and inequality). The level of inequality in South Africa has increased after the adoption of neoliberal strategies where inequality tracks from the apartheid regime era and the ways in which neoliberalism is evident in South African policy and in South African city development more currently.

2.4 CONCLUSION

This chapter has theoretically contextualized the study’s approach and has discussed the vast nature of neoliberalism as an ideology in policy and governance. This chapter has also provided an understanding of the conceptual framework chosen to support this study. Understanding this neoliberal idea makes it more apparent and easier to understand specific urban issues within the

context of growing policy and institutional frameworks. The utilization of this framework helps understand the re-conceptualization of political and economic projects and the dependency of neoliberal reform projects.

The next chapter focuses on the literature review.

CHAPTER THREE: LITERATURE REVIEW

3.1 INTRODUCTION

This chapter contextualizes the study within international literature on aerotropolis development, focusing on the challenges and prospects. It gives an appraisal from both the developed and the developing world. However, studies of this nature have primarily centered on developed cities. This chapter will examine the challenges and prospects of aerotropolis development in developed countries as many studies have been conducted in that context and diverge into the analysis of aerotropolis development structures in developing countries. The prospects of aerotropolis development will be discussed by assessing its contribution to economic growth and development of host cities. The implementation of airport development models will be discussed based on the benefits and challenges or limitations of this sort of development in developing countries.

Airport development has been a debatable theory for years. It has led to many scholars arguing that airport expansion can catalyze local economic development in cities (Rogerson, 2002). The view is that this sort of development results in being a helpful tool in the recovery of the urban landscape (Bengston, Fletcher and Nelson, 2004). Given that not all researchers have not upheld this belief, the relationship between local economic development (LED) and airport development is explained and examined in this chapter. Understanding the literature and theories surrounding airport development challenges and prospects is imperative for a better conceptualization of the study at hand.

3.2 THE RISE OF AIRPORTS AND AIRPORT CITIES DEVELOPMENT

All around the world, a distinctive urban type is emerging. It's called an 'aerotropolis' or a community at the airport. An aerotropolis is a city developed around a new or existing airport, reversing the conventional paradigm of airports designed to serve established cities (Freestone and Baker, 2011). In order to capture the progress of air passengers, Timothy and Wall (1995) noted that there are accompanying shopping centres, hotels, restaurants and cultural and leisure facilities. Manufacturing and manufacturing plants, storage and distribution centres are connected to the cargo facilities at the airport. The grouped enhancement is intended to serve the air terminal's creation by amplifying travel and load throughout (Beria and Scholz, 2010). Most importantly,

export-oriented businesses surrounding the airport play an essential role in building an industrial complex that creates an airport-city.

The concept of aerotropolis “developed from a global trend in advancing airports as more than mere transport hubs, but rather as multi-dimensional business sites for retail, accommodation, dining, entertainment” (Kasarda, 2006: 35). For Crosby and Maharaj (2012), airport cities have since been viewed as the driving factors of city growth. In the past decades, governments have recognized that the focus on the logistics and economic zones directly around the development is a worthy investment. In developed countries, major airports have adopted this phenomenon of aerotropolis, suggesting that they are efficient, attractive, and sustainable developments (Charles, Barnes, Ryan and Clayton, 2007). A city like Amsterdam has been able to make a success of the aerotropolis concept as they had already been the leading European supplier of agricultural exports and as a tourist destination (Kasarda and Appold, 2014).

Within a globalized world and many developing countries climbing, many states have been adopting to the idea of aerotropolis development (Dostaler and Fiset, 2015). In the mid-1920s, national governments worldwide exerted pressure on city officials and local governments to invest in airport development. MacDonald (1930) stated that this was done due to the fast-growing realization that suitable airport terminals were essential for the continuous modernization of urban areas. Airports were highly regarded for their strategic importance. However, airports as multidimension sites with the possibility to provide various services lacked emphasis. Bednarek (2005) stated that retail and accommodation were not in the works to be part of airports, but entertainment and airports were believed to operate well together. Theorists argue that this might not be the best economic mechanism to boost the economy of developing cities. Robbins (2014) argues that aerotropolis development requires high infrastructure to exist in a country that lacks many functions found in developed countries. Without sufficient economic development, cities can suffer from the loss of interest from vital private sector investment in the private sector (Ansar et al., 2016).

Kasarda and Canon developed an efficient aerotropolis master plan that could be used to plan adequate airport towns. In the aerotropolis master plan, they realized that several projects consist primarily of commercial land use and urban design renderings and suggestions for improved road transportation infrastructure for the airport area. Kasarda and Canon (2016) suggest that the

strategic, fiscal, and real estate investment issues that decide whether the proposed commercial development of the aerotropolis will occur have received much less publicity. Forsyth (2007) argued that air traffic had risen significantly with the inevitable need for airport facilities over the last few decades.

3.3 THE AEROTROPOLIS DEVELOPMENT MODEL

Airports have historically been seen and understood as areas where aircraft work, including control towers, runways, terminals, and other facilities that directly serve aircraft, passengers, and freight (Edwards, 2004). Kasarda (2006) notes that such a historical interpretation paves the way for a wider definition that acknowledges that many major airports have shown interest in the growth of non-aeronautical commercial facilities and services, in addition to the core aeronautical infrastructure and services. This concept meant that airports would not only be restricted to magazine shops and fast-food outlets for passengers, but rather a feature of brand name boutiques, restaurants etc. Singapore and Shanghai, for example, have cinemas in their airports and have set themselves up as financial centres (Abrahamson, 2004). Kasarda (2006; 2008a) states that many theorists argue that airports were to become the critical drivers of economic development and aviation-related business. Because of this, business growth is now seen to stretch out from airports through aviation-linked hotel clusters, corporate offices, exhibition facilities, trade, and recreation centers (Kasarda 2006; 2008a).

From basic infrastructures to complex multi-functional enterprises serving aeronautical needs and commercial growth, airports are quickly developing into critical economic players. The Airport City Model “might appear to be a deviation from the norm, but it is in fact becoming the new model of international airport development and management” (Kasarda, 2006: 36). Airports in developed nations have embraced this concept and have been rewarded beyond the expected economic growth and employment. Airports in developing nations are starting to use this concept in their master planning for development around airport expansions. Airport proximity is fundamental for many businesses involved in imports and exports (McNeill, 2009). Airports have historically had a reputation of attracting offices, businesses, regional corporate businesses and even other markets not related to air travel (Freestone, 2009).

The growth of airport cities is indirectly related to the fact that aviation facilities are no longer regarded as mere transport infrastructure but are viewed as multi-functional developments (Appold and Kasarda, 2011). Around the globe, “key international hub airports have, on average, 40 million passengers passing through their gates per year. When this is compared to the average 8 to 12 million shopping malls in large shopping malls per year, airports have the potential for retail and other functional developments” (Kasarda, 2008a:17). It has been recorded by Freestone (2009) that in 1990 non-aeronautical revenues constituted 30 percent of airport revenue which rose to 54 percent by 2007. For Crosby (2015), this highlights that, on average, airports earn a higher profit from activities unrelated to aviation and that the function of airports is complex and diverse.

Figure 3.1: Schematic of an Aerotropolis

Source: Kasarda (2008a)

Morrison (2009), notes that the concept of an aerotropolis has brought about many questions about the role of airports. Airport privatization has induced an increase in non-aeronautical activities and the infusion of cities and airports' economic activities (Ohri, 2012). Wang et al. (2011) sketched five defining characteristics of airport cities and these are briefly summarized below.

- i. The aerotropolis must be airport orientated in nature. The airport, as a site of multifunctional activity, is the core and the centre of the 'city'. The airport forms a CBD role and various other land uses and functions sprawl out from the airport.
- ii. The industrial cluster that surrounds the airport must contain industries orientated towards air transport, furthering the development of the airport, and the aerotropolis.
- iii. There is a noticeable space gradient whereby industries, businesses and land uses are located closer to, or further from, the airport depending on their intensity of utilization of the airport. The space gradient of aerotropolis development is that the core industry is located closest to the airport and dependent industry. Other economic infrastructure is found on the outskirts of the aerotropolis development, surrounding the dependent industry.
- iv. The aerotropolis operates within the notion of market efficiency. Time has been identified as a key factor for the 21st Century development, and business flow and goods transportation require consideration of time and efficiency to be economically effective.
- v. The aerotropolis needs to be globally accessible. The airport at the centre of the aerotropolis needs to be an international facility that promotes global networks and partnerships with multi-national corporations.

Despite Charles et al.'s (2007) argument that aerotropolis development models are not suitable for developing countries, most academics and practitioners have argued that there is a strong relationship between airports, their urban settings and economic development (Stevens et al., 2010, Kasarda, 2006, Lindsay, 2006). Stevens et al. (2010) asserted that airports' areas are generally being redefined as mixed land use zones to capitalize on the multiple types of aviation related business and developments that airports may bring. Therefore, the airport is seen by scholars and developers as a type of economic engine that promotes growth in surrounding areas and has the potential to draw in and keep investment in the area (Stevens et al., 2010). Lindsay (2006: 76) has suggested that "the aerotropolis represents the logic of globalization made flesh in the form of

cities”. In essence, aerotropolis and airports are physical representations of globalization which if based on neoliberal logic.

3.4 AEROTROPOLIS IN GLOBAL PERSPECTIVE

Aerotropolis is a notion that generates a multi-disciplinary and multinational scholarship that is expanding. Kasarda (2006; 2008; 2013) views aerotropolis as a development model with aviation networks and major airports serving as main drivers of the industry and urban growth. Charles et al. (2007) point out that this century would be dominated by air transport, both domestic and international carriage of passengers and freight. They further underline that the airport is supposed to become more than just a regional gateway as a catalyst of local growth. It will serve as a neighbourhood for employees and their families in terms of residential spaces, creating airborne input-based factories, service industries near the airport, and critical road and rail infrastructure associated with it (Charles et al., 2007). The land around the airport is increasingly being planned in a number of countries as a magnet for a variety of economic activities that benefit from longdistance connectivity, including time-critical growth, storage and distribution, tourism, entertainment and corporate offices (Antipova and Ozdenerol2013; Appold and Flores-Fillol et al.2016; Hadinugroho et al.2017; Kasarda2013; Yeoet al.2013; Yun et al.2013; Yun, 2015).

Banai (2017:357) asserts that an aerotropolis is nothing less than “the twenty-first century’s new urban development paradigm at the centre of which is a metropolitan region with cities that capitalize on proximity to a globally networked economy’s airport”. Appold (2013), however, argues that the notion of an aerotropolis is vague and loose as it most often applies to a busy airport hub and sometimes an aviation-intensive world economy. Kasarda (2008) notes that these urban forms are still in their earliest stages of evolution. Therefore, they need time and effort to be a successful strategy for growth. Kasarda (2008; 2013) states that, as an airport-centered urban economic zone, an aerotropolis fundamentally merges the development processes that form the current urban-economic geographical landscapes of the 21st century. Aerotropolis embraces globalization as it is where the “global meets the local” and embodies globalization’s physical expression made substantial in the form of aviation-oriented airport-centric urban growth.

The planning, development and management challenges that come about with the aerotropolis concept require effective and coordinated design and implementation. Kasarda (2008:55)

emphasized that the implementation and management should be “in a manner that brings about the greatest returns to the airport, its users, business and the larger community it serves”. On an international scale, it is argued by Wissink(2020) that the aerotropolis idea is a part of the new age model of growth and is primarily implemented in the USA, Europe, and East Asia. Among the leading foreign examples of aerotropolis emerging either by design or spontaneously are those in or surrounding Amsterdam-Schiphol, Chicago, Dallas-Fort Worth, Dubai Dusseldorf, Hong Kong, Incheon, Memphis, Paris Charles de Gaulle, and Washington Dulles airports (Rogerson, 2018).

Schiphol International Airport has been promoted and developed as a public space where people can engage in social activities even if they do not participate in aviation (Freestone & Baker, 2011). As a world trader of mechanized agricultural exports, the Netherlands is well-positioned to be a major supplier to European markets and is the world's top tourism destination.

As a developing country, South Africa is currently undergoing a significant urban transition. The nature of this change is profoundly reliant on the evolution and restructuring of the global economy. Globalization has been driven by international capital markets and has been hailed as the primary driver of the new urban environments in developing cities (Kaika, 2017). Although it is accepted that globalization has brought about increased wealth to specific cities through an interconnectedness of economies, it has likewise brought about enormous political and economic instability. Consequently, this has created a wide scope of adverse effects, including widening socio-economic strategies.

This has made KSIA one of the world’s biggest aerotropolis projects as it has been able to break down the view that facilities around the airport were only meant to serve the airport and air travelers. KSIA sees a population of 55 million passengers per year in South Africa, has five runways, moves 1.5 million tons of freight, has over 500 companies (300 publicly listed) and creates over 62,000 jobs (Kasarda, 2009).

3.5 AEROTROPOLIS AS A MEGA-PROJECT

Mega-projects have been worthy of study in developing cities, not only because of their sizeable physical scale, cost, impact and the institutional arrangements involved in their growth, but also because their similarities with more regular local government activities also provide insights into

the exercise of power and influence (Altsuler and Luberoff, 2003). Mega-projects are planned to improve urban economic infrastructure and have been widely recognized as a function of cities where strong players want to reassure economic growth (Broudehoux, 2017). Mega-projects are viewed as dominant in influencing city growth patterns through their direct and indirect impacts on land-uses. These projects are relatively new, and recent urban planning experience has shown that such enterprises often involve the development of highly complex mixed-use environments through various forms of public-private partnerships (Robbins, 2015). Mega-projects do not merely show abstract power and control over ideas and the organization of social structures that impact the development of community spaces, but reveal the challenges of regulation and effect, directly affecting people and how they live in these affected spaces.

Situated approximately 35 km north of the city of Durban in South Africa, King Shaka International Airport (KSIA) and Dube Trade Port (DTP) were projects created with the expectation of replacing an obsolete facility to enable the area to develop more international aviation links that could increase the travel (tourism) industry and exports (Mpungose, 2017). These developments aim to enhance the economic growth of the eThekweni region and impact the socio-economic transition faced by the challenges facing communities in the region.

3.6 CRITICISMS OF MEGA-PROJECTS

The concept of mega-projects is supported by the neoliberal theory, creates the infrastructure for globalization and neoliberalism, and contributes to enhanced global urbanization (Del Cerro Santamaría, 2019). It is claimed that, for some countries, mega-projects tend to have exclusive advantages while excluding much of the local population. Some of the critiques are that mega-projects only address the needs of the elite, imbue and increase inequality, marked by cost overruns, and neglect the adverse effects of this notion (Mpungose, 2017). Some criticism of mega-projects are presented in the discussion below:

3.6.1 Socio-spatial polarisation

Mega-projects are developed on the assumption that they improve the city's competitiveness and, in turn, the public will receive benefits. Fainstein (2008), however, argued that the public gain from mega-projects depends solely on the government's adherence to policies that during the planning process are socially and economically just. Moulaert et al. (2008) argue that how these

mega-projects are adopted, the paradigm of collaboration is nothing more than privatization, where public money is used to build projects such as convention centers, shopping malls, semi-private, high-medium-income household gentrification. Public funds, therefore, serve as subsidies for private investments and developers, hoping that cities can invest and be competitive, “megaprojects are usually shaped as public-private institutional arrangements participated by elites and pro-growth coalitions at various spatial scales that can provide the necessary funding and expert knowledge to implement these complex structures” (del Cerro Santamaría, 2019:263).

In the case of the Glasgow Harbour mega-project, signs of excluding the ‘other’ in mega-projects were evident, as the local public protested proposed developments as they were perceived to be purely in the interest of helping high-income residents and developers. Doucet (2013: 2048) argues that this is often characteristic of urban entrepreneurialism, as it “promote(s) the creation of affluent (and therefore exclusionary) spaces, gentrification, and the commodification of the city and the privatization of space. These are goals which end up reinforcing, shifting, or masking the pre-existing economic, social and spatial divisions within the city”. Doucet (2013) also claims that speculation is followed by mega-projects with money budgeted for public services. It is, therefore, like gambling with public funds, without any assurance that projects will attract investment and jobs.

Majoor (2011) acknowledges that numerous mega-projects fail to adhere to the local populace and capital needs. As a result, Majoor (2011) claims that design planning is integrally market-oriented and capitalist as most mega-project management structures. Neoliberal philosophy, naturally motivated by profit, has a history of marginalizing local needs through its beliefs in trickle-down economic results (Ledwith, 2020). In the primary phases of mega-projects, the rhetoric of public (economic and social) benefits are generally streamed in the media (Lehrer and Laidley, 2008). Historical evidence has continuously suggested that mega-projects should not be regarded as a panacea for urban development. Many scholars argue that private sector investments in cities have been low, disregarding the claimed benefits of mega-projects as a catalyst for investment (Sánchez and Broudehoux, 2013; Lehrer and Laidley, 2008; Sager, 2011). Cochrane (1999) also emphasizes that mega-projects do not essentially mean that there will be more job opportunities for the locals.

There has also been criticism of PPPs’ role in the design, planning and development of megaprojects. The argument is that the partnership process is unequal, tending to concentrate more

on the property and real estate development, while other concerns such as jobs, training and empowerment for the poor are not discussed (Etherington and Jones, 2009). In Harvey (1989), PPPs are also theoretical, thereby moving the private sector's risk to the public sector. In most mega-project cases, the issue of transparency in democratic public engagement has been a concern. This is partially why many alliances and coalitions are not kept accountable to the public, Doucet (2013) suggests.

3.7.1 LOCAL ECONOMIC IMPACT CAUSED BY AIRPORT DEVELOPMENT

South Africa has come up with various policies and strategies since the 1994 democratic election that aim to resolve the legacies of socio-economic and spatial apartheid policies. Mpungose (2017) suggested that there were numerous legislative and policy reforms aimed at fast-track socioeconomic inclusion during this process. However, it is expected that the country will strategically position itself in the global economy in the quest to correct past imbalances. This has given rise to recent pro-growth initiatives being used. There has been widespread consideration of the implications of such policies. Crosby (2015) claimed that understanding the trends in urbanization in developing cities such as South Africa by understanding the effect of the growth of airports and the consequent urban change in developing cities is essential.

Understanding local economic development in relation to airport development and the associated impact requires investigating the existing relationship between local governments, the community, civic groups, and the private sector. In recent years, “Local Economic Development (LED) has emerged as an alternative to mainstream economic development, widely used throughout the developed and developing world” (Luthuli and Houghton, 2019:678). LED projects have gradually become more incentive-based, and the greater the incentives for potential LED investors, the higher the chance of the development occurring in that urban area (Helmsing, 2003). With that said, Nunn et al. (1996) stated that competitive entrepreneurial cities use airport developments to endorse themselves as progressive and attractive cities. This strategy has been used worldwide to attract investments.

Many scholars believe that LED concurrently promotes economic growth and reduces poverty within the localities (Rogerson 2002). The strategies used by this concept provide a more peoplecentred and locally centred alternative to conventional economic development practices, which Rodriguez-Pose and Tijmastra (2009) found to fail to address the social and economic

development challenges of certain localities. Helmsing (2003) argues that LED is now being used as a tool of increasing a city's competitive advantage on a global stage as opposed to uplifting disregarded urban communities and providing benefits for civil society at a local level.

Schaafsma (2010), states that for one to understand the potential airports have for LED and renewal of urban areas, one would have to understand the scale and types of jobs created in the process and after the airport development. Job creation is vital for LED and the upliftment and empowerment of the urban advantage. Charles et al. (2007) emphasize a causal link between airports, economic expansion, and job growth. However, Crosby (2015), states that one needs to question how many, and the types of jobs being created and who benefits from economic expansion. Robertson (1996) deduced that an increase in passenger numbers is falsely related to the number of jobs created. For Crosby (2015), the relationship between airport sizes is indirectly related to employment and often, academics and practitioners do not effectively emphasize this point.

Thompson (2002) argues that it is nearly unsustainable for airport development to depend too heavily on business travellers and company growth for success. It is essential to understand that "A global economic crisis means higher operating costs, less disposable income and frequent business flyers may decrease numbers. Therefore, it becomes essential to understand who the air travellers are, what airports they travel from and where they are going" (Crosby, 2015:46). This is essential to comprehend the impact an airport has on LED and social development in an urban setting, such as the Covid-19 pandemic that hit globally towards the end of 2019. This is especially important for cases in the developing world. During the Covid-19 pandemic, air transport from and to South Africa was shut down to prevent the spread of the virus.

In the South African setting, "LED is notionally conceived as enabling the pursuit of both socioeconomic redress and economic development" (Nel & Rogerson, 2016:679). Local governments are faced with the burden of both strengthening the formal market economy and promoting and helping the informal or lower end of the economic spectrum, owing to the high poverty rates in the country and rising decentralization of government. This binary is discussed in terms of an option between pro-poor LED and pro-growth/ pro-market LED. Pro-poor LED prioritizes poverty as an expressively more essential policy issue on LED plans (Harrison, Tides and Watson, 2008; Nel and Rogerson, 2005; Rogerson, 2004). Pro-growth or pro-market LED centres on observing economic improvement as an instrument for making a conducive

environment for investment and growing the reputable economic base (Nel and Rogerson, 2005). Pro-growth LED is supposed to be ‘boosterist’ (Nel and Rogerson, 2005). The conflicting ideas highlighted above, when coordinated, bring about the conflated abbreviation of RLED (Regional and Local Economic Development), in which local governments have been trying to stimulate and maintain business activity (and prioritize efficiency) while taking care of social issues.

3.8 AEROTROPOLIS IN SOUTH AFRICA

As expressed in past sections, the effects of airports on developing cities have not been sufficiently evaluated. This highlights the necessity for an investigation of this nature and indicates a gap within the current national body of knowledge that this study proposes to fill. This section gives a background account into the South African air transport history and, consequently, gives this study’s context.

Pirie (1992) details the historical backdrop of air transport in Southern Africa from the apartheid era to the changes that happened following the African National Congress’ unbanning. Extreme changes in the South African aviation sector were felt from the 1980s to the 1990s. The most substantial was the decrease in political pressures on the industry because of the political changes (Pirie, 1992).

During the apartheid era, air transport was significantly impacted due to the heavy sanctions that were placed on the country because of the unjust political system (Griffiths, 1989). The sanctions exerted on South Africa alongside the national and international political pressures meant that airport development was not discussed during the time. As a result, South African airports were lagging in international standards (ACSA, 2011). During the 1980’s, there was a period where “airlines and airports throughout Southern Africa were controlled by politics and political considerations, and both airlines and airports were utilised by the national government as “instruments of national policy” (Pirie, 1992: 344).

Historically, little attention has been given to the economic opportunities introduced to their regions by airports. When the Airports Company South Africa Act was created in South Africa, the government sought to divert South African airports from fractured airports into commercial companies that could be built and earn income. This was the beginning of the South African Airport City. In addition, the endorsement and inclusion of the Aerotropolis' critical plan in South

Africa's 2012 National Infrastructure Plan aimed at transforming the national economy, accelerating new job opportunities and improving service delivery (Rogerson, 2018). This development is a modern form of urban development that places airports at the heart of the urban cities around them. As potential airports continue to progress and open up the future growth capacities of their areas, it is clear that the success of a city and its airport are inextricably related.

Towards the end of statutory apartheid, the country's air transport industry improved significantly, and the route network of SAA grew within the African continent (flying to four islands in the Indian Ocean and 11 different African cities) (Pirie, 1992). Furthermore, "other African passenger airlines including Air Zaïre, Egypt Air and Kenyan Airways began flights into the country. These international airlines began landing at the former, Johannesburg International Airport (now O.R Tambo International Airport)" (Crosby, 2015:52). Intercontinental flights increased as well with the suspension of sanctions, and SAA resumed their flights to New York three times a week in 1991 (Pirie, 1992). After being expelled from many international air transport networks during the apartheid era, South Africa re-entered the system in a transformed world. Globally, "Liberalisation, deregulation and privatisation of airports was being promoted in Europe and in the United States of America, and the international aviation economy was beginning to revolutionise" (Graham, 2011:10).

3.9 THE DURBAN AEROTROPOLIS

The Durban Aerotropolis is an African trade and business center that will be South Africa's new gateway to Southern Africa. The Dube Trade Port was described by Crosby (2012) as a multimodal Logistics Company intended to modernize the cargo and freight management of KwaZuluNatal and South Africa. The Durban Aerotropolis was conceptualized in 2012 and began as an active programme of the KwaZulu-Natal provincial government by 2015. The plan for the Dube Trade Port is to be the first African world-class logistic operator and enhance competitiveness in Durban (Dube Trade Port, 2008). The airport was opened in 2010 and currently serves "4, 7 million passengers flights" (ACSA, 2011:112) and "600 tons of cargo flights per week" (Dube Trade Port, 2011:142).

The drive for creating an aerotropolis also stemmed from the development of the Dube Trade Port as an elected special economic zone situated at the King Shaka International Airport site and

servicing the economic growth needs of the wider economy (Kennedy et al., 2014.). The Dube Trade Port is said to enhance the economic growth of the eThekweni Municipality with the airports' association. The master plan, as stated by Luthuli and Houghton (2015) highlights the expectation of stakeholders at the airport city.

Existing infrastructure at the Port of Durban will allow access to numerous global targets and links to countries within the Southern Africa Development Group Region and make KwaZulu-Natal a key business location in South Africa. Therefore, "the aerotropolis promoted as a forthcoming freight-oriented development, with a purpose-built, world-class cargo facility on a greenfield site" (Houghton and Luthuli, 2019:681). According to the Dube Trade Port Corporation (2017), the development has a locational advantage as it is along the coast, the seaport infrastructure of the Durban Port and the major networks forming linkages to national and international trade.

The Aerotropolis project is identified as one which will promote the gateway status of the province while engendering economic growth and job creation. This is expected to turn the region into a bustling hive of economic activity and become a regional economic powerhouse. The Department is ardently pursuing the development of an Aerotropolis that impacts the entire province through connecting KZN regional economies to South Africa, the Southern African region, and the entire global economy through King Shaka International Airport. (EDTEA, 2015: viii)

In addition, the Durban Aerotropolis has advanced strategic planning at local and provincial levels as a catalytic project for Regional Economic Growth (RED) (Luthuli, 2018; Luthuli & Houghton, 2019; KwaZulu-Natal Provincial Planning Committee, 2011).

3.10 CONCLUSION

This chapter has contextualized literature from national and international scholars on airport development and city economic growth. Airports and air transport have a multi-faceted history, and the industry has grown from its beginnings in the early 20th century to a significant, high profit, high paced global business. Using the neoliberal theoretical framework, this chapter has brought the key issues of airport privatization, airport development, and the model of aerotropolis to the forefront. Despite their economic gains, airports have vast negative consequences, and the privatization of airports in support of the aerotropolis development model is due to the competition of such ideologies that have been side-lined.

The next chapter will outline the methodology that has been employed for this study and provides insight into the site chosen.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 INTRODUCTION

This research was conducted as a qualitative analysis. Qualitative data collection is described as: “if the purpose of the study is primarily to describe a situation, phenomenon, problem or event, the information is gathered through the use of variables measured on nominal or ordinal scales” (Kumar, 1999: 10). . The related readings and articles that were collected with relevance to the subject at hand, which is assessing the challenges and prospects of the Dube TradePort (Durban) Aerotropolis. This chapter has provide an understanding to the reader through secondary data such as newspaper articles, journals and reports. Furthermore, this chapter will explain the research setting, data collection methods, and data analysis employed to conduct this study.

4.2 RESEARCH METHODOLOGY

Research methodology is the specific process or techniques used to identify, select, and analyze information about a topic (Jowett, 2020). In this case it will aid in identifying, selecting and analyzing information about the Dube Tradeport Aerotropolis. The reader will be able to evaluate the overall study’s credibility and validity critically. There are 3 main types of methodologies: Qualitative methods that collect data using interactive methods, usually open-ended questions, Quantitative methods that deal with numbers and measure forms, and mixed methods that mix both qualitative and quantitative methods.

For data gathering and data interpretation, qualitative research techniques were used. Qualitative research seeks to investigate and examine how people create the environment and their relationships (Brooks-Gordon et al., 2010). Jowett (2020) notes that qualitative research usually relies on face-to-face contact for data collection through interviews, focus groups, and fieldwork. This study used text and documentary analysis due to the covid regulation limitations.

4.3 LOCATION OF STUDY

4.3.1 Dube TradePort

The proposed aerotropolis is located north of Durban and incorporates KSIA. It is Africa's first purpose-built aerotropolis (Ralfe and Wilkinson, 2012). The Dube Tradeport Plan aims to restructure KwaZulu-Natal's economy and boost economic growth and expansion in the northern corridor of the eThekweni region. The region's growth and infrastructural development are led by the Dube Tradeport, Tongaat Hullet Developments and the eThekweni Municipality. The Dube TradePort is a 50-year master-planned air freight and passenger hub, comprising of five zones, namely;

Dube TradeZone- A prime, fully serviced industrial precinct of 77 hectares, growing to 300 hectares, for electronics, pharmaceuticals, and aerospace manufacturing, assembling, and distribution.

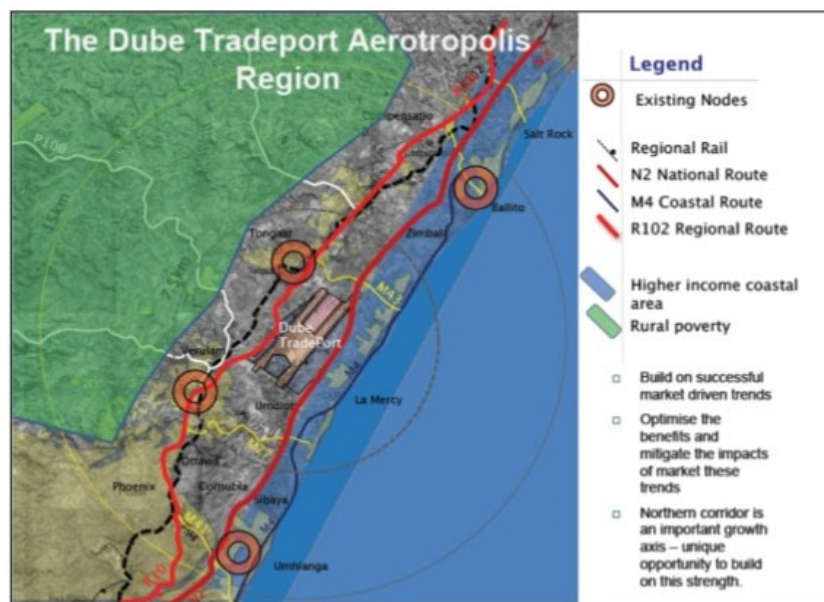
Dube Cargo Terminal- A state-of-the-art cargo handling facility with digital tracking and secure cargo flow through on-site statutory bodies.

Dube AgriZone- An advanced agricultural precinct that provides world-class facilities and technical support for propagating, growing, packing, and distributing high-value perishable and horticultural products through an efficient supply chain.

Dube City- A 12-hectare premium business and hospitality precinct, just 3 minutes from the passenger terminal

Dube iConnect- A cutting-edge telecommunications platform and premier cloud service provider, servicing the Dube TradePort precinct and KwaZulu-Natal's only locally hosted cloud service, making it the premier offering for regional data recovery.

Figure 4.1: KwaZulu-Natal's Aerotropolis Development



Source: Crosby (2012)

4.4 RESEARCH DESIGN

Research design is a devised plan on how the study will collect data as well as analyze the data. Research design encompasses details such as techniques, sampling methods, data collection methods and data analysis methods. Neuman (2006), explains that research comes in two types,

basic research and applied research. Basic research is “research designed to advance fundamental knowledge about how the world works and build/ test theoretical solutions to a concrete problem or address the immediate and specific needs of clinicians or practitioners” (Neuman, 2006:17). Applied research will be more suitable for this study because it is in-depth and aims to offer concrete solutions to problems that may need to be addressed urgently. This approach aids the study in answering the key questions of the prospects and challenges of the Durban aerotropolis.

Neuma (2006) explains three applied research methods, namely programme assessment research, intervention research and social effect research. This analysis takes on the assessment research that Chevalier and Buckles (2019) describe as a study of intent rather than a particular research tool. The overall goal is to explore the results of social interventions.

Data was collected in a qualitative approach in the form of opinions, thoughts rather than numbers and statistics for this research study. Secondary data has already been obtained from primary sources and made accessible for researchers to use in their studies, such as papers, journals, and recorded interviews. Qualitative research has been vastly used over the years as it comprises internet research and instills the aim to make predictions for desktop studies. Information from online sources was gathered on the operation of the Dube Trade Port Aerotropolis, its prospects and challenges. Information was also be sourced from newspaper articles, journals and reports. As this study is a desktop study, human interaction was not involved, hence data collection solely relied on secondary data. Secondary data requires a strict emphasis on minimizing bias data, and through proper referencing, sources need to provide supporting evidence.

4.5 DATA ANALYSIS

When qualitative research is conducted, the “data that has been gathered is used to describe details about people that have been observed or studied, events that have occurred and actions that have taken place” (Polkinghorne, 1995:4). Most frequently, the qualitative data obtained are records, images, newspaper articles, which will be analyzed and filtered to best serve the study. Neuman (2006) stresses that analyzing the collected data helps both the researcher and the reader enhance their interpretation of a phenomenon, extend existing hypotheses, and establish the latest understanding of a subject investigated by a human.

This study applied content analysis of data from books, articles, and journals on aerotropolis developments globally, nationally, regionally, and locally. In this research review, a thematic analysis approach was used to organize the data. Thematic analysis is known as a “descriptive qualitative approach to data analysis, and an analytical overview and comparative discussion of the approaches’ definitions, aims, philosophical background and data analysis process” (Vaismoradi, Turunen and Bondas, 2013:398). Thematic and content analysis approaches aided this study by providing a detailed account of the findings and allowed the researcher to interpret the data flexibly.

4.6 LIMITATIONS OF STUDY

Research limitations are defined as factors or information not included in the research study for many reasons. It is when the researcher is challenged with a data collection constraint and needs to find a way to overcome the constraint, such as using an alternative method for collecting the data required for the study. For example, a study’s limitation may be due to the lack of funds to obtain data not available at the library. Therefore, information may not be available for collection (Ahmed, Sutton, and Riley, 2012). The issue of excessive quoting of secondary data is the limitations of the use of a desktop study. To avoid the limitations, the researcher would need to make thorough arguments and present ideas throughout the research. In a desktop study, one of the significant limitations is the bias of information from many sources. In this study, a clear and objective minded was used to service the authentication of the findings of this research study.

For this study, the limitation is that the COVID-19 pandemic limited the researcher’s ability to collect data as people are unavailable and social distancing is required. To carry out qualitative research under lockdown requires practical and ethical consideration. Hence the study opted to use secondary data.

4.7 CONCLUSION

This chapter explained the methodological aspects of this research. For this research, a desktop study was conducted through a qualitative method approach to collect data. This chapter has provided a brief location of the study and highlighted how data was collected for valid and rigorous results. Information on the data sources and sampling framework were provided in this chapter

while embracing the case study approach and focusing on the Dube Trade Port and KSIA. The data collected was analyzed through content and thematic analysis.

The following chapter presents the findings and discussion that emerged from the content and thematic analysis.

CHAPTER FIVE: RESULTS AND DISCUSSION

5.1 INTRODUCTION

This study aimed to investigate the prospects and challenges of airport-centered development through the case study of the Dube Trade Port,. This chapter presents the study's findings and discusses the results from the secondary data obtained from journals, books, articles, and documented interviews with company executives in ACSA, the Dube Tradeport, and Tongaat Hullet Developments. Further information was gathered from maps, provincial documents, impact assessments and newspaper articles.

This chapter is divided into various themes and discusses the functionality of the KSIA and the prospects and challenges of the Durban aerotropolis project. This chapter also discusses the socioeconomic impacts of both the Dube Tradeport and KSIA as components of the Durban Aerotropolis. The chapter further analyses the export capabilities of this aerotropolis development, the opportunities and constraints, economic competitiveness, the role of PPP's and employment opportunities. This study's key contention was whether neoliberal, aerotropolis developments are viable in specifically global South countries and if they provide benefits for the poor and disadvantaged. This chapter will begin by undertaking a thematic analysis of the research findings, followed by an in-depth discussion of the findings.

5.2 ACSA'S LEGAL AND FINANCIAL AUTONOMY AND ITS IMPACT ON THE DUBE TRADEPORT AEROTROPOLIS

This section provides insight into the effects of airport privatization and its impact on aerotropolis developments. Such is done by gathering and analyzing various documents, media reports, and articles. This was done to benefit the reader's holistic understanding of airport privatization and its effects on airport development. There is a large body of critical literature on the privatization of large-scale developments such as airports (Freestone and Baker, 2011).

Clear movements towards privatization in post-apartheid South Africa and the deregulation of airports and air transport have been visible. Crosby (2012) indicates that Airports Company South Africa (ACSA) owns and runs South Africa's major airports (including KSIA). This is different from the apartheid era, where airports were owned and managed by the department of transport. South Africa's airport "industry has followed this global, neoliberal trend in corporatization, and 'ACSA's airports were, in fact, partially privatized for a period from the late 1990s to the mid2000s. SAA is South Africa's public airline having to operate through private and public airport spaces in South Africa and abroad" (Crosby, 2012:72).

As ACSA awarded majority shareholder to the South African government as it holds (74.6 percent), KSIA is a partly privatized airport; the private sector owns the remaining shares (ACSA, 2011). In line with the priorities of the South African government, ACSA focuses on creating sustainable value that has a positive effect on industry, individuals, society and the environment over the short, medium, and long term (Gumede, 2017). This is achieved by handling the business (ACSA) in an organized manner. As a state-owned company, Airports Company South Africa has a more prominent mandate than basically delivering profitability for its shareholders. The government is propelled to advance South Africa's national economic growth agenda, while delivering a sustainably profitable business for ACSA. ACSA, as a South African entity, is focused on accomplishing change to previously disadvantaged people (Cornelissen, 2017). This will aid in the development of the country and changes in socio-economic challenges that disadvantaged people face. The company endeavors to fulfill this commitment by leading the business in an ethical manner that empowers comprehensive development and makes sustainable value for all the stakeholders stated by Corneliseen (2017).

Many economists, such as Sclar (2001), state that the privatization of airports would provide a better set of incentives for viable long-term efficiency in the industry. This is vital for airport development as it will mean the increase in aviation travelers will utilize the facilities that are being developed, stimulating economic and employment growth. Airports have long been an important component of national and military aviation systems, but the priorities of privatization include enhancing competitiveness and efficiency at work (private partners are more involved in cutting costs and increasing revenue) (De Neufville et al., 2013). This is important for aerotropolis development as it leads to development success regarding profit gains and functionality of the development projects. The privatization of airports also introduces new commercial management styles and marketing skills focused on more consumer-oriented management with better investment decisions, which assists in the overall management of large-scale developments such as the Dube Tradeport and the aerotropolis side of things.

Airports Company South Africa (ACSA) owns and operates a network of nine South African airports, including O.R. Tambo International, Cape Town International and King Shaka International Airports, the three largest international gateways. The nine airports served nearly 41 million passengers in 2017. (ACSA, 2011). This has benefited all three of these airports as they have all embarked on aerotropolis developments and the influx of passengers is crucial for the success of the developments. ACSA is involved in equity investments abroad and provides technical advisory and consultancy services to other airports globally. The most vital objective of airport privatization, which tends to benefit airport development, is changing the government's role from the owner to the operator and regulator. The partial privatization of KSIA brought with its immense profitability for ACSA, as from "March 2002 to March 2003 the company's operating profit grew by 28 percent to R760 million" (Crosby, 2012; 73). The profits and gains drawn from the privatization of the KSIA will also lead to increased economic growth for the eThekweni region through the Dube Tradeport aerotropolis development.

Privatization poses many threats, regardless of the possible benefits, requiring careful supervision and control by government authorities. The risks of selling airport shares contribute to the exposure of airports to a private local monopoly that can raise aeronautical charges to higher levels as the private sector is more profit-driven than the government as it is trusted to seek public interest. Crosby (2012) stated that in 1998 when ACSA sold 20% of their shares to an Italian Airport

Company called 'AdR', South Africa's airport taxes were reported among the world's highest. The literature made it clear that profit motivation means that the public's interests are set aside for development strategies. Privatization promotes the maximization of profits and sometimes at the expense of customers or individuals. Such adds a dent to airport development as they rely on people's participation to generate further development and growth. The other risks of privatization include cutting down costs, which may lead to inadequate investment, poor delivery standards of service and insufficient consideration of nonoperational impacts and maintaining social justice. This would undermine the Durban aerotropolis as it will fail to make an adequate socio-economic impact.

5.3 MULTI-FUNCTIONALITY OF AIRPORTS

It is well documented that airports are no longer purely the houses of aviation. Kasarda and Lindsay (2011) have stated that airports are multidimensional, multi-functional entities and are no longer not only places of departure but *destinations* themselves. It is believed that "Hub airports are much more effective at being multi-functional spaces than spoke airports. There are significantly more opportunities for growth in hub airports" (Crosby, 2012:81). This has further shed light on why there is an increasing growth in the aerotropolis concept around the globe.

KSIA is expected to set up as a nexus of multi-purpose activities, a center for retail, accommodation, industry, and other functions. Kasarda, at a workshop held in Durban (1 June 2012), expressed that KSIA, as the focal point of Africa's first assembled aerotropolis, could create a multi-modal hub that increases the region's economic output (Crosby, 2012). Its location between two of Africa's biggest shipping ports, proximity to a national road (N2) and close to a rail line gives the Durban aerotropolis a serious edge in international markets. Numerous airport cities are multi-functional, yet few provide as much admittance to multi-modal transport infrastructure as Durban. Businesses have the opportunity to use Durban to move freight via land, air, road, and ocean and the Dube Tradeport, as a logistical focus, has had the chance to advocate this development.

As indicated by Kasarda, the airport shopping center idea has been one of the most traditionally utilized strategies for changing airports into multi-functional spaces. There has been a developing trend in the joining forces of high-end retail shops and restaurants with airports. Global brands and

high-fashion outlets are often found in the shopping centers in major airports throughout the world. KSIA houses 6500m² of retail space, which is ultimately more than the 2900m² in the former DIA (ACSA, 2011). For Kasarda (Crosby, 2012), the shopping centers, hotels, and airports intend to pull in more travelers and intend to draw in local people living within the area and provide employment for citizens living in the surrounding areas. This will increase economic activities for the Durban aerotropolis, and Durban as a city and nearby coastal towns such as KwaDukuza and Ballito that thrive on tourism.

The idea behind the airport's development was to create room for more opportunities such as hotels, retail stores, restaurants and new industries that would provide a service for customers, increase profit margins for the airport and provide employment. The increase in economic activities around the airport was going to be through: "a range of retail shopping and restaurant experiences on the landside area of the terminal. Customers could dine out, conduct their grocery shopping, undergo spa treatments, have their hair cut and purchase other items such as clothing, luggage, alcohol, and novelty gifts" (Crosby, 2012:83). Airport shopping centers, restaurants, and hotels provide adequate and sustaining jobs that will increase the living standards for the people living in areas surrounding the development, namely, Tongaat, Stanger and Cornubia. Amsterdam Schiphol aerotropolis located in a well-developed country and has created thousands of employment opportunities for development, and is said to make one of the largest labour markets in the Netherlands (Appold and Kasarda 2011).

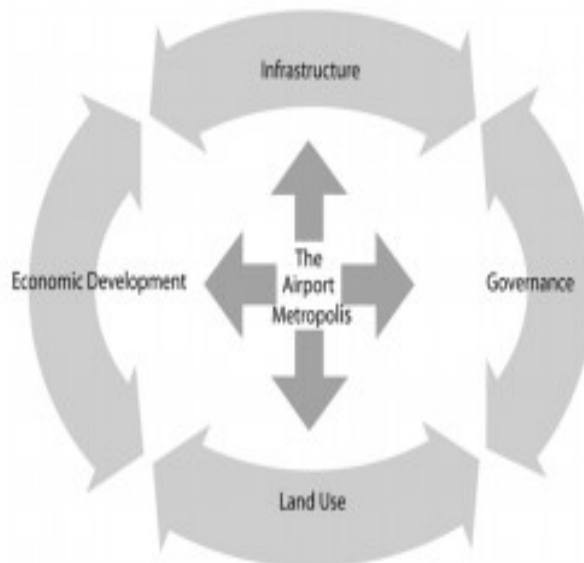
An increase in the employment rate in the eThekweni region could lead to an increase in the economic growth of the region. Only those with the finances to bear the cost of air transport, and the money to shop at the high-end shopping malls, can use the airport as a shopping center and embrace the multi-functionality of this office. However, one can argue that with such a big development, other large-scale developments such as Gateway Shopping Centre, Cornubia Mall can be used by local communities. Not only will the Dube Tradeport have an excess of shopping malls, it is also build export-orientated industries around the airport. The Dube Tradeport being surrounded by low-income areas is an opportunity to develop these communities as the introduction of such a large-scale development promotes agglomeration of other businesses into the area that also seek to benefit from this aerotropolis development in terms of infrastructure and

competition. Economic growth will spark increasing the GDP of the province. This portrays some of the prospects of the emerging KSIA aerotropolis.

5.4 AIRPORT DEVELOPMENTAL MECHANISMS AND ACTORS

Scholars like Ziersman (2013) state five key themes that affect the growth of airports. These include socio-economic, geographical, and urban planning, enhancement of transportation, protection of the environment, and financial viability. The relationship between the airport area and the immediate hinterland is the interconnection product between the themes. The socioeconomic aspects identify with the potential for jobs, while financial achievement is an interestdriven exercise for airport owners, highly dependent on the timely installation of airport infrastructure following offsetting airline tariffs to gradually accommodate passengers, airlines and freight transport using the office (Zietsman, 2013). Stevens (2012) uses an integrative model subdivided into infrastructure, governance, land use, and economic and sustainable development that ACSA has adopted in the development of airports in South Africa in relation to its regional climate as per Figure 5.1.

Figure 5.1: Airport Interface Model



(Source: Stevens, 2012:46)

Hanly (2015) reported that Durban is well-positioned for the landlocked Gauteng area to serve that province as a port in South Africa. KSIA is a key component of the national government's Strategic Infrastructure Project (SIP) Durban-Free State-Gauteng logistics corridor (ACSA, 2010). The actors involved in South Africa airport development are those in the private (Companies and businesses) and public (Government) sectors. Private sector involvement is suitable for such developments as the private sector is governed by profit maximization, influencing economic growth. This is very vital for the success of this development. However, it is essential for the government as the major shareholder to intervene and ensure that public interests are maintained as a priority. The Private Public Partnership in airport development in KSIA has resulted from the initial implementation of bulk infrastructure during the 1970s, but was delayed until the 1990s to the post-apartheid development (ACSA, 2010). Private-Public-Partnership is still prevalent in the Dube Tradeport Aerotropolis development.

The Dube Tradeport aerotropolis project's provincial economic point is to influence and strengthen productivity through consistent coordination of sea, air, road, and rail (DTPC, 2014). The strategies used to develop the Dube Tradeport aerotropolis mainly surrounded the KSIA development. KSIA was built to focus on air route development and services (DTPC, 2014). A few "spatial planning and land use master plans as well as environment and conservation studies were conducted both at a regional and local level" (Hanly, 2015:17). The Dube Tradeport Aerotropolis project has generated revenue in its various streams of economic development. However, the annual GDP growth for 2018 in KZN reached only 0.8%, far below what is needed to create jobs and tackle high poverty levels (DTPC, 2020). Irrespective of the diversified economy, the socio-economic contribution of the Dube Tradeport has been very minimal.

It is clearly visible that the mechanisms used to make this project a success were the emphasis on surface transport connectivity, logistics and extra bulk infrastructure, and knowledge management and place marketing. Hong Kong International Airport and Lantau Island are prime examples of this approach and have been recognized as some of the best airport and aerotropolis developments in the world (Kasarda, 2000a, 2000b). Hotels, conferences, and business centers located within the Dube Trade Port development, specifically the Dube City Zone, are strategies to increase the number of travelers utilizing the facilities, thus bringing in revenue. The Dube Time (2010)

suggests that the urban design and framework of Dube City employed dense mixed-use living and extra space for public transport. In 2015, KSIA held the World Routes Conference as a marketing platform for acquiring more international flight routes linked to the region's wider export, tourism, and economic growth strategies for international flights (ACSA, 2014). The introduction of this idea "has subsequently seen the addition of Qatar Airways and Air Mauritius with further prospects of Lusaka and Harare" (Hanly, 2015:18). This has increased the prospects of this development as the Dube Tradeport's objectives were slowly being met.

The Dube Tradeport's strategic goals emphasize that their approach is embedded in a business and market development and inclusion of governmental sustainability framework as they are rooted in social development such as job creation. This parastatal entity uses economic growth and the expansion of core business units as the primary strategies. Economic development involving economic growth and investments from the private and public sector has resulted in the benefits of such approaches focused on the affluent, in providing luxury services to them, and job creation to the poor people living in the surrounding areas of the development. This stimulates economic growth for the eThekweni region, although these jobs are not sustainable.

5.5 PROSPECTS OF THE DUBE TRADEPORT AEROTROPOLIS

5.5.1 Contextualization

The airport city includes the property owned by ACSA and Tongaat Hulett and the control of the surrounding region associated with land use and district plans. Through this development model, there has been an economic change in the eThekweni municipality. Bond (2011) notes that since South Africa's investments in neoliberalism, mega-projects had risen from an average of 15.9 percent of the country's GDP in 1995 to approximately over 16.2 percent in 1995. The opportunities proposed by the airport development looked promising as the main object of this model was: "KSIA, the Dube Tradeport and the future aerotropolis have been developed to spark economic growth and increase the provinces and Durban's competitiveness on a global level" (Crosby, 2012:150). The construction of airports encourages economic growth, and infrastructure development also reflects the agglomeration of the city by accessible facilities and infrastructure, ensuring convenient connectivity between the airport and the surrounding areas. Strong infrastructure extends to economic governance, where Hanly (2015) sees opportunities to help

ACSA grow non-aeronautical revenues, attract foreign direct investment, and cross-subsidize both N2 and N3 value-added services.

5.5.2 SOCIO-ECONOMIC BENEFITS OF THE DUBE TRADEPORT AEROTROPOLIS AND KSIA

Historically, mega-projects have been associated with the term ‘white elephants. Durban has attempted to become one of the world’s renowned cities of the South for various mega-projects for development. Wealthy business and residential zones in partnership with Tongaat Hulett Developments have been revitalized as mega-projects disregard the most impoverished areas and focus on the affluent minority (Crosby, 2012). One can argue that large-scale developments such as the Dube Tradeport aerotropolis influences social development change in poor societies such as Tongaat, Stanger and Cornubia by providing job creations.

Scholars such as Maharaj and Ramballi (1998) have criticized large-scale developments in Durban such as the KSIA, aerotropolis and the International Convention Centre (ICC). In their studies, it was concluded that such developments brought little or no improvements to the lives of the poor. This has brought questions about the sustainability and growth in the distribution of wealth in cities that practice purpose-built development for economic growth. The Dube Tradeport has provided jobs for people in Cornubia, Tongaat, Stanger and the whole of eThekweni region at large. Nel et al. (2003: 224 – 225) succinctly explains the problem with such development strategies: “While it is praiseworthy to embark on new economic projects, one must also be mindful of the reality that the poor and oppressed often only exercise a minor say over new development initiatives and run the risk of only engaging at a secondary level in development”.

Lynch(1981) proposed the accessibility and diversity of public spaces alongside mixed-use neighborhoods, and Hayden (1984) proposed the need for harmony between private and public . In the urbanism framework and the long-term need for sustainability, the points presented by these writers are well exemplified. This has resulted in the first purposebuilt aerotropolis development in Durban. The new KSIA is a multi-billion-rand development that is promoted by the KwaZulu-Natal Provincial Government, the Dube Tradeport and ACSA. This airport was designed with a 60-year plan that incorporated five phases of development (Crosby, 2012). This was aimed at developing Durban into South Africa’s second hub airport. The mechanism adopted is for KSIA to become a facility that increases its flight numbers to no longer rely on O.R Tambo International

Airport in Johannesburg as the sole international distributor. This would allow KSIA to function independently and increase foreign capital into the facility through tariffs.

The relation between air traffic and direct and indirect employment has received much attention. This resulted in the media and scholars such as Crosby (2012) questioning the viability of an airport of this magnitude for Durban as a city in a developing country. The author also stated that it is mainly the elite stand to benefit, whereas the entire Durban economy stands to benefit from such development through economic growth and job creation. The government believes that investing in such a development will stimulate economic growth in KwaZulu-Natal as many businesses are venturing and moving out and utilizing air transport for logistics and international connectivity (EDTEA, 2015). The newly built airport houses both the aeronautical and nonaeronautical functions, which can induce both landside and airside development. Airside developments are situated within the airport city and are directly related to airport transport (Crosby 2012).

Landside developments are in the broader aerotropolis and constitute the developments that are indirectly related to the airport (Kasarda and Lindsay, 2011). The aeronautical functions of KSIA include airport taxes and thus contributed revenue of approximately R2.4 million in the year 2012 (Crosby, 2012). It is estimated that the total value of new private sector investment in buildings and equipment is R4.616 billion over 5 years from 2014/15 to 2018/19 (DTP, 2020). This has overall contributed immensely to the economic growth of eThekweni municipality. At large, “the aim for the development of KSIA and the Dube Tradeport was to transform Durban into a multifunctional, multi-modal logistics hub for South Africa” (Crosby, 2012:71). It is expected that the sole plan for this growth would increase both the country’s Gross Domestic Product (GDP) and Durban and KwaZulu-Natal Gross Geographic Product (GGP). This mega-project development includes an additional 45 hectares of prime industrial land that allows for private investment and is projected to generate R18bn over the next five years within the SEZ.

The 32, 000- hectare special economic zone, with King Shaka International Airport (KSIA) as its centre, is anticipated to create 750,000 permanent jobs, offer 42 million square metres of commercial space, and accommodate 1,5 million residents. However, the 5-year target of reaching R10 million private sector investment was not reached, alongside the number of permanent and temporary jobs targeted to be 4 625 instead of 4337 temporary jobs and 3 020 instead of the 2233 permanent jobs that were created (DTP, 2020). Reaching the main target that was to be the selling

points of this development in terms of economic contribution to the GDP, but has brought challenges to the Dube Tradeport development's viability in terms of job creation.

At the time in 2019, KZN MEC for Economic Growth, Tourism and Environmental Affairs Sihle Zikalala told members of the media (DTP, 2019) that development created thousands of jobs after opening the doors of the Dube Tradeport in 2010, and contributed immensely to the provincial fiscus. Phase one of the growth of the Dube Tradeport aerotropolis was a resounding achievement as it met the entity's key goals and is now completely occupied by top-notch companies that have settled at the fastest growing and highly sought-after investment destination in the African continent (DTP 2019). By 2012, the first phase produced more than 12 000 job prospects while attracting R3, or R2 billion in investment from the private sector. The major investment funds attracted by this growth have made it possible to produce so many job opportunities. The number of jobs generated in the first phase of the project were much applauded. For the rest of the project, it set an optimistic tone, but the viability of the jobs was uncertain because the jobs produced so far were construction jobs.

The 2008 Economic Development Strategy states that the spatial distribution of economic activity is tilted towards the CBD, South Durban Basin, and the ports. However, it can be stated that over the past decade, it has shifted towards the northern corridor. For the eThekweni municipality (2012), the move towards the north is set to continue with significant developments such as Cornubia, with the possibility of delivering 20 000 plus residential units, in the development pipeline. Some of these developments have already begun through developments occurring along the coast in proximity to the airport. Historically the port, airport and other industries were the prime drivers of economic activity in the eThekweni municipality, however the development of the South Durban Basin into a national industrial node is believed to be because of its suitable location to the airport and the port. The decentralization to the west of Durban has been a major influencer in the capital flight to Westville and Pinetown and the North of Durban.

5.6 CHALLENGES OF THE DUBE TRADEPORT AEROTROPOLIS

5.6.1 Contextualization

When it comes to designing airports, the 'aerotropolis' development is one of the most influential concepts globally. Yet, it is an open secret among airport planners that the aerotropolis concept,

might look good on paper but have many challenges in practice. Logistic firms that handle sensitive cargo would be attracted to utilize land close to the airport (Varsamos, 2016). This would, in turn, drive the industrial development component of the Dube Tradeport Aerotropolis project's ambition.

5.6.2 Socio-economic challenges of the Dube Tradeport and KSIA

The main prospect outlined by this study that would benefit people living in low-income areas has been the employment creation that this development creates. However, there have been challenges to the provision of those services. During the first phase of the Dube Tradeport aerotropolis, there has been massive construction taking place. Scholars such as Crosby (2012) have argued the relevance of the jobs created during this time as they were not sustainable. The more significant part of the Dube Tradeport employment is temporary and construction-based (INR, 2007). Numerous other newspaper reports, the Dube Tradeport provided 20 000 construction-related jobs and this was 1.2 percent of the total job creation for the eThekweni municipality (Mdletshe, 2012; Mulder, 2009). Even though this is a commendable accomplishment, however, construction-related jobs are not permanent. It is believed that once construction is finished, high numbers of unskilled labourers are left unemployed (Booth et al., 2002).

Mulder (2009), notes that the Dube Tradeport aims to provide sustainable job opportunities. For this development, the “only way for construction jobs to be sustainable is for the workers involved to become permanently absorbed into the company once construction is completed. This is clearly not the case because the construction work is contracted out to private companies and the workers are not directly employed by the Dube Tradeport itself” (Crosby, 2012:104). The prospects for sustainability in job creation are, therefore, higher for skilled workers. This challenge affects the aerotropolis development as it taints the credibility of large-scale developments and the welcoming of such developments by citizens as well as the government. The government, as the majority shareholder of ACSA, and any development pertaining airports, should serve to benefit the public as public funds are being invested.

KSIA has faced obstacles that will have an overall effect on the growth of the Dube Tradeport aerotropolis. Air transport is the most carbon-intensive form of transport, and aviation is one of the fastest-growing sources of greenhouse gas emissions (McCollum, Gould and Greene, 2010). Nevertheless, even as the need to minimize emissions to prevent devastating climate change is

becoming increasingly apparent, a global boom in airport-centered infrastructure growth is threatening to lock us into an even greater dependence on fossil fuels (Maharaj and Crosby, 2012). The expansion of the aerotropolis is also a danger to large tracts of farmland or wildlife reserves (undeveloped) sites as developers look for greenfields. The constraints linked to infrastructure development include the poor road capacity that leads to traffic congestion during peak hours on the N2 and N3. The cluster development of industries and companies in the aerotropolis development has a huge dent on this concept as emissions of toxic fuels will be emitted, lowering the air quality around the Dube Tradeport development.

Airport developments have been an advocate for segregation as it divides the poor from the rich, who unfortunately happens to be the majority of South Africans, especially in the eThekweni municipality region. Statistics South Africa (2012) revealed that most people living in KwaZuluNatal do not have high levels of household-income. The census data conducted in 2011 (Stats SA, 2011), the average household income in the province is R83 053 per annum. The very premise and justification of aerotropolis and airport-centered development promote and validates inequality. Kasarda's (2006, 2008a, 2008b) concept of the 'survival of the fittest' refers to Darwin's theory of evolution to validate the need for aerotropolis development. SEZs promise tremendous benefits for developing regions like South Africa in principle, but they often fall short in practice. The task then becomes developing export-oriented businesses in the vicinity of the Dube Tradeport Aerotropolis. Export-orientated businesses require high levels of productivity, quality infrastructure to be able to compete with global markets. It is stated by Farole (2011) that when investors decide whether to get involved in an SEZ, tax incentives are the least important of their considerations rather they prioritize high quality infrastructure and efficient administration which includes adequately skilled labour forces. Before making businesses around producing exports for the world market only, the government should concentrate on building local supply chains that will drive Durban's growth by improving domestic and regional productivity and moving up the global chain.

5.6.3 Critiques of the neoliberal theory in KSIA

The socio-economic impact study of the development of the Dube Tradeport (Mulder, 2009:9) highlighted the key justification for this mega-development: "The Dube Tradeport is a necessary response to the National Government's objective of addressing poverty and unemployment not

only in South Africa as a whole – but specifically in KZN”. One can argue that this is the key principle on which South African economic plans and decisions are made: the trickle-down economic theory. As a public-funded company, the Dube Tradeport was designed to stimulate economic growth and promote job creation and poverty reduction in the KwaZulu-Natal region. However, a counter-argument can be made by stating the number of job opportunities this development has contributed to the GDP regardless of all the critiques made. The first phase of the Special Economic Zone Dube TradePort, launched in 2010, is estimated to have generated more than 12 000 jobs and attracted R3.2 billion in private sector investment. The Dube Tradeport is expected to make positive changes and growth to the country’s GDP and promote KwaZuluNatal as a world-class logistics Centre.

The trickle-down effect is an economic notion that seemingly inspires the multiplier effect. This logical theory shows how development can promote economic activity in various unrelated industries and thus promote job creation across the regional economy. It is through the multiplier effect that Mulder (2009) projected that 40 542 skilled and semi-skilled and 18 430 unskilled jobs overall were expected to be created in the eThekweni region through the construction of the Dube Tradeport. This theory creates growth and economic development; however, one cannot overlook the amount of inequality it brings along. This is particularly in the slow-down of regional integration between cities and small-town and rural municipalities over the past decade.

Crosby (2012) states that this theory does not necessarily account for the types of jobs created, nor does it amount to equal income in all sectors of the economy. In as much as the benefits and jobs increase throughout the economy, so does the costs of development and the lower-income sectors of the economy mostly feel such effects. (Crosby, 2012:102) states that the “trickle-down theory implies that benefits from major economic investments trickle down to poor and disadvantaged communities by means of the multiplier effect and through the stimulation of economic growth”.

Crosby (2012) concludes that large development such as the Dube Tradeport only benefits wealthy businesses, while sectors experience indirect or induced benefits. Wealthy businesses have the capital to invest in the development of the aerotropolis development compete effectively in the competitiveness of the global markets. Therefore, such marginalizes local and upcoming businesses that do not have the means to compete with large businesses. Chimbombi (2016) validates this argument by stating that SEZs are a product of international trade laws that are within

an economy that receives favourable administrative, regulatory and fiscal benefits than the rest of the economy.

5.6.4 The Dube Tradeport, Aerotropolis Development and Public-Private-Partnerships

The Dube Tradeport has been in PPP's for the aerotropolis development and is expected to increase PPP's in operation in Durban (INR, 2007). The private sector is expected to boost growth and development through investments. Naidoo (2012) stated that the Dube Tradeport received the first investment from the private sector in March 2012 of R350 million by the Shree Property Group. Its first investor, the Mara Company, has already entered the second phase of the Special Economic Zone. The company that has entered into a lease agreement with Dube TradePort plans to invest R1.5 billion in the first fully-fledged smartphone factory in Africa. Durban's agenda of becoming a gateway to international markets required such investments from the private sector to develop part of the Dube Tradeport as an air freight and logistics facility. However, private funding in urban development and planning is controversial because of the tensions between profit motivation and public interest. This is especially so for countries with high poverty and socio-economic inequalities, like South Africa (Hamann and April, 2013). This is where the government's role is crucial as it will embed policies that promote its objectives, which will suit and benefit public interest in these partnerships.

In 2006, the co-operation agreement between the Dube Tradeport (Pty) Ltd and ACSA was signed and then registered under the national treasury. ACSA was responsible for the management and maintenance of the new international airport and passenger terminal, and Dube Tradeport was solely responsible for the ownership, management and growth of the Dube TradeZone, Dube AgriZone, Dube iConnect (technology advancement zone) and Dube SupportZone. Dube City was to be jointly developed by the Dube Tradeport and ACSA (Cassim, 2014). Tongaat Hulett Developments, as the majority landowner in the region of the Dube Tradeport Aerotropolis has significant power and control over developmental projects in this region, "This use of public authority and private investment power is designed to stimulate rapid economic growth. However, such endeavors are only entered into by the private sector if deemed profitable for the company" (Crosby, 2012:145).

The limitations in the room for expansion and airport upgrades have caused limited growth in the number of airport passengers. The PPP's between the Dube Tradeport, eThekweni Municipality and Tongaat Hulett Developments is one of the key partnerships that have been used to develop the aerotropolis surrounding KSIA. Tongaat Hulett Developments has been assisting in developing the aerotropolis through selling, planning, and developing their land. The eThekweni Municipality and the Dube Tradeport have provided plans and guidelines for the growth of the region. In 2012 the Dube Tradeport was associated with internal corruption and 'tenderpreneurialism' (Jansen et al., 2012). The CEO of the company has been accused of acting in his profit-seeking interest and rigging the tender system (Jansen et al., 2012). This has tainted the Dube Tradeport image and highlighted many dangers linking to public and private partnerships. This has contributed to the political challenges of the development.

5.7 CAPITAL FLIGHT AND DYNAMICS BETWEEN THE NORTH AND SOUTH OF DURBAN

The Dube Tradeport aerotropolis has promoted a capital flight away from Durban's CBD towards the new airport in the North of Durban. Although political dynamics affect economic expansion in the north, DTP2/18April (2012) states that development is still being injected into the south, specifically the harbor region, with the growth of logistics and port related. There are plans to develop the north into mixed land use zones and to change the small nodal settlements as mixed land use zones are believed to increase economic growth and attract investments into the aerotropolis.

The main question is: Will this aerotropolis development attract new investment or will it be a movement of capital from the CBD? The government believes that injecting capital into the aerotropolis will benefit the economic growth in KwaZulu-Natal as many businesses are venturing and moving out and utilizing air transport for logistics and international connectivity. The eThekweni municipality categorizes the north of Durban from the Umgeni River to Tongaat (Crosby, 2012). For the purpose of this study, 'the north' refers to the new aerotropolis region. The Dube Tradeport has been recognized as an economic investment hub and was one of just two such

zones that the municipality has outlined. This is set to help boost Durban's economy as this development is the first of its kind in Africa.

The development of the KSIA's aerotropolis, in this manner, can possibly poach business, skills also, capital from the conventional CBD of Durban (Kasarda and Lindsay, 2011). INR (2007) expressed that there would be clear spatial and social ramifications coming about because of the development of the Dube Tradeport: such as, "The development will potentially draw focus away from the traditional Centre of eThekweni, the CBD, and could create a new polarization to the north" (INR, 2007: 8). This polarization is expected to draw in allocation (uprooted) occupations from South and focal Durban toward the North (INR, 2007). The polarization is said to attract displaced jobs from the South and central Durban to the North. The shift in focus on central point in Durban has created competition amongst other businesses as they see a potential to thrive and reach a different market than they were in the CBD. Communities living on the outskirts have an opportunity to have job opportunities closer to home as well as development increasing in these areas that were previously marginalized even though these jobs are limited and unsustainable.

Conclusion

This chapter has analyzed and illustrated results from the secondary data collected through newspaper articles, journals, and reports. There have been numerous key points that emerged.

Firstly. Airport and aerotropolis development have shown major improvement to the economic growth of the city. This chapter has also highlighted the socio-economic impacts alongside the prospects and challenges of both KSIA and the Dube Tradeport, the negative impacts of neoliberal development strategies on the poor as associated with large-scale developments. The perspectives of large-scale developments were discussed alongside the facts and contribution of the Dube Tradeport aerotropolis development. This chapter concludes with the complex relationship between the North and South of Durban, which has been analyzed as the development of the aerotropolis has sparked a capital flight.

The next chapter will be concluding the study and making recommendations that were devised from the findings of this research.

CHAPTER SIX: RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

This chapter summarizes the study's main findings and explains how these findings relate to Durban's wider growth of the emerging aerotropolis. This research aimed to analyze the prospects and challenges of airport-centered development through the Aerotropolis Dube Trade Port analysis (Durban). In this regard, because this study dealt with large-scale development, the neoliberal theory was employed because of its emphasis on PPPs and minimal state intervention. This chapter is thus structured in a manner that reflects what the study intended to do, the methods adopted to achieve the objectives and the succeeding findings that were produced. The study, therefore, draws key recommendations from the findings.

The overall objectives of this study were to:

- Assess the prospects of the Dube Trade-Port (Durban) Aerotropolis.
- Explore private/public partnership outcomes.
- Assess the economic development mechanisms or strategies to fulfill the vision of the aerotropolis
- Explore the challenges associated with the Dube Trade-Port aerotropolis on urban poor

The neoliberalism theory guided the literature review of the study in line with Durban having the first purpose-built aerotropolis development in South Africa. The neoliberal theory is criticized because the ideology invokes that large-scale developments mainly benefit a certain class of citizens. The literature review revealed that the impacts of airport developments are exceptionally complex. Airports and air transport have a multi-faceted history, and the industry has grown from its beginnings in the early 20th century to a significant, high profit, high paced global business. Using the neoliberal theory, key issues related to airport privatization, airport development and the model of aerotropolis have been brought to the forefront.

The methodology that was employed in the study was a qualitative study, which focused on collecting data through newspaper articles, journals and reports due to the Covid-19 restrictions on traveling. The data collected was of relevance to the aerotropolis development and the Dube Tradeport aerotropolis. Content and thematic analysis were used to analyze the data.

The recommendations of this study are based on the researcher's findings as presented in the findings and discussion chapter.

6.2 MEETING OBJECTIVES

The following section presents a summary of how the study's findings and how objectives were met

Objective 1: Assess the prospects of the Dube Trade-Port (Durban) Aerotropolis

This study found that the economic growth brought by this development has made a major contribution to the GDP of KwaZulu-Natal. This mega-project development brings an additional 45 hectares of prime industrial land and promises to nurture the emergence of new businesses in the North. This will allow investors who will occupy the land for commercial use and thus expect the Dube Tradeport Aerotropolis to generate R18bn over the next five years. The recent developments in proximity to the airport point to the agglomeration effects associated with the Dube Tradeport Aerotropolis project and are likely to generate further economic activities in the making of Africa's first purpose-built aerotropolis.

Yet, the findings reveal that the Dube Tradeport is struggling to provide sustainable jobs that are of good quality. The lack of equal economic distribution obtained from the development onto the

citizens undermines the prospects of the entire success of the development from a socio-economic perspective. The difference between skilled and semi-skilled jobs that were created in the first phase of the development to unskilled jobs is 22 112. This validates the stance that neoliberal-led projects mainly benefit a few.

This study has found and emphasized that the development may increase benefits to an affluent minority and give trickle-down costs (as opposed to benefits) to society's low-income areas. Regardless of the principal investor being the government, the capital brought in was left in the hands of the Dube Tradeport company which runs according to its own structure. As this is a government entity, it still has an obligation to protect the socio-economic inclusion of the poor and marginalized from this project,

Objective 2: Explore private/public partnership outcomes

This study has found that not only have PPPs been employed to advance the aerotropolis development and the Dube Tradeport, but private companies have been tasked with developing and performing many of the functions, such as the construction of the aerotropolis development and employment creation of the Dube Tradeport. The partnership between the government and private sector in such major projects has benefitted the government as they are assisted with delivering a public service. The government most often establishes the project objectives and the private sector is tasked with the responsibility of meeting these objectives.

However, this partnership has received criticism as they are labelled to vastly benefit the private sector than the public sector and this is justified through the neoliberal theory. The neoliberal theory is believed to open competitive and unregulated markets that are bound to benefit the private sector (Birch and Siemiatycki, 2016).

Objective 3: Assess the economic development mechanisms or strategies to fulfill the vision of the aerotropolis

This study has recognized that the mechanisms used to make the Dube Tradeport Aerotropolis a success include private investments and public funds. For this development's operation, focus on surface transport connectivity, logistics and extra bulk infrastructure, and information management and position marketing has been highlighted as critical. Hotels, conferences, and business centers

located within the Dube Trade Port development, specifically the Dube City Zone are strategies used to increase the number of travelers utilizing the facilities, which in turn brings in revenue.

Objective 4: Understand the challenges associated with the Dube Trade-Port aerotropolis on urban poor

The study found that the Dube Tradeport Aerotropolis poses challenges to the poor by not prioritizing inclusiveness in the socio-economic outcomes of the project. Job creation has been a by-product and indirect inclusion of the poor in developing this Aerotropolis, hence the temporary jobs that have been created.

The trickle-down effects promoted by the neoliberal theory have left the poor at the back-end of the benefits of the economic growth gained from the Dube Tradeport development. The private investments obtained for this development have been beneficial, but there has been a failure to aggressively focusing on attracting export-oriented firms.

6.3 RECOMMENDATIONS

This study has indicated that the development may increase benefits to the economic status of the eThekweni region. Even though the airport is accepted as a stimulus for economic development in the region (Brueckner, 2003), there is an exceptionally restricted relationship between development and poverty alleviation.

- Given that Durban is a developing city with an abundance of social issues. World-class development focused on air transport is not the most effective method of using public funds for poverty alleviation and job opportunities. Vast amounts of public funds are being infused into mega-projects that further estrange the vast populace through the trickle-down effect from the investors to skilled and semi-skilled employees in companies cannot be justified considering the corruption by private investors through this development.
- The development focus should shift away from large-scale neoliberal development systems toward pro-poor strategies that directly benefit poor people and marginalized. This can be done through inclusive development plans that include the marginalized economically.
- As airport regions seek extra non-aeronautical revenue to counterbalance airline tariffs, the need for coupling of airport master plan strategies and regional economic and spatial

structures increases by legislative essentials for participation. A transition towards a regional airport strategy involves a period of joint learning and collaboration with ACSA, the private sector, NGOs, and communities on behalf of local, provincial, and national government offices. Long-term alignment of engagement, investment, and management between key stakeholders is the key to this trend.

-
- As Dube Tradeport aims to provide sustainable employment, private companies can permanently hire unskilled labours that have been placed in the construction of the development. It is important to understand that “Job creation can only be truly beneficial if it reduces the high levels of unemployment in the city and the province” (Crosby, 2012:104)

6.4 CONCLUSION

This chapter has concluded this research study and made recommendations based on the study’s findings. This chapter first recapped the aims and objectives of this study and summarized the findings regarding the viability and challenges of the Dube Tradeport Aerotropolis. This study concludes by arguing that the prospects and challenges of the development are undermined by the challenges and the gap between businesses and the government’s different interests.

Future research could focus on whether the shift in investment from the South to the North will not leave the South without investment.

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APPENDIX 1: SIMILARITY REPORT

Masters Thesis			
ORIGINALITY REPORT			
10%	7%	1%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	Submitted to University of KwaZulu-Natal Student Paper	1%	
2	open.uct.ac.za Internet Source	1%	
3	content.sciendo.com Internet Source	1%	
4	researchspace.ukzn.ac.za Internet Source	1%	
5	www.dubetradeport.co.za Internet Source	1%	
6	Robbins, Glen. "The Dube TradePort-King Shaka International Airport mega-project: Exploring impacts in the context of multi-scalar governance processes", Habitat International, 2015. Publication	1%	
7	www.airports.co.za Internet Source	<1%	
Wojciech Augustyniak. "Impact of Privatization			

APPENDIX B: ETHICS EXEMPTION